

~~1785~~
C. 175 dd. 25
M

X

T H E
T R I A L
O F

A CAUSE instituted by RICHARD PEPPER ARDEN, Esq;
his Majesty's Attorney General, by Writ of *Scire Facias*,
to REPEAL a PATENT granted on the Sixteenth of
December 1775,

T O

Mr. Richard Arkwright,

For an Invention of certain Instruments and Machines
for preparing Silk, Cotton, Flax, and Wool for
Spinning;

B E F O R E

The Honorable FRANCIS BULLER,

One of the Judges of his Majesty's Court of King's
Bench,

At WESTMINSTER-HALL,

On *Saturday* the 25th of *June 1785.*

L O N D O N:

Printed for HUGHES and WALSH, Inner Temple-Lane.

M.DCC.LXXXV.

T H E
T R I A L, &c.

The PROCEEDINGS originated in the Petty-Bag of the Court of Chancery; and were transmitted by the Lord High Chancellor to the Court of King's Bench, to be there tried, and were as follows :

“ PLEAS before our Lord the King at Westminster, of the
 “ Term of the Holy Trinity, in the Twenty-fifth Year of the
 “ Reign of our Sovereign Lord George the Third, by the Grace
 “ of God, of Great Britain, France, and Ireland, King, De-
 “ fender of the Faith, and so forth, and in the Year of our
 “ Lord One thousand Seven hundred and Eighty-five.

Middlesex : } “ B E it remembered, that on *Friday* the eleventh day
 to wit. } “ of *June* next after fifteen days of the Holy Tri-
 “ nity, in the term abovesaid, *Edward* Lord
 “ *Thurlow*, Baron *Thurlow*, Lord High Chancellor of *Great Britain*, before
 “ our Lord the King at *Westminster*, with his own proper hands, delivered
 “ here in court, a certain record, had before our said Lord the King in
 “ his chancery, in these words, that is to say, PLEAS before our Lord the
 “ King in his chancery at *Westminster*, in the county of *Middlesex*, of the
 “ term of the Holy Trinity, in the twenty-fifth year of the reign of our
 “ Sovereign Lord *George* the Third, by the grace of God, of *Great Britain*,
 “ *France*, and *Ireland*, King, Defender of the faith, and so forth, and in
 “ the year of our Lord one thousand seven hundred and eighty-five.
 “ *England* to wit, our Lord the King sent to the sheriff of *Middlesex* his
 “ writ

Scire Facias. " writ closed in these words, to wit; GEORGE the Third, by the grace of
 " God, of *Great Britain, France and Ireland*, King, Defender of the faith,
 " &c. To the Sheriff of *Middlesex*, Greeting, Whereas, we lately, by our
 " letters patent, under our great seal of *Great Britain*, bearing date at
 " *Westminster* the 16th day of *December*, in the 16th year of our reign,
 Patent grant- " reciting, That, Whereas *Richard Arkwright* of *Cromford*, in our county
 ed to Mr. " of *Derby*, had, by his petition, humbly represented unto us, that he
 Arkwright, " had by much study, application and expence, contrived, invented, and
 dated 16th " brought to perfection certain instruments, and machines, which he conceived
 Dec. 1775. " would be of public utility, in preparing silk, cotton, flax, and wool, for
 " spinning; that the said instruments, or machines, were constructed on
 " easy and simple principles, very different from any that had ever yet been
 " contrived, that in regard the petitioner was the *first* and sole inventor
 " thereof, and that the same had never been practised by any other person or
 " persons whomsoever, to the best of his knowledge and belief, he had
 " humbly prayed us that we would be graciously pleased to grant unto him,
 " his executors, administrators, and assigns, our royal letters patent, under
 " our great seal of *Great Britain*, for the sole use, benefit, and advantage
 " of his said invention, within that part of our kingdom of *Great Britain*,
 " called *England*, our dominion of *Wales*, and town of *Berwick upon Tweed*;
 " and also in our colonies and plantations abroad, for the term of fourteen
 " years, according to the statute in that case made and provided. And
 " we being willing to give encouragement to all arts and inventions, that
 " might be for the public good, were graciously pleased to condescend to
 " his request. Know ye therefore, That we of our special grace, certain
 " knowledge, and mere motion, for ourself, our heirs and successors,
 " did give and grant unto the said *Richard Arkwright*, his executors,
 " administrators and assigns, our especial licence, full power, sole privi-
 " lege and authority, that he the said *Richard Arkwright*, his executors,
 " administrators and assigns, and every of them, by himself and them-
 " selves, or by his and their deputy or deputies, servants or agents, or such
 " others as he the said *Richard* his executors, administrators, and assigns,
 " should at any time agree with, and no others, from time to time, and at
 " all times thereafter, during the term of years therein expressed, should
 " and lawfully might make, use, exercise, and vend his said invention,
 " within that part of our kingdom of *Great Britain*, called *England*, our do-
 " minion of *Wales*, and town of *Berwick upon Tweed*; and also in our
 " colonies and plantations abroad, in such manner as to him the said
 " *Richard Arkwright*, his executors, administrators or assigns, or any of them
 " should, in their discretions seem meet. And that he the said *Richard*
 " *Arkwright*, his executors, administrators and assigns, should and lawfully
 " might, have and enjoy the whole profit, benefit, commodity and ad-
 " vantage from time to time, coming, growing, accruing, and arising
 " by reason of the said invention, for and during the term of years therein
 " mentioned. To have, hold, exercise and enjoy the said licence, powers,
 " privileges and advantages therein before granted, or mentioned to be
 " granted unto the said *Richard Arkwright*, his executors, administrators and
 " assigns, for and during, and unto the full end and term of fourteen years,
 " from the date of the said letters patent, next and immediately ensuing;
 " and fully to be compleat and ended, according to the statute in such
 " case made and provided; and to the end that he the said *Richard*
 " *Arkwright*, his executors, administrators and assigns, and every of them
 " might



“ might have and enjoy the full benefit, and the sole use and exercise of
 “ the said invention, according to our gracious intention therein before
 “ declared. We did by the said letters patent, for us, our heirs and suc-
 “ cessors, require and strictly command all and every person and persons,
 “ bodies politic and corporate, and all other our subjects whatsoever,
 “ of what estate, quality, degree, name or condition soever they be
 “ within that said part of our kingdom of *Great Britain*, called *England*,
 “ our dominion of *Wales*, and town of *Berwick upon Tweed*, and also in our
 “ colonies and plantations abroad aforesaid, that neither they nor any of them
 “ at any time during the continuance of the said term of fourteen years,
 “ thereby granted, either directly or indirectly, should make, use or put
 “ in practice the said invention, or any part of the same so attained unto
 “ by the said *Richard Arkwright*, as aforesaid; nor in any wise counter-
 “ feit, imitate, or resemble the same, nor should make or cause to be made
 “ any addition thereunto, or subtraction from the same, whereby to pre-
 “ tend himself or themselves the inventor or inventors, deviser or devi-
 “ sors thereof, without the licence, consent or agreement of the said
 “ *Richard Arkwright*, his executors, administrators and assigns, in writing,
 “ under his or their hands and seals, first had and obtained in that behalf,
 “ upon such pains and penalties as could or might be justly inflicted
 “ on such offenders for their contempt of that his said Majesty’s
 “ royal command; And further to be answerable to the said *Richard*
 “ *Arkwright*, his executors, administrators and assigns, according to law,
 “ for his or their damages thereby occasioned. And, moreover, we did
 “ by the said letters patent, for us, our heirs and successors, will and
 “ command all and singular the justices of the peace, mayors, sheriffs,
 “ bailiffs, constables, headboroughs, and all other officers and ministers
 “ whatsoever, of us, our heirs and successors for the time being, that they,
 “ or any of them did not, nor should at any time thereafter, during the said
 “ term thereby granted, in any wise molest, trouble or hinder the said
 “ *Richard Arkwright*, his executors, administrators or assigns, or any of
 “ them, or his or their deputies, servants or agents, in or about the due
 “ and lawful use or exercise of the aforesaid invention, or any thing re-
 “ lating thereto. Provided always, and the said letters patent were,
 “ and should be upon this condition, that *if at any time* during the said term
 “ thereby granted, it should be *made appear to us*, our heirs or successors,
 “ or any six or more of our, or their privy council, that, that our *grant* was
 “ *contrary to law*, and *prejudicial or inconvenient* to our subjects in general, or
 “ *that the said invention was not a new invention as to the public use and*
 “ *exercise thereof, in that said part of our kingdom of Great Britain, called*
 “ *England, our dominion of Wales, and town of Berwick upon Tweed, and also*
 “ *in our colonies and plantations abroad aforesaid; or not invented and found*
 “ *out by the said Richard as aforesaid.* Then upon signification, or declara-
 “ tion thereof to be made by us, our heirs or successors, under our or their
 “ signet, or privy seal, or by the lords and others of our or their privy
 “ council, or any six or more of them, under their hands, the said letters
 “ patent should forthwith cease, determine, and be utterly void to all intents
 “ and purposes, any thing therein before contained to the contrary thereof in
 “ any wise notwithstanding. Provided also, that the said letters patent, or
 “ any thing therein contained, should not extend or be construed to ex-
 “ tend, to give privilege unto the said *Richard*, his executors, administrators
 “ or assigns, or any of them, to use or imitate any invention or work what-
 “ soever, which had theretofore been found out and invented by any other

“ of our subjects whatsoever, and publickly used or exercised in that said
 “ part of our kingdom of *Great Britain* called *England*, our dominion of
 “ *Wales*, our town of *Berwick upon Tweed*, or in our colonies and planta-
 “ tions abroad aforesaid, unto whom like letters patent or privileges had
 “ been already granted for the sole use, exercise and benefit thereof, it be-
 “ ing our will and pleasure that the said *Richard Arkwright*, his executors,
 “ administrators and assigns, and all and every other person and persons to
 “ whom like letters patent or privileges had been already granted as afore-
 “ said, should distinctly use and practice their several invention by them in-
 “ vented and found out, according to the true intent and meaning of the
 “ same respective letters patent, and of the said letters patent to the said
 “ *Richard Arkwright*. Provided likewise nevertheless, and the said letters pa-
 “ tent to the said *Richard Arkwright* were upon this express condition, that if
 “ the said *Richard Arkwright*, his executors or administrators or any person
 “ or persons which should or might at any time or times thereafter, during the
 “ continuance of that grant, have or claim any right, title or interest in law
 “ or equity, of in or to the power, privilege and authority of the sole use
 “ and benefit of the said invention thereby granted, should make any trans-
 “ fer or assignment, or any pretended transfer or assignment of the said li-
 “ berty and privilege, or any share or shares of the benefit or profit thereof,
 “ or should declare any trust thereof, to or for any number of persons
 “ exceeding the number of five; or should open or cause to be opened, any
 “ book or books for public subscriptions to be made by any number of per-
 “ sons exceeding the number of five, in order to the raising of any sum or
 “ sums of money, under pretence of carrying on the said liberty or privi-
 “ lege thereby granted, or should by him or themselves, or his or their
 “ agents or servants receive any sum or sums of money whatsoever, of any
 “ number of persons exceeding in the whole the number of five, for such
 “ or the like intents and purposes, or should presume to act as a corporate
 “ body, or should divide the benefit of the said letters patent to the said
 “ *Richard Arkwright*, or the liberty and privileges thereby by us granted into
 “ any number of shares exceeding the number of five; or should commit
 “ or do, or procure to be committed or done any act, matter, or thing
 “ whatsoever, during such time as such person or persons should have any
 “ right or title, either in law or equity, in or to the said premises, which
 “ would be contrary to the true intent and meaning of a certain act of par-
 “ liament, made in the sixth year of the reign of our late royal great
 “ grandfather, king *George the First*, Intituled, “ An act for the better se-
 “ curing certain powers and privileges intended to be granted by his said
 “ Majesty, by two charters for assurance of ships and merchandizes at sea,
 “ and for lending money upon bottomry, and for restraining several ex-
 “ travagant and unwarrantable practices therein mentioned:” Or in case the
 “ said power, privilege or authority, should at any time thereafter become
 “ vested in or in trust for more than the number of five persons or their
 “ representatives at any one time (reckoning executors or administrators) as
 “ and for the single person whom they might represent as to such interest
 “ as they were or should be entitled to, in right of such their testator or in-
 “ testate, that then and in any of the said cases, the said letters patent to
 “ the said *Richard Arkwright*, and all liberties and advantages whatsoever
 “ thereby granted, should utterly cease, determine and become void, any
 “ thing therein before contained to the contrary thereof in any wise not-
 “ withstanding. Provided also, that if the said *Richard Arkwright* should

“ not

“ not particularly describe and ascertain the nature of his said inven-
 “ tion, and in what manner the same was to be performed, by an instru-
 “ ment in writing under his hand and seal, and cause the same to be in-
 “ rolled in our High Court of Chancery, within four calendar months next and
 “ immediately after the date of those our letters patent, that then these our let-
 “ ters patent, and all liberties and advantages whatsoever thereby granted,
 “ should utterly cease, determine, and become void, any thing therein be-
 “ fore contained to the contrary thereof in any wise notwithstanding. And
 “ lastly, We did by those letters patent, for us, our heirs and successors,
 “ grant unto the said *Richard Arkwright*, his executors, administrators and
 “ assigns, that those our letters patent, or the inrollment or exemplification
 “ thereof, should in and by all things be good, firm, valid, sufficient and
 “ effectual in the law, according to the true intent and meaning thereof,
 “ and should be taken, construed, and adjudged in the most favourable and
 “ beneficial sense, for the best advantage of the said *Richard Arkwright*, his
 “ executors, administrators and assigns, as well in all our courts of record
 “ as elsewhere, and by all and singular the officers and ministers whatsoever
 “ of us, our heirs and successors whatsoever, in that part of our said king-
 “ dom of *Great Britain* called *England*, our dominion of *Wales*, and town
 “ of *Berwick upon Tweed*, and also in our colonies and plantations abroad
 “ aforesaid, and amongst all and every the subjects of us, our heirs and suc-
 “ cessors whatsoever and wheresoever, notwithstanding the not full and cer-
 “ tain describing the nature or quality of the said invention, or of the ma-
 “ terials thereto conducing and belonging, as by the said letters patent in our
 “ chancery inrolled is manifest, and more fully and at large appears. And
 “ whereas we are given to understand that our said grant is *prejudicial and*
 “ *inconvenient* to our subjects in general, and that the said invention, at the
 “ time of granting our said letters patent, was *not a new invention*, as to
 “ the public use and exercise thereof within that part of *Great Britain* called
 “ *England*, and that the same was *not invented and found out by the said Ri-*
 “ *chard Arkwright*. And we are also given to understand, that although
 “ the said *Richard Arkwright* did cause a certain instrument in writing
 “ under his hand and seal, together with a plan thereof, (a copy of which is
 “ hereunto annexed) to be inrolled in our High Court of Chancery within
 “ four calendar months next and immediately after the date of our said let-
 “ ters patent, pretending particularly to describe and ascertain the nature of
 “ his said invention, and in what manner the same was to be performed,
 “ in the words following, that is to say, “ To all to whom these presents
 “ shall come: I *Richard Arkwright*, of *Cromford* in the county of *Derby*,
 “ send Greeting; Whereas I the said *Richard Arkwright*, did, by my peti-
 “ tion, humbly represent to his present most excellent Majesty king *George*
 “ the Third, that I had by much study, application and expence, con-
 “ trived, invented, and brought to perfection certain instruments or ma-
 “ chines, which would be of public utility in preparing silk, cotton, flax,
 “ and wool for spinning, and constructed on easy and simple principles,
 “ very different from any that had ever been contrived; that in regard I
 “ was the first and sole inventor thereof, and that the same had never been
 “ practised by any other person or persons whomsoever, to the best of
 “ my knowledge and belief, I humbly prayed his said Majesty to grant
 “ unto me, my executors, administrators and assigns, his royal letters patent
 “ under his Great Seal of *Great Britain*, for the sole use, benefit and ad-
 “ vantage of my said invention within that part of his said Majesty’s king-
 “ dom

Mr. Ark-
 wright’s spe-
 cification:

“ dom of *Great Britain* called *England*, his dominion of *Wales*, town of
 “ *Berwick upon Tweed*, and also in his colonies and plantations abroad, for
 “ the term of fourteen years, according to the statute in that case made and
 “ provided; his said Majesty being willing to give encouragement to all arts
 “ and inventions that might be for the public good, was graciously pleased
 “ to condescend to my request; and therefore, by his royal letters patent
 “ bearing date at *Westminster* the sixteenth day of *December*, in the sixteenth
 “ year of his reign, of his especial grace, certain knowledge, and mere mo-
 “ tion, did give and grant unto me the said *Richard Arkwright*, my execu-
 “ tors, administrators and assigns, his especial licence, full power, sole
 “ privilege and authority, that I the said *Richard Arkwright*, my executors,
 “ administrators and assigns, and every of us, by myself or themselves,
 “ or by mine and our deputy or deputies, servants or agents, or such others
 “ as I the said *Richard Arkwright*, my executors, administrators or assigns
 “ should at any time agree with, and no others, from time to time and at
 “ all times thereafter during the term of years therein expressed, should and
 “ lawfully might make, use, exercise and vend my said invention within
 “ that said part of his Majesty’s said kingdom of *Great Britain* called *Eng-
 “ land*, his dominion of *Wales*, and town of *Berwick upon Tweed*, and also
 “ in his colonies and plantations abroad, in such manner as to me the said
 “ *Richard Arkwright*, my executors, administrators and assigns, or any of
 “ us, should in our discretion seem meet; And that I the said *Richard
 “ Arkwright*, my executors, administrators and assigns, should and law-
 “ fully might have and enjoy the whole profit, benefit, commodity, and
 “ advantage from time to time coming, growing, accruing and arising by
 “ reason of the said invention, for and during the term of years therein
 “ mentioned, to have, hold, exercise and enjoy the said licence, powers, pri-
 “ vileges and advantages therein before granted, or mentioned to be granted
 “ unto me the said *Richard Arkwright*, my executors, administrators and assigns
 “ for and during and unto the full end and term of 14 years from the date
 “ of the said presents next and immediately ensuing, and fully to be com-
 “ plet and ended, according to the statute in such case made and provided:
 “ In which said letters patent is contained a proviso, that if the said *Richard
 “ Arkwright* should not particularly describe and ascertain the nature of my
 “ said invention, and in what manner the same is to be performed by an in-
 “ strument in writing, under my hand and seal, and cause the same to be in-
 “ rolled in his said Majesty’s High Court of Chancery within four calendar
 “ months next, and immediately after the date of the said letters patent,
 “ that then the said letters patent and all liberties and advantages what-
 “ soever thereby granted, should utterly cease, determine and become void,
 “ any thing therein before contained to the contrary thereof in any wise
 “ notwithstanding; as in and by the said letters patent, relation being there-
 “ unto had may more fully and at large appear. Now, know ye, That
 “ I, the said *Richard Arkwright*, in compliance with the said proviso, do
 “ hereby describe and ascertain the nature of my said invention, and de-
 “ clare that the plan thereof drawn in the margin of these presents is com-
 “ posed of the following particulars, (that is to say) No. 1. a beater or
 “ breaker of seeds, husks, &c. and a finer of the flax, hemp and other
 “ articles which are to be prepared for dressing, in which (a,) is a wheel with
 “ teeth, which by acting upon a lever, raises the hammer (C,) the lever be-
 “ ing moveable upon the center (d).—No. 2. an iron frame with teeth at
 “ (a,) working against a lower frame with like teeth at (b,) this lower frame is
 “ firmly

Vide, the
 plan in the
 Frontispiece.

“ firmly connected to a wooden frame by means of the screws (c, c,) the
 “ upper teeth are made to act against the lower, by means of the joints
 “ (d, d, d, d.)—No. 3. is a piece of cloth with wool, flax, hemp, or any
 “ other such materials spread thereon, as at (a.)—No. 4. is a crank and a
 “ frame of iron with teeth at (a,) being moveable at the joints (b, b, b, b,)
 “ by means of a crank, and by a cord turning the pulley or wheel (c.) This
 “ motion of the teeth (a,) works them backwards and forwards upon the
 “ cylinder No. 5. and dischargeth the cotton, wool, &c. from it at (d.)—
 “ No. 5. is the last mentioned cylinder, which hath fillet cards; behind this
 “ cylinder No. 3. delivers its contents upon another cylinder.—No. 6.
 “ consists of rollers fixed to a wooden frame, the contents of No. 5. being
 “ brought to it at (a,) and going through at (b,) produceth it a proper size
 “ (f.)—(c, c,) are brushes for cleaning the machine.—No. 7. a cylindrical box
 “ for twisting the contents of No. 6. at (b,)—(a, a,) are two rollers, one mov-
 “ ing the other, between which the contents of No. 6. passeth into the cylin-
 “ der (b) —(c,) is a dead pulley fixed to the frame;—(d,) a cord which pas-
 “ sing from the pulley (c,) moves the rollers (a, a) —(F,) a wheel, the move-
 “ ment of which is brought from (F,) to No. 10. and is fixed to No. 6.—
 “ No. 8. a machine for twisting the contents of No. 6. in which (d, d,) is
 “ a frame of iron; (b,) a roller on which a bobbin (c,) is fixed, this is
 “ turned the same as No. 7. that is, by a dead pulley or wheel, fixed to a
 “ wooden frame at (g)—No. 9. a spindle and flyer being fixed to No. 6.
 “ for twisting the contents from (b,) in No. 6.—(d,) is a pulley under
 “ the bobbin, which hath a communication by a band to No. 10. at
 “ (d, d,) it being a conical or regulating wheel which moves the bobbin
 “ quicker or slower as required. No. 10. a spindle, which being fixed to
 “ No. 6. at (a,) worketh No. 7, No. 8, or No. 9 at (F, F, F,) by the pulley
 “ (F, c,)—(d,) a regulator for No. 9.—(b,) a socket, having a bolt going
 “ through, (d, d,) and (F, c,) to (G,) stops or sets the whole going by
 “ means of a catch (a,) for the pulley (G, G,) being loose upon the spindle,
 “ (o,) a lever, moveable about (k,) raiseth or falleth the bolt (h). In witness
 “ whereof, I the said *Richard Arkwright* have hereunto set my hand and seal
 “ the tenth day of *April*, in the sixteenth year of the reign of his said most
 “ excellent Majesty *George* the Third, by the grace of God, of *Great Britain*,
 “ *France*, and *Ireland*, King, defender of the faith, &c. and in the year of
 “ our Lord one thousand seven hundred and seventy six, *Richard Ark-*
 “ *wright*, (L. S.) Sealed and delivered by the above-named *Richard Ark-*
 “ *wright* (being first duly stamped) in the presence of *John Harker*, *Jff.*
 “ *D Crofts*, clerk to Mr. *Evans*, in *Nottingham*. Yet that the said *Richard*
 “ *Arkwright* hath not, in and by the said instrument in writing, so by him in-
 “ rolled in our High Court of Chancery, or by any other instrument in writing,
 “ under his hand and seal, inrolled in our High Court of Chancery, *particu-*
 “ *larly described* and ascertained the nature of his said invention, and in what
 “ manner the same is to be performed; but hath wholly neglected so to do,
 “ contrary to the form and effect of the said letters patent; by means of which
 “ premises the said letters patent, so as aforesaid granted to the said *Richard*
 “ *Arkwright*, are and ought to be void and of no force or effect in law. And
 “ we being willing that what is just should be done in the premises, com-
 “ mand you, that by good and lawful men of your Bailiwick you give notice
 “ to the said *Richard Arkwright*, that he be before us in our Chancery, in
 “ fifteen days from the day of *Easter*, wheresoever we shall then be in *Eng-*
 “ *land*, to shew if he hath, or knows any thing to say for himself, why the said
 “ letters

“ letters patent so as aforesaid granted to the said *Richard Arkwright*, and
 “ the inrollment of the same, for the reasons aforesaid ought not to be can-
 “ celled, vacated, and disallowed, and those letters patent restored into our
 “ said chancery, there to be cancelled ; and further to do and receive those
 “ things which our said chancery shall consider in this behalf, and have
 “ there the names of those by whom you shall give him notice, and this
 “ writ, Witness ourself at *Westminster*, the twelfth day of *February*, in the
 “ twenty-fifth year of our reign.”

“ And now at this day, that is to say, on the morrow of the Holy Tri-
 “ nity in this same term, to which day the said *Richard Arkwright* had
 “ leave to imparle to the said writ, and then to answer the same before our
 “ said lord the King in his Chancery at *Westminster*, comes the said *Richard*
 “ *Arkwright*, by *William Mitford*, Esquire, his attorney, and says, That
 “ the said letters patent, so as aforesaid granted to him the said *Richard*
 “ *Arkwright*, and the inrolment of the same, by reason of any thing in the
 “ said writ of *Scire Facias* alledged, ought not to be cancelled, vacated,
 “ and disallowed, and the said letters patent restored into his said Majesty’s
 “ Chancery, there to be cancelled ; because he says, that the said grant of
 “ our said lord the King is not prejudicial and inconvenient to the subjects
 “ of our said lord the King, in general, as by the said writ of *Scire Facias*
 “ is supposed, and of this the said *Richard Arkwright* puts himself upon the
 “ country, &c. And *Richard Pepper Arden*, Esquire, attorney-general of
 “ our lord the King, who prosecutes for our said lord the King in this be-
 “ half, being present here in Court in his own proper person, doth so like-
 “ wise : And the said *Richard Arkwright* further says, that the said invention,
 “ at the time of the granting of the said letters patent, was a new inven-
 “ tion as to the public use and exercise thereof within that part of *Great*
 “ *Britain* called *England*, and of this he also puts himself upon the country,
 “ &c. and the said *Richard Pepper Arden*, who prosecutes as aforesaid, doth
 “ so likewise. And the said *Richard Arkwright* further says, that the said
 “ invention was invented and found out by him the said *Richard Arkwright*,
 “ and of this he also puts himself upon the country, &c. and the said
 “ *Richard Pepper Arden*, who prosecutes as aforesaid, doth so likewise : And
 “ the said *Richard Arkwright* further says, that he hath, in and by the said
 “ instrument in writing, so by him inrolled in the said High Court of Chan-
 “ cery of our said lord the King, particularly described and ascertained the
 “ nature of his said invention, and in what manner the same is to be per-
 “ formed, and of this he also puts himself upon the country, &c. And the
 “ said *Richard Pepper Arden*, who prosecutes as aforesaid, doth so likewise :
 “ Therefore to try the said several issues above joined, the sheriff of *Mid-*
 “ *dlesex* is commanded that he cause to come before our lord the King, from
 “ the day of the Holy Trinity in three weeks now next, wheresoever he
 “ shall then be in *England*, twelve good and lawful men of his bailiwick,
 “ each of whom shall have ten pounds by the year at the least of lands, tene-
 “ ments, or rents, by whom the truth of the matter may the better be known,
 “ and who are in no wise of kindred to the said *Richard Arkwright*, to take
 “ cognizance upon their oath of the truth of and concerning the premises,
 “ &c. because as well the said *Richard Arkwright*, as the said *Richard Pepper*
 “ *Arden* who prosecutes as aforesaid, have put themselves upon that jury, &c.
 “ The same day is given to the said *Richard Arkwright* there, &c.”

At WESTMINSTER-HALL,

25th of JUNE 1785.

MR. JUSTICE BULLER came into Court exactly by Nine o'Clock in the Morning, when the following Gentlemen were called, and sworn on the Special Jury :

George Scott of Knightsbridge, Esq;
William Little of Kensington, Esq;
Richard Heavesides of Fulham, Esq;
Thomas Browne of Drayton Green, Esq;
Thomas Cogan of Islington, Esq;
Alexander Anderson of Hornsey, Esq;
Thomas Saunders of the same, Esq; and
William Young of Featherstone Buildings, Esq;

The rest of the Special Jury not appearing, Mr. Bearcroft, as Counsel for the Crown, produced a Warrant from the Attorney General, praying a *Tales*, upon which the following Persons were added :

William Watson of Chelsea, Broker,
William Wood of Knightsbridge, Bell Manufacturer,
John Read of the same, Gentleman, and
William Storer of Piccadilly, Chinaman.

Mr. Bearcroft,
 Mr. Lee,
 Mr. Erskine,
 Mr. Serjeant Bolton, and
 Mr. Wood,

} *Counsel for the
 Crown.*

Mr. Serj. Adair,
 Mr. Cowper,
 Mr. Wilson,
 Mr. Chambre,
 Mr. Baldwin, and
 Mr. Anstruther.

} *For the Defendant.*

Mr. Jones and Mr. Fox, *Manchester*, and
 Mr. Lowten, *Temple*,

} *Attornies for the
 Prosecution.*

Mr. Goodwyn, *Winster, Derbyshire*,
 Mr. Ince, *Wirksworth, Derbyshire*, and
 Mr. Kinderley, *Symond's Inn.*

} *For the Defendant.*

Mr.

Mr. BEARCROFT addressed the Court and Jury as follows :

MA Y it please your Lordship, and you Gentlemen of the Jury, I am of Counsel upon the part of these proceedings, which are by the King's Writ of *Scire Facias* against Mr. *Arkwright*, in order to repeal, for certain grounds and reasons which I shall endeavour to explain to you, a Patent for 14 years, which Mr. *Arkwright* has had the good fortune to obtain, and the still better fortune to enjoy the advantage of, for upwards of ten years, without any good ground in point of law or in point of fact, which I undertake to satisfy you is the truth of the case.

Gentlemen, I have to inform you, that the nature of the present enquiry, and the consequence of that decision, which you will be called upon to pronounce between the contending parties, demand your utmost patience, and your closest attention to every thing which shall be said, and every thing that shall be produced in evidence in this cause.

The nature of the enquiry, and the subject matter which you are to look at, being a piece of machinery, consisting of many parts, some of them minute, the whole of it considerably complicated, with which persons in common life have no acquaintance or familiarity; I trust you will at once, as men of sense, say it does require that which I claim at your hands—extreme patience, and very close attention; for if it should so fall out, that in the course of going on in this cause, any one of you should not accurately and perfectly understand, but should happen to miss a link in the chain of this business, you will be totally lost and gone, you will not be able to understand or to form a proper judgment upon this subject.

Gentlemen, what I said with respect to the consequence of your decision, arises from the importance of the case, because in my mind I see it, and I have no difficulty to state it, that a case of greater importance, of greater value to the individuals disputing it, and to the public in general, was never yet tried in this or any other Court.

Gentlemen, Upon the part of the defendant *Arkwright*, it is a question of great property; for if he is right and well founded in this patent, notwithstanding there are but about four years and an half to come of it, it is of such value to him, that I doubt not it will produce to him great sums of money; I allow it. Upon the other hand, if we are right in contending that this patent has no validity in point of law, and yet you should determine that it has, the consequence will be, that some individuals, well worthy of consideration, will be losers of sums much greater than any Mr. *Arkwright* can assume to be interested in, great as I verily believe they are. There is too, a matter of infinite importance behind, I mean, that if you should determine for the validity of this patent, you will endanger the loss of the most valuable manufactory that this country knows, I mean, the Manufactory of Cotton.

Gentlemen, I have not overstated the nature of the questions, I have just touched upon them in order to intitle myself to your close attention, without which, the subject and I (who am now about to endeavour to explain it to you) should have no chance to be understood.

Gentlemen, It is impossible upon a subject of this kind, by words merely, for any advocate to convey the ideas that are necessary to be apprehended in order at all to understand this case.—If I speak in the terms of art that
are

are used by the manufacturer, I might probably with the few lessons that I have had, misapply them myself.—If I should have the good luck to avoid doing that, if I only use the language of the manufacturer to you, who are not manufacturers, you would not comprehend me, it would really be like trying an English cause in another language; of necessity therefore we must have recourse to the machines—and to your ocular inspection; desirous, as undoubtedly you are, to give a judgment upon the true grounds, you will grudge no patience or attention in examining the parts sufficiently, in order to attain a perfect acquaintance with it, that you may be able to follow the arguments and the evidence that will afterwards be given.

The first thing I shall attend to, since these proceedings, are totally to render void a patent, is to acquaint you with the nature of that patent, and the machine, from which Mr. *Arkwright* has derived great advantages; and of which he contends, by virtue of this patent, he has the sole use and property during the fourteen years, for which a certain act of parliament, in certain cases, allows a monopoly to be granted by the crown.—Once for all, it may be convenient to state the date of this patent, and the language of it, in order to shew you what is the kind of invention in general, upon the merit of which Mr. *Arkwright* bottoms himself to have the benefit of this patent.—The date of the patent now in question is the 16th of *December* 1775.

The manner in which Mr. *Arkwright* describes his invention, upon the footing of the merit of which he asks and obtains the patent, and derives all the consequences which by law he may; the expressions he uses it is extremely fit you should attend to, and, in my opinion, almost every word used by him in his patent (that is) used in his petition, and stated as the ground of the grant, are extremely material for your attention; I will state them therefore slowly and as clearly as I can from the patent.

Mr. *Arkwright* is recited by his patent to have suggested that he has invented certain instruments or machines.—I really think, Gentlemen, every syllable he says is important in the view of the case I shall state by and by, and wish you to take notice of it as it were of a *Text*, upon which much depends:—he had invented, it says, certain instruments or machines which he conceived would be of public utility in preparing silk, cotton, flax, or wool for spinning; that the same instruments or machines were constructed upon easy and simple principles, *very different from any yet contrived*.

Gentlemen, Do me the favour to remember that, “*very different from any yet contrived*.”

This is a general description of his invention—so he states it—and so he must and ought to state it in order to intitle himself to a patent that should have the effect for which the patent is granted.

Gentlemen, I undertake to satisfy you, that in truth so far is this from being the true description of these machines, they deserve a description the very reverse of this; for, in fact, they are not materially different from some before contrived; on the contrary, I pledge myself to satisfy you that they are the same. Therefore it is, I call upon you to advert to that language of his; he felt that it was important to give an idea to the public, that this invention was upon principles very different from any yet contrived. It will behove you to attend to and see whether that is the truth, or any thing like the truth, or whether the reverse is not the truth.

D

Gentlemen,

Gentlemen, it will be impossible for you to understand a step of what remains behind, and much does remain behind, without first having a general acquaintance with the nature of the spinning of cotton, and of the process towards the spinning of it, together with an acquaintance with the patent machine of *Airkwright* that is to perform the operation for preparing for that spinning.

Gentlemen, I expect, and I believe that you, as well as all of us that have lived a few years in the world, have ideas enough upon this subject to understand what I am now going to state to you, independent of any thing like a complicated machine.

The various manufactures which are performed in and about *Manchester*, and with which you must be well acquainted, are fabrics so ingenious, so beautiful, and so useful, that they have all the qualities that can recommend them to human nature; and I verily believe in that article we are universally envied, and that sort of manufacture is coveted by every nation under the sun, which has at all turned itself to manufactures; I believe I am not mistaken in affirming, that the basis and principle of all those manufactures are, the fineness and excellence in the spinning and twisting of the cotton thread, of which they are composed:—you will see, therefore, that every part of the process towards the making of that fine and excellent cotton thread, is of the utmost importance to the kingdom in general.

Gentlemen, All of us know the nature of the common process to procure a fine thread of cotton.—In the first place the cotton must be carded:—We all of us almost are well acquainted with carding or currying, which is something of the same nature.—I take it the operation of carding all of us have seen in the infancy of this manufacture, it is done in a great degree by putting the cotton upon one card with teeth, and taking another and combing it off; this sort of operation used to be performed by the hand, with a card in each hand, and it took up a great deal of time, and employed a great many persons, and of course, the operation in that way, was very expensive:—the effect of it was to dispose the fibres of the cotton into a form and situation better calculated for the purpose of procuring a fine even twisted thread, for that is the great object that I conceive this kind of manufacture has constantly aimed at.—You have a perfect idea therefore, I have no doubt, what we mean by the word *Carding*.

Gentlemen, When that was performed by the operation of two cards, the next process was, what the manufacturers called, *Roving*, in plain English; for I shall endeavour to translate every unusual word, in order that we may perfectly understand what we are talking about.—*Roving*, means neither more nor less, than taking the cotton, after it is carded, and performing the operation of spinning by a wheel, the common hand wheel, as it is called:—you see the women and children at work all over the kingdom with them, making it into a coarse yarn, thread, or web; all these words convey the same idea.—This was called *Roving*, and the thing that is called *Roving* is making the first coarse thread of cotton—and is the next process which immediately succeeds the operation of *Carding*.

This coarse thread, the *Roving*, will not answer the purpose, it is necessary that it should undergo another operation, it must be *re-spun*.—It must be spun again in order to make it fine and give it a proper twist, and that sort of consistency, which is the foundation, as I conceive, of the excellence of what they call the *Manchester* manufacture; this too used to be done by hand, as I have stated to you:—this last fine spinning of the
cotton,

cotton, in effect the second spinning, and called the spinning to distinguish it from the first coarse spinning, or the roving. (If I appear to repeat things over and over again, I do it purposely, meaning to repeat and impress it upon your minds, that you may fully comprehend) I say this spinning was the last and important finishing. — If therefore a machine could be found out that in less time, and consequently at less expence, and in a better manner, could contrive to spin a second time the first coarse spinning, called roving — it most undoubtedly was an improvement and an invention of great value, an invention of great merit, and an invention of great importance to the public; and for which, I am free to confess, the real inventor was fairly intitled to all that reward that can be derived from the monopoly permitted by law, which is the sole enjoyment of the patent itself for fourteen years.

Now, Gentlemen, you are to be informed that Mr. *Arkwright* was in possession of a patent for that operation of *Spinning*, which makes the roving into that fine thread.

That patent for the spinning, expired upon the 3d of *July* 1783, you will find it material to take notice of that date.

The language of that patent was a machinery “never before found out for the making of Webb or Yarn of Cotton, Flax or Wool, which will be of great utility to manufacturers.” — I say, the meaning of those words, “making webb or yarn,” is in plain English, *spinning*.

That patent machine, which was excessively ingenious, it is of great importance you should be thoroughly acquainted with; and I shall endeavour, in the course of going on, to bring you acquainted with that, for, upon that you will find a great deal turns, and that alone, when truly understood, if I have any comprehension of this cause, which I flatter myself I have, is alone sufficient to overturn this patent, and make out one of the propositions which we have alledged upon the *Scire facias*, that is to say, that this patent, of the 16th of *December* 1775, was not for a machine that was at that time, on the 16th of *December* 1775, a new invention, or any thing like a new invention.

Gentlemen, The machine for spinning, is not that immediately before you, for it is the machine that is beyond it; and I am happy to observe, that the parts of it, which it is necessary for you to become acquainted with, are so situated in the court, that you will presently catch them with your eye, and understand what I am going to say about it.

You will remember what I said; the roving was the coarse thread, the first operation after the carding.

The next business was, to make it into a fine thread by spinning: this the machine under the first patent performed in the way you will see by the machine I am now pointing at, the roving. The coarse thread was put upon those spindles farthest from me, four of them in a row. Opposite to them was placed a double set of rollers, such as you see there, fluted, and some of them covered with leather, to which rollers the roving was attached. The working those rollers draws the rovings through the rollers, and that performed the operation of the second spinning, which is called the spinning, and making the old coarse spinning or roving the fine and the new thread, webb, or yarn, or any of those words used by Mr. *Arkwright* in his former patent.

Gentlemen, In order to give that fine thread the twist, which is the important quality for the purpose of smoothness, they are continued to
those

those four spindles that turn round—an old invention, and very common in this kind of manufacture. I am forced to go back and rehearse, or I have no chance of being understood upon such a subject; but what I mean to convey is this:

Let one of the men point, while I shew the wax-work: there is no harm; you will not grudge the time, I must repeat it again. Those round spindles, next the man that stands behind them, you will observe:

These contain the roving, or the first coarse spinning.

The business is, to make it into a fine thread, by the second spinning. That operation is performed by producing the roving, so as to touch that double set of rollers. The rollers go to work, being moved by the wheel: they draw it off, they produce it, they prolong it, it passes through them, they render it finer; and those spindles below are well known in the business; that is no new discovery at all; they give the twist, at the same time as the threads are going through the rollers.

I the more labour this, for, when you understand the subject, you will find it the most important foundation, in the way I am explaining it. If you are fully possessed of that idea, I am satisfied for the present. Mr. *Arkwright* then had a patent for performing that work in that manner, which patent expired upon the 3d of *July* 1783.

There will be no great harm if I tell you now, that that machine will either make the roving, the coarse thread, or the spinning the fine thread; it will be material to keep that idea correctly. You will remember, the roving is the next operation after the carding; in truth, it is the first *thread* in the business, but it is the coarse one. That coarse thread shall be made before your eyes, this is very important, you will see it presently made by the operation of that very machine. The spinning machine, by this simple method only, by taking the carded cotton and putting it behind those rollers, which immediately, in the way you see, make a fine thread; but if you take the roving when it is made (the coarse thread, you recollect), take it back again, and instead of putting the carded cotton there to the rollers, which produces the roving, let the roving (the coarse thread) go under the operation a second time, and it comes out a fine thread. Now the idea I mean to give you is this, That both the roving and spinning are threads, the one a coarse thread, the other a fine one, equally performed; for I will demonstrate to your senses, it shall be done by that very spinning machine: at present, I must beg you will give me credit for it; it is a very important thing, and they must be explained, which cannot at once be done, but I wish you to be possessed of that idea.

Gentlemen, Having given you the idea of the machine for spinning, and shewn you it will operate to spin either a coarse or a fine thread, I come now to shew you the sort of patent which is in question, and which machine Mr. *Arkwright* does not sell ready made, but gives the permission to use, at a price that produces a princely income into his pocket.

Now the patent for *spinning* expired in *July* 1783; Mr. *Arkwright* therefore had lost a glorious and profitable monopoly. He was, like any other man, unwilling to part with his term and with his profit, because the term was expired, if by any means he could contrive by another kind of ingenuity than that which invents machines, to keep up the enjoyment of that monopoly in another shape. It was not however right or just to do it, and I pledge myself to satisfy you, that such was the idea which Mr. *Arkwright* had in his mind. Upon that idea he took every step in the business, from
that

that moment to this. I will trace his footsteps from time to time all in that line. Because he was unwilling to part with the benefit he was entitled to of fourteen years, he chose to have it as long as he could. Before this cause is at an end, you will see that this was in truth what passed in Mr. *Arkwright's* mind. When Mr. *Arkwright*, upon the expiration of this patent for spinning the fine thread, could no longer in those words enjoy that thing at all: but inasmuch as the cotton manufactory depends upon all the several things that are already stated to you, the *carding*, the *roving*, and the *spinning*; though he had lost the patent for the spinning, if he could contrive to get a patent, and to gull the world to submit to that patent as a new invention for the roving and the carding, it would answer all his purposes; for still he would be in possession of a monopoly of two thirds, and that of the important parts of the spinning. In the name, therefore, he would not have the spinning; but if he got a patent for the carding and roving, the spinning would follow: in truth, the whole operation would be his, and he would keep possession of it against the world.

Gentlemen, Suppose any two men struggling for a yard which consists of three feet; if Mr. *Arkwright*, with one hand, got hold of one foot, which he is forced to part with, yet contrives to get hold of the other two feet with his other hand, he certainly would have the better hold. I have lost the spinning, says he; but I will contrive to get the carding and the roving, and then I shall keep the spinning. For that purpose, he procures the present patent. What is it for? For spinning? No: that would be too gross. The same word is very apt to describe the same thing; and you will see that Mr. *Arkwright*, both in writing and in drawing this specification, has most diligently avoided any words, or any thing that could too plainly strike the imagination, and shew that his new patent was in effect his old one. For the foundation of his new patent, he says, "I have invented machines of great public utility in preparing silk, cotton, flax and wool for spinning."

What are the preparations for it? What I told you; the carding and roving.

Now it is for me to shew you what these machines consist of.—Mind what he says, he invented, and what the patent is for; it is for preparing cotton for spinning. Again, I say, it consists of two processes, carding and roving: his invention and machines, therefore, are for doing that thing. I repeat it to my Lord particularly, because it applies in point of law, as you will find by-and-by, therefore it is fit to have that kept in the mind of the court. The patent is for preparing the article for spinning; those two purposes of carding and roving have begot that complicated machine which is the present machine; and he dispenses his royal will and pleasure to permit persons to buy it and to use it, for none can use it without his (Mr. *Arkwright's*) will and pleasure. It is really a royal will and pleasure, under this patent and monopoly. The way he does it, is by that machine before you; and it is necessary you should become intimately acquainted with the parts. If you do not go along with me, and it should be obscure to you, I beg you will interrupt, and ask me. As those things can never be done in common affairs and speech, without understanding each other, therefore it is fit we should understand one another in this case. At present I am going to explain to you the present patent machine for preparing the cotton for spinning.

E

Now

Now we are going to the machine, to prepare it for spinning that cotton.

Gentlemen, I am not now stating my objections, and applying them; I am bringing you acquainted with strange things you were not acquainted with before, that you may understand when I go to argue; for if I were to do what the zeal of a friend behind me wants, which is, to begin arguing, I should puzzle the business—I want to bring you acquainted with the thing, before I begin talking about it.

First, I shall endeavour to explain the patent machine now in use. There is a quantity of cotton spread upon a cloth, which is to be prepared for this operation of spinning. The cotton, so placed on the cloth, is drawn through the rollers in a smooth manner; and then it next is attached upon that great cylinder, which great cylinder is stuck full of pins, and is in truth a card, though not a flat card; it is a card, because it has pins of the name, and in the same nature the card has.

That is but one part, but one card, that will not perform the operation of carding. There is a piece of secret history belonging to that. It is covered with a board, and your eyes cannot see that; if you take one of those, and turn it inside out, you will see that too has teeth.

[*To the man at the machine.*] Please to shew one of them.

[*Part of the top of the machine taken off, to shew the teeth.*]

Gentlemen, You see, then, the cotton having got through the rollers upon the great cylinder, which great cylinder is turned round:

[*Here the man turned the wheels, and set the cylinder in motion.*]

Gentlemen, We will keep to one part, we will follow the process—The cotton gets upon the larger cylinder, which is turned round, and, of necessity, the cover having teeth as well as the rollers, the operation is performed the same as by two hands and two cards; this therefore is the course of preparation. First, the carding which I talked to you of originally: Gentlemen, when it is carded through by this operation, the next thing is, by a certain contrivance, to put it in a way to be roved, or spun into a coarse thread. In order to do that, the first thing that must happen, must be, to take it off the great cylinder, after that cylinder has performed a circumvolution under the incumbent points or cards above; because then it has been carded, then it is to be taken from between those two cards. That is performed by a very ingenious machine; I have no difficulty to call it so, for it is not Mr. *Arkwright's*, nor any body's that can be traced now, I mean the next adjacent cylinder, which is much smaller, which contains carding-fillets, with pins of the same kind, that take from the large cylinder the whole previously carded by that large cylinder.—Now we have got the carded cotton off the great cylinder upon another smaller cylinder.

But we have not got a bit further in the process; it is still nothing but carded cotton: your Lordship sees it must be roved, and it must be spun. In order to rove it, you must take it off even from the second cylinder. Then it may be asked, Why the second cylinder? why not the first? Because you will see it is of great use to have a machine that will go on continually carding, and that cannot be but by the means of a second cylinder, to take off the carding performed by the first cylinder, as fast as the first cylinder is filled. Therefore you see the whole effect of the second cylinder, is, to take off the cotton when completely carded upon the first. We then are still going on with one wheel, one operation succeeding after the other, perpetually carding and filling that original cylinder as fast as it is
taken

taken from it, or emptied, if I may use the phrase, by the second cylinder.— Still we have got nothing but carded cotton.

The next thing is the *roving*; for the preparation, you remember, still consists both of carding and roving.—Now for the other part of Mr. *Arkwright's* machine.

Before I come to that, you will observe, it certainly must be taken off from the second cylinder, or else the quantity that goes on continually will not be delivered off, for the purpose of roving. How is that to be done? It is done by a very ingenious contrivance, I admit, and the very contrivance that was the destruction of us in another place: it was so ingenious, it was so clever, that I remember perfectly well, my learned friend, that then had the first shew in another court, in which Mr. *Arkwright's* good genius suggested, after laying by two or three years, thought it convenient to try it over again. My learned friend shewed the machinery with such skill and address, and performed the operation so well, he tickled the fancy of the jury like so many children, that it was impossible to put them out of love with their plaything to the end of the cause, till they finally decided in its favor.—I have no objection to your examining it here, for a clever one it is: I know the history belonging to it now; we were not instructed in it then, which makes it very different; and whether you consider it as a clever thing, or no, in truth it is so.

We have got thus far: we must now take off the carded cotton from the second roller, in order to make the roving that comes behind. [*To the man.*] First, fill that second roller with cotton, then shew how you take it off with the crank.

[*The two cylinders were then filled.*]

Observe now: you see how he takes it off the second cylinder. I will not call that thread. You have seen the operation enough for my purpose. Now that is a crank, which you see with teeth. I pledge myself to satisfy you, that is not Mr. *Arkwright's* invention. Now we have done with the operation of carding.—The carding is performed by means of the great cylinder. It is taken off the great cylinder by means of the little one; and it is taken off the little cylinder by means of the crank with the teeth. And the next operation for preparing it for spinning, must be the operation of *roving*.

[*To the man*] Now shew the roving machine.

Gentlemen, You will remember that particular machine that has been shewn you; there we leave it.

[*To the man.*] Hold up the cotton high, that the gentlemen may see the roving.

Now I am going to the roving. We have done with the carding, and got it off the cards: the business is, to rove it. And now you see why I talked to you about that spinning. It is put behind those two pair of rollers, twin brothers to the original patent rollers that expired; so like it, the very parent cannot tell the one from the other. They are put to work, and that gross cotton is roved into a coarse thread.

[*Now work the rollers, N^o 6 in the specification: those brushes are for brushing off the dust.*]

We will take it up, if you please, just from this side of the rollers. That coarse piece just now being taken and put behind these rollers, is spun, I say *emphatically* into a coarse thread, which is called the roving.—The first thread.—But that roving is to have a kind of twist.

Now

Now if you continue your eye from the rollers to that nozzle, you will see that coarse thread or roving is continued into a tin cann; that cann receives it through two rollers.

It is not improper to stop you now: it will answer some purpose to explain it. Through those rollers it falls into that cann, whilst the cann receives it; an old invention, as we shall shew you by evidence. That cann turns round upon a centre, upon a spindle. That first thread is delivered (if turned over your finger, it would be the same thing) into that cann, whilst that cann turns round, and gives it a gentle twist. When the roving is performed, it rolls itself up like a worm by a simple operation; but I do deny that there is any thing different from what was done before.—This cann turning round and round upon its axis, gives it a twist that is the roving.

Now, Gentlemen, I venture to think I have got you acquainted with the things concerning which I am about to talk; and unless I have succeeded to do that, you will not understand a word I say more; but I trust we do understand one another pretty clearly, and I trust you will say this time at least has not been wasted.

I am now to tell you upon what ground of law and of fact I contend upon the behalf of the crown and the public; for the king's name never was employed more for the public benefit than it is at this moment, in my apprehension. That these two machines, which are put in one patent, and which therefore must be taken to be one invention, and the invention for which he has this privilege; I will tell you upon what grounds of law and fact they ought to be vacated, nullified, and held of no validity.

Now, Gentlemen, I get rather more home into my own business, and perhaps we all of us do; for we are now, for a moment at least, to talk plain English.

By an act of parliament in king *James's* reign, which put an end to great and growing evils that the world at that moment very properly complained of, it was thought right (but how wisely, even wise men have differed upon it since) to reserve a power of monopoly that might be made use of for the benefit of the public; and it was thought, that if a reward to ingenious men, who should study to invent any matter of great use to the public, was given to those inventors, in shape of a monopoly, for a given time, it would be a benefit to the public. That was the idea of the legislature in that act of parliament, and, of course, there was a power given to the crown to grant patents for new inventions, beneficial inventions, for a term of fourteen years. But, adopting that idea, the framers of the act of parliament were clearly of opinion *that* power ought to be guarded for the sake of the public; and the way in which they guarded it was this: In the first place, says the act of parliament, it shall ever be an express condition with the inventor, to whom a patent is granted for a monopoly of his invention for fourteen years, that he should pay for it in this coin:—he should disclose the manner in which he performs his invention, in an *honest* and *fair* and a *plain* way, so that the world at large shall be in complete possession of all he knows upon the subject, at the end of the fourteen years.—That is the express bargain and stipulation required by the act, and, of consequence, inserted in this and in every other patent that is granted.

Gentlemen, You will find it is likewise an express condition to make a patent have any operation at all, that the grant of it states, however ingenious it is, however new, and however excellent the invention may be, that
it

it should not have an effect prejudicial and inconvenient to the king's subjects in general; in other words, to the public. You will find it worth while to remember those words *not prejudicial*; you will find, the grant states it must not be inconvenient to the subjects in general. It must also be absolutely a new invention; for if it existed before, and others were in possession of it, there is no merit, except that of applying for a patent; and the man that comes for the patent, must not apply for a patent for any thing that should be prejudicial or inconvenient to the public in general; and, whoever invented it, it should be a new invention.

Again: Another essential circumstance to the validity of a patent is, it must not only be a new invention, and not prejudicial to the public, but it must be a new invention by the patentee himself: Mr. *Arkwright*, therefore, if this is a new invention, must have been the inventor of it himself; of this new invention, by his good fortune. We all know there is a deal of accident in finding out the most ingenious thing in the world, study will not always do it. You pick it out sometimes in working. It does not signify however ingenious or curious the invention is, it must be, as I stated before, that the invention, and the manner of performing it, must be honestly and fairly disclosed by a specification, and the specification must be registered in a certain time in the court of chancery. All those things are necessary; none of those things exist in this case, none of them. These are the grounds, any one of which if I can maintain to your satisfaction in point of law, you must find a verdict for the crown to vacate this patent.

These, then, are the grounds we go upon, these are the things we are to be talking about this day.—I am come now to the different heads of objections, which I have already stated to you; and under those different heads I will, as shortly as I can, consistently with being understood, state to you the nature of those objections, the application to the present subject, and the sort of testimony and witnesses which I shall produce to maintain it.

Gentlemen, The first objection and the most serious, not to the parties, but to the public, and therefore I say the most serious, is, that this grant is prejudicial and inconvenient to the public in general; and I confess it appears to me most clearly to be so; and not only to endanger the loss to this country of a manufacture, which before, I trust I properly and truly said, was the most envied and coveted of any we can boast; and not only endangers the loss of it, but, in my apprehension, renders it extremely probable, and tends to draw off, from the industrious exercise of this business in this country, a multitude of labourers who support themselves to the benefit of the public; it drives them away by the most potent of all force, as it would carry the carding into foreign countries, and they would carry this art with them to foreign countries. You see, that must be the consequence; but if there is any danger that is within the meaning of this clause, it is this objection that I have stated; for can any thing be more prejudicial and inconvenient to the subject, than a patent to a private man, which endangers the loss of a trade of such importance to this country as a nation; for it is impossible any-body can have thought seriously upon public affairs, that will not state at this moment, that the well being and existence of us as a nation, depends upon the flourishing of our trade and manufactures: the moment there is a dangerous wound to any one of them, that moment the public are essentially injured, and the whole is un-

doubtedly in danger. Now you will see the danger here: if this patent remains good in point of law, it prevents every individual from the preparation of cotton for all the cotton manufactures of this country. Other countries have got wiser than they were in former days; princes, potentates, and states have learned [for the sake of this country, I am sorry that they have] that the true wealth and power of a country does not depend upon a multitude of men in their armies, but that it depends upon the trade that they can get in their country; and I appeal to any sober man, that has exercised his judgment upon the subject, whether at this moment, and for years (I am sorry to say it) the eyes of all civilized countries are not turned upon this, with an endeavour, if they can, to take from us our trade and manufactures. And this will have the effect of it: If this is held to be a good patent by Mr. *Arkwright* only, for the term he has to come, about four years, you will rob upwards of 30,000 people of their manual labour in this business, and of the means of their supporting themselves by their industry.

Gentlemen, You will ruin people, who, upon the strength of what has passed, have laid out near 300,000 l. in this kind of business. These are serious things. If it be asked, Why did they invade another man's right? If they do it, they do it at their own peril: they do a dishonest, a wrong thing, and they must suffer for it.

Gentlemen, The argument is right, if founded on fact. I asked the question, in order to give you an answer. Permit me to inform you, that in the sittings after Trinity term, that is, at this time of the year, in 1781, Mr. *Arkwright*, who stands now as the defendant in this proceeding, was the plaintiff in nine causes that he brought here against several persons for invading this patent of his. The fate of those causes was singular; by an accident, I bore, as my learned friend says, something like a principal part of it, I think I do remember very particularly, and I will state it very faithfully.

The nine causes Mr. *Arkwright* was plaintiff in, against persons invading this patent, and using those machines without his licence. Mr. *Arkwright*, who is a sharp man himself, and well advised by a great many very able counsel, most of them upon the northern circuit I believe, except one or two of them, and men born in that district, which is very apt to produce sharp and penetrating men, who managed and marshalled his causes with infinite address and cunning indeed.

It so happened, one of his actions was brought against a colonel *Mordaunt*, a gentleman of family, but not of much fortune, and who did not mend it by dabbling in this kind of manufacture. Mr. *Mordaunt* was thought, from his temper, and from the lightness of his purse, out of all the nine causes, as the fittest to be put in the front. Mr. *Arkwright* had nine: he chose to put the action which was to be tried against colonel *Mordaunt* first. There was a particularity in colonel *Mordaunt's* temper at that moment; it was no reflection upon him; but, somehow or other, he took it into his head to wish to have different council in his cause, to defend it, from the gentlemen concerned in the other eight causes. The gentlemen that were concerned in the other eight had been upon the northern circuit, very able persons, and Mr. *Mordaunt* the colonel was too good enough to come to me, and depended upon my assistance, and I remember Mr. *Erskine* was of counsel in all the causes, and I believe Mr. *Erskine* was my only assistant; for colonel *Mordaunt* I had a brief which was written
upon

upon a sheet of paper; my other friends were concerned in the other causes, and I was to defend colonel *Mordaunt*. I was a little piqued, I must confess, and I did heartily wish I could overset Mr. *Arkwright*, notwithstanding my poor paltry fee, and my brief which hardly conveyed any ideas. By good luck, Mr. *Erskine*, who was of counsel in one of the causes was with me, I stole from him his knowledge, I borrowed a witness, he communicated his knowledge out of his other briefs. By good luck I comprehended the matter, by the help of my learned friend's communication; I am very free to acknowledge I am obliged to him for it — it was this; that if this was a new invention, Mr. *Arkwright* had not fairly communicated it by his specification, but had absolutely contrived to hide it. Upon that simple ground we went, we had no other to proceed upon; we picked it up, not from my brief I vow to God, for not a syllable of it was to be found there. Mr. *Erskine* communicated his ideas from his other instructions, and I had the good fortune to comprehend them while they were turning the machine about. I made my objections, he lent me a witness or two, and to the perfect satisfaction of the judge who tried it in 1781, the jury found the patent was of no validity; for Mr. *Arkwright*, instead of disclosing his invention, did all he could to hide and secrete it; and upon that ground a verdict was given for my client, colonel *Mordaunt*; and I don't know whether Mr. *Arkwright* repented putting him in front — but I dare say he imagined the same thing would be done in the others, that, that objection would be admissible, though the cases were somewhat different in their nature from each other; there was an end of his patent from that time, and I contend all the world had a right to take it so. From that time in 1781, Mr. *Arkwright* never dared to raise this question again, till by good luck he found a certain disposition to go into the common pleas. Why did he not contest that verdict? — there was not a word said against it till in the court of Common pleas, in the sittings after hiliary term 1785, three years and an half after this cause was tried. The first fault I ever heard found with it was, my learned friend, the learned serjeant that sits by me, who having got upon his own ground, indeed it was not meeting us handsomely; he very fairly stated, — I believe I have got the words in my own brief. — “The judge, counsel, and jury of the court of King's Bench, though very ingenious men, yet *Quoad hoc*, this business, were perfectly fools, and knew nothing about it.” The counsel for Mr. *Arkwright*, as well as the rest, did not know a bit of what they were about. That the counsel for Mr. *Arkwright* at that time, did not know what they were about: I wish to God I could fill this place a tenth part as well as that counsel did. I am sure that observation alone communicates to the profession whom I mean to speak of, he has not left his equal behind for discretion and knowledge. Both Mr. *Wallace*, and all the counsel were blockheads; Mr. *Dunning* too was one, a notorious blockhead it must be allowed. All those gentlemen knew nothing at all about the matter, it followed, therefore, that ingenuity and apprehension, equal to such a cause as this, were only to be found in the court of common pleas.

Mr. Justice *Buller*. When was this discovery made?

Mr. *Bearcroft*. The sittings after hiliary term 1785, this very year. So it was they complimented themselves into this superiority over the court of King's Bench, being their own judges about the right to it, they determined they had the right, and it was no great wonder, therefore they kept possession of it as long as they could.

But

But now to the verdict in 1781.—Did he grumble about it? Did he dispute it as a man ought to do? Did he think it wrong? Why did he not do as all men who are not satisfied with a verdict do, and are advised to do, apply to the court for a new trial. Upon such a subject as this, my Lord will correct me if I am not right; there is a great inclination in a court to grant a new trial; because so far I will agree with my learned friend, the court will be cautious upon a subject of this kind. It is not very impossible, the first time it might not be truly understood, I agree, and therefore if he could have laid his finger upon a fault, so as to have created a doubt in the mind of the court of King's Bench, I venture to say, that would be enough to grant a new trial, if he had applied for it; and if the court would not grant it, he might have granted himself a new trial. He had no occasion to apply to the court of King's Bench for it, he might have granted himself eight new trials if he had thought proper, for there was but one of the nine lives of this cat (*Mr. Arkwright*) extinguished at that time, there were eight left, but he never applied for a new trial, never tried any one of those eight causes; what were his reasons I cannot devise, they were good ones I doubt not: for *Mr. Arkwright*, who remained for three years and an half before he thought proper to go to another place to try this question. Gentlemen, what had my client and the world at large to conclude from that? what are notorious trials in a great court, and what is to be the effect if the eyes of the world are turned upon a decision, and the party interested to dispute the rectitude of that decision, submits to it for three years and an half without a struggle? Has not all mankind a right to conclude as my client did, he had given up all thoughts of the validity of this patent, and that he had totally lost it.

Gentlemen, You will find still stronger evidence, that he was satisfied of the fact himself. For now you will find, instead of applying to a court of justice, he applied to parliament, to the house of commons, in order to set him right, in respect to the consequences which he submitted to, in a court of law. I said, I remember, before the court of Common Pleas, and I repeat it now, “Oh that mine enemy would write a book!” *Mr. Arkwright* has written a book, and out of his own mouth will I condemn him; and without all doubt he himself was conscious, that, instead of complying with that essential condition of the patent—instead of complying with the condition of the act of parliament, and fairly disclosing his knowledge of the manner of carrying the invention into effect, that other people might have it at the end of the term, he had purposely secreted it.

Another thing I will say too (you will do me the justice to recollect I suggested to you a long while ago, I was sorry to take up your time, but necessity required it). Gentlemen, he still hankered after his spinning machine. You will see that, and you will see his application to parliament was for a prolongation of his spinning machine: That was what he wanted. He gave up all ideas of the validity of this patent, and stated in terms, he had purposely avoided disclosing the invention by his specification out of a public spirit; people now and then do think of themselves, and at the same time have the spirit of patriotism; you know he says it is merely out of public spirit, because the French should not steal it. I will read to you some statements of *Mr. Arkwright's* opinion in this same cause of his. And I am to tell you, that though I stated it in the Common Pleas, I had not the good fortune to give evidence that was thought legal to entitle me to read it. I am not now about to play a *Nisi prius* trick, to read a case I cannot bring home to *Mr. Arkwright*; I will prove it in a different manner than I did before;

before; and I tell you at once, before I state what it is, I will prove Mr. *Arkwright* himself, in his own person, came to a witness, and I will produce to you proof that he shewed him this printed case, and said, read it. I am about to apply to parliament, this is my case, you shall read it. Mr. *Arkwright* left it, and he read it; and Mr. *Arkwright* said, I will send my servant to you with a few more. He left one instantly and sent the servant with four more, and two out of the five of the identical papers that witness shall produce.

I think we were excessively unfortunate in the evidence not being admitted, excessively unfortunate in my apprehension, this evidence is beyond objection to be sure, it is ten times the amount of what we then produced. This evidence I will read to you, for it states in terms, his design of secreting the invention, for those are the words; “At the time Mr. *Arkwright* obtained his last patent,” (this patent that is here) “he justly concluded, that his inventions were of great national importance” (I have argued they are) “and conceived they would be sought after by foreigners to introduce it into other countries.” He therefore purposely, in prevention of that evil, he had almost himself said, national injury “omitted to give so full and particular a description of his inventions in his specification, attendant on his last patent as he otherwise would have done; and, in order the more effectually to guard against foreigners, it has been Mr. *Arkwright*’s uniform rule to forbid the admission of them into any of his works. Other gentlemen, natives of this kingdom, were most generally admitted upon proper application. Mr. *Arkwright* was the more inclined to omit so full a description of his inventions, as by a clause in the said letters patent, he was led to believe it was not essentially necessary, because it is therein said, that the said letters patent should be good and effectual in the law, according to the true intent and meaning thereof, notwithstanding the not full and certain describing the nature and quality of the said invention, or of the materials thereunto conducing and belonging.”

Gentlemen, If there is such a clause in such patents, I will venture to say, indeed, they may as well leave it there, undoubtedly it will have no effect in point of law if it is found there; because it is the express condition of the act of Parliament itself, he should fully and fairly disclose. What is the consequence of this language? I would—but that I have guarded against. And those are his words, the reason, says he, I did not disclose it so fully is, because foreigners would have understood it. I purposely do it least they should (as their understanding and ours are exactly equal) and when he said I meant they should not understand it, that is exactly the same thing as if he had said, I meant it should not be understood. Did he do so?—If he has, there is an end of his patent, let the consequence be what it will.

Gentlemen, There are other parts extremely important that will be read; I wish to spare your time whenever I can—I shall have an opportunity hereafter perhaps of taking notice of them.

Gentlemen, I come now to my second objection, which is the allegation upon this *Scire facias*; that this invention at the time of the letters patent, which was the 16th of *December*, 1775; (and you will keep this in your mind) was not itself a new invention; for I will shew you that at the time all the parts that go to compose it, with very little or no essential difference, existed and were used, and they were applied to the purpose.

Gentlemen, I will shew you that the larger cylinder, that performs the operation of carding, was in common and constant use; I shall shew you,

that the smaller cylinder, for the purpose of taking off the carded cotton was in constant use, covered as I shall shew you in evidence, all over, not only with parallel, but spiral carding fillets; that which he uses now is the spiral one, which I will explain as the evidence goes on. I shall endeavour to make myself understood as well as I can, I shall shew you that very crank which I said before, and shall die with the belief of it, ran away with the verdict in the Common Pleas. That ingenious operation of the crank taking off the cotton from the second cylinder, is no invention of Mr. *Arkwright's*, it is no new invention, nor any thing like it, I will shew you clearly it was in use. I shall call upon my learned friend, (for I now fore-stall argument) I shall call upon my learned friend to shew you in what the novelty of this invention consists, I pledge myself to prove, all its parts and operation were in use before, except the rollers which I have explained; and upon those I have this short observation to make, they were not new at the time of the date of this patent, in 1775; for you will recollect, I have already shewn you those rollers were used in the first patent, that expired in 1783, and that roving is spinning, and that spinning is roving, and all is performed by the rollers, and it is either one or the other as you put the rough cotton or thick thread; in the first place it is roving, or a coarse thread; in the second place, spinning, or the fine thread. Now have not I told you how he hankered after his spinning patent, is not this his spinning patent?—Surely the more you think of it, the more you will see it; another head will occur to you, which I shall reserve to speak more fully of when I come to it; but another thing is, if this is a new invention it is not Mr. *Arkwright's*, *sic vos non vobis*, with all the changes we used to ring upon it at school; in the course of your lives, since you left school, you may have had many occasions to observe it, and this is a strong instance of it, this was not the invention of Mr. *Arkwright*, I will prove it, and that it was the invention of a very poor man, now alive, whom I will produce to you, he did it, he will shew you, and swear it; but he was poor, and could not carry it much into execution, he communicated it as a great secret to another man, of the name of *Key*, and like men, that sometimes are entrusted with secrets, he sold it to Mr. *Arkwright*; such are my instructions, that such things have been used before, we will prove now beyond all doubt. If I shew you this was the invention of a Mr. *Hayes*, that he imparted it to a Mr. *Key*, who communicated it to Mr. *Arkwright*, it is not Mr. *Arkwright's* invention, that is clear, it requires no great argument to make that out; as it depends simply upon evidence, I shall not delate upon that evidence, you will expect it from me, and I shall produce it.

I come now to our last objection, and I must require again a little of your closest attention, as it depends upon the parts of this machine. I have before me, copies of the specification, I wish them to be handed up to you and his Lordship, together with a written explanation.

[*Here copies of the specification were handed up to the jury, for which see the Frontispiece.*]

Now, Gentlemen, I come to the other position, which is a very important one, if not the most important in the business, which is, that he has not fairly disclosed his invention, if he has, it is by the means of the drawing in your hands, referring to the explanation, and referring to the figures, by which the several parts are noted. What does it do? What is it he is describing?—His machine, which is for the purpose of preparing silk, cotton, and other things for spinning—mind what I say, he not only does not disclose it, but I shall shew you marks as I go on, by which you will see

see he stated his own case rightly and truly to the House of Commons, that is, that he did not disclose it by his specification.

No. 1. The first article describes a beater, or breaker of seeds, husks, &c. and a finer of the flax, hemp, and other articles which are to be prepared for dressing, in which (a) is a wheel, with teeth, which by acting upon the lever, raises the hammer (C) the lever being moveable upon the centre (d).

Now, you expect, as that is the specification, and the disclosure of the invention for which this patent is granted, that this hammer is necessary for the performance of the work. It is never used, and is put in the front of the specification for no other purpose but to puzzle and confound those who should inspect this specification. So it begins; this is the Alpha, and I promise you the Omega will be exactly like it; this is not all, this hammer not only is useless, but I will prove to you, by witnesses, it is mischievous; the description is a beater or breaker of seeds, husks, &c. and a finer of the flax, hemp, and other articles, which are to be prepared for dressing.

Now, if you put cotton under this hammer, and work the wheel about, you will absolutely spoil it for the operation of roving and spinning.

We should be late indeed, in the discoveries of this country, if we were to resort to Mr. *Arkwright* in the year 1775, for the invention of the lever, with an hammer at the end, to be turned by a wheel upon a center.

It was in the books on mechanics, when I was at the university; I will shew it you in the books that there is no new invention in it; no man can tell you who was the inventor, it is so old and well known, yet this is put in the front of the battle to disclose the invention; it is to shut the door and stop it up, to prevent the entrance of any chance of understanding what it is, this invention consists in.

Let us see whether the next is any better.

No. 2. is an iron frame with teeth, at (a) working against the lower frame with like teeth, at (b) this lower frame is firmly connected with a wooden frame, by means of the screws, (c, c) the upper teeth are made to work against the lower, by means of the joints, (d, d, d, d).

So here are artificial teeth, but for what purpose, except that of confusion, cannot be shewn, for in fact it is not, nor ever was applied in this business.

Now we come to something that is meant to describe the thing you have seen; but here too, Mr. *Arkwright* is exceedingly sparing of his disclosures.

Gentlemen, You remember the cloth with wool upon it, which I shewed you; and you will be so good as to remember, that cloth with the wool upon it, which was called the feeder, there is in the center of it, a little roller, like a truncheon, upon which it turns round with firmness, without which, the cloth and the cotton and all would be of no use, but get within the wheel.

But that which is the most essential part of it, I defy any body to point out to you, if you look at No. 3, for it looks more like a worm, or a curl, than any thing else. But this is beginning to talk in a dark way, about something that really does belong to the machine. Now, Gentlemen, that was about No. 3, and you will now let me ask you this question, if you were about to explain a complicated machine, that was to perform a process in a manufacture, and you meant to communicate it to other men, would not you have taken the course I felt myself bound to take with you; that is, to speak of that part of the machine which first begins the work, then to speak

speak of that part of the machine which succeeds in the next part of the operation, and so on to the end. Method and order throw light upon any subject, therefore it was not for *Arkwright's* purpose to proceed in any order; the next thing to that feeder, and to the rollers, is a very important part of it; it is a great carding cylinder, of that not one syllable is said: your Lordship sees, after the feeder and the rollers, the cotton is put on a great carding cylinder. I see not a syllable about it in the specification—Why? I know the answer that was given, and I am not displeas'd with it. Oh, we have no occasion to describe that—the great carding cylinder, as you see with the wheels that perform the operation of carding.—That was well known and common in the trade—Was it so?—Yes, it was. But say they, we apply our new invention to that old carding frame and cylinder, in the same way as the other invention applied to the old stocking frame.—Do they so? Then it is a flat objection to your patent, for it ought to be for the application of that novelty, and produce an effect by its application to the old machine that should be stated, and many of those patents have been questioned, and that point has been solemnly determined by the Court; because you are inventing a new thing that will produce a new operation; you are not to take that which is an old invention and put it together, and call it a new invention; but he should state, that it is for an addition to an old invention. It is essential to the description, he is to tell you how he performs this invention, Is he not?—How does he do it?—Does he not do it with the assistance of the old carding cylinder? Ought he not to tell you so, and that the application is that addition to it? but he has not said a syllable of it.

Gentlemen, After the cloth, which is the feeder of the cotton, what is the next important parts of the machine? Are they not the rollers? Do they not occur next in order? Are they not a very important part of it? you would expect to find that next, No; that might have explained the thing, and put people in mind, and too early in mind of the rollers, and the former patent for spinning. But for the purpose of confusion in general, as well as to avoid that necessary information which ought to be given, you will find those that ought to occur next No. 4, after No. 3; but they are postponed to No. 6; and instead of speaking of them, for the purpose of elucidation, no doubt, that crank with teeth is mentioned, which you saw take off the cotton from the smaller cylinder; that is put to No. 4. Is that the natural place for it? Put the rollers out of the question, put the old carding cylinder, the large one out of the question, is that crank that takes it off, the next thing that occurs, No. The next thing that occurs will be held forth to you by and by, as of great merit, I mean the second cylinder that takes off the carding from the great one, you will be told so; for what purpose is it that is omitted, and a skip directly over to the crank with the teeth in it that takes it off.

Now, I would not wish to overstate the effect of my own argument; have you not gone thus far with me, that you begin to suspect at least, this *Arkwright*, the inventor of a machine, though an ingenious man, has not meant to state it fairly. Let my learned friend, if he can, account why you find these disorders in the parts, why should it not be put in its natural progression, certain it is, that is the best way to explain it.

We now come to No. 5. In the specification, which is described to be a cylinder, which has fillet cards behind this cylinder. No 3. delivers its contents upon another cylinder.

Now,

Now, No. 5, if you look at it, I am sure you have eyes enough to see what those fillets are. If you look at your specification, No. 5, you will see it is a cylinder with fillets on it; but it is a cylinder with parallel fillets; you will be told truly, by and by, that, that spiral cylinder is better, for reasons that will be explained to you, the spiral carding fillets are the best, they use them; then why insert parallel ones in the specification. There are intervals, or interstices for them; the consequence of which you will see, as it takes it from the great carding machine, a great deal of cotton will remain untaken off, it would be perpetually receiving from the feeder, fresh cotton taken off by the carding fillets. It is ingenious, therefore, to make the fillets upon the second cylinder spiral, for the effect of that, you will see, at one time or other, it touches every part of the great carding cylinder, which is sufficient for the purpose, and in time it takes off every part of the cotton. Do I make myself understood?

Jury. Yes.

Mr. Bearcroft. Then it appears for the same reason, that he has not disclosed the contents; in order to puzzle, he has put in his specification, parallel fillets, which, for the reasons I have stated to you, are by no means so convenient.

Then we come to an important part of the case indeed, we come to the rollers; and here let me remember you of what I suggested before. *Mr. Arkwright* was vastly shy in talking about the rollers, and he is right; you will see why, presently. He certainly could describe them, for he has described them in his first patent, and I will read that description and specification: he thought it necessary to describe them then, and he has described them completely then, Why not now? I will tell you why, because if he had described them, he must have described them in the same manner; and if he had so done, the greatest blockhead upon earth that could read, would see *it was the same thing as his former patent*. And that, after his former patent expired, still he wanted to have it again, and that is the reason why he stopped short of the description; you will form your own judgment upon that; but here again, I put you in mind, those rollers are in fact the same rollers, producing the same effect. I will produce it before your eyes as the former one did. Here you will see it is manifest, and I will make my words good; I will shew *Mr. Arkwright* is endeavouring, in effect, by other words, and a fresh patent, substantially and in truth to prolong the former one which is expired.

We then come to No. 7, which is that cann, which I shewed you upon the roving machine. Now that cann will be by and by enlarged upon, as a principal part of the novelty and merit of the invention. There is nothing new in that cann; I pledge myself to shew you, by evidence, except a pair of rollers at (a) it was like the first expired patent, like the rollers above it, it is put for no other purpose than to confound and puzzle, and to hide the identity of the thing. I will shew you by witnesses, that, that cann, produces no new effect, nay, at this moment, those that use *Mr. Arkwright's* machine, most frequently use it without; and that roving, instead of dropping through the rollers into that cann, drops through a plain funnel without the assistance of any cann, and without your seeing it, it takes its form, and turns just as the other did. You will now be very much surpris'd to find I have gone through all the specification, and yet you find No. 8, 9, and 10. remain; look at one of those spindles that turn round, that is No. 9, that is no new invention; but No. 9. and 10. are exactly like No. 1. and 2, that

is to say, have no relation to the subject, and never were used at all. No 8. to be perfectly correct, is not used at all, you will have that from the witnesses. Now then, Gentlemen, to recollect a little what we have been saying about this, and to stop here a moment upon the specification: Do not you join with me? are not you got so far as to *suspect* at least, this gentleman really meant not to disclose? I will call to you a witness, that was actually employed to draw the specification by Mr. *Arkwright*; a man of good common sense; the man himself was so struck with the singularity of the instructions, and the lameness of the specification, and its inadequacy to convey the idea of a new invention, he himself said, I don't think this will do, nobody will be able to do it by this; Hold your tongue, says Mr. *Arkwright*, never mind that, do as I bid you, I don't mean they should—I don't pledge myself to prove every tittle of these words of the dialogue between them, but I pledge myself to prove it was to that effect. What must occur to the man in doing it? He must see it was not to be done as it ought to be. He remonstrated to Mr. *Arkwright*, but he, for the purposes stated by himself in the case, said it should be so—that you will find from a positive witness.

I just want to give you this idea, that the rollers No. 6, and the spindle No. 9. is exactly the old way of spinning, under the old expired patent. I think that is the way which is to perform this roving—that is to say, it performs the spinning, and that concurs with the argument I before troubled you with.

Gentlemen, This is the nature of the case we have to lay before you; I have taken up a great deal of your time, and I heartily beg your pardon; but I could not expect, without taking the pains which I have, that you should understand it, and I am persuaded you will think it was necessary to go through all this to make myself understood. If I am understood, it is all I wish for at this moment; for if I am, you will understand the evidence that will be produced to you, and I have no doubt you will be of opinion, every one of the objections I have stated, will be fairly made out, that it is a great inconvenience to the public, that it was not a new invention, at the time of the patent being granted, that it is not a new invention by Mr. *Arkwright* at all, and that he has not disclosed his invention. If I make out these points, or any one of them, I am intitled to a verdict; we shall call our witnesses, you will be so good to attend particularly, and I hope you will be able to supply the omissions I may have made, which I hope are not many; I shall not make any further comments, which might be wasting your time, as I shall have an opportunity of making them hereafter more effectually.

Mr. Justice *Buller*. Mr. *Bearcroft*, What do you understand to be the meaning of the first issue?

Mr. *Bearcroft*. The evidence upon our side will be to shew, that the grant is prejudicial and inconvenient to his majesty's subjects in general. I meant to say, there is great danger from such a grant as this, that it will go into foreign countries if the monopoly is permitted.

Your Lordship will permit me to state it; I mean to say it is of such a sort, that it may be taken into other countries without all doubt, and if you can only work it here, loaded with a monopoly, and in another country it may be worked without, it will be a great danger to the whole trade, as applied to all the cotton manufacturers.

Mr. Justice *Buller*. I don't see, with respect to that issue, you can be permitted to give any evidence at all, it is merely a consequential issue, it is a question

question of law, whether it is prejudicial or not? When the facts are stated therefore, if you thought it necessary to attack the patent upon those general words of the act of parliament, you should have stated it in what respect it was so then—the fact would be put in issue. This is such a surprise upon the party he can never come prepared to answer it.

Mr. *Lee*. It strikes me, the prejudice must be in the nature of it, a matter of fact, and your Lordship sees it is a condition annexed to every patent, by the terms of the act of parliament. Now there is no making any sense, use, or application of that, but upon some idea the patent is to stand or fall upon the ascertainment of that fact.

My Lord, If the patent is to be void, if proved prejudicial to the public; and good, if no such prejudice arises from it, in the nature of it; then *ex vi termini*, there must be some mode of ascertaining it.

Mr. Justice *Buller*. That is no answer to my question, Mr. *Lee*; my idea is, if the patent is void as a question of law, it prejudicial or hurtful to the country, you can only take issue upon some fact that makes it so, therefore your issue should not be in general terms, prejudicial to the country, but you should state how? and then the party comes prepared to answer it.

Mr. *Bearcroft*. Then, according to your Lordship's observation, it is an immaterial issue, and we should state the fact, in order to give notice to the party.

Mr. Justice *Buller*. Upon that issue, upon this record, I must take it thus—the other three are precise pointed issues, but the first is of consequence to stand or fall as they are proved.

Mr. *Lee*. Suppose this principle is assumed, and I conceive it may be fairly assumed, there is no one thing of equal importance, in any country, to the employing of the inhabitants that compose it. I will suppose any invention, and you have a right to put the most extravagant supposition upon earth: I will conceive all that manufactory, which has been for ages carried on by men, women and children; and the sustenance of them all to be performed by an invention that don't admit of any human hands at all. It is possible in the nature of the thing, all those spindles might, for ought I know, be worked by a turnspit dog, and afford no subsistence at all to any human being. I should conceive such a thing, upon proof, would be directly a public inconvenience, and destructive of the happiness of mankind. And yet it would not be necessary to shew that was the nature of it, but only to state that.

Mr. Justice *Buller*. Then you should state the fact upon record, then he knows what he comes to answer. Whether you attack it upon the one ground or the other, as to the inconvenience to the public, it is impossible for a man to come to answer that.

Mr. Serjeant *Bolton*. This is taken upon the words of the patent; they are the words of the law, requiring such and such qualities, he has joined issue generally upon it, he might have demurred, and have said, I will not join in that issue.

Mr. *Bearcroft*. Is it not too much to determine at *Nisi prius*, that it is an immaterial issue?

Mr. Justice *Buller*. It is necessary to settle that, it must be the rule to direct yourselves by, it must be determined, whether the issue is to be laid before the jury.

Mr.

Mr. *Lee*. Your Lordship sees the order in which it is placed ; my idea is, that it should stand last, and now it stands first.

Mr. Justice *Buller*. If it stood last, it is a consequential issue, like the issues in *Quo warrantos*. Here are issues joined upon particular facts, the party has notice of them by the record, and comes prepared to controvert it, and the last is a general complicated thing, which must stand or fall by the other particular issues.

Mr. *Lee*. I conceive the first question is, Is it a new invention at all ? The next is, Is it the man's who pretends it is his ? The third is, Is it sufficiently and accurately ascertained ? When these points are all settled ; Suppose he had particularly specified, that he is the inventor, yet if it is a nuisance instead of a public utility, it should not stand.

Mr. Justice *Buller*. Then you ought to have stated it.

Mr. *Lee*. They should have demurred then ; but they go on to say this ; I defy you to prove this is not a new invention, or that it is not properly specified, or that it is a public inconvenience.

Mr. Justice *Buller*. You cannot go into any facts, but those upon which the issue is joined upon the record, in order to sustain that issue.

Mr. *Lee*. Suppose we put the most extravagant thing in the world, I suppose this principle will hardly be disputed, that the strength of this country depends upon its navy, and perhaps that may depend upon the *Newcastle* colliery, and that having great communication with this capital by sea. Now if a man was to invent a method of carrying all the coals from *Newcastle* to *London* by air balloons, and by that means exclude every hand that used to be employed by sea, and go to the annihilation of every sailor and mariner : I should think it tryable upon that state of it.

Mr. Justice *Buller*. Then state it.

Mr. *Lee*. If the jury could, or could not say this would tend to great public objects, which we all know it does ; I conceive it tryable under the head of public inconvenience.

Mr. *Erskine*. I have always understood it to be a rule, that you need not be more precise in pleading upon the statute, than the statute is in the description itself. It is not above a term ago, in the Court of Exchequer, I took the objection in arrest of judgment, that the crime was not sufficiently set forth upon record. I was told by the judges in that court, it was set forth in the language of the act of parliament which made the offence, and therefore the act of parliament was to be the rule of pleading. In this instance the act of King *James* says, the king shall have no right to grant a patent, that shall be prejudicial and inconvenient to the king's subjects in general. It seems, therefore, a sufficient objection to any patent to say in the words of the statute, it is not in the power of the crown to grant that patent, and the party that comes to support it, is bound to support it, and to shew it is within that king's power to grant. If you are too general, it is for the party, likely to suffer by the generality, to check it by a demurrer ; but if I aver it is prejudicial in the language of the statute, and he joins issue upon the subject, it may be a question, How far we are, or not, allowed to go into evidence to support that ? It struck me very forcibly, when Mr. *Baron Eyre* made that answer, it seemed to me conclusive then, though there seemed to be sufficient ground to arrest the judgment, if it was a common offence, as the party has not notice of it upon the record ; but the Court said, when you lay an information upon the statute, it is sufficient in a criminal case, if you lay it upon the words of the statute. Here then the statute says, no patent shall

shall be enforced which is inconvenient to the subjects; and we aver, that is the case.

Mr. Justice *Buller*. Where the act of parliament states particular facts, and makes certain acts a crime, there it is sufficient to state it in the words of the act; but here no act at all is stated, no notice is given upon what ground you mean to go; if it is open to inconvenience, it is open to every reason you can suggest; and the party is not prepared to bring an answer to it, he has no opportunity of answering.

Mr. *Wilson*. My Lord, it seems to be an *Issue in law*.

Mr. Justice *Buller*. So I think, Mr. *Wilson*.

Mr. *Wilson*. Provided it is not contrary to law, or is a general inconvenience, that is an issue in law.

Mr. Justice *Buller*. Therefore they should state those facts that they think prove the general inconvenience, and it will be for the jury to decide upon the truth or falshood of those facts; if once established by the jury, such facts existed, then it would be a question of law, whether this was an inconvenience.

Mr. *Bearcroft*. I understand that; but does it not go to this—they ought to have demurred? and he has waived that objection, by joining issue upon it. He says, I do know what you mean.

Mr. Justice *Buller*. I must see a little what is to be tried; I must find, that, by the record upon this issue, there is no fact at all of that sort: I consider it as a consequential issue, like the *Quo Warranto*; the law is well settled; if you cannot upon that consequential issue attack the defendant, you may upon the other issues, upon the three issues; it may be properly tried upon the second, third, and last. I am to try those, and consider the first as a consequential issue; if, upon the part of the prosecution, either of the three last are established, the other must follow.

Mr. *Bearcroft*. If you please, then, we will begin with the second: that it was not a new invention.

Mr. *Lee*. We will put in all the patents, as the jury should see the first.

[*The Specification of Mr. Arkwright's first patent of 1769, read*].

[*The Specification of the patent, dated 16th of December 1775, read*].

Mr. *Erskine*. We shall begin with No. 1.

Mr. Serjeant *Adair*. I believe we may shorten this, by saying No. 1. and 2. are wholly out of the question.

Mr. *Erskine*. You may indulge us, by admitting any thing you please; but we chuse to go on our own way.

Mr. *Lee*. In the first place, we say No. 1. is not new.

John Inmison sworn. Examined by Mr. *Erskine*.

Q. Do you know any thing of this Book, Sir? which I see is the third edition, corrected, in the year 1773.—What book is that? Evidence of
John Inmi-
son.

A. *Emmerson's* Mechanics.

Mr. *Erskine*. That is a book that has been printed some years?

A. It is, Sir.

Q. if my judgment don't deceive me much, we have got No. 1. here from *Emmerson's* book, if your Lordship will compare it?

Mr. Justice *Buller*. Yes, it is here.

Mr. *Erskine* [Q. to the Witness] You don't discover any difference between that and this?

A. Not any at all.

Q. It is the same thing ?

A. It is the same thing exactly.

Q. Now I should be glad to know, whether this thing (which to be sure is older than this patent) is of any use to cotton ?

A. A very great disuse, if applied to it.

Q. It would hurt it very much, if applied to it ?

A. It would, Sir.

Q. What effect would this beating with the hammer have upon it, if used ?

A. It would bruise the seeds so much among the cotton, it would be of great disuse when it came to be roved and spun.

Q. It is not only not used in the manufacture of cotton, but by no means applicable to it ?

A. Not used, and by no means applicable to it.

Q. If it were applied, it would be mischievous to it ?

A. If it were applied, it would do mischief naturally to it.

Cross-examined by Mr. *Wilson*.

Q. Is that machine used in beating of hemp ?

A. Yes.

Mr. *Benjamin Pearson* sworn. Examined by Mr. Serjeant *Bolton*.

Q. Take that in your hand.

Mr. Serjeant *Adair*. Pray are you concerned in any cotton mills upon the construction of Mr. *Arkwright's* ?

A. I am not.

Q. In no partnership concern whatsoever ?

A. No: I have no connection upon any account in the world with it ?

Q. You have not ?

A. I have not.

Q. You swear it ?

A. I swear it.

Mr. Serjeant *Bolton*. Perhaps you worked for Mr. *Arkwright* once ?

A. I did.

Q. Was you in fact employed by him at the time of his procuring his patent ? do you recollect ?

A. I recollect I was.

Q. Now look at No. 1. in that specification. It is called a beater or breaker of seeds: I will ask you first, if in fact Mr. *Arkwright* ever used it in his manufactory ?

A. I never saw him use it.

Q. I would ask you, whether, if it was used, it would be of use or of mischief in the preparing of cotton ?

A. It would be of no use, but rather a detriment, if you beat cotton before it is picked.

Q. You see it is called a breaker of seeds—The seeds are in the cotton before it is picked ?

A. Yes.

Q. Picking out seeds is picking cotton ?

A. Yes.

Q. You would think it a detriment to the cotton, if used ?

A. I believe it would.

Q. Explain to the jury how it would hurt the cotton ?

A. It

A. It would beat the seeds so small, they could not be picked out; it could not be picked clean; the cotton could not work without more expence.

Q. Before we quit that intirely, do you happen to know this breaker is no new invention?

A. I understood not.

Mr. Justice Buller. You know it yourself?

(No answer).

Q. Mr. Serjeant *Bolton.* Did you ever see that used before?

A. I have, only for the purpose of a forge hammer?

Q. Raised and let fall the same way by a wheel and cogs?

A. Yes.

Q. Now No. 2. in the specification; it is called in the specification an iron frame with teeth at (a) working against the lower frame with like teeth at (b) this lower frame is firmly connected to a wooden frame by means of the screws (c, c). The upper teeth are made to work against the lower by means of the joints (d, d, d, d) Did you ever see that in use at *Arkwright's*?

A. I do not recollect that I did: I don't know what it is; for if I have seen it, it is more than I know.

Q. Then No. 2. you never saw *Mr. Arkwright* use; nor did you ever see it used by any-body, in preparing cotton?

A. I cannot say I ever did.

Mr. Justice Buller. How long, after granting the patent, did you work with *Arkwright*?

A. I dare say, seven years after the patent was granted.

Q. He never used it in all that time, that you recollect or remember?

A. Not that I remember.

Q. Nor you never saw it used any-where for the purpose of preparing cotton?

A. Not any-where, that I remember.

Mr. Serjeant Bolton. I don't know whether it would not be clearer, to confine ourselves within the numbers of the specification, and clear each of them.

Mr. Justice Buller. Follow your own course; I have been taking the numbers in the margin, with a view to sum it up so to the jury at all events: so take it in that course.

Joshua Wrigley sworn. Examined by *Mr. Wood.*

Q. Now, Sir, will you be so good as to tell us, whether that beater, Evidence of
Joshua Wrigley.
No. 1. is used in preparing cotton?

A. I never saw it used.

Q. Would it be of any sort of use now in preparing of cotton?

A. None at all.

Q. None at all?

A. No, Sir.

Q. Would it be of any detriment?

A. I suppose it would.

Q. Why do you suppose it would be a detriment?

A. It would break the seeds, and fill the cotton full.

Q. Now you see No. 2. is an iron frame?

A. Yes.

Q. Is that of any sort of use; or is that ever used?

A. No, I never saw it used.

Q. You

Q. You never saw it used at all in the business ?

A. Never.

Q. How long have you been in the business ?

A. About four or five years.

Q. During that time, you have never known either of those things, the beater, or iron frame, used in preparing cotton ?

A. Never, Sir.

Q. Who have you worked for ?

A. Several gentlemen ; one Mr. Gregg was the last person.

Q. Did you ever work for Arkwright ?

A. Never.

Q. What is your trade ?

A. A millwright.

Q. Did you make cotton machines ?

A. Yes, I have done.

Q. And therefore you are well acquainted, of course, with the nature of them, I suppose ?

A. Yes, Sir.

Q. You say those things were never used in a machine of that sort ?

A. No, I never saw them used.

Q. You see No. 3. called the cloth-feeder ?

A. Yes.

Q. You know that feeder which Mr. Arkwright uses ?

A. Yes, I have seen it worked.

Q. Put on the old feeder.

[The old feeder put on].

Mr. Justice Butler. What do you call that ?

Mr. Serjeant Bolton. The feeder they are putting on, to lay the cotton upon the cloth.

Mr. Justice Butler. That is no part of the specification ?

Mr. Serjeant Bolton. It is his No. 3. the old feeder, I am going to shew your Lordship ; the same feeder was then in use.

Mr. Lee. It is the same in its operation ; I don't know whether it is better or worse.

Mr. Erskine. I am going to shew your Lordship, the feeder described at No. 3. or rather not described at No. 3. involves in fact no new principle.

Mr. Wood. [Q. to the Witness] Will you tell us, Was that the feeder that was used before Mr. Arkwright's patent ?

A. I believe that was the feeder before Mr. Arkwright's patent.

Q. Does that perform the same operation Mr. Arkwright's does ?

A. Yes it does.

Q. Which is the better ?

A. The old feeder.

Q. Perhaps you can give the reason ?

A. It needs no spreading upon the table, as there does with the other ; nor taking the cloth off or on ; it is always ready.

Q. Now, Sir, this, you say, needs no taking off and on ?

A. No, Sir.

Q. Are you obliged to take Mr. Arkwright's off ?

A. Yes, Sir, every time the cloth is filled.

Q. Are you obliged to do so with that ?

A. No, Sir, not at all ; we never need take it off at all.

Q. Which

Q. Which is the better ?

A. That is the better.

Q. The old one ?

A. Yes.

Q. Which is most used ?

A. That is most used.

Q. That is more in use now than his ?

A. Yes.

Q. The old feeder is more used than *Arkwright's* ?

A. Yes, Sir.

Q. Now ?

A. Yes, Sir.

Q. It is more in use now than his ?

A. It is.

Q. You are pretty well acquainted with most of the cotton works in *England* ?

A. Yes, Sir.

Q. And you can tell which is most used, the old one or *Arkwright's* ?

A. This is most used.

Q. That old one is, to the best of your knowledge ?

A. Yes.

Q. Have you seen the old one used, before Mr. *Arkwright's* patent ?

A. Yes, Sir.

Elizabeth Hargrave called.

Mr. *Wood*. The objection we are going to now, is, to No 4. the crank ; if this is not sufficiently satisfactory about the feeder, we can shew that form was used before, by calling the inventor.

Q. [to *Wrigley*] Here, look at the specification, and *Arkwright's* feeder— Now is that properly specified there ?

A. No, it is not.

Q. You will tell us wherein it is deficient ?

A. It does not shew how it is to be worked at all, nor how the cotton is to come off it.

Q. Is there any centre or roller there ?

A. No, Sir.

Q. No centre or roller described there in *Arkwright's* specification ?

A. No roller.

Mr. Justice *Buller*. What are your objections to it, besides not shewing how the cotton is to come off ?

Mr. *Wood*. It does not shew which way it is to work ; how it is to turn the cloth about.

Q. Can it be worked without that roller ?

A. It cannot.

Q. That is not shewn at all in the specification ?

A. It is not, Sir.

Mr. Justice *Buller*. Is there any thing in that machine, which, in form or appearance, is any thing like that ?

A. In this ?

Q. Ay.

A. No, not now.

Q. Is there any in Mr. *Arkwright's* machine ?

A. No ; there is no roller shewn at all in this.

Mr. Justice *Buller*. It does not seem as if it was at all applied to this in point of form?

A. No, it has no resemblance at all, no more than this— (*holding up a piece of cloth*).

Mr. *Erskine*. Before we carry your Lordship to the crank, No. 4. I wish to call *John Lees*, the inventor of the old feeder; he will tell your Lordship it is similar to the new one, and does its work better; and the inventor of the old feeder, will never make a new one by the specification.

John Lees, upon his solemn affirmation, was examined by Mr. *Erskine*.

Evidence of
John Lees.

Q. I believe, Sir, you are well acquainted with the feeder that conveys the cotton to the carding machine, in use before *Arkwright's* invention?

A. Yes, Sir.

Q. Was you at all concerned yourself in inventing that feeder before in use?

A. I was the inventor of it; I never saw one before it.

Q. You never saw one, before you made one?

A. No.

Q. And how long is that ago?

A. I began it the 15th of *June* 1772, and I had it finished the latter end of *July*, or the beginning of *August*, in Mr. *Walmisley's* warehouse in *Manchester*.

Q. Is that feeder, that you tell us you yourself invented and brought into use in the year 1772, as fit for the purpose of conveying cotton to the carding machine, as that used by *Arkwright*?

A. Why I never did see *Arkwright's* work; but it is what is commonly used.

Q. Then your feeder was in common use?

A. It is in common use.

Q. It is in common use now?

A. Yes; that is in common use, and has been a great while.

Q. This which Mr. *Arkwright* describes, seems to me to be a description of yours; I will read it you—"A piece of cloth with wool, flax, hemp or any other materials spread thereon"—That is the description you would give of yours?

A. Yes, Sir.

Q. You observe no roller there, do you?

A. No.

Q. Would you, by looking at that specification, and reading that which I just now read to you, make that feeder which Mr. *Arkwright* calls his invention, with the roller in the centre of it?

A. No, Sir.

Q. Now do you think the feeder, with the roller in the centre of it, is a better feeder, and more calculated for the purpose, than yours so much in use?

A. No, Sir, I don't think it is.

Q. You think your own the best?

A. Yes.

Q. But if disposed to think the other the best, you could not make it from this specification, could you?

A. No, Sir.

[*No Cross Examination.*]

Thomas

Thomas Hall upon his solemn affirmation, was examined by Mr. *Lee*.

Evidence of
Thomas Hall

Q. You know the last witness, Mr. *Lees*?

A. I do.

Q. When did you first know him?

A. I have known him many years.

Q. Had you ever any employment with him, or under him, about making any feeder?

A. I had.

Q. How long ago is that?

A. It was in the year 1772, *June* and *July*.

Q. What did you make together, what did you assist him in making?

A. In making a carding engine.

Q. Pray was there a feeder to that?

A. There was.

Q. Did you see any thing like it put to that machine, which you see there?

A. It was a cloth put on in the manner of that.

Q. Did you ever see it before, or hear of it in any body's use?

A. I never saw, or heard of it.

Q. As to you it was a new invention?

A. It was.

Q. Is that feeder now in use?

A. It is.

Q. Was it much used, or only by a few people?

A. Very much used in our country.

Q. Your country is the *Lancashire* country?

A. Yes, it is.

Q. The great feat of this manufacture—it performed its office, and it was much used in your country?

A. Yes, it answers.

Q. Have you seen Mr. *Arkwright's* feeder, or what they call Mr. *Arkwright's* feeder?

A. I have seen it, but I cannot tell much about it.

Q. Have you seen his drawing of the specification about it?

A. I have seen it.

Q. Is it possible to make that which Mr. *Arkwright* describes as his, to be used as his, by that drawing and specification of his patent, or not, does it contain a perfect description of it, or would any man know any thing about it?

A. It does not answer that use.

Q. Is there any roller in that description?

A. No, there is not.

Q. Attend now, while I read the specification; No. 3. a piece of cloth, with wool, flax, hemp or any other such materials spread thereon—was that the case with Mr. *Lees's* invention, was that feeder of Mr. *Lees's* a piece of cloth, with wool, flax, hemp or any such materials spread thereon?

A. Yes, it was.

Q. Then that answers the description of yours discovered in 1772?

A. Yes, it was spread upon the cloth, and went round.

Q. For the purpose of feeding the carding cylinder?

A. Yes.

Q. Are

Q. Are you a mechanic ?

A. I make engines, carding engines.

Q. I ask, if you never heard of a feeder, or saw any feeder before : is it possible to have made such a feeder Mr. *Arkwright* is supposed now to use, by that drawing, and that specification ?

A. I think it would not

Q. You say there is no roller at all to it ?

A. There is no roller at all here.

Q. Could it have performed its office without a roller ?

A. I don't understand much of his.

Q. Can any man understand any thing of that sort, do you think ?

A. I don't know what other men could.

Q. You could not, as an engine-maker.

A. No.

Q. Nor make any thing of it ?

A. No, I could not.

Henry Marstrand, sworn ; Examined by Mr. *Serjeant Bolton*.

Evidence of Henry Marstrand, Q. Do you, Sir, remember the use of the feeder for the cylinder, in carding of cotton ?

A. Yes.

Q. When did you first use that part of the machine ?

A. I think I used it in 1771

Q. Sir, when you was in the act of using this, did Mr. *Arkwright* at any time come to see your works ?

A. Yes, Sir.

Q. He did ?

A. Yes.

Q. Did he see this feeder of yours at work ?

A. Yes, Sir.

Q. Do you recollect at what time that might be ?

A. He called soon after it began a few months.

Q. That must have been in 1771 or 1772 ?

A. Yes, in 1771, or 1772, I cannot tell how long it might be, it was not long, it was a very little time after.

Q. Did he at that time make any remark upon the feeder, any objection to it, or any observation upon it ?

A. None that ever I remember at that time.

Q. Now I want to know, whether after Mr. *Arkwright* had got his patent, you saw him ?

A. I saw *Arkwright* often, he called upon me very often.

Q. Now did Mr. *Arkwright* make any objections, on seeing your works, to this feeder, after he had got his patent ?

A. Not that I recollect.

Q. What parts of your works did he object to ?

A. It was a crank that he objected to sometimes.

Q. That is the crank ?

A. That is it I suppose—the crank, I submitted to ; he was not very particular in describing what part of the machine, but the crank at that time I believed to be his, and so I gave it up.

Q. So believing it his, you made a submission upon that account ?

A. Yes, Sir, I did.

Q. Did

Q. Did he, at any time, say any thing to you, about the feeder afterwards?

A. I cannot recollect, I know it was mentioned, and I know very well that I said, I would not give it up, what conversation brought it up I cannot tell.

Mr. Serjeant *Adair*. Q. He mentioned it himself, but what led to it, you cannot tell?

A. No, Sir.

Mr. Serjeant *Bolton*. Q. Was there an objection made besides that of the crank to the feeder?

A. I cannot recollect, I never gave it a thought after, I did not expect I should be called upon.

Q. You did mention it you remember?

A. Yes.

Q. Was it mentioned between you and *Arkwright*?

A. I cannot recollect in what manner it was brought up, I never believed that was his, nor would I give it up.

Q. The submission you made was for the crank?

A. Yes.

Q. But to the feeder you would not?

A. No.

Q. The feeder you would not give up, but the crank only?

A. Yes, Sir, I did to that.

Mr. Serjeant *Bolton*. We shall call no more witnesses to this point.

[*Elizabeth Hargrave*, sworn. Examined by Mr. *Lee*.]

Q. What was the name, Mrs. *Hargrave*, of your husband?

A. *James Hargrave*.

Q. Is he living or dead?

A. He is dead.

Q. How long ago?

A. About eight years.

Q. I believe he was in partnership with somebody, was not he?

A. Yes, with Mr. *James*.

Q. Where did he live, at *Nottingham*?

A. Yes.

Q. Do you remember his making any machinery at any time.

A. Yes—he worked by himself at odd times in a room.

Q. Do you know pray Mrs. *Hargrave*, what is meant by the word crank?

A. Yes, I know it very well, he took a deal of pains with that.

Q. Did he succeed at last, or did he fail with it?

A. No, Sir, it was worked.

Q. When was it found out, do you recollect?

A. I cannot justly tell, it was about thirteen or fourteen years since he began the working.

Q. For what purpose was the instrument, what part of the machine?

A. I cannot tell, he carded wool with it—we called it *carding*.

Q. You called it *carding*, with that crank?

A. Yes.

Q. You have seen him do it?

A. Yes.

Q. What did he take the *carding* off from?

A. From off the cylinder.

L

Q. You

Evidence of
Elizabeth
Hargrave.

Q. You saw him do it over and over again, taking off the carding, as the carding was made upon the cylinder, this was to take it off?

A. Yes, and put it into a box.

[Here the witness was desired to look at the machine, which was set in motion.]

Q. Such a crank as that, was it?

A. Yes.

Q. It took it off in that way?

A. Yes, it took it off in that way.

Q. Exactly in that fashion?

A. Yes, exactly in that fashion I am certain.

Q. You saw that, thirteen or fourteen years ago, performed by your own husband at *Nottingham*?

A. Yes.

Q. Now did he use it himself, was he a workman himself, or did he make it for the purpose of other people using it?

A. He was partner with *James*, and used it with him I believe.

Q. Partner with *James*, and used it in his own business?

A. Yes, in the factory.

Q. What sort of factory, cotton or worsted factory?

A. It was a cotton factory, for spinning jennies.

Q. Not for spinning by the wheel?

A. No, but jennies.

Q. I don't know whether at *Nottingham* it was for the purpose of making stockings or hosiery ware?

A. It was for stockings, it was all for stockings.

Q. Did you see it yourself used over and over again?

A. Yes, many a time, years ago.

Q. Between thirteen and fourteen, you are sure?

A. Yes, quite sure of that.

[Cross Examined, by Mr. Cowper.]

Q. Where did your husband live when he first used this crank?

A. In the town of *Nottingham*.

Q. Did you know Mr. *Arkwright* then?

A. Yes.

Q. He lived at *Nottingham*, and then was in business there?

A. Yes.

Q. Your husband, you tell us, was partner with one *James*?

A. Yes.

Q. Carried on business?

A. Yes.

Q. Now did you ever see this crank at any other place than in your husband's room?

A. No.

Q. Never in your life?

A. No.

Q. Did you ever hear of it in any other place than your husband's room?

A. No.

Q. And who worked with your husband at that time?

A. He worked by himself.

Q. Was

Q. Was there no other person worked with him ?

A. No, not in his room.

Q. Was there any other person that worked in the house, or in any part of the manufactory ?

A. Yes—in the manufactory.

Q. But upon his premises ?

A. No.

Q. They had no opportunity of going into his room ?

A. No.

Q. Do you happen to remember a person of the name of *John Hackett* ?

A. I do.

Q. Was there any connection between *John Hackett* and your husband ?

A. Not that I know of.

Q. Did you ever see them together ?

A. Yes, I have seen them together.

Q. Do you happen to know whether there was any connection in the article of business, whether *Hackett* did any thing for your husband about this crank, or for *James* ?

A. Not that I ever heard of.

Q. What business is *Hackett* ?

A. He worked for Mr. *Arkwright*, I believe.

Q. Do you know in what branch of business he worked for Mr. *Arkwright* ?

A. No.

Q. How long has your husband been dead ?

A. About eight years.

Q. Do you know one *Kay* ?

A. Yes.

Q. What was Mr. *Kay* ?

A. He worked with Mr. *Arkwright*.

Q. Do you know whether Mr. *Kay* lent your husband any assistance about this crank ?

A. Not that I know of.

Q. You know nothing at all of that ?

A. No, I know he took pains to make the carding frame.

Q. And he took pains to keep it a secret ?

A. Yes, while he worked it.

Mr. Justice *Buller*. You said just now, when you was first examined, your husband made use of it in his factory ; do you mean used in a public shop, where all the workmen came ?

A. Yes, it went there after he had compleated it.

Q. It was used in the shop, where all the workmen had access to it ?

A. Yes.

Mr. *Cowper*. Q. I thought I asked you very plainly, whether your husband did not keep it privately in his own room ; I understood you to answer it, he did ?

A. Yes, he did, he made the roving things, a rover and that crank he took away, and carried it down to the shop.

Q. I ask, whether the use of the crank you spoke of, the thing that takes the cotton off, your husband did not confine it to his own room, and not use it in public in the shop ?

A. Yes, when he made it at first.

Q. Then

Q. Then you are of opinion, from what your husband told you, it was he that made it?

A. He invented it.

Q. Do you think he made it?

A. No, the smith made it.

Q. Do you know who that smith was who made it?

A. It was Mr. *Whitaker* made it.

Q. Did he not confine the use of it to his own room, or was it publicly used?

A. He took it out to the shop.

Q. When it was made, he took it down to the factory?

A. Yes.

Q. When was that? Be particular, it is material.

A. I cannot say.

Q. How many years ago?

A. It is about thirteen years ago, or above, since he took it into the factory.

Q. That you swear?

A. Yes.

Mr. *Lee*. Your husband, you say, invented it; the smith made the iron work of it?

A. Yes.

Q. What had your husband invented it in; was it in wood, or what else?

A. It was wood; when he had invented it, he employed *Whitaker* to make it in iron.

Mr. *Cowper*. Did you ever hear your husband say, he had applied to *Arkwright* for permission to use it?

A. I never heard him say so in my life.

Q. To that effect?

A. I don't think he ever did.

Q. Did you ever hear him say Mr. *Arkwright* had used it?

A. No, I cannot say.

Q. How soon after?

A. I cannot tell.

Q. Did you hear of his using it two or three months after?

A. I cannot say.

Q. Nor a quarter of a year after?

A. I think it might be somewhere thereabouts.

George Hargrave sworn. Examined by Mr. *Erskine*.

Evidence of
George Har-
grave.

Q. You are the son of the last witness I believe?

A. Yes, Sir.

Q. By her husband *James Hargrave*, your father?

A. Yes, Sir.

Q. Look at that, and tell my Lord and the Jury if you have seen it worked?

A. Yes, the crank.

Q. Tell my Lord and the Jury, whether you ever saw your father use that crank?

A. Yes, I have.

Q. Where did he use it?

A. At *Nottingham*.

Q. In his public shop, or privately?

A. In his public shop.

i

Q. Of

- Q. Of course, where all the workmen came?
 A. Yes, in the common course of work.
 Q. It was open and public to every-body?
 A. Yes, any-body might see it, that had a mind.
 Q. And all the workmen that came and went to work, of course?
 A. Yes.
 Q. Not any secret, but public, like any other machine?
 A. None at all, I saw none.
 Q. Can you recollect when it was?
 A. In 1773?
 Q. You are sure of that?
 A. Yes.
 Q. I believe, before 1773 you did not live with your father?
 A. No; I came from *Lancashire* to *Nottingham* in 1773.
 Q. When you came to *Nottingham*, your father then shewed you this crank?
 A. Yes.
 Q. Which he then was publicly using in his shop?
 A. Yes, it was.
 Q. Did you ever see it in any other place?
 A. Yes, at one *Bird's*.
 Q. *Bird*? what was he?
 A. A cotton manufacturer.
 Q. Did he use it publicly in his factory?
 A. Yes.
 Q. In short, if I understand you right, it was used at *Bird's* and your father's—Do you recollect any other place?
 A. No.
 Q. At Mr. *Bird's* and your father's, was it as publicly used as any other machinery?
 A. It was really.

Cross-examined by Mr. *Wilson*.

- Q. You know what part of the machine it is, this crank?
 A. Yes, it takes off the same way as that exactly.
 Q. You left *Lancashire* in 1773?
 A. I went from *Lancashire* to *Nottingham* in 1773.
 Q. Had you seen it in *Lancashire*, or any thing of the sort?
 A. No, I never saw it before I came to *Nottingham*.
 Q. When you came to *Nottingham*, it was in common use?
 A. I never saw it in any but those two shops.
 Q. What was it used for?
 A. For taking off cotton, and making it into rovings from the carding.
 Q. Making it into rovings from the carding?
 A. It was to take it off cards, to prepare it.

George Whitaker sworn. Examined by Mr. Serjeant *Bolton*.

- Q. What business are you, pray, Sir?
 A. A frame-maker.
 Q. Are you a smith also?
 A. Yes, Sir.
 Q. Will you be kind enough to come and look at this crank?
 A. Sir, I have seen it before, and seen it work.

Evidence of
 George Whi-
 taker.

M

Q. Now,

Q. Now, Sir, the time of Mr. *Arkwright's* patent was in 1775; did you ever see one before that time?

A. Oh! yes, many times.

Q. Pray, Sir, did you yourself ever make one?

A. Many, Sir.

Q. Do you know *James Hargrave*?

A. Very well.

Q. Did you ever make one for him?

A. He came to me, I believe it was in 1772.

Q. He came to you in 1772?

A. I believe it was; and he told me he wanted a machine, and he told me the purpose he wanted it for: I set to work with his directions and my own judgment, we set about and made one.

Q. Now was that one you made, with a crank, and like this?

A. These joints were turned this way, or else it was the same, and worked in the same manner; but the joints we turned that way.

Q. The same machine, the same principle, the same form, only the turn of the joints the other way?

A. The joints the other way.

Q. Did it take off cotton from the cylinder exactly as this does?

A. Exactly the same.

Q. You have seen it worked frequently?

A. Yes.

Q. Was that the first you ever saw or heard of?

A. I never knew of one before.

Q. By his description you made it?

A. He did not say much, he only told me the purpose he wanted it for, and left almost the rest to me.

Q. What name did he give it at that time?

A. I can hardly tell what name, it went by many names; some called it the taker off, some the comb, and many different things.

Q. You have said already, you have made a good many?

A. A great many.

Q. Now I will be obliged to you, if you will tell me and the jury the names, if you recollect, for whom you made those at that time?

A. In 1773 and 1774 I made a great many, but the chief account I have lost.

Q. Tell us the names of the gentlemen you made them for in 1773 and 1774, if you remember them?

A. I could remember a many; but as to the time, I cannot say the particular account; the second was for Mr *James*, in September 1773.

Q. That was the house of *James* and *Hargrave*?

A. *James*, I believe, was the firm.

Q. You made another for them?

A. Yes.

Q. Now tell us somebody else, if you can; do you know *James Hudson* of *Nottingham*?

A. Yes.

Q. Did you make any for him?

A. A good many.

Q. Do you know *John Grimshaw* of *Nottingham*?

A. Yes.

Q. Was

Q. Was that before 1775 you made them for *Hudson*?

A. The 28th of *May* 1774 I made one.

Q. Do you know *John Grimshaw* of *Nottingham*?

A. Yes.

Q. Did you make any for him?

A. Yes, more than one.

Q. How many?

A. I made three for him.

Q. What time was that?

A. One in 1773.

Q. Were the others before 1775?

A. I will not pretend to say that.

Q. One before 1773 you made?

A. Yes.

Q. Do you remember *Lister*, the Quaker, in *Yorkshire*?

A. Yes.

Q. Did you make any for him?

A. Yes, one.

Q. About what time?

A. About 1773.

Q. *Charles Smoke* of *Nottingham*, did you make any for him?

Mr. Justice *Buller*. I don't think it necessary to go through all this.

Witness. I think I could name twenty.

Q. Have you seen them put up in manufactories in those places?

A. Oh! common.

Q. Do you mean before 1775?

A. In 1773; we put up the first in 1773: it worked in the public shop; only they did not let strangers come in that did not belong to the shop.

Q. But the workmen all went there, it was worked in common among them?

A. It was so; I repaired one there in 1774, the chief parts of which were worn out.

Q. Have you, or not, a memorandum of the repairs of that very machine so long in use?

A. The 20th *February* 1774.

Q. That was for repairing one you had made, that was worn out almost?

A. There were two new sliders, and two heads, and two screws and buttons, and two new holes in the needle bar to make it something wider, and two new screws.

Q. Now is that the original entry you made in your book at the time?

A. I never had any other.

Mr. *Lee*. That ascertains the date with exact precision.

Mr. Serjeant *Bolton*. Did you publicly see them used in other places?

A. A great number; this I made myself, and it was wore so, we were obliged to repair it.

Cross-Examined by Mr. *Chambre*.

Q. Did Mr. *Hargrave* tell you where he learnt the method of making this?

A. No, he only told me what he wanted the thing for.

Q. You

Q. You had no conversation with him about the mode in which he had learnt the use of a machine of this sort?

A. No.

Q. He said nothing of the permission he had to make use of it, for his proper use?

A. No.

Q. Do you know *Hackett*?

A. No, I cannot say I do know him, he lives at a great distance from their mills, I only know him by his coming to me.

Q. From whence come those memorandums?

A. At the time I did the work, *those* memorandums are what I made the entries of.

Q. You stopped, I perceive, in the year 1774; did you continue to make them publicly after 1775?

A. The millwrights in 1775, began to get them made elsewhere, we did not do business for the millwrights, and we were the first makers; there were several made, which we did not do. They brought it to us to repair it in the beginning of the year 1774, there were one made by *Hackett*, another by *Holden* in 1774.

Q. How long is it since you left off, after 1775, in your neighbourhood?

A. Left off! No.

Q. Was the public and general use left off after 1775?

A. No, they were common constantly, never left off, that I know of.

Q. When did you first relate the particulars you have been giving an account of?

A. I cannot tell.

Q. Why did you not attend upon the former trials?

A. I was here every time, but not called as a witness.

Mr. *Lee*. That went upon the defect of the specification.

Mr. Justice *Buller*. That was not the case in the Common Pleas.

Mr. *Lee*. I went upon the testimony of one *Croft*.

Mr. *Erskine*. We can shew that very man's evidence was stated, it is in the very first brief here, your Lordship may think it is material, this man's evidence was stated in our brief, in 1781.

Mr. Justice *Buller*. The question is, how came he not to be examined; that is strengthening the objection.

Mr. *Erskine*. No, they were knocked up on the specification.

Mr. Justice *Buller*. But in the Common Pleas?

Mr. *Erskine*. We had every reason to suppose we should have had the same success in every part of the case.

Mr. *Cowper*. You were delendants in the Common Pleas.

Mr. *Lee*. *Whitaker*, I will ask the question of you, Do you remember a cause being tried in the other Court, on the other side of the Hall, a few months ago?

A. Yes, I was there the last trial in *February*, I think it was.

Q. You were there?

A. Yes.

Q. Was you subpoena'd?

Mr. *Chambre*. Q. You have seen the machine itself?

A. Yes.

Q. Did

Q. Did it take off the cotton in a continued line, as that before you, or in short lengths?

A. I cannot tell that, I did not take that particular notice.

Q. You that made the machine, must know how to operate it?

A. I do know.

Mr. *Richard Hudson* sworn. Examined by Mr. *Wood*.

Q. Where do you live?

A. At *Nottingham*.

Q. What is your business?

A. A millwright.

Q. Did you ever make any carding engines?

A. Yes, Sir.

Q. You have made carding engines?

A. Yes, Sir.

Q. How long have you made carding engines?

A. I made in 1774 a great many.

Q. A great many carding engines?

A. Yes.

Q. Did you make any before 1774?

A. I think I did, but I am not sure.

Q. You are sure in 1774 you made them?

A. Yes.

Q. Did you use cranks in those carding engines you made?

A. All of them, every one.

Q. Every one of them in 1774?

A. Yes, Sir.

Q. Were they such cranks as that, look at it?

A. Yes, that is the same.

Q. Did it work in the same manner as that?

A. Yes, the same.

Q. Who did you employ to make the cranks for your engines?

A. One *Whitaker*.

Q. Did you employ any body else to make cranks for you?

A. No, I did not.

Q. You think you only employed *Whitaker* to make them for you, you will tell us what carding engines you made with cranks, and for whom?

A. I never made none without cranks.

Q. Can you mention any people for whom you made those carding engines?

A. Yes.

Q. Mention them.

A. I made one that went to *Scotland*, to one *Brotherton*.

Q. *Brotherton* was in *Scotland*?

A. Yes, another for *Charles Smoke*.

Q. Where did he live?

A. At *Nottingham*.

Q. Did you make any for any body else?

A. Yes, Sir, many. I made one for Mr. *Rawson* and Company, in *Nottingham*.

Q. Do you recollect the names of any body else you made the same sort of cranks for?

Mr. Justice *Buller*. He does not carry it a bit further than *Whitaker*, he says he employed *Whitaker* to make all the cranks in the machines he made.

Mr. Wood. Q. I will ask, whether the machines, made with the cranks in them were publicly used in preparing cotton in 1774?

A. They were afterwards used in that way, they were not all used in that way, I made one for *Lister*, for carding wool.

Q. That was upon the same principle with the others?

A. The very same, I made another for carding *bemp*.

Q. Were they in use before the year 1774?

A. Quite in use, I made, I believe, ten.

Q. And they were quite in public use in 1774?

A. They were.

Q. Mr. Lee. We have a number of other witnesses, if your Lordship thinks it necessary that we should prove the using, having confined ourselves to the making, at present, but we have given some evidence of the use.

Mr. Justice Buller. If that evidence stands uncontradicted, I protest I don't know how to state a doubt to the Jury, because it has been made for the trade, and used in the public shops.

Mr. Erskine. It may be necessary to bring evidence to put it out of doubt.

Mr. Justice Buller. At present I have no idea of a defence about it.

Elizabeth Hargrave called again.

Mr. Lee. You have given an account of your husband using the crank, to take off carding, now what sort of cylinder did it take it off, how was the cylinder covered, with card, was it all covered or a part?

A. It was all covered.

Mr. Bearcroft. She spoke of the smaller cylinder, she says it was covered all over, it puts me in mind of an omission I made, I will just touch upon it, your Lordship sees that these are fillets, at a distance from each other, but the additional cylinder used, was covered all over with the card; you spoke of it so, good woman?

A. Yes.

Q. Now, Mrs. Hargrave, you say, when your husband first used cranks, the card was covered all over?

A. He made a trial the first time that he used it, before he had it covered all over, he made his trial with what he called ribband cards, and then he made a roving cann.

Q. Did you see your husband use it with ribband card, or what is called fillet cards?

A. Yes, I saw him use it.

Q. Now mind, in what year did you see your husband ever use the cylinder covered with ribband cards, they call them sometimes, ribband fillet, or garter cards?

A. About fourteen years since, he used it with the ribband cards; but he never brought it into the shop or factory—The crank he took down to the factory.

Cross-examined by Mr. Serjeant *Adair*.

Q. When did he use the ribband-cards in that manner?

A. Fourteen years ago.

Q. Look at that, was that the sort of thing he generally used?

[*The small cylinder shewn*]

A. Yes, a card a little broader than that.

Q. Covered like that?

A. Yes, when they brought it down to the shop.

Q. Covered

Q. Covered in that manner ?

A. Yes.

Q. And so made the carding that length ?

A. Yes.

Mr. Justice *Buller*. Is that one, more useful than the other ?

Mr. *Lee*. At least equal to it.

Q. He began with the ribbon cards, and ended with that ?

A. Yes.

Q. That was carried to the factory with a crank to it ?

A. Yes, Sir.

Q. That made it better, he thought ?

A. Yes.

John Bird sworn. Examined by Mr. *Erskine*.

Q. Do you know this thing, this crank here ?

A. Yes.

Q. When did you see that first ?

A. In 1773.

Q. When, did you see it in 1774 ?

A. I had it for my own, Sir.

Q. In 1774 ?

A. Yes.

Q. Did you use it in 1774 ?

A. It was used in 1774.

Q. Where did you use it ?

A. In *Nottingham*.

Q. Do you mean, you used it in your shop ?

A. In my own shop.

Q. Like any other machine in the manufactory at that time ?

A. Yes.

Q. You used it in common in your shop in 1773 ?

A. In 1773, Sir.

Cross-examined by Mr. *Cowper*.

Q. Who made it for you ?

A. Mr. *Whitaker*.

Q. What branch of business was you in ?

A. Making cotton stockings.

Thomas Chatterton sworn. Examined by Mr. Serjeant *Bolton*.

Q. Look at that crank which takes off ?

A. Yes.

Q. When did you first see one of them ?

A. I think I saw it in *January* 1774, at Mr. *Bird's*, in *Nottingham*.

Q. Was it in common use in the manufactory there ?

A. I suppose so, I was taken to it as a public thing.

Mr. Justice *Buller*. Whose shop.

A. Mr. *Bird's*, of *Nottingham*, I think his name was *Bird*; it is in *Woolpack Lane* I fancy *Bird* lives.

Q. Did you, after seeing it, order one to be made for yourself ?

A. I did, Sir.

Q. Had you one made ?

A. Yes.

Q. Who made it ?

A. *Richard Hudson*.

Q. Did you use it ?

A. I did, Sir.

Q. When ?

Examination
of John Bird.

Examination
of Thomas
Chatterton.

Q. When?

A. In April 1774.

Q. You actually used it in your manufactory?

A. Yes.

Q. Where?

A. At *Ashborn*; I have the bill and receipt; there is the bill and receipt for it, it is dated 1774.

Crofs examined by Mr. *Wilson*.

Q. Did you continue to use it in 1775 or 1776?

A. Yes; I don't work it now.

Mr. Justice *Buller*. Why?

A. I have laid the business aside.

Mr. *Wilson*. When was it you quitted the business?

A. I suppose about two years ago, or two years and a half, or three years.

Thomas Ragg sworn. Examined by Mr. *Wood*.

Q. Do you know *George Whitaker*?

A. Yes.

Q. Was you apprentice to him?

A. Yes.

Q. Do you remember his making any cranks?

A. Yes.

Q. When do you remember his first making cranks?

A. I remember it in 1773.

Q. Were those cranks in public use before the year 1775?

A. They were.

Q. Do you remember any being made by a number of people?

A. I remember a great number being made.

Q. And in use before 1775?

A. Yes.

Mr. Justice *Buller*. Do you know of any being made but by *Whitaker*?

A. No, Sir.

George Hargrave called again.

Mr. *Lee*. I call him as to the Fillet Card, No. 5.

Q. Do you remember what sort of card? as you are a manufacturer, you must have taken notice of those things; what sort of card have you seen your father use to take off the cotton by means of that crank?

A. There were such as these nailed on.

Q. Was it all covered, or fillets in that manner?

A. No, not covered, it was nailed on like this.

Q. What name do you call them?

A. Ribbands or fillets.

Q. You say, they are ribbands or fillets?

A. Yes, but there are different sorts.

Q. Did you ever see your father have any of them?

A. No.

Mr. *Lee*. He never saw them.

A *Juror*. He came in 1773 to his father.

Robert Pilkington sworn.

Mr. Serjeant *Adair*. Are you concerned in any cotton mills now?

A. No.

Q. Are

Examination
of Thomas
Ragg.

Examination
of Robert
Pilkington.

Q. Are you clear you are not now ?

A. Not now I am not.

Q. You have no interest at all in them ?

A. Only in a common carding engine, not the spinning mill.

Q. That is the very thing you are concerned in, a common carding engine ?

A. Yes, a common carding engine I am.

Q. Upon the same construction as this is ?

A. No, Sir, carding for spinning jennies.

Q. This is for carding, but not for jennies ?

Mr. Serjeant *Adair*. This is for preparing cotton for the jennies.

Mr. *Erskine*. Are you employed in any thing that relates at all to this ?

A. No, Sir, not to the taking off part.

Q. Are you employed in using this cylinder ?

A. Not in the present state it is.

Q. Then you are not interested at all in this ?

A. No.

Q. Are not the carding machines such as this ?

A. No, not the least, only the common cards.

Mr. *Bearcroft*. Q. You only talk of the common carding machine, which has not this least cylinder ?

A. Yes.

Mr. Serjeant *Adair*. Q. Is yours the old machine, that you are concerned in now ?

A. Yes.

Q. Are you concerned in none ? Have you no share of the profit in any one shape in this business, upon this principle ?

A. No.

Q. Yours is the old common carding his hine ?

A. Yes.

Mr. *Erskine*. I am going to talk of the filleting cylinder, that takes off the cotton from the other.

Q. Do you remember having a cylinder made with fillet cards ?

A. Yes.

Q. Tell when ?

A. The first engine that I was concerned in, was made in 1770.

Q. By whom was that engine made ?

A. By one *Richard Livesay* and myself.

Q. How was that filleting cylinder constructed ?

A. That engine was designed for carding, in such a method as I have been speaking of before ; but at the time I got the cards for it, I got one that was striped.

Q. Explain that to the jury, what you mean by one that was striped ?

A. It had rows strait up the cylinder.

Q. With intervals where there were no points ?

A. There were no teeth.

Q. So that was filleted, and had intervals ?

A. It was meant merely for a trial, I did not mean to put it in public use then—It was meant merely for a trial, to try if I could take the cotton off that way.

Q. What improvement did you make, after you made that experiment ?

A. Afterwards, Mr. *Wood* and I constructed an engine for roving.

Q. Now what sort of one was that ?

A. We got a ring card ; the cylinder was quite covered.

○

Q. Did

Q. Did you prefer that, to the card that was filleted in that way?

A. That was meant for tumming.

Q. What is that?

A. The first process.

Q. Taking it off the great card?

A. Yes, in separate engines; we carded it twice over, tumming was the first.

Q. You had a card like this?

A. It was quite sewed together, and drawn upon the cylinder, and separate teeth, the same as all those.

Q. I suppose you put that in the machine, to see how it acted?—Did it produce the same effect of perpetual carding, when put against the large carding wheel, as this does now?

A. Yes, in the tumming we took it off in one continued carding, instead of so many lengths, and received it upon a reel.

Q. You have seen the one and the other of those?

A. Yes.

Q. Do you think this one now in the machine is a different principle, or does it do the very same thing yours did before?

A. Why ours being quite covered with cotton, it took it off without any further trouble.

Q. There is a great deal of difference, I apprehend, by having a right to use both—Which would you prefer?

A. According to the operation I meant to perform; if I meant it for tumming, I should use the old one.

Cross-examined.

Q. But if you meant it for carding, you would use the other?

A. Our engine roved it; the second operation after tumming, was roving, then we had it in rings, what came off every ring, we called roving.

Mr. *Erskine*. Look at that cylinder which they are now putting into the machine; there is no difference between that and this, except the interstices between, and this is covered all over?

A. Yes.

Q. Before you used this, you had used ringed ones with rings to it?

A. We never used one with these cards.

Mr. Justice *Buller*. Q. Does the filleted one answer any purpose which that does not?

A. I do not know that it does.

Mr. *Erskine*. Q. It is very necessary your Lordship and the Jury should attend to this; this spiral one is the one used by *Arkwright* in his new machine. He does not specify that by the parallel one, which would choak up after a few revolutions of the wheel. I asked the witness whether that spiral one, covered all over, is not better than the parallel; for if they use the parallel one it choaks it by a few revolutions, and this runs round like a worm. The jury will look at No. 5. you will see the fillets drawn perpendicular to the axis, and drawn parallel to one another, instead of being spiral, for the spiral one is not in the patent at all.

Mr. Serjeant *Bolton*. That is the one he uses, this parallel one, is the one he describes.

Mr. *Erskine*. There is the one he describes, which that gentleman has in his hand—that is the spiral one, which by its continued motion comes in contact with every part of it.

Mr.

Mr. *Wood*. That takes it all off.

Mr. *Erskine*. This, which is spiral, comes in its revolutions, in contact with every part, and cleans it, for this is intirely covered; that parallel cylinder never touches in that part where it is smooth, as the other does, and leaves the cotton to choak it up. If your Lordship and the jury will look at the specification you will there see, as any man that knows any thing of perspective, must, these fillets are parallel to each other.

Mr. Justice *Buller*. Brother *Adair*, I suppose you don't accede to the fact which they now state, that one will choak up and not work at all.

Mr. Serjeant *Adair*. No, certainly not. I will explain that to your Lordship presently, but that the second is described in the specification, is true, without all doubt.

Mr. Justice *Buller*. Turn it round.

[*The machine set in motion*]

Mr. Justice *Buller*. There is no apparent difference between that and the other.

Mr. *Erskine*. Q. To Mr. *Pilkington*: Be so good as to tell his Lordship and the jury, when you used the two cylinders against one another?

A. The latter end of the year 1775.

Q. When did you see it first?

A. I cannot pretend to fix the precise time.

Q. Was it before the month of *December*?

A. I believe it was in *September*.

Mr. Justice *Buller*. What did he use then?

Mr. *Erskine*. The second cylinder which has now been set a working.

Mr. *Bearcroft*. That is perpetual carding.

Mr. *Erskine*. Q. That produced the perpetual carding you have now seen?

A. It did.

Q. Before that time the cotton had been taken off in short pieces?

A. Yes, what we called carding.

Q. This is perpetual carding?

A. Yes.

Cross-Examined, by Mr. Serjeant *Adair*.

Q. When was it? You said you was concerned with a Mr. *Wood*, I think?

A. Yes.

Q. When was it, *Wood* and you hit upon this invention of the cylinder, that produces the perpetual carding?

A. I believe it was the latter end of the year 1775.

Q. It was the latter end of the year 1775, it occurred to you, I believe you applied for a patent for it?

A. Mr. *Wood* did, and obtained one.

Q. Subsequent in date to Mr. *Arkwright's*?

A. Yes, certainly, it was after Mr. *Arkwright's* patent was granted.

Q. I presume then, Mr. *Wood* knowing of, and having a patent in contemplation for this discovery, did not make public use of it before you obtained that patent?

A. We had worked it some time.

Q. Publicly, or by way of experiment?

A. Privately.

Q. You made the discovery, worked it privately, and applied for a patent, which you obtained, subsequent to his?

A. Yes.

Q. That

Q. That was the fact?

A. Yes.

Mr. *Erskine*. Q. Do you remember having any conversation with *Arkwright* upon the subject?

A. Yes.

Q. And when the conversation passed about the patent?

A. Mr. *Cockshot* and I went over to Mr. *Arkwright*.

Q. When?

A. I cannot speak to the time.

Q. Was it about the time, or before or after his patent?

A. It was after Mr. *Arkwright's* patent came out.

Q. You and who?

A. Mr. *Cockshot*, we shewed Mr. *Arkwright* our plan, and he asked us in what method we meant to keep it a secret, how we designed to proceed upon it, to keep it a secret; we told him that we proposed swearing the hands we employed, that they should keep it a secret, and he told us we might swear them as we pleased, but if any body would give them a penny more they would divulge it, and he advised us, it was the best means to get a patent.

Q. As the best means to secure that, was to get a patent?

A. Was to get a patent, because if the country got hold of it, neither we nor he would have any advantage from it.

Q. *Cockshot* was present?

A. *Cockshot* was present.

Cross-Examined, by Mr. Serjeant *Adair*.

Q. A word more as to this conversation with Mr. *Arkwright*; Was this the whole conversation?

A. I don't know that it was every word that passed, it was the substance.

Q. Was it the whole substance, every thing that passed, that was material?

A. I don't recollect any other circumstances.

Q. Do you recollect, that you have sworn to tell the whole truth, and nothing but the truth?

A. Certainly.

Q. Do you recollect nothing else material that passed between you and *Arkwright* at the time?

A. I do not at present.

Q. Now I will put you in mind; Do you recollect Mr. *Arkwright* telling you, it was upon the same principle with his invention, and that he would bring an action against you if you used it?

A. He said, if he found we were upon his principle, he should enter an action against us.

Q. Do you conceive that, as an immaterial part of the conversation, or for what reason do you leave it out?

A. I did not recollect it then.

Q. That was a little unlucky, 'till I put you in mind of it; Now, Sir, did not he repeatedly send persons, in order to see what invention you had, and were not his people refused admittance?

A. They were.

Q. Did he bring an action?

A. No.

Q. Did you fear his action?

A. No, we told him, we did not fear that.

Q. How

Q. How many people in the world knew, but your own workmen, what you did?

A. I can't tell.

Q. Did twenty, thirty or forty people know it?

A. At that time, not so many.

Q. How many?

A. I cannot tell how many.

Q. Mr. *Arkwright* was of opinion, one penny more would make any man divulge any thing he knew upon the subject. Did you apprehend there would be any great difficulty of his bringing an action, if he had been so disposed?

A. We had counsel's opinion upon ours, and they informed us, we had a right to use it, to any extent we pleased.

Q. And you did not regard him, but used it public?

A. Constantly—we used it constantly.

Q. You used it boldly and openly, did not you?

A. We kept the public from it.

Q. What, when advised by counsel you had a right to use it to any extent you pleased?

A. Yes.

Q. For what purpose?

A. In order to avoid the expences and trouble of law suits.

Q. And for the same reason you took care to keep out every body you thought would be a witness for Mr. *Arkwright*, did you or not, or that you suspected to come from Mr. *Arkwright*, to be a witness against you?

A. Yes, we did—we did not admit strangers.

Q. And you swore your men to secrecy, did not you?

A. Yes.

Mr. *Lee*. Was every body sworn, as well as your labourers that saw it?

A. We did not admit any body that was not.

Mr. Serjeant *Bolton*. I have been refused myself at Mr. *Arkwright*'s works.

Thomas Hayes sworn. Examined by Mr. Serjeant *Bolton*.

Q. What business are you?

A. By trade, I am a reed-maker.

Q. Have you been employed to make machines for manufacturers?

A. I have.

Q. Look at this carding machine, with the two cylinders, the great one and the little one. Look at that—how long ago have you seen one of those?

A. It is about twelve years, between twelve and thirteen years.

Q. Was your little cylinder like that, covered over with needles?

A. Covered over with cards, it was.

Q. Do you happen to remember Mr. *Hayes* telling Mr. *Arkwright* about this?

A. About this, Sir?

Q. Aye!

A. No, not about that.

Q. But about the machine that was made?

A. No, I did not tell him about that, it was made after I had some discourse with Mr. *Arkwright*.

Evidence of
Thomas
Hayes.

P

Q. When

Q. When was it you had that discourse with *Arkwright*?

A. It might be about thirteen years since, as near as I can guess, but cannot just remember ever y thing.

Mr. Serjeant *Bolton*. I will take him to the rollers—Look at the rollers through which the thread comes, the roving or spinning, or whatever it is called. Did you ever see rollers like those before 1775, before Mr. *Arkwright's* patent?

A. I have seen rollers, I made rollers myself in 1767.

Q. You, yourself, made rollers in 1767?

A. Yes, Sir.

Q. Have you looked at them; you see one is fluted, the other covered with leather?

A. I see it is.

Q. Was yours the same way?

A. Yes, mine was, two years after, but not then.

Q. Not at first?

A. No.

Q. In 1769 yours were like it?

A. They were, mine had fluted work, fluted wood, upon an iron axis; but the other roller was the same, only it was covered with shoe leather, instead of that leather; I am informed it is such as they make shoes of.

Q. Who did you employ when you first conceived this invention; who did you employ to make it for you?

A. I employed one *Kay*, who came from *Warrington*.

Q. What trade was he?

A. He followed clock-making, at that time.

Q. You employed him to make it?

A. Yes, I employed him to make a small model, with four wheels, of wood, to shew him the method it was to work in, and desired him, at the same time, to make me brass wheels, that would multiply it to about five to one.

Q. Look at that, and see whether it is upon the same principle?

A. No, not exactly so, the wheels were not exactly so.

Q. Who made you the wheels?

A. I made them myself.

Q. Describe what you mean by multiplying five to one?

A. By making the different rollers go, one faster than the other.

Q. Was that for the purpose of drawing the thread finer?

A. Yes, Sir.

Mr. *Erskine*. It is very necessary your Lordship should take notice, the only description given by Mr. *Arkwright*, for his rollers, falls in directly with this man's description. All he says, is, "No. 6. consists of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a) and going through at (b,) produceth it a proper size, (f)—(c, c,) are brushes for clearing the machine."

Mr. *Lee*. It does not say shoe leather, or calf leather, or any thing else about it.

Mr. Serjeant *Bolton*. Do you remember being at *Manchester* races, 1767?

A. No.

Q. Did you see Mr. *Arkwright* at any time?

A. Yes.

Q. When

Q. When might you see him?

A. I suppose about twenty years since, or about twenty-one years since or thereabouts, somewhere thereaway.

Q. Now recollect yourself, and tell us what passed between you and *Arkwright*, when you saw him?

A. I will tell, as near as I can.—There was a gentleman, a tradesman in *Bolton*, one *Thomas Rothwell*; this *Thomas Rothwell* and I, were pretty intimate; I met him in *Manchester* at a certain time, and he asked me, “Could you like to see Mr. *Arkwright*? he is in town.” With all my heart, says I; He said, “If I had a mind, he could bring me into his company, or bring him into Mrs. *Jackson*’s, to have a glass together, and we might have a bit of discourse together.”

Q. Did you get together?

A. Yes, he brought him in, I remember, into a little apartment, I believe the parlour of the house; we fell into some conversation about engines; at that time I was making another engine for a gentleman in *Manchester*, that they gave me a premium for. It happened I was there at that time, and Mr. *Arkwright*; and accordingly we fell into conversation, and I began to tell him he had got my invention. I told him, I had shewn the model of it to *John Kay*, the method I intended to use the rollers, because *John Kay*’s wife had told me that before, how it happened, and Mr. *Arkwright* and them could never deny it. I told him, I had been informed that he had hired *Kay*, for twenty or twenty-one years, for about half a guinea a week, or something more, I don’t know what; but however, I should go on, if I would. I told him which way she told me he came by it. He said very little about it: when I told him, he never would have had the rollers but through me, he put his hand down in this way, and never said a word.

Q. You will please to repeat that, I don’t hear you.

A. I shall, as near as I can; would you have me repeat all again?

Mr. Justice *Buller*. No, only what you said last.

A. I happened to meet with *Thomas Rothwell*.

Q. What discourse had you with *Arkwright* about the rollers?

A. We were in some discourse about the rollers: I told him, he would never have known them but for me; and he put his hand in this manner, I remember very well in this manner, to his knee, and that was the answer he gave; also he told me, when I told him it was my invention, Suppose it was, he says, if it was, he says, if any man has found out a thing, and begun a thing, and does not go forwards, he lays it aside, and any other man has a right in so many weeks or months (I forget now) another man has a right to take it up, and get a patent for it.

Mr. Serjeant *Bolton*. Q. Mr. *Arkwright* said, it was no matter if a man does not proceed upon a thing, but let it lie by so many weeks or months, he, or any other man, might get a patent for it?

A. Yes: I cannot tell how that is, says I, for I never was much concerned in law.

Q. Have you actually ever made, or not, any of these carding machines?

A. I have made carding machines, but not with these individual things, as this is; there are various forms.

Q. Did you ever make a machine that gives a perpetual roving?

A. Yes, I did, the very same as that is.

Q. That made it a continual roving?

A. Yes.

Q. Had

Q. Had you a little cylinder, like that, to take off the cotton from the large one?

A. I had a cylinder, like that, to take off the cotton from the large one; but you will excuse me, both my cylinders were of a size.

Q. But however, that cylinder behind took off from the other cylinder, for the perpetual carding?

A. Yes, Sir.

Q. How long is it since you made those?

A. It is about twelve, or between twelve or thirteen years; nay, I am sure it is twelve years since.

Q. What did you do with them; did you sell any of them?

A. Yes, Sir, I sold them.

Q. For use to the manufacturers?

A. Yes, I did.

Q. How many did you?

A. I suppose four or five, but then I never made but one in this method; I tell nothing but the truth.

Cross-examined by Mr. Serjeant *Adair*.

Q. You never made but one in that method?

A. No.

Q. When did you make that?

A. About twelve years ago.

Q. Who did you make it for?

A. For one *Mr. Walmsley*.

Q. You never made but one of that kind?

A. No, I did not.

Q. It did not answer, it was a new experiment?

A. It did not answer the end the gentleman wanted it for: you know it is nothing to me, I had nothing to do but work as I was ordered.

Q. What was the nature of that?

A. To take the carding off perpetually.

Q. What sort of carding?

A. Just such as is round this, only garters were put on the same way; first and foremost, I made a cylinder of a board, and got it turned, I had workmen of my own; then when that was turned, I had got a mahogany board, and made them the breadth of the card, to fit; after that, when I had screwed them on with screws upon that cylinder, I drew them over that cylinder; then I got them throwed again, or turned; and after that I took and dressed the edges of the card a little narrower, to give liberty for the other to come in; I took the card this way, and laid it down sideways, to take up but little room, and by that means it brought the teeth so close together, as made a perpetual carding.

Q. You placed them across the cylinder, as those are, or round it like filleting?

A. No, they were put round, like this.

Q. You never made but one of them?

A. No.

Q. Do you know where it was used?

A. Yes, there was a man in the town that worked upon them.

Q. What

Q. What use did you put those rollers to, that were in proportion to five to one?

A. What use?

Q. Aye.

A. I made them on purpose to spin cotton.

Q. To spin?

A. Yes, and to rove too.

Q. Upon your oath, did you ever apply them to roving of cotton?

A. I will tell you how I did it: I got a board of flat wood, as this is; I took the carding first, and rolled it with another board, till it was a little harder, I laid loose the card at first; then I run it through the roller, to make it stronger; then, after that, I run three, four, or five through, till it was thick enough; then I put them all together through and through again, till we made it coarse thread as this is; afterwards I put in the coarse thread, I put it in the roller again, and made it fine.

Mr. Serjeant *Bolton*. The roving and spinning are done with the same rollers.

Mr. Serjeant *Adair*. Q. When and where did you apply them to that purpose?

A. In the town of *Leigh*. I did not follow this new manufacture; I was only improving myself, as I had a large family at that time, and was not able to follow it. I thought, when I came a little abler, when I could get a friend to assist me, being poor, and having a large family, I was not willing any-body should steal it from me.

Q. Now, Mr. *Hayes*, this was an experiment you made for your information?

A. It was an experiment undoubtedly; I used but two spindles at that time.

Q. You meant to preserve the benefit of it, if afterwards you should be able to avail yourself of it?

A. I did, Sir.

Q. Now what knowledge had you, how came you to suppose, Mr. *Arkwright* ever got that from you?

A. I have no further knowledge than what I told you; *Kay's* wife told me.

Q. You, yourself don't know?

A. I cannot tell which way he got it.

Mr. Serjeant *Bolton*. We have that *Kay*, a clockmaker, that will tell your Lordship how this *Arkwright* got it from him.

Mr. *Erskine*. Your Lordship will observe, No. 6. conveys the description of the rollers used by Mr. *Arkwright*, not in the roving but the spinning machine; and if you add 6, and 9, together, it is the spinning machine when together.

Mr. *Lee*. Now, let them spin and rove together at the same time.

[The wheels accordingly were set in motion.]

Mr. Serjeant *Bolton*. The one forms the coarse thread, the other the fine one; the same machine will do both things.

Mr. *Bearcroft*. What we mean to convey an idea of to your Lordship, is, that machine which is now worked, if the tin cann was absent, is in truth the spinning machine, which is specified under the first patent; the one is fine, and the other coarse.

Mr. Justice *Buller*. That is the spinning, I suppose, which is upon the spindle?

Mr. *Bearcroft*. Yes.

Q

A Juror.

A Juror. I want to know, whether what he has got upon that wheel, he took out of the cann?

Mr. Bearcroft. The very same; it is done in the same manner, and by the same rollers, and this will do it.

Mr. Erskine. Break the thread, and put it behind, and the gentlemen will take notice of that part next; my Lord, that is the thing for which he had a patent that is expired; one wheel goes five turns to one of the other.

Mr. Serjeant Bolton. Q. Now in fact, with your rollers, you did exactly the same thing?

A. I did, Sir.

Q. You roved it, and made the finer thread with your rollers, as this does now?

A. I did.

Q. And your principle was, that your motion went five to one, to the other?

A. It did, Sir; that is my own invention.

Mr. Serjeant Bolton. You will find, as to that principle of the wheel acting five to one, we are totally left in the dark by the specification.

Mr. Justice Buller. From the size of the wheels being different, he says this man's invention, was of a different proportion of wheels, as to their principle of operation, and there is nothing of that sort in the patent.

Mr. Erskine. No, my Lord; we say, this difference of wheels, invented by this most ingenious man, was taken by *Mr. Arkwright* from him, and he claims the whole benefit of it by this patent, and we say, that destroys the whole of his patent.

Mr. Cowper. Let us not have more spinning than is necessary.

Mr. Serjeant Bolton. Nor speaking than is necessary.

John Kay, sworn. Examined by *Mr. Lee.*

Evidence of
John Kay.

Q. Do you remember, *Mr. Kay*, being at *Manchester* races in any particular year, and meeting *Mr. Arkwright* there?

A. No, Sir, I did not; I was not there.

Q. What place was you at?

A. At *Warrington*; at the time of the *Manchester* races, he came to *Warrington*.

Q. In what year was it?

A. In the year 1767.

Q. What was it *Arkwright* applied to you about, or said to you; how did he introduce himself to you?

A. He comes to a public house, and I comes up there; he said he was going to a wheel-maker, one *Edward Ashmore*, to get a few wires bended, and he wanted a few bits of brass turned, and asked, where he could get them turned? I said, if he would go down the street, he would meet with a clock-maker, where he might get them done. He came to our house, I was at work, and asked, If I could do those things for him? I said, I would see about it; and I did it; he paid me the next day, and came again, and wanted something else; and when I had done it, he went about his business. The third day, or the fourth, he came again, and wanted something else; I did him those things; and he asked me, when I had done, If I would drink a glass of wine with him in *Dale street*? I went with him; in our discourse, he asked me, If mine was a profitable business? I said, It was not; he asked me, what I could get a week? I told him about fourteen shillings;

shillings; Oh, says he, I can get more than you: I said, what business may you be of, he said, "I was a barber, but I have left it off, and I and another are going up and down the country buying hair, and can make more of it." We were talking of different things, and this thing came up, of spinning by rollers—he said, that will never be brought to bear, several gentlemen have almost broke themselves by it. I said, I think I could bring that to bear; that was all that passed that night. The next morning he comes to my bedside, and says, Do you remember what I told you last night, and asked, whether I could make him a small model, at a small expence? Yes, says I, I believe I can; says he, if you will, I will pay you. I went and bought a few articles, and made a small wooden model, and he took it with him to *Manchester*, and in a week or fortnight's time, I cannot say which, he comes back again, and I made him another.

Q. Before you go farther, who did you get the method of making these models from?

A. From Mr. *Hayes*, the last witness.

Q. Did you tell Mr. *Arkwright* so?

A. I told him, I and another man had tried that method at *Warrington*.

Q. You made him a model?

A. I made him two models, and he took one to *Preston*; *Burgoyne's* election was about that time.

Mr. *Lee*. I understand that was in 1768; you say General *Burgoyne's* election at *Preston*, was at that time?

A. Yes—I cannot say I can say any more upon that affair—He took it away with him.

Q. Look at that, was that the sort of model, or was it at all like that?

A. It was with rollers.

Q. It was with double rollers in that way?

A. Yes, with four pair of rollers; this has only two.

Q. Were they fluted?

A. No.

Q. Neither of them?

A. No.

Q. Neither top nor bottom?

A. No.

Q. Did they turn equally when at work, or one faster than the other?

A. No, one faster than the other.

Q. What was the purpose of that?

A. Why, on purpose to draw cotton out finer.

Q. Where do you live, *Kay*?

A. I live at *Warrington*.

Q. You have seen those kind of things worked?

A. Yes.

Q. Was the purpose of your discovery, you had from *Hayes*, to do the like things now in that engine?

A. Yes.

Q. First to rove it, then to make it finer, but to give it a proper consistency?

A. Yes, we had it roved by a second, a hand wheel, at that time.

Q. It was for the purpose of roving, with one roller, and afterwards spinning it with the other rollers?

A. Yes.

Q. After

Q. After he took your model away, and carried it to *Manchester*, you had some other conversation with him, do you recollect?

A. Yes, and I went with him.

Q. Did you live with him there?

A. I was with him at the time of the election in 1768, about thirteen weeks with him.

Q. Was you working with him as a mechanic?

A. Yes, I went there to make a clock for him.

Q. Now pray did you ever make any other models for him, or for any body else?

A. No, not at that time, not till such time as I went to work for him at *Nottingham*.

Q. You did go afterwards to *Nottingham*?

A. Yes.

Q. When?

A. As soon as the election was over.

Q. That was in *March* 1768?

A. It was ended in *April*, I believe.

Q. Now, how long did you work with him?

A. I cannot tell, four or five years perhaps, I cannot say how long.

Q. Well, afterwards Mr. *Arkwright* obtained his patent at a considerable distance of time?

A. Yes.

Q. When did you hear he had obtained it?

A. *James Hargrave* came and told me he had got his patent.

Q. Where is he?

A. He is dead—I could not help myself, you see I did not know any thing at all about it.

Q. You must know, whether at that time it was his own invention, or he had it of you?

A. *James Hargrave* told me I should have lodged a *caveat*.

Q. Don't tell what *James Hargrave* said, you must know, whether it was his own invention?

A. I know very well he did not invent the rollers.

Q. You know very well he did not invent the rollers?

A. No.

Q. On the contrary, you know he had them from you?

A. Yes.

Q. And you had them from this poor *Hayes*?

A. Yes.

Q. And you told him so?

A. Yes, I told him so many a time.

Cross-examined by Mr. *Cowper*.

Q. You lived with him before he gained his patent?

A. Yes.

Q. Parted with him upon very good terms?

A. I don't know upon what terms I parted with him.

Q. I don't know whether I have a right to ask you, Did you leave his house without his knowledge?

A. Yes.

Q. I must not ask you, whether any thing else left his house at that time ; You fled from his service ?

A. Yes.

Q. By what apprehension did you leave him, whether well, or ill-founded, I will ask you this, Was there not at least a charge of felony against you ?

A. They pretended so, but they could not find any thing against me.

Q. I ask, whether you did not fly from him upon the charge of felony ?

Mr. *Bearcroft*. I have no objection to your asking him, whether he had stole any body's invention.

Mr. *Lee*. Ask him that, who stole the invention ?

Mr. *Cowper*. There is a deal of difference between stealing a tankard, when invented, or the invention of making a tankard.

Q. There was a charge against you, well or ill founded ?

A. I was at *Nottingham*, and he took my property away.

Mr. Justice *Buller*. Who had took them ?

A. Mr. *Arkwright* had.

Q. He had taken your goods, had he ?

A. Yes.

Mr. *Cowper*. Q. What I want to know, which I desire you to give me an answer to, Had not you run away from his service, upon a charge of felony being exhibited against you ?

A. I cannot tell what was charged against me.

Q. You cannot tell whether you run away upon the fear of a charge ?

A. He told me something when I came back ;—I did run away.

Q. You heard soon after, of this patent, which you knew to be yours, or *Hayes's* invention, and not *Arkwright's* ?

A. Yes.

Q. And you talked of a partnership, I suppose ?

A. Yes.

Q. You made no secret of it ?

A. No.

Q. You being a poor man, it put you to no expence to complain to any body about the theft of the invention ?

A. No.

Q. Did you apply to any body when the nine causes were here ?

A. Yes.

Q. Did you hear them talked of, before they were tried, that they were to be so ?

A. Yes.

Q. And did you, before that, publicly complain, *Arkwright* stole those rollers ?

A. Yes.

Q. Were you brought up then ?

A. Yes, Sir.

Q. You was not examined upon the first trial ?

A. No.

Q. Was you examined upon the second trial ?

[No answer.]

Mr. *Lee*. I have sent for the brief, to shew he was put down as a witness ?

Mr. Justice *Buller*. *Kay*, What were the things, Mr. *Arkwright* had taken out of your house ?

A. Several tools.

Q. Were they tools respecting this business ?

A. Yes.

R

Q. Was

Q. Was that the subject of the charge against you?

A. Why, I was making another machine in my house, to spin jersey, which I thought of while I was at *Nottingham*, I might compleat it, I believe he thought I was making this machine, and that was his intent.

Q. You was making a spinning machine?

A. I was making a thing, to spin jersey; before I went to *Nottingham* I pulled that thing to pieces.

Q. You don't understand my question, Were the tools, which Mr. *Arkwright* had taken out of your house, the subject of the charge of felony against you, was it upon that account, he said you was to be charged with felony?

A. I believe he did, he told my wife, I had stole things from him.

Q. Did he take those things, as the things stolen?

A. No; I brought them out of *Lancashire*.

Q. Tell what it was Mr. *Arkwright* took away?

A. Several tools, compasses, pliers, and vice, and other things.

Q. Did he take any thing besides tools?

A. Yes, a pair of sleeves, a spying glass I had, and locks and brass wheels, I had brought with me, to make a movement with, from *Lancashire*, I had not time to make it, and I brought them with me.

Q. What was the spying glass?

A. That was a small spying-glass, which drew into four joints, that was mine, I brought it from *Nottingham*.

Mr. *Erskine*. It is my duty in this place to answer, I have now in my hand my brief, which I had in 1781.

Mr. Serjeant *Adair*. It is not properly evidence.

Mr. *Erskine*. I can tell my Lord and the jury, why he was not called.

Mr. Justice *Buller*. You had better not state it.

Mr. *Erskine*. You will observe the objection to my stating it, comes from Mr. Serjeant *Adair*.

Mr. *Lee*. That it is not now evidence, is objected—the observation is enough to obviate that.

Mr. Justice *Buller*. Surely.

Mr. *Lee*. Q. Did *Arkwright* ever pretend to prosecute you for this pretended felony?

A. Yes, he offered to do it.

Q. Did he do it?

A. No, I never saw it.

Mr. Justice *Buller*. Q. When did you get back to *Nottingham* again?

A. I never went to *Nottingham* again.

Mr. *Lee*. Q. It is suggested to me; Did Mr. *Arkwright* require you to enter into any obligation or bond, not to do any thing in this way of business?

A. Yes, at the time I was at *Preston* with him.

Q. In the year 1768?

A. Yes.

Q. After you had given him that model?

A. Yes.

Q. Was he then well to live, or in a situation not much better than you were?

A. He was a poor working man.

Q. He was?

A. He was, and I too, he got assistance to join him in this affair, and I agreed to work for him as a servant.

Q. He

Q. He got a bond, did he ?

A. Yes.

Q. What was it for ?

A. To serve him so many years.

Sarah Kay sworn. Examined by Mr. Erskine.

Q. You are the wife of the last witness ?

A. Yes, last *Michaelmas* it is twenty-six or twenty-seven years since.

Evidence of
Sarah Kay.

Q. You remember then, I suppose, when he worked for *Hayes* ?

A. Yes, I remember his making a small model.

Q. When did you see or know any thing about rollers, by which cotton is spun ?

A. That was about the beginning of the year 1763.

Q. Where did you first see it ?

A. At a place called *Leigh*.

Q. Who had them ?

A. Mr. *Hayes* had them.

Q. Do you remember your husband getting any models made of those ?

A. That one I remember, and one that he made for *Arkwright*.—He made one for *Hayes*, and then he made one for Mr. *Arkwright*.

Q. Do you remember when he made the model for *Hayes* ?

A. In the year 1763.

Q. Do you remember when he made the model for *Arkwright* ?

A. At the time of *Burgoyne's* election.

Q. How do you know it was for *Arkwright* that he made the model ?

A. My husband told me so.

Q. You have seen *Arkwright* and him together ?

A. Yes, all the day over.

Q. About the time he was getting this model made ?

A. Yes.

Q. And had he this model at the time, to take with him ?

A. Yes, he asked, whether he would make him a small model, at a small expence.

Q. You saw them together all day ?

A. Yes, after he had made the first model, he took it off with him somewhere or other, and came back to my husband, and asked if he could make another.

Q. He took it off somewhere or other, and came back to your husband, and asked him if he could make him another ?

A. Yes.

Q. Was there another made ?

A. Yes.

Q. Did you see this model of the rollers for drawing the cotton thread ?

A. Yes, for spinning.

Cross examined by Mr. Chamber.

Q. You are sure it was in 1763 ?

A. In 1763, my husband and Mr. *Hayes* began it.

Mr. *Erskine*. Q. When was the first model you ever saw ?

A. That my husband made for Mr. *Hayes*.

Q. When was that ?

A. In the year 1763.

Q. Now, when was it he made the model for *Arkwright* ?

A. In the year 1767.

Mr.

Mr. *Lee*. I think *Hayes* said twenty-two years ago; *Hayes* said it was about the time of General *Burgoyne's* election.

Mr. *Erskine*. We have shewn your Lordship and the Jury, they can spin with the roving machine; now we will shew they rove with the spinning machine, the old machine for which the patent is expired.

Neddy Holt sworn.

Evidence of
Neddy Holt.

Mr. Justice *Buller*. What is your Name, *Edward*?

A. No.

Q. Was you christen'd *Neddy*?

A. I was, Sir.

Mr. *Wood*. Q. Do you know one *William Atkins*?

A. Yes.

Q. Had he been in *Arkwright's* service?

A. Yes.

Q. Do you remember employing *Atkins* about any thing, and *Arkwright's* coming to you upon the occasion?

A. Yes, Sir.

Q. Be so good to recollect what it was, and when it was, and what it was *Mr. Arkwright* said to you; what time was it, and when was it?

A. In the year 1774.

Q. What had you employed *Atkins* to do?

A. He made roving, as it is called.

Q. Now then, did *Arkwright* come to you upon that occasion?

A. Yes, Sir.

Q. Now then, tell us what conversation you had with *Arkwright*?

A. He said, I was intruding upon his patent.

Q. What did *Arkwright* say?

A. He said, I was intruding upon his patent.

Q. That was before the last patent was got?

A. Yes, Sir.

Q. Did he tell you why you was infringing upon his patent?

A. Yes, because he said it was the same as spinning.

Q. Because he said that roving was the same as spinning, and therefore you were infringing upon his patent?

A. Yes.

Q. Did he say any thing further to you?

A. Why, he said he would prosecute me if I did not give over.

Mr. *Wood*. That roving and spinning was the same thing in *Mr. Arkwright's* opinion, is proved by this witness.

Mr. Justice *Buller*. Was the old machine made that use of before?

Mr. Serjeant *Adair*. No, certainly not.

Mr. *Erskine*. It is spinning with coarser thread, that is all the difference. He would not suffer any-body to rove, because roving and spinning is the same thing; this is the difference, the one is a fine thread, the other is coarse, and this is the machine for which the patent is expired; your Lordship sees, the one is a small thread, the other is as thick as my finger.

Mr. Justice *Buller*. The same as came out of that cann?

Mr. *Erskine*. Yes.

Mr. *Erskine*. [Q. to *Mr. Johnstone*, who was shewing the machine]. Does it stand in the same situation as it was when used as a spinning machine?

A. In this part of it there is no difference, but only this application.

Q. That

Q. That was not in use as a spinning machine, that groove ?

A. Yes, every part was, but this.

Q. Was that other part ?

A. That was in use as a roving cann, but not put to the spinning machine.

Mr. *Erskine*. Your Lordship will observe, Mr. *Arkwright* has not taken out his patent, for inventing the cann.

Mr. *Johnson*. This was in use, except the roving cann.

Mr. *Erskine*. The patent is not for the cann, but for the other machine.

Mr. *Lee*. Supposing it true, there never was a cann used before, your Lordship sees the effect of this, is, putting the cann to it, to perpetuate the old and expired patent.

Mr. Justice *Buller*. That cann is of no other use but to keep the thread in it ?

Mr. Serjeant *Adair*. A great deal more.

Mr. *Erskine*. The cann performs the operation of giving it a gentle turn.

Mr. Justice *Buller*. And to make it lay smoother in it.

Mr. *Erskine*. I will explain it.—The rollers, by moving with different velocities, as described by *Hayes*, draws the cotton through ; then the cotton, so drawn through, would not be twisted at all, unless it was by that circular motion of the cann turning it round, which gives that gentle twist not so strong as to make it a thread, then it is afterwards spun.

Mr. Justice *Buller*. [Q. to *Johnson*] The difference between that machine, and the one used under the patent for spinning, is, here is a cann, there was none ?

Mr. Serjeant *Adair*. He is not a witness.

Mr. Justice *Buller*. Tell me the fact.

Mr. *Wood*. It is so.

Mr. Justice *Buller* [to *Neddy Holt*]. Look at that cann there, *Neddy* ; Did you use any of those cann before *Arkwright's* patent ?

A. Yes.

Q. How long before ?

A. In the year 1774.

Mr. Justice *Buller*. Had your cann, rollers, or not ?

A. Yes, there was a cann.

Q. Were there any rollers to the cann ?

A. Oh ! yes.

Q. Were there such rollers as that to the cann ?

A. There was.

Mr. Serjeant *Adair*. You swear that ?

A. Yes.

Q. Is your machine here ?

A. It is not here.

Q. Is it in the Hall ?

A. No, I suppose not, I think not.

Q. Is it in *London* ?

A. No, I believe not, I did not bring them to *London*.

Mr. Justice *Buller*. You don't know that there is any in *London* ?

Mr. *Wood*. Here is one in the Hall.

Mr. *Cowper*. Q. Were they used before ?

A. Yes.

Q. By whom ?

A. By me.

Q. Publicly ?

A. No, privately.

Q. Only by way of experiment—Was not he one of Mr. *Arkwright's* servants that made it for you?

A. Yes.

Q. You got one of *Arkwright's* servants to make one of these for you by way of experiment, some time in the year 1774?

A. Yes, Sir.

Q. Can you tell in what time in 1774?

A. It was in *March*.

Q. When *Arkwright* was making experiments, you got one of his servants to make an experiment of this sort?

A. A man that was his servant, or had been.

Q. How long beforehand?

A. I don't know; a year or two, I suppose.

Q. His name was *Atkins*, however?

A. Yes.

Mr. *Wilson*. Was there nobody but *Atkins* there?

A. Yes, Sir, there was.

Q. Who was the other servant?

A. *Clitherow*.

Q. You had them both to assist you in this?

A. Yes.

Q. When was he in *Arkwright's* service?

A. The same time *Atkins* was.

Q. Was he after that in *Arkwright's* service?

A. I am not sure.

Q. Don't you know he was in his service within a day or two of getting him to make this thing?

A. No such a thing, Sir.

Benjamin Butler sworn. Examined by Mr. *Erskine*.

Q. Have you ever used a cann, an open cann?

A. Yes, Sir.

Q. For roving?

A. For roving.

Q. When for the first time?

A. Twenty-six years ago.

Q. Now, did that open cann turn round?

A. Yes, Sir.

Q. As the cotton fell into it?

A. Yes.

Q. And as the cotton fell into it, the cann, turning round, gave the cotton a twist?

A. Yes, Sir.

Q. I believe those open canns are as much used now as the others?

A. I don't know, Sir, that they are, or not.

Mr. Justice *Buller*. Q. When did you first use the cann?

A. Twenty-six years ago.

Mr. *Erskine*. Q. It turned round upon its axis, and by that means gave the cotton a twist?

A. Upon a small shaft of iron, the point of which went through it.

Mr. *Cocoper*. You stole all the inventions, I believe.

Mr.

Evidence of
Benjamin
Butler.

Mr. *Erskine*. Q. You say it turned round upon an iron?

A. The iron was put through this plate, it run upon one centre, and went through, here it was screwed on and turned round.

Q. Where did the cotton fall?

A. The cotton fell into it.

Q. Did it turn round when the cotton fell into it?

A. Yes, and it turned round like a ring.

Mr. Justice *Buller*. Q. Did the cotton fall into that, in the same way it falls into that cann, in the new machines?

A. Just in the same way, exactly.

Q. And by its turning round it twists just as that does?

A. Yes.

Mr. *Wilson*. Q. It was coiled and not twisted together at all?

A. It twisted the same as this does.

Mr. *Erskine*. Q. I believe, roving differs only in that respect from spinning, the twist must be more gentle?

A. Gentler for roving than spinning.

Q. The cotton falling into it, and the cann turning round gently, gives it that twist?

A. It gives it that twist.

Q. Where did the rollers turn?

A. Quite close up here, the cann was close up to the rollers.

Q. So you have no rollers to the cann at all, nor funnel, it was open at top?

A. Quite open.

Mr. *Lee*. So is that.

Mr. Justice *Buller*. In that machine there are rollers upon the one, and not upon the other, but they have shewed you by working, each of them has precisely the same effect.

Mr. *Lee*. I will shew you, by and by, it is a common thing, it is in common use.

Cross-examined.

Mr. *Cowper*. Q. Let me ask you, you say twenty-six years ago you used that tin cann?

A. Yes.

Q. And twenty-six years ago you could spin in that manner, and you used what I call the lanthorn?

A. Yes.—It was roved in it, and the same operation was performed without any discontinuance, to any length whatsoever, till it was roved full.

Q. You have known it roved twenty-six years ago, 'till it was full?

A. Yes, many a time.

Betty Kennion, sworn.

Mr. *Erskine*. In the specification of *Arkwright*, No. 7. is a cylindrical Evidence of box, for twisting the contents, and he describes the operation of the twisting Betty Kennion. it by the box, afterwards he describes the operation of the rollers, but the twisting is done by the box, No. 7. which he calls a cylindrical box for twisting it.

Mr. Serjeant *Bolton*. Q. To Betty Kennion, Your name was formerly *Bickerstaff*, your first husband had that name?

A. Yes, Sir.

Q. Do you remember him working for a Mr. *Binyon*?

A. Yes.

Q. He

Q. He had a manufacture for cotton ?

A. Yes.

Q. Now do you recollect, and look at those tin boxes, and see where the roving falls into it ; look at that tin box like a lanthorn, Do you remember your husband, using in his work, for *Binyon*, any thing like that ?

A. Yes, Sir, he did.

Q. The roving fell into it that way ?

A. Yes.

Q. Did it go by rollers too ?

A. Yes.

Q. When was this Ma'am ? When did he die ?

A. It is near eleven years since he died, it was finished before he did die.

Q. Now did the box that received the rovings, like that which you see there, did it turn round, so as to give the roving a twill ?

A. It did, Sir.

Q. Look at that, did it turn that way ?

A. It did, Sir.

Q. Your husband died the fifth of *December 1774* ?

A. Yes.

Q. Before that, did you see him use it ?

A. Yes, Sir.

Q. Frequently ?

A. Yes, I did.

Q. For *Binyon*, in his work ?

A. Yes.

Joseph Wolley sworn. Examined by Mr. Serjeant *Bolton*.

Evidence of
*Joseph
Wolley.*

Q. Was you employed in any way for Mr. *Binyon*, the last witness mentioned ?

A. I was, Sir.

Q. What was your employment ?

A. I travelled for him, and sold goods for him.

Q. You was a rider ?

A. Yes, for eighteen or twenty years.

Q. Look at the roving box, How long ago have you seen any thing like that at *Binyon's* ?

A. In the latter end of the year 1773, or the beginning of 1774.

Q. You are sure of that ?

A. Yes.

Q. Did you see the cann or box to receive the roving, like that ?

A. I saw the cann in the manufactory, I saw it used, I turned it myself.

Q. Have you seen more than one of them ?

A. I have, but it was further on, some time further.

John Leach sworn. Examined by Mr. *Erskine*.

Evidence of
John Leach.

Q. Have you used that open cann there ?

A. Yes.

Q. Which of them ?

A. This.

Q. With the rollers at top ?

A. Yes.

Q. You

Q. You have used it?

A. Yes.

Q. You can ascertain the time?

A. I had all the books and every thing destroyed by a riot, I cannot tell exactly the time, but to the best of my knowledge, it is ten years or better, ago.

Mr. Serjeant *Adair*. That is not fixing it.

Mr. *Erskine*. Then I will fix the time by another witness.

Mr. Serjeant *Adair*. Q. About 1775, you think it was?

A. It is between ten and eleven years ago.

Mr. Serjeant *Adair*. You have mended it a little now.

Mr. Justice *Buller*. No, he has not, he said at first ten years or more, and between ten and eleven, is ten or more.

Samuel Ainsworth sworn.

Q. Do you know the witness behind you, *Leech*?

A. Yes, I know him very well.

Q. You was employed in making a machine like that for him?

A. Yes, Sir, I was employed in making the iron work for him.

Q. When was that?

A. It was about eleven years ago since I began the iron work, this last *May*.

Q. Do you remember how long it was, before it was completed?

A. About two months after that.

Mr. *Erskine*. I call upon the one to the fact, the other to the time, No. 8. your Lordship sees, is out of the question, and No. 9. is out of the question.

Mr. Serjeant *Adair*. No. 9. is not material in the specification.

Mr. *Erskine*. You agree that is not material in the specification?

Mr. Serjeant *Adair*. It is not.

Mr. *Erskine*. No. 10. you admit to be in the former patent?

Mr. Serjeant *Adair*. No, indeed, I don't admit any such thing.

Mr. *Erskine*. What is it in the patent?

Mr. Serjeant *Adair*. I will shew it you when it comes to our turn.

Mr. *Lee*. They tell me that No. 10. is by no means essential to the machine, not the least in the world, though it is in the former patent.

William Trayner sworn. Examined by Mr. *Wood*:

Q. Where do you live?

A. With *Livesey, Hargrave, and Co.*

Q. They are very great manufacturers of cotton?

A. Yes, Sir.

Q. Can you tell us what sort of boxes they used for roving?

A. They use the open box, and find it far preferable to the others.

Q. In what is it preferable?

A. They told me the workmen did, that they found it far preferable, I am only a clerk.

Q. In fact they use it?

A. They use it.

Q. They use the open cann?

A. Yes, the open cann, and not the other.

Q. You don't know any other manufactory?

A. No, I cannot say I do.

Mr. *Wrigley* again; examined by Mr. *Lee*.

Q. I understand you are well acquainted with a great number of cotton manufactories.

A. Yes, Sir.

T

Q. Look

Evidence of
Samuel
Ainsworth.

Evidence of
William
Trayner.

Q. Look at those canns, which do you know to be the prevailing ones in use at present?

A. These open ones.

Q. Are they as much in use, or more than the others?

A. More a great deal, very few of those others are used at this time, but the others abundantly.

Q. Name some of them who used them?

A. Mr. *Ackers* of *Manchester*, Mr. *Beever* of *Broughton*, and the most of the capital houses use the old sort.

Mr. Justice *Buller*. Q. Is there any difference in point of use as to the one or the other?

A. There is a difference, the one doing more than the other.

Q. Which?

A. This [*pointing to the open cann.*]

Q. Is there any other difference?

A. No, it does it equally as well, and more of it.

Mr. Serjeant *Bolton*. Your Lordship sees the patent is for the whole.

Mr. Justice *Buller*. The whole of the instrument is used now, and therefore, if the cann is an occasional part of it, and necessary, it must be sufficient.

W. D. Crofts sworn. Examined by Mr. *Lee*.

Evidence of
W. D. Crofts. Q. You know Mr. *Arkwright*?

A. Yes.

Q. Did he apply to you at any time for the purpose of drawing out, or preparing any specification of this patent?

A. Yes, I made it some short time before the extent of the time it was ordered to be specified; I took the specification and recital of the patent, which he brought me to prepare.—The drawings and margins upon the paper were ready done, I was only concerned in the recital, the formal part, the recital of the specification.

Q. The specification in words is what you mean?

A. Yes.

Q. Not the references and drawings?

A. The references and drawings were brought prepared by Mr. *Arkwright* to me, upon that occasion.

Q. When you had seen them and compared them, did you make any observation upon them to him?

A. Why, I observed to Mr. *Arkwright*, I thought them very imperfectly done, and, in my opinion, would not answer the intended purpose, that was my opinion, it struck me in that light.

Q. What did he say to you when you told him so?

A. I asked him, where the former specification was done, which he brought with him.

Q. That is, for the old patent?

A. Yes, the old patent, for that seemed to me to be done in a better manner than the other; he told me that was drawn from a model of the machine, by a draughtsman in *London*. The specification of the former patent, but I understood this was not done from the model.

Q. He told you so, did he?

A. Yes, Sir.

Q. Upon

Q. Upon this, what did you say to him ?

A. He told me, that he meant it to appear to operate as a specification, but as obscure as the nature of the case could possibly admit.

Q. He meant to offer it as a specification, but to be as obscure as the nature of the case would possibly admit ?

A. Yes ; the reason he gave, my Lord, was, that at the expiration of the fourteen years, the public would then have the benefit of the machine : that he wished the invention not to be taken abroad during the fourteen years, as any person might have a copy of the specification from the office ; in his opinion, he thought, they ought to be locked up—As that was not the case, that was the reason he meant it to appear so obscure, they should not be able to take the invention abroad.

Q. In his opinion, they ought to be locked up ; but as that was not the case, he wished the invention not to be taken abroad ; that was the reason he gave for making them as obscure as the nature of the case would admit ?

A. Yes.

Q. Now when was this ?

A. I think it was about a week, the date of the specification will shew it ; it was about a week before the time was out, I know there were not many days to come.

Q. You have seen the specification many times since ?

A. I have seen it several times since.

Q. Is it not in the same original obscurity as Mr. *Arkwright* meant it ?

A. The very same.

Q. Locked up in total darkness ?

A. I told him, I thought he might have occasion to repent it, and I wished him to make it clearer.

Q. You thought he might repent of this, and you wished him to make it clearer ?

A. I thought I was rather in duty bound to mention it to him, it struck me in that light ; I thought it should be more perfect, and I mentioned it, and he gave me that answer.—I relied upon him for that part, and he relied upon me for the formal part.

Francis Ambrey sworn.

Q. What business are you ?

A. A machine maker.

Q. How long have you been in that way of business ?

A. I think, five years and an half I have been in the business myself.

Q. Have you been all your life in it ?

A. Not all my life ; I was brought up to it.

Q. How long have you worked at it ?

A. About six years.

Q. Have you seen *Arkwright's* specification, the drawings of it ?

A. I have, Sir.

Q. Did you attempt to make one from that specification, to the best of your skill ?

A. Yes, I did.

Q. Did you fairly and honestly set at it, to do it if you could ?

A. I set at it at first, to do it with the best of my knowledge, and, finding it impracticable, I gave it up ; I did believe it out of my power to make it from that specification.

Q. And

Evidence of
Francis Am-
brey.

Q. And from that conviction of your mind you gave it up?

A. Yes.

Mr. *Wrigley* examined again by Mr. Serjeant *Bolton*.

Q. Have you been employed in making machines?

A. Yes, Sir, I have.

Q. How long?

A. About four years.

Q. Have you been acquainted with all these machineries of the cotton manufactories—Have you attempted to make one from this specification?

A. Yes, Sir, I did.

Q. Was it before any objection was made to the specification?

A. Yes, it was.

Q. Before the first trial of *Arkwright's*?

A. Yes, it was.

Q. I ask you, whether you did it fairly and honestly, to the best of your ability?

A. I did.

Q. Did you succeed?

A. I did not, I could not.

Q. Before any objection was made, you fairly set about *Arkwright's* to make it?

A. I did.

Thomas Leeming sworn. Examined by Mr. *Wood*.

Q. What business do you follow?

A. A carding machine maker.

Q. How long have you followed that business?

A. Ten years and a half.

Q. Have you ever worked from drawings?

A. No, Sir, I never did.

Q. Have you seen *Arkwright's* specification?

A. I have.

Q. Have you examined that specification?

A. Yes, Sir.

Q. Now, Sir, could you make a machine from that specification?

A. I don't believe I could.

Q. Can you tell us, then, in what it is defective?

A. Yes.

Q. Point out some of the defects?

A. The roller in the cloth is deficient—The cylinder fillet is deficient.

Q. How is that deficient?

A. It will only discharge half of the cotton off the large cylinder, as the fillets are not spiral, but perpendicular to the axis.

Q. Now is there any thing else?

A. That is all that respects the carding, only the crank.

Q. Is there any thing that is not in it, able to produce the effect?

A. Yes.

Q. Go to the roving machine; tell us whether there is any defect in the specification of that?

A. The rollers have no pinions to shew the moving of the rollers, nor no weight, nor nothing at all to shew it.

Q. Are

Evidence of
Thomas Lec-
ming.

Q. Are you speaking of the roving machine ?

A. I don't pretend to speak to the roving machine, only the carding machine.

Q. However, do you know the roving machine ?

A. Yes.

Q. Does that specification shew a sufficient description of it ; is the carding or roving machine sufficiently described for any-body's making it ?

A. No, it is not.

Cross-examined by Mr. *Wilson*.

Q. You have pointed out, I think, in the carding machine, those two defects ?

A. Yes, Sir.

Q. First, there is not a roller within the cloth ?

A. Yes.

Q. And the next is, the fillets are not spiral, but perpendicular to the axis ?

A. Yes, Sir.

Q. Then you could have made the machine by this specification, with those defects in it ?

A. Yes, I could have made it with the drawings, but it would not answer.

Q. If there was a roller in the middle of the cloth, and the fillets spiral, you could have made it ?

A. Yes.

Thomas Barber sworn.

Mr. *Cowper*. Q. Have you any interest in this cause ?

A. No, Sir.

Q. You are no proprietor of cotton mills ?

A. No, Sir.

Q. Nor have been lately ?

A. No, Sir, nor never was.

Q. Are you a subscriber in any respect to this suit ?

A. No, Sir.

Q. In no respect whatever ?

A. In no respect whatever.

[After the above Questions and Answers, Mr. Barber's Examination did not proceed, till Mr. *Immison* and Mr. *Pearson* were examined].

Mr. *Immison* examined by Mr. *Erskine*.

Q. Have you been accustomed to make machines from drawings ?

A. Yes, Sir, I have.

Q. Be so good to look at that specification you have in your hand, and tell my Lord and the Jury, whether you conceive there is a perfect description, and whether you could make it ?

A. I know the description perfectly well ; here are very few parts of the carding machine here, that are in the carding engine, and they are very imperfectly described that are here.

Q. Tell us which are the parts that do belong to the carding machine, that are upon the face of the specification ?

A. Here is the crank and one cylinder here.

Q. Does No. 3 ?

A. Yes—No. 4. belongs to the carding machine.

Q. And No. 5 ?

A. Yes.

Evidence of
Thomas Barber.

Evidence of
Mr. Immison.

Q. Nothing else ?

A. No.

Q. Now go to No. 3. First, could you make that feeder from that description, No. 3 ?

A. It is an impossibility.

Q. State to the Jury, why it is an impossibility.

A. Because here is no axis described, whereby it can move regularly.

Q. Could you make No. 5. with a spiral fillet from that ?

A. If it had not been invented, it could not be ascertained from that.

Q. How could you make it from No. 5. in the specification ; would you have made the fillets parallel to one another ?

A. Certainly, because that in the specification is parallel.

Q. Then you never could have found out how to make it spiral from that description, with the parallels ?

A. There is no idea of a spiral.

Q. You never would have thought to make, as an artist, that machine with a worm ?

A. It is impossible, without having the idea conveyed, which it does not.

Q. Now the roving machine, No. 6. how could you make that ?

A. It is very imperfect ; there is no motion whereby it can be worked, and none is described.

Q. Does it appear by that, whether one set of rollers are to move faster than the other, or what relative velocities they are to move with ?

A. No such thing appears here, and I do not recollect any such thing in the description of the specification, that speaks of rollers.

Q. No. 6. consists of rollers fixed to a wooden frame ; the contents of No. 5. being brought to it at (a), and going through at (b), produces it a proper size at (F) ; can you tell what that description means ?

A. It seems to me to be rather an intention to conceal, than to discover.—Those are the back rollers the communication is fixed in ; which is wrong in fact, too.

Q. It appears to you an intention rather to conceal, than discover ?

A. Yes, because it is quite upon the wrong side.

Q. Then you could not make this roving machine from that drawing ?

A. It is an impossibility.

Q. You, I believe, have a general knowledge of cotton works ?

A. I have, Sir.

Q. But, notwithstanding that, you could not do it ?

A. It is impossible to do it, without a person very well knew of himself how to do it.

Q. Now, Sir, pass on to the other ; could you make the cann from that description ?

A. What description ?

Q. From No. 7.—No. 7. a cylindrical box for twisting the contents of No. 6. at (b) ; (a, a) are two rollers, one moving the other ; between which the contents of No. 6. pass into the cylinder (b)—(c) is a dead pulley fixed to the frame (d), which passing from the pulley (c), moves the rollers (a, a)—(F) a wheel, the movement of which is brought from (F) to No. 10. and is fixed to No. 6. ?

A. A very imperfect description : I think, a person not possessed of the knowledge of making this, could not make such a cann as this, without some other resources.

Q. No. 6.

Q. No. 6. is still more defective?

A. No. 6. is quite defective.

Q. Now is there any directions here, how all these things are to be put together, to shew how the box, and the carding machine, and the roving machine are to be set to work together?

A. There is none, no directions about it.

Q. How should you set about putting (3) (4) and (5) to the carding machine, and taking the rest to the carding machine?

A. Impossible for any person to make a machine by this specification, they might make the parts here put down, but they would be quite useless when made.

Q. Is there any scale to it?

A. There is not.

Q. Though you are a person well acquainted with the nature of cotton machines in general, you could not possibly make up a cotton machine for spinning, by that specification?

A. I really could not.

Cross-Examination.

Mr. Serjeant *Adair*. Q. Were you acquainted with the carding machine in use, before Mr. *Arkwright's* patent?

A. No, I was not.

Q. You have been present to-day, when that carding machine has been explained?

A. Yes, but I got the knowledge of that before, it is consisting of two cylinders, one against the cards at the top, two rollers that delivered the cotton upon the first cylinder, which delivered it upon the second cylinder, that was the former carding machine, and without the crank to take it off.

Q. Now, Sir, if you had been perfectly acquainted with the former carding machine, could not you by attention to this specification have made a new machine?

A. I could not do it: Why was not the difference specified?

Q. I am asking *you* a question, answer *yes* or *no*, according to your judgment, If you had been acquainted with the old machine, with this specification, together with a knowledge of the old machine, could you make the new one?

A. No, it is an impossibility, I hold that to be so.

Q. Then any witness that says he has done so, you say must be perjured?

A. Why, I deem him as such.

Q. That is a very candid opinion of yours, your objection to No. 3. I think, is, there is no roller or axis specified by it?

A. There is not.

Q. That is the only objection that occurs to you?

A. Why, it is the principle one.

Q. Is there any other?

A. An objection against the use of it—against the description of it, Sir.

Q. Read the description?

A. A piece of cloth with wool, flax, hemp, or any other such materials spread thereon, as at (a). That is the description, together with the drawing. There is no roller or axis.

Q. Have you any other objection but that?

A. I stated no other objection.

Q. From

Q. From that drawing you could easily perceive this cloth rolled up?

A. The cotton must be rolled

Q. It is said in words, the cotton is to be spread on the cloth from No. 3, could you doubt that was to be rolled up?

A. I could not move it, how would you move it?

Q. Could you have any doubt whether it was to be rolled up as that is described?

A. Yes.

Q. I hope the jury will judge of your skill, look upon that drawing?

A. I look upon this drawing to express a piece of cloth, and cotton lapped within side of it.

Q. Your objection is, there is no roller in the centre?

A. No, there is nothing to keep it in a regular motion.

Q. I think you said it is impossible to answer the purpose without that roller, Do you mean to abide by that?

A. Do you mean to answer the purpose without it?

Q. Yes?

A. It will not answer the purpose intended by it.

Q. Are you clear of that?

A. I am clear of that, unless the roller in the centre be in it.

Q. You are clear it will not answer the effect without the roller?

A. It will not answer to do the business.

Q. You are clear in that?

A. Yes, I am positive of it.

Q. If that is your opinion Mr. *Inmison*, that that piece of cloth could not act or unroll without a roller, would you hesitate a moment to put a roller into it, if you were desired to make the machine: answer that question, if you were directed to make the machine, and it is your opinion, that piece of cloth would not answer without a roller in the middle, would you hesitate a moment to put a roller there?

A. From the knowledge I have now, I don't know but I should. If I had no idea of it, I don't think I should.

Mr. Justice *Buller*. You may as well ask him if any thing occurred to him for the improvement of the business, whether he would do it, and I dare say he would do it; the question is, whether your specification leads him to it or not.

Mr. Serjeant *Adair*, No. 5. is the last mentioned cylinder (the crank works upon) which has fillet cards behind this cylinder. No. 3. (which we have been talking of) delivereth its contents upon another cylinder. You attend to those words?

A. I do.

Q. If you knew the old cylinder in use, would you have a doubt the old cylinder was meant?

A. Very well, Sir, then how is the effect to be carried on?

Q. Your eyes will tell you how the effect is to be carried on.

A. It would not act above five minutes together, before it would be entirely full of cotton, because the intervals between the fillet would be choaked up.

Q. Being so applied, you say it would not answer the effect, because the intervals between the fillets would be choaked up with cotton?

A. They would.

Q. From

Q. From what would its being choaked up, arise ?

A. From accumulating always in one place.

Q. Because it don't take off the whole breadth ?

A. Yes.

Q. What part of the specification tells you, you are to spread the cotton on the whole breadth ?

A. No part of it.

Q. Then it would be, by your mistake of spreading it the whole breadth, that inconvenience would arise ?

A. Why was it not specified ? it shews it very dark.

Q. Do you require any specification to tell you, if spreading the whole breadth of it would choak it up, and if you spread it only the breadth of the fillets, it would not have that effect ?

A. It would not do then, Sir.

Q. Why not ?

A. Because the cotton would accumulate upon the whole cylinder.

Mr. Serjeant *Adair*. If you will stay an hour longer in Court, I will shew you how it will.

Mr. *Pearson* called again ; Examined by Mr. *Erskine*.

Q. You say you lived with Mr. *Arkwright* seven years after the patent was granted ?

A. I think I did, thereabouts.

Q. The cylinder he used to take off the cotton from, the large one in the carding machine, was with a worm, was it not ?

A. Yes.

Q. Being a worm, it stripped the whole off the large cylinder ?

A. Yes.

Q. Then, did not he spread his cotton the whole breadth ?

A. I believe he did.

Q. Did you, all the seven years you lived with *Arkwright*, after his patent, ever see him spread his feeder, only in stripes, leaving the interstices between, and use the parallel one instead of a worm ?

A. I cannot say I ever did.

Mr. *Thomas Barber*, Examined by Mr. Serjeant *Bolton*.

Q. Have you been accustomed to make machines ?

A. Yes, Sir, to give directions.

Q. You have got the specification before you ?

A. Yes, Sir.

Q. Have you been used to make machines from drawings ?

A. Some few, Sir.

Q. You have ?

A. I used to direct.

Q. Look at that specification, and tell my Lord and the jury, whether from that, you should be any ways able to direct, or make a machine, such as you see before you of *Arkwright's* ?

A. I could make the limbs of it, or direct them to make it as this is, but I don't think I could put them together.

Q. You could make them, but you don't think you could put them together, is not that your phrase, you have said so ?

A. I have, Sir.

X

Q. Now,

Evidence of
Mr. Thomas
Barber.

Q. Now will you be kind enough to describe the particular defects, that you conceive would leave you in ignorance, as to the motion of it?

A. I don't see any connection, I don't see any thing coupled properly, there is no moving part or principle mentioned.

Q. Now, for instance, the rollers, particularly No. 6. have you any idea from those drawings, of the operations of them, how they are to be set agoing?

A. No, Sir, there is nothing to set them agoing.

Q. Now, Sir, the thing that is twisted up like a serpent, is there any way of putting that in motion, or any thing like that being put in motion?

A. I conceive that might be moved from this description.

Q. Is there any thing there described to make it move, is there any centre or axis?

A. No, Sir, here is no axis described here.

Q. Can it move without an axis?

A. Yes, I think it might, but not with any regularity.

Q. Then it must move regularly with it?

A. Yes.

Q. Now, Sir, the fillet cylinder there, No. 5. is there any information to you there, or should you know what that was, to act with, or how; is there any connection with the machine?

A. No, Sir, there is not, there is nothing that is any ways connected with it, described here.

Mr. Justice *Buller*. What is that?

Mr. *Erskine*. The filleted cylinder.

Q. Will you be kind enough to look at that cylinder I mentioned just now, which is a filleted cylinder, have you seen that, and read the specification of it?

A. Yes.

Q. Those are parallel lines upon the cylinder?

A. Yes, Sir.

Q. Now, what would be the effect of the operation of that, when it is used in this way?

A. It would not make the edges of the rovings good, part of it would not be carded.

Q. It must leave the interstices?

A. Part would not be clearly carded.

Q. Would it or not clear the great machine?

A. No, Sir, it would not clear it.

Q. It must leave the cotton upon the large cylinder?

A. According to the spaces that are left here.

Q. It must clog the machine?

A. Certainly, Sir.

Q. I will ask you again, whether you could put it together, so as to make it work, or have any effect whatever, from seeing that paper?

A. Not from this.

Mr. Justice *Buller*. You have read the paper which refers to that, the specification?

A. Yes, Sir, I have.

Q. With the assistance of that, could you do it?

A. No, Sir, I could not, because this is to be connected with the description of a cylinder before it; but this is no-ways connected with any thing here [pointing to a particular part of it].

Mr.

Mr. *John Johnson* sworn. Examined by Mr. *Wood*.

Q. Have you seen that specification of Mr. *Arkwright's*?

A. Yes, Sir.

Q. Now, Sir, is that a sufficient description of the machine Mr. *Arkwright* uses?

A. It is not a sufficient description of that machine; I don't know that I ever saw any of Mr. *Arkwright's* machines: it is not a sufficient description of that, or any of those * machines.

Q. Have you seen any of those used by Mr. *Arkwright*?

A. No, I never saw any of Mr. *Arkwright's* works; I don't know that I ever saw any, immediately of his make.

Q. Now, from that specification, could you make a machine that would answer those purposes for preparing cotton?

A. No, Sir, I have compared it with the specification in writing, and I was then satisfied in my own mind, it could not be made from this; not as I could make it, however.

Q. Be so good to tell us what the defect is?

A. Why, Sir, the defect, No. 3. is, in want of a roller to hold it in the situation; there is nothing to keep the cotton in its proper situation, but it will either come in too large a quantity, or it must fall back.

Q. That is No. 3. Now, what is No. 4?

A. No. 4. is pretty well described, that is, this crank and its appurtenances—As for any thing else about those cards, I see no description.

Q. Is there no description of the rest of the machinery?

A. No description of wheels, canns, back rollers or weights, and all that is necessary.

Q. Is it sufficient to make one by?

A. No, it is not.

Q. In your opinion, it is not?

A. No.

Q. What are you?

A. I am both a cotton engine-maker and a worker.

Q. Do you find any direction in the specification, how those things are to be put together?

A. There is a direction of one number for one thing, and another number for another; but in that order I could not arrange them, there are chasms that should be filled up.

Q. There is not a sufficient direction to put them together, to make them complete?

A. I should think there is not.

Mr. *Cumming* sworn. Examined by Mr. *Erskine*.

Q. I believe you are a watchmaker, and conversant with mechanics?

A. I am, Sir.

Q. You have, I suppose, more than once looked at those machines?

A. I have, Sir.

Q. And you have looked at the description Mr. *Arkwright* has thought fit to give by his specification?

A. I have.

Q. Now, I first of all ask you, if Mr. *Arkwright* had intended to communicate to the public the means of making those machines, whether it would

Evidence of
Mr. John
Johnson.

Evidence of
Mr. Cum-
ming.

* The machines in Court.

would not have been perfectly easy to have given such a description of them, as they might immediately have been made?

A. I should certainly think so.

Q. It would be very easy for the man that invented those machines, by a drawing, and specification of that drawing, to bring it in the scope of any common mechanic?

A. He might.

Q. My next question is, Has he done so?

A. I think not; it is not to me clear; putting myself in the situation when I first saw this specification, I could not at all comprehend it; at present I should find no difficulty at all, informed as I am, of making it without the specification.

Q. With all the ingenuity we all know you to possess, and all the knowledge of mechanics, and the finest part of the mechanics, could you, with that specification and description of it, have set down and instructed any millwright, or a man of that sort, to make those machines?

A. If I had employed an artist to make those machines, he must naturally ask me a great many questions, which I could not resolve from this specification; if I did, it must be my own imagination.

Q. You might, by thought?

A. I cannot say I might, or might not.

Q. But it could not be from that specification?

A. I could not; if I had hit upon it, I could not say it was *Arkwright's*: If I was to hit upon the very same thing he meant, I could not be certain *what* was what he meant.

Q. If by accident you did hit upon the same thing, you should not know that you had hit upon it?

A. I could not be certain.

Q. To look at No. 3. could you find out there was to be a roller put in the centre of that, and that was to be used in the manner you see this?

A. I have nothing here to instruct me in any such a thing; I see nothing in the drawing of reference to it.

Q. Your imagination might lead you to a similar invention?

A. I can't say whether it would, or not.

Q. It would not be of any instruction to the artist?

A. I am not at all instructed here with any such a thing.

Q. To go on to No. 6. It says, No. 6. consists of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper size (F); would that lead you to make that fluted cylinder, to cover them with leather, to make them move with those relative velocities?

A. It certainly would not give any such instruction; it gives no information.

Q. You could not find out, Mr. *Arkwright* meant the rollers should be fluted, and that they would move with that relative velocity they should move?

A. I have no authority from the specification for any such motion of it; if he had described the rollers with the thickness and length, perhaps I could, I certainly should have expected to find some reference or some description of the part analogous to it.

Q. This spinning machine being the same as his roving machine, if he had meant to tell the public, that roving was in every thing, but the cann, the same as the spinning machine, it was easy to have done so?

A. I should think a single line of reference would have done it.

Q. That

Q. That line not being there, could you think Mr. *Arkwright* meant nothing more but his own spinning machine?

A. When I read Mr. *Arkwright*'s specification, I understood it was a distinct specification of something new.

Mr. Justice *Buller*. What did you understand to be distinct?

A. No. 6.

Mr. *Erskine*. He never conceived it was nothing more than Mr. *Arkwright*'s old spinning machine, but really thought it was something new.

A. I beg leave to explain myself to my Lord and the Court, with regard to what I said; I may be misconceived in it. When I had this description and specification given to me, I conceived from Mr. *Arkwright*'s declaration, which I was possessed of at the same time, I conceived the whole of this machine was an entire machine, an entire new invention, and not depending upon the old description, and therefore did not consider myself authorized to apply to any old invention.

Q. Be so good as to cast your eye upon No. 7. which is the cann; now I will ask you this question, Whether it would ever have occurred to you, from the specification, and description of that specification, to have made that machine by joining No. 7. to 6. with all those wheels?

A. In fact, I felt a difficulty in different respects, which must arise to any person constructing it, at least, it must have arose to myself from the roving here that passes from No. 6. through a hollow axis, into the roving box.—If the contents of No. 6. were represented coming through an hollow axis to the centre, it would have led me to the meaning and intention; instead of which, the description here represents a solid axis; the thread is not represented as passing through a hollow axis.—In reading No. 6. and 7. and observing the two figures by way of comparison, I don't find the threads are represented as passing through a central axis; if it had been so represented in the drawing, it would be the more readily pointed out what the intention was.

Q. Would it have occurred to you, there being no reference to No. 6. the spinning machine for which the patent is now expired, could you, by looking at No. 6. and 7. have first made this roving machine, and have added the cann?

A. I should have thought, for want of a reference, it was an explanation of a different thing, from its being an original invention; I understood it in that light.

Q. He does specify that, as if it was new?

A. He says, it consists of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper size, and he describes that as something he invented.

Q. Without stating something formerly invented, which he certainly has not done; his stating it as part of his own original invention, you would consider it as something new?

A. I certainly did conceive it in that light.

Q. I suppose I need not ask you, whether it is difficult, from a drawing upon paper, much less with a written description with it, to discover parallel fillets from those which are spiral?

A. Very easy, I conceive it.

Q. It is very easy to describe them?

A. Yes.

Q. Are those to be spiral or parallel, described as No. 5.?

A. They appear to me to have every characteristic of parallel lines.

Q. The specification says, No. 5. is the last-mentioned cylinder, which has fillet cards behind this cylinder: it gives no description, whether they are parallel or spiral, it refers merely to the drawing?

A. Merely to the drawing.

Q. Being referred to the drawing itself, have you any difficulty in saying these are parallel upon the drawing?

A. None in the world; I should conceive they were parallel.

Q. Then, unless you knew before, you should not be obliged to Mr. *Arkwright* at all, unless you knew before that spiral fillets were to be preferred to parallel, you never could make them without inventing them yourself?

A. I think I should not be authorized by the specification to make them.

Q. No. 9. is described as a new invention.

Mr. Serjeant *Adair*. You have nothing to do with No. 9.

Mr. *Erskine*. We have to do with every thing in your specification, that is to bamboozle the public. No. 9. is a spindle and fier, being fixed to No. 6. for twisting the contents from (b) in No. 6. (d) is a pulley under the bobbin, which hath a communication by a band to No. 10. at (d, d), it being a conical or regulating wheel, which moves the bobbin quicker or slower, as required; should you understand that as a new invention?

A. There are small defects in this drawing, but such as I should have looked upon as accidental.

Q. When Mr. *Arkwright* is giving this specification to the public, as a description of his new invention, for which he got his second patent, could you ever have been led to conceive No. 6. and 9. when added together, were neither more or less than that invention for which his old patent was expired?

A. I certainly should have thought it no part of the old patent, but I should have thought it new.

Mr. Justice *Buller*. Did you ever try whether all those pieces of work could be put together, including 8. and 9.?

A. Does your Lordship mean, whether I tried it practically?

Q. Yes.

A. I never did; I have been accustomed to put pieces of machinery together, very difficult pieces.

Mr. Justice *Buller*. It is admitted, upon the part of the defendant, that 8. and 9. are not made use of; one way it may be material, the other way perhaps not at all; I want to know whether 8. and 9. were ever used to make one machine?

Mr. *Erskine*. Never since the beginning of the world, nor ever could.

Mr. Serjeant *Adair*. To set your Lordship right in that particular, upon which the puzzle is now thrown out, and which I will clear up in a proper time; if your Lordship attends to the specification of No. 10. you will find no man that reads the specification, can for a moment conceive that (7.) (8) and (9) were ever intended to be used as the same machine, and No. 10. is that part of the machine that gives motion to No. 7, 8, or 9. so that is one of those three, but not all, neither two nor three.

Mr. *Erskine*. Your Lordship will observe, Mr. *Arkwright* had a patent for a spinning machine, which patent is expired, what occasion was there for that

that which is the spinning machine put together, to be in the specification ; it is neither more nor less than the spinning machine.

Q. Upon the whole, you see those spinning machines standing before you ?

A. I do.

Q. If you were to put all those things together, upon the face of this specification, would it make any one of those machines, or all of them ?

A. Certainly it would not make any one of them.

Q. There is not a monster in *Ovid's Metamorphosis*, but what it would have made ?

A. I have no conception what kind of machine it would make to put it all together.

Q. You would give a little money to see such a machine put together ?

A. No ; I would give very little to see such a machine.

Cross-Examined, by Mr. Serjeant *Adair*.

Q. I know sufficient of your abilities, Mr. *Cumming*, to expect to receive some light upon this subject. Do you conceive in the invention of a machine, to constitute a new invention, all the parts must be new ?

A. No, Sir, I do not by any means.

Q. Do you think, Sir, there are any machines which have been invented, among all that have been the subject of patents, which have come to your knowledge for fifty years back, composed of parts, which separately taken, were perfectly known long before ?

A. I don't quite collect the tenor of your question.

Q. For instance, if you have a machine, consisting of a particular combination of pulleys, tooth and pinion, or any particular wheels, or axles of wheels, or weights of different combinations of mechanic powers, would you call that a new invention ?

A. You don't mean tooth, and pinion, and wheels are a new invention, but their combination might be a new invention, by producing a new effect, that is my understanding of a new invention.

Q. We have now a better authority than my own for the truth of that proposition. In looking at this specification, we are told this was a description of machines or instruments, in the plural number, for preparing cotton for spinning, would it ever once enter into your head to make that monster, my learned friend was talking of, or would you apply to any one machine ?

A. I would not attempt any thing of the matter.

Q. After being told in express words, his specification does more than can be done by one machine, would you ever attempt to put them all together ?

A. There are certain parts, figures (8) and (9) I understand to be two pieces, for the same purpose, that you might apply either the one or the other. I understand the roving box is for a different purpose, but after having understood all those matters, and being told that No. 6. is for extending the roving, I am perfectly left at a loss and at sea, how to apply them, and I could not take upon me, after having thought of it in the best manner my ideas could suggest, I could not then tell what Mr. *Airkwright* meant.

Q. The first difficulty you particularly state is, with respect to No. 5 ?

A. What I spoke of is No. 2.

Q. I don't ask about No. 2. it is entirely out of this question, we have nothing to do with it, but No. 5. you don't see the application of it to the former machine; from this specification you say the fillets are exactly parallel?

A. It appears so.

Q. If you had been as well acquainted, before you saw this specification, with the construction of the cotton mills then in use, as in the construction of a watch, do you think you should have had any difficulty in applying this?

A. If the principle was clear, I should not be at a loss—The principle of this cylinder appears to me, full as well as if I had seen a thousand rollers.

Q. But if you had known the cylinder before in use, and the manner in which it operated, should you have had any difficulty in applying this new cylinder?

A. In applying it to what?

Q. No. 5. is the last mentioned cylinder, which hath fillet cards behind this cylinder; No. 3. delivereth its contents upon another cylinder: No. 3. you observe is a cloth upon which cotton is spread, you are told by the words of this, it delivereth its contents upon another cylinder, which is behind the fillet cylinder, that you are told in the words of the specification?

A. Yes, Sir.

Q. Now if you are told by this specification, the cotton spread upon this cloth was delivered upon a large cylinder, should you have any difficulty in conceiving that meant the large cylinder?

A. I conceive now the expression of the patent don't refer to the large cylinder, but I rather think it refers to the small cylinder; being told it is the small cylinder, I should have no difficulty about that, but not being told of it, I should find myself perfectly at a loss.

Q. They may be exactly the same size, or the same thing, that is not material; as to No. 6. the description of it is this, that it consists of rollers, fixed to a wooden frame, the contents of No. 5. being brought to it at (a). That (a) marks the entrance of the two lesser rollers; and going through it at (b) produces it a proper size at (f), now when you find that brought to it at (a) and goes through it at (b), does it not necessarily follow from thence, that in order to produce any effect whatsoever, those cylinders must be put in motion?

A. Upon your principle, that must follow, to produce any effect.

Q. I have told you of the effect it will produce; but if there are cylinders which are to produce their effect by motion, is there the smallest doubt, without any description whatsoever, of putting those cylinders in motion by almost twenty different ways?

A. None in the world.

Q. By the operation of a carding-wheel, or a variety of ways, there would be no difficulty in that?

A. None in the world.

Q. You observe from the drawing, the two cylinders at (b) are of a larger diameter than the two cylinders at (a)?

A. I observe one is a larger diameter, one of the leading cylinders is larger than the other.

Q. You observe the two cylinders at (b) are of another diameter from those at (a), any man of a much slighter knowledge than yours, would immediately suggest those cylinders, when set in motion, will move with different velocities?

A. Not

A. Not in the least. If they are set in motion, my Lord, as the question put to me, if I look at them in the specification it is immaterial, the question put to me, whether they are different sizes or not.

Mr. Justice Buller. He says it is immaterial as to your question, whether they are of different sizes.

Mr. Erskine. And my learned friend tells you, when I address myself to you about No. 2. that is quite out of the question, is there any thing upon that specification or description, that would lead a man to think that is out of the question?

A. I conceive it would not.

Q. Would not you be puzzled what to do with it, or where to put it, finding it as part described, and telling you how to make it, should you cast it aside altogether?

A. I should not go to the description of No. 3. till I had considered the drawing No. 2. and finding myself at a loss, I should wish to find a connection.

Q. Whether it was ever clear to you, looking at the specification, and reading what *Mr. Arkwright* had said, to put that all together?

A. I have no authority at all to leave any thing out.

Q. As it turns out now, that this new roving machine has the addition of that cann to the old machine for spinning, would it not be the easiest thing in the world for *Mr. Arkwright* to describe it, to say my invention consists in adding the cann No. 7. to the old spinning machine?

A. That is obvious of itself.

Mr. Justice Buller. I wish an answer to one question, from *Mr. Cumming*, Brother *Adair*—I wished to know what opinion you would have formed of it, if you were perfectly conversant with the old machine; suppose you had been conversant with what that was, and you had known the use of the spiral cylinder, from that plan should you be induced to adopt the spiral one, or that like the plan in your hand?

A. I should have thought it meant to have deviated from the spiral one, and to use that in my hand.

John Viney, sworn.

Mr. Serjeant Bolton was proceeding to his examination, when *Mr. Viney* Evidence of
addressed the court as follows: John Viney.

My Lord. In order to save this Court a good deal of time, I will beg the suspension of this gentleman's address to me, in order to shew to this Court, how this drawing, when it first appeared to me, affected me, being informed since in Court, it was in 1781, this drawing was exhibited to my view.—A gentleman came to my premises, and exhibited the drawing to me, and desired to have my thoughts upon the matter. As soon as the gentleman opened the drawing to me, I looked it over, and I said, A drawing! why here is no scale for this drawing, here is no key to the drawing, whereby any body can in the least form any idea of the dimensions of any one part; that was a perfect sufficient reason for my objection to paying any attention to it. Upon which, the gentleman closed it up, and took himself away; and for any thing I know, that same gentleman may be now in Court to confirm or refute the real state of our interview.

Within these three weeks past, two other gentlemen presented this drawing to me, whose persons and names I was perfectly unacquainted with; my reply to them, was exactly and instantaneously the same words: I have seen

this drawing some time past, but I cannot pay any attention to a thing so totally void of any sort of means for understanding it. The gentlemen pressed me very much to review the drawing with further attention, and added, that they had the description of that drawing, which they apprehended might give me a knowledge, a better knowledge of this drawing. I said, Gentlemen, I am extremely willing to give you any attention that the nature of this thing may require, so as to acquaint myself with it; accordingly, I took it, and assured them I would give it a close inspection and perusal. I went into it with an anxious desire, if possible, to inform myself what it was, and what it meant; I reviewed it at three different periods, because I very well knew that things strike the mind very differently at different times, but now I have to declare, that notwithstanding the several perusals with all the anxiety I was capable of, and ability that I had in my possession, to acquaint myself with the machine, and notwithstanding all that I have heard in this Court, since I have been here, I still am left as totally ignorant of the means of constructing the machine, which this is meant to describe, as if I never saw it; therefore, I have nothing further to add but that it is my firm opinion, as far as the knowledge of any mechanical powers that I retain, that it is impracticable for any man, with this drawing, and the description which is given with it, alone, to construct the same.

I wish your Lordship to know, I am perfectly unacquainted with all the parties, I never was before informed of, nor have any knowledge of spinning machines of this kind, and it is a very superficial view I have had in the course of my observations, but I have no idea of any man being capable of working from drawings that have no scale.

Cross-examination.

Mr. *Baldwin*. Q. Did you ever see a cotton mill?

A. I don't know that ever I did.

Q. What was you originally, a mill-wright, or a wheel-wright?

A. That would take up time indeed to acquaint the Court with.

Mr. *Thomas Walford* sworn. Examined by Mr. *Wood*.

Q. I am given to understand, that you understand mechanics.

Mr. *Serjeant Adair*. Q. Have you any share in any cotton mills, Mr. *Walford*?

A. None.

Mr. *Wood*. Q. Will you please to look at that specification of *Arkwright's*?

A. Yes, Sir, I have seen it.

Q. Tell me whether that is *Arkwright's* specification?

A. That is the first I examined, this I understand was Mr. *Arkwright's* first machine, for which the patent is expired.

Q. Are you conversant with machines yourself?

A. Yes, Sir, I am, but not with this cotton machine till now.

Q. What sort of machines?

A. Machines for filleting and making the laces for women; filleting laces, that are quite distinct from this.

Q. Are you able, from that specification, to make the machine like what you see here?

A. No, Sir.

Q. Does

Q. Does this specification afford you sufficient information, with the description, to make those machines before you?

A. I have read the description, and I cannot say, that, by both the description and drawing, either of them affords a sufficient information.

Q. Will you be so good now, to point out in what it is defective?

A. It wants the means of communication from one machine to another; for my own part, I understood this, which is No. 3. to be more like a worm than any thing else, till I saw the reading, I could not tell how to apply it.

Q. Can you tell how to apply it, by looking at the reference?

A. No, I cannot.

Q. Could you tell, from that description, how to put them all together, how to make any perfect machine of any sort?

A. No, I could not; indeed I endeavoured to find it out.

Q. You could not make any perfect machine or machines from that description you have seen, and those drawings?

A. No, Sir, I could not.

Q. Then I will ask you, whether, in your judgment, that sufficiently ascertains and describes the invention, so that it may be performed by that description and that specification?

A. I think it does not.

Q. Now, Sir, have you seen those things here; was it an easy matter to describe them so as to be understood?

A. A very easy matter. This patent engine, from the first drawing, is very explicit.

Q. Are the directions of the other explicit?

A. No, Sir, they are not.

Q. But you say, it was easy to have drawn it for every mechanic to understand?

A. Yes.

Q. Suppose a model had been made of the whole machine, and the drawing had been taken from that model, would it not be more explicit than the present?

A. Yes, certainly; it is very likely I could have made it from that.

Q. Could not you describe the particular parts, so that it might be done with greater ease?

A. If there had been a scale to go by; but there is none to shew.

Q. There is no information of that sort in the specification or description?

A. No.

Mr. *Harrison* sworn.

Mr. Serjeant *Adair*. Have not you a share in some of those works?

Evidence of
Mr. *Harrison*.

A. I am erecting a mill, but it has not yet begun spinning.

Q. Upon the same principle?

A. I don't mention the principle.

Q. But I ask you the question?

A. I am erecting a mill for spinning cotton.

Q. Does it extend to the preparing it for spinning cotton?

A. It does every thing.

Q. Then you are an interested witness?

A. I hope I am not a rogue, Sir.

Mr. *Bearcroft*. So far he is interested, he is just like other men.

Mr:

Mr. Justice *Buller*. You should bring the question a little closer to the object; ask him, whether he does make use of a machine like this?

Q. Do you mean, if this patent is set aside to-day, to make use of this machine?

A. No.

Q. Do you carry on any trade in this way?

A. No, I am erecting a building, where I intend to put machinery to spin cotton.

Q. Will the machinery be affected by the question, whether this patent stands, or not?

A. I think it will not.

Mr. *Erskine*. Q. You were concerned with your father in the discovery of a time-piece?

A. Yes, Sir, I had the honour of being with you in the same voyage.

Q. You have been acquainted with all those experiments that were made, by order of the Commissioners of the Admiralty, for discovering the longitude?

A. I have, Sir.

Q. Be so good to look at that specification; Have you examined that specification?

A. I have.

Q. Have you examined also the drawings?

Mr. Serjeant *Adair*. Q. Are not you a subscriber to this very suit?

A. Indeed I am not, neither directly or indirectly; I have examined this drawing with all the attention I am master of.

Q. Have you examined with equal attention, this, which purports to be an explanation?

A. To be sure I have.

Q. And you have, no doubt, examined the different machines which the drawing affects to describe?

A. I have.

Q. Now, with all the knowledge you necessarily have of mechanics, could you make these machines, or either of them, from this drawing, and from the description of them?

A. Make these machines from this drawing!

Q. Yes.

A. No, they are not described here.

Q. Do you think, Mr. *Harrison*, it would have been difficult for Mr. *Arkwright*, if he had been disposed to describe them, to have described them properly?

A. No difficulty at all.

Q. If any man wished to do it, might not he have made a drawing of the whole from a model, and have given the same in different parts?

A. There is no doubt of it.

Q. That is not done?

A. It is not done here.

Q. How should you be able, for instance, to go to make that feeder, annexed now to the carding machine, from No. 3.—How should you be able to make the feeder annexed to the carding machine, by the description of No. 3?

A. I think I remember the reading it; it is a piece of cloth rolled; I could certainly make a piece of cloth, and put flax upon it.

Q. Should you have been led to put the roller in the center, and applied it as that is applied?

A. If I had, it would be my own invention, for it is not here.

Q. Now

Q. Now with respect to No. 2. Should not you have thought that entitled to a place in the machine?

A. I don't know how to reject No. 2. any more than No. 3. I am told it is to be put there.

Q. Can you find a place for it?

A. I have not seen it yet in the cotton works, nor those models.

Q. Do you think, if a man was determined to perplex these works, it would not be very artfully done by putting it there?

A. I don't know what a man's art might do; but so many things thrown in this business together, not only perplex, but destroy the whole intent of the explanation.

Q. Whatever might be the intention, they have the effect of confusion and perplexity.

A. When I look at a drawing, to make any thing of a machine, I look upon one part of the drawing to be equally useful as the others; I don't know that I am to reject No. 1. and 2. any more than the others, I might as well reject No. 3. as No. 2.

Q. When you look at No. 5. even supposing you had known that spiral fillers had been used before, should not you be led to think that Mr. *Arkwright* meant they should be used no longer, but they should be parallel ones?

A. These are like hoops round a barrel.

Q. Should you from that, be ever led to think that Mr. *Arkwright* meant you to make a worm, or spiral ones?

A. By no means—I should have done as directed by that, and made cylindrical hoops.

Q. You was in Court when Mr. *Arkwright's* former specification of his expired patent was read, in which he describes his spinning machine?

A. I was, and have seen that.

Q. Now should you have been led, by looking at that specification, and this description of it, namely, that No. 6. consists of rollers fixed in a wooden frame; and the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper size at (F); should you, from that drawing and the description, have been led to make the spinning machine over-against you, from this drawing?

A. No, this drawing describes nothing here, it is all circles, it is no description at all; the words are something.

Q. Should you be led to think Mr. *Arkwright* meant you should fix No. 7. to his old spinning machine, by the description of No. 6. and 7?

A. No; To his old spinning machine! no; it has no reference; it is a cann to receive the roving.

Q. Should you be led to put that to the spinning machine, by No. 6. and 7. coupled together; should you ever be led to make that machine behind you?

A. If I am permitted to look at Mr. *Arkwright's* first patent, then I could answer your question.

[Upon inspection of the former specification, Mr. *Harrison* said] I could then make this machine, if I am permitted to look there; but Mr. *Arkwright* describes those rollers, which are the same rollers as the first, and, if so, they should not have been here as the new invention, because they must have been the same invention.

Q. Finding this specified at No. 6. you never could suppose he meant to specify *that* which he specified formerly, and for which his patent was expired?

A. He evades specifying that here; what he had specified in his first patent, he does not specify here; I could have made them from the first specification, but I could not from the second.

Q. Then in what does the second consist?

A. Mr. *Arkwright*, in the first, tells you, there was a number of wheels of different velocities, and there is nothing in this, of that sort.

Q. In what does the invention of this behind you, consist?

A. This is the first patent machine; the same thing that now roves, which then, spun.

Q. But finding those rollers specified at No. 6. knowing he could not specify them over again, you would intirely conclude there were something different and new?

A. No doubt of it.

Q. And by that, you would never be led to the idea of the same thing. Upon the whole, we will not trouble the Court further upon this question— Could you, with all the knowledge you have of mechanics, have made such a machine from this specification, as the draft is pretended to describe?

A. There may be machines made from this specification; but as no scale is given, it would be difficult to know what size, and how to go about them; but when all the machines are made that are dispersed upon this paper, I am perfectly clear, neither one nor two of them could ever be applied to any purpose whatever.

Q. Suppose your discovery consisted in adding a crank or a cylinder, or those cans; could not you have described them so, as the commonest mechanic could instantly know what he was about?

A. I could have described them so, that almost any common mechanic, or any man conversant with mechanics, could have done it.

Q. With that specification, do you think, any of the most ingenious artists could have done it?

A. I think it impossible.

Mr. Justice *Buller*. Q. Upon reading over that description, and the written description added to it, what would you suppose would have been done with No. 7. 8. or 9. how would you dispose of them?

A. No. 7. is, according to the words there, a cann having a vertical motion; my hat having a vertical motion, it would answer the same purpose, if there was any thing upon the spindle, with a cavity at top, with two rollers upon it; there is no hole in the centre for the thread to go through.

Q. I ask you, upon reading the description, how are you to dispose of 7. 8. or 9? did you understand from thence, whether all three of them were to constitute a part of the machine, or would you take either of them?

A. No. 9. is directly in the first patent.

Q. So it may; but, upon reading over the specification, did you understand you was only to make use of one of those three that are marked 7. 8. or 9. or was it indifferent which, or was you to put all in this machine?

A. It is such a confused thing; as to No. 8. I never saw it made use of; it is a question that I cannot answer; I don't know that it was intended ever to be used.

Mr. *Samuel Ewer* sworn. Examined by Mr. Serjeant *Bolton*.

Q. You are the chairman of the committee of mechanics, at the *Adelphi*, I believe, Sir? Evidence of
Mr. Samuel
Ewer.

A. Yes, Sir.

Q. Of course you are acquainted with mechanics in general?

A. A good deal.

Mr. Serjeant *Adair*. Q. Are you concerned in any cotton mills?

A. No.

Mr. Serjeant *Bolton*. Q. Have you ever seen any cotton mills?

A. Several.

Q. Have you seen any of this sort of Mr. *Arkwright's*?

A. Yes, near five years ago, and several times since.

Q. I will ask you as a mechanic, taking the description in your hand, if you please, Have you compared it with the written description?

A. Yes, Sir, I have.

Q. I want to ask your opinion of the sufficiency of that specification, for the purpose of making the machine, What is your opinion of it?

A. If a person confines himself solely to the specification, it would be impossible for him to do it; if he was previously acquainted with all the cotton mills, still he could not make a machine perfect, without exercising his inventive faculties.

Q. Do you think a person now could make the machine entirely from that specification—that is the general question I would ask?

A. No, Sir, I do not.

Q. You think not?

A. No, Sir, if he did, it would not act.

Q. Look at No. 3, 4 and 5, What do you think of them particularly?

A. They are exceedingly imperfect.

Q. Explain what you mean?

A. No. 3. has no roller in the centre of the feeder.

Q. What think you of No. 4?

A. No. 4. That is very plain—with regard to No. 5. it is exceedingly imperfect.

Q. How do you find yourself at a loss, about 5, the fillet cylinder?

A. Having intervals or spaces between the cards, the machine would soon be choaked up with the cotton.

Q. You observe they are parallel lines to the cylinder?

A. They are, certainly.

Q. Of course, the machine must be clogged very much?

A. Yes, without some contrivance for clearing of it, which is not mentioned in the specification.

Q. Is there any instruction to you in the specification, how that is to act?

A. There is none at all.

Q. What relation or connection is there to the other parts?

A. There is none at all.

Q. Look at No. 6. at what are called the rollers; Have you any idea how these rollers are to act, or how they are to be made?

A. None at all.

Q. You have not?

A. None at all.

Q. Have you any idea of the rollers being to move with different degrees of velocity?

A. There

A. There is nothing that will point it out here, this I observe, one of the rollers is larger than the other—I do collect, I think I may collect in the drawing that was given in with the specification, that two of the rollers were of different sizes, but it does not imply they are to move with different velocities; but if a person was only to suppose one was a greater weight than the other, it might acquire a different degree of pressure.

Q. I should be glad to know from you, whether it would not be easy for Mr. *Arkwright* to describe particularly the nature of the machine?

A. Certainly, very easy.

Q. Then I will ask you, whether, considering as you have, it is directed by that specification to make it, or whether your idea is, upon the whole, it was perfectly obscure?

Mr. Serjeant *Adair* objected to the question.

Mr. Serjeant *Bolton*. *Q.* Whether you don't think it obscure designedly?

A. I really believe, that at the time Mr. *Arkwright* took out this patent, he had some private motives in view, and had some intention to conceal it.

Mr. Serjeant *Adair* objected to that being evidence.

Mr. Justice *Buller*. So far you have got the opinion of a man of science, it is good evidence.

Mr. Serjeant *Adair*. That it is obscure is good evidence, but the opinion of a man of science, why he did it, can be no more evidence of Mr. *Arkwright's* motives, than it is of any other man's.

Mr. Justice *Buller*. They are only assigning their reason for things, you must follow it up by reasons; for instance, you ask, Is such a thing contrary to what is absolutely done in the course of business, upon such occasions.

Mr. Serjeant *Adair*. There may be two opinions by different men, one may think it obscure, the other not?

Mr. Justice *Buller*. I have not got his answer.

Q. You do think it very obscure?

A. Yes, Sir, I have seen a great number, perfectly clear; my curiosity has led me many times to go to the patent office to read them, and with regard to specifications, I think I never saw one so obscure as this.

Mr. Serjeant *Adair*. *Q.* You think it perfectly obscure?

A. Yes.

Mr. Justice *Buller*. In short, he has given you a fact, you are to draw the inference.

Mr. *Erwer*. I have some remarks to make upon the drawings, some of these drawings, I observe, are in perspective, and others only sections; and what is remarkable, those that are most essential, are most obscure, while others of very little service, or none, are very minutely described: And with regard to No. 1. here is even the axis, upon which the lever turns, described; and with regard to No. 2, the screw which fixes it down to the table, is described, which is not part of the machine, and there are several other things I recollect are very badly described.

Mr. Justice *Buller*. That is the reason for a general question, and coupled with it, it is good evidence.

Mr. *Pilkington*, called again: Examined by Mr. *Erskine*.

Q. Have you seen Mr. *Arkwright*, upon the subject of a case which he laid before the House of Commons, in order to obtain relief against a verdict against him here?

A. Mr. *Arkwright* gave me one.

Q. Have you got that case?

A. Yes.

The witness produced one in Court, and he gave one to Mr. Erskine.

Q. Now, Sir, tell your story, and what passed between you at the time he delivered those two papers to you; I wish you to tell my Lord and the Jury, in what manner they were delivered?

A. He gave me one, and I desired he would be kind enough to let me put it in my pocket, and read it at my leisure: he said, I might by all means; and likewise said, he would send me some more by his servant; which he did.

Mr. Justice Buller. What did he say the cases were?

A. We had been talking; it was soon after the verdict was given against him, and we had been talking about it, and he put this into my hand; but I cannot recollect any particular expressions were given out at the same time.

Q. Did he say, for what purpose he printed them; what he was doing at the time, or for what purpose they were drawn up?

A. I don't recollect that he mentioned any thing, for what purpose, or for what effect they were drawn up.

The CASE of Mr. Arkwright and Co. was then read; dated 1782, and is as follows:

“ THE CASE of Mr. RICHARD ARKWRIGHT and Co. in relation to Mr. Arkwright's Case.
 “ Mr. Arkwright's invention of an Engine for spinning cotton, &c.
 “ into yarn; stating his reasons for applying to Parliament for an Act
 “ to secure his right in such invention, or for such other relief as to
 “ the Legislature shall seem meet.

“ THE kingdom of *Great Britain*, from it's natural situation, from
 “ the natural productions, and from the natural vigour and activity both
 “ of body and mind of it's inhabitants, is particularly adapted to the cul-
 “ tivation, study, and improvement of manufactures, whereon the extension
 “ of commerce very materially depends; and these national advantages have
 “ been seen and attended to by the wisdom of the Legislature for many ages
 “ past, to the present time, as almost every session of Parliament will tes-
 “ tify. But all trade and manufactures are not confined to *Great Britain*;
 “ we have many powerful rivals: hence arise a competition and an emula-
 “ tion to excel in the quality, or to render the different manufactures of a
 “ lower price at foreign markets; and hence also have arisen the many good
 “ and useful laws, the many and various encouragements given by Parlia-
 “ ment, for establishing, improving, and perfecting the various manufac-
 “ tures of this kingdom, and for securing to men of skill and ingenuity in
 “ mechanics, and to their families, the benefit of their inventions, beyond
 “ the limits of letters patent.—The reference to acts of this nature at the
 “ foot of this case, will, it is presumed, fully evince the truth of this assertion.

“ Many fortunes have been sunk, many families have been ruined, many
 “ valuable lives spent, in the prosecution of schemes from which the inven-
 “ tors never reaped any adequate advantage; it was not, therefore, enough,
 “ that government held out to the ingenious and enterprising, the alluring
 “ bait of an exclusive enjoyment, by patent, of the use of their own in-
 “ ventions, for a limited time; the ingenious mechanic, notwithstanding
 “ the hazards of the pursuit, has ever been prompted and encouraged by
 “ the wisdom, the liberality, and the munificence of a *British* Parliament,
 “ The Society for the Encouragement of Arts and Sciences has also at
 “ various times held out premiums, as rewards to the industrious and

“ skilful mechanic. It is from these general causes and considerations, that
 “ individuals have been tempted to risque their fortunes, and exert their
 “ abilities, in the mechanic arts; and from hence have arisen, in a great
 “ degree, the wealth, the grandeur, and the power of this kingdom.

“ To be more particular: The vast variety and the consequence of those
 “ branches of manufacture which are produced from cotton, wool, and
 “ flax spun into yarn, the absolute necessity of the materials being spun be-
 “ fore they can be wove into any kind of stuff, the cheapness of provisions,
 “ and the low price of labour, in many foreign countries which are our
 “ rivals in trade, have occasioned many attempts at home to render the
 “ article of spinning more easy, cheap, and expeditious, as the grand means
 “ of enabling us to participate with *France*, and other nations, the benefit
 “ of sales at foreign markets.

“ About forty or fifty years ago, one *Paul*, and others, of *London*, in-
 “ vented an engine for spinning of cotton, and obtained a patent for such
 “ invention; afterwards they removed to *Northampton*, and other places.
 “ They spent many years, and much money in the undertaking, but with-
 “ out success; and many families who had engaged with them were reduced
 “ to poverty and distress.

“ About twenty or thirty years ago, various engines were constructed, by
 “ different persons, for spinning cotton, flax, wool, &c. into many threads
 “ at once, but they produced no real advantage.

“ About the year 1767, one *Hargrave*, of *Blackburn* in *Lancashire*, con-
 “ structed an engine that would at once spin twenty or thirty threads of
 “ cotton into yarn for the fustian manufacture; but because it was likely to
 “ answer in some measure the end proposed, his engines were burnt and
 “ destroyed, and himself driven out of *Lancashire*: he afterwards removed
 “ to *Nottingham*, and obtained a patent for his engine; but he did not
 “ even there long continue in the peaceable possession of it. His patent
 “ right was invaded, and he found it necessary to commence a prosecution:
 “ an *Association* was soon formed against him; and, being unable to con-
 “ tend against the united power of a body of men, he was obliged to give
 “ up the unjust and unequal contest. His invention was cruelly wrested
 “ from him; and he died in obscurity, and great distress.

“ Mr. *Arkwright*, after many years intense and painful application, in-
 “ vented, about the year 1768, his present method of spinning cotton,
 “ but upon very different principles from any invention that had gone be-
 “ fore it. He was himself a native of *Lancashire*; but having so recently
 “ witnessed the ungenerous treatment of poor *Hargrave*, by the people of
 “ that county, he retired to *Nottingham*, and obtained a patent in the year
 “ 1769, for making cotton, flax, and wool into yarn. But, after some
 “ experience, finding that the common method of preparing the materials
 “ for spinning (which is essentially necessary to the perfection of good yarn)
 “ was very imperfect, tedious, and expensive, he turned his thoughts to-
 “ wards the construction of engines for that purpose; and, in the pursuit,
 “ spent several years of intense study and labour, and at last produced an
 “ invention for carding and preparing the materials, founded in some mea-
 “ sure on the principles of his first machine.

“ These inventions, united, completed his great original plan. But his
 “ last machines being very complicated, and containing some things mate-
 “ rially different in their construction, and some others materially different
 “ in their use, from the inventions for which his first patent was obtained;

“ he

“ he procured a patent for these also, in *December 1775* ; and being then
 “ fully convinced of the great use and value of his scheme, he pursued,
 “ with unabating diligence and attention, his original design of a large and
 “ extensive business, on the grounds of his two patents united.

“ It was not, however, till upwards of five years had elapsed after ob-
 “ taining his first patent, and more than 12,000 *l.* had been expended in
 “ machinery and buildings, that any profit accrued to himself and partners :
 “ indeed, Mr. *Arkwright's* last inventions have greatly added to the value
 “ of his first ; and, connected, they form the most perfect and useful,
 “ and perhaps most curious machines, ever produced by man. By the
 “ united effects of these important inventions, and the perseverance and
 “ spirit with which the undertaking was pursued, the most excellent yarn
 “ or twist was produced ; notwithstanding which, the proprietors found
 “ great difficulty to introduce it into public use. A very heavy and valu-
 “ able stock, in consequence of these difficulties, lay upon their hands ;
 “ inconveniencies and disadvantages of no small consideration followed.
 “ Whatever were the motives which induced the rejection of it, they were
 “ thereby necessarily driven to attempt, by their own strength and ability,
 “ the manufacture of the yarn. Their first trial was, in weaving it into
 “ stockings, which succeeded ; they then endeavoured to prevail on the
 “ manufacturers in *Lancashire* to weave it into calicoes, but they absolutely
 “ refused. The proprietors, therefore, themselves made the attempt, and
 “ succeeded ; and soon established the manufacture of calicoes, which pro-
 “ mises to be one of the first manufactures in this kingdom. Another still
 “ more formidable difficulty arose ; the orders for goods which they had
 “ received, being considerable, were unexpectedly countermanded, the offi-
 “ cers of excise refusing to let them pass at the usual duty of *3d. per yard*,
 “ insisting on the additional duty of *3d. per yard*, as being calicoes, though
 “ manufactured in *England* : besides, these calicoes, when printed, were
 “ prohibited. By this unforeseen obstruction, a very considerable and very
 “ valuable stock of calicoes accumulated. An application to the Com-
 “ missioners of excise was attended with no success : the proprietors, there-
 “ fore, had no resource but to ask relief of the Legislature ; which, after much
 “ money expended, and against a strong opposition of the manufacturers in
 “ *Lancashire*, they obtained. Thus, in spite of the very great difficulties they
 “ met with, they at length established their manufacture of yarn, and the
 “ demand for it soon became too considerable for Mr. *Arkwright* and his
 “ partners to answer ; with a view, therefore, to accommodate the public,
 “ and on the faith of his two patents, and particularly the last, Mr. *Ark-*
 “ *wright* sold to numbers of adventurers, residing in the different counties
 “ of *Derby, Leicester, Nottingham, Worcester, Stafford, York, Hertford*, and
 “ *Lancaster*, many of his patent machines. Upon a moderate compu-
 “ tation, the money expended in consequence of such grants amounts to
 “ at least 60,000 *l.*

“ Mr. *Arkwright*, and his partners, have also expended, in large build-
 “ ings in *Derbyshire* and elsewhere, upwards of 30,000 *l.* and Mr. *Ark-*
 “ *wright* also erected a very large and extensive building in *Manchester*,
 “ at the expence of upwards of 4000 *l.* Besides these vast expences, he
 “ and his partners have sustained great injury by mobs and fire, not less
 “ than 5 or 6000 *l.*

“ It is certain, that by the introduction of these different machines, the
 “ price of labour is so much decreased, as to make so considerable a saving

“ to the public as several hundred thousand pounds *per annum*. Hence
 “ goods are manufactured on such moderate terms, as to enable the mer-
 “ chant to sell in foreign markets; many thousand persons are now (who
 “ were not before) employed, and can earn a comfortable maintenance;
 “ the revenue is greatly increased by the duty on printed calicoes; and it
 “ is no less remarkable than true, that though the price of labour, by the
 “ introduction of these inventions, has greatly decreased, yet the business has
 “ increased in a most extraordinary degree.

“ IT IS TO BE OBSERVED, that should the same means be pursued
 “ in respect to WOOL (which is very practicable) as have been in respect
 “ to cotton, there is every reason to believe, that the effect, an increase of
 “ business, would be similar, and the present complaints as to the low price
 “ of wool would no longer exist.

“ At the time Mr. *Arkwright* obtained his last patent, he justly con-
 “ cluded that his inventions were of great national importance, and con-
 “ ceived they would be sought after by foreigners to introduce into other
 “ countries; he therefore, *purposely, in prevention of that evil, (he had almost*
 “ *said, national injury) omitted to give so full and particular a description of his*
 “ *inventions, in his specification attendant on his last patent, as he otherwise*
 “ *would have done*; and, in order the more effectually to guard against
 “ foreigners, it has been Mr. *Arkwright's* uniform rule, to forbid the admis-
 “ sion of them into any of his works; other gentlemen, natives of this
 “ kingdom, were most generally admitted, on proper application. Mr.
 “ *Arkwright* was the more inclined to omit so full a description of his in-
 “ ventions, as by a clause in the said letters patent he was led to believe that
 “ it was not essentially necessary; because it is therein said, that “ *the said*
 “ *letters patent should be good and effectual in the law, according to the true in-*
 “ *tent and meaning thereof, notwithstanding the not full and certain describing the*
 “ *nature and quality of the said invention, or of the materials thereunto con-*
 “ *ducing and belonging.*”

“ Mr. *Arkwright* begs leave to add, that it is much to be wished, that
 “ some mode could be pointed out for preserving to the natives of this king-
 “ dom, in exclusion of foreigners, the benefit of inventions. The present
 “ method of exhibiting a full and accurate specification, to which foreigners
 “ have free access, renders such a provision extremely necessary; particu-
 “ larly so, as he has good reason to say, that there are inventions *yet to be*
 “ *made known*, that will be of the last importance to this kingdom.

“ True it is, that a man may safely trust the efforts of his genius, his for-
 “ tune, or his life, to the justice of Parliament, or a generous public; but
 “ what individual can stand against the power of numbers of men, actuated
 “ by malice and treachery?

“ No sooner were the merits of Mr. *Arkwright's* inventions fully under-
 “ stood, from the great increase of materials produced in a given time, and
 “ the superior quality of the goods manufactured; no sooner was it known,
 “ that his assiduity and great mechanical abilities were rewarded with suc-
 “ cess, than the very men, who had before treated him with contempt and
 “ derision, began to devise means to rob him of *his* inventions, and profit
 “ by *his* ingenuity. Every attempt that cunning could suggest for this
 “ purpose was made: By the seduction of his servants and workmen,
 “ (whom he had with great labour taught the business) a knowledge of his
 “ machinery and inventions was fully gained. From that time, many per-
 “ sons began to pilfer something from him; and then, by adding something

“ else

“ else of their own, and by calling similar productions and machines by
 “ other names, they hoped to screen themselves from punishment.

“ So many of these artful and designing individuals had at length in-
 “ fringed on his patent right, that he found it necessary to prosecute fe-
 “ veral: But it was not without great difficulty, and considerable expence,
 “ that he was able to make any proof against them; conscious that their
 “ conduct was unjustifiable, their proceedings were conducted with the ut-
 “ most caution and secrecy. Many of the persons employed by them were
 “ sworn to secrecy, and their buildings and workshops were kept locked up,
 “ or otherwise secured. This necessary proceeding of Mr. *Arkwright*, occa-
 “ sioned, as in the case of poor *Hargrave*, an *association* against him, of the
 “ very persons whom he had served and obliged. Formidable, however,
 “ as it was, Mr. *Arkwright* persevered; trusting that he should obtain, in
 “ the event, that satisfaction which he appeared to be justly intitled to. *A*
 “ *Trial in Westminster-Hall*, in July last, at a large expence, was the conse-
 “ quence; when, *solely by not describing so fully and accurately the nature of*
 “ *his last complex machines* as was strictly by law required, *a verdict was found*
 “ *against him*. Had he been at all aware of the consequences of such omis-
 “ sion, he certainly would have been more careful and circumspect in his de-
 “ scription. It cannot be supposed that he meant a fraud on his country;
 “ it is, on the contrary, most evident, that he was anxiously desirous of pre-
 “ serving to his native country the full benefit of his inventions: Indeed, it
 “ is impossible that he could either *expect* or *intend* to secret his inventions
 “ from the public after the expiration of his patents; the whole machinery
 “ being necessarily known to many workmen and artificers, as well as to
 “ those persons (being many hundreds) who were employed in the manu-
 “ factory. This observation alone, *independent of the circumstances of the*
 “ *GRANTS which have been made*, is fully sufficient to evince that Mr.
 “ *Arkwright* had no such view. A machine like the present, which has been
 “ seen by many persons, is materially different from the preparation of a
 “ nostrum, or medicine, the knowledge of which may rest in and die with
 “ a single person.

“ It may be farther observed, that if Mr. *Arkwright* had been aware of
 “ any improper defect in his specification, he never would have exhibited
 “ (as he did) his machines in their full perfection before his enemies in open
 “ court, where he must know the defect would be discovered. Mr. *Ark-*
 “ *wright*, in this painful part of his case, begs leave to add, that he *bores*
 “ *with the greatest submission to the Court and Verdict against him*: Yet he
 “ cannot but lament, that the advantages resulting from his *own* exertion
 “ and abilities alone, should be wrested from him by those who have no
 “ pretension to merit; that they should be permitted to rob him of his in-
 “ ventions before the expiration of the reasonable period of fourteen years,
 “ merely because he has unfortunately omitted to point out all the minutiae
 “ of his complicated machines. And surely, ungenerous must that man or
 “ set of men be, who would venture to assert, that *because* Mr. *Arkwright's*
 “ inventions are of great national importance, (which fully proves the value
 “ and merit of them) *therefore* he should the *sooner* be deprived of them.

“ It seems reasonable to say, that the advantage to the inventor should be
 “ proportioned to the merit of the invention. Considerable and weighty
 “ are the hardships that Mr. *Arkwright* labours under; but he and his
 “ partners are not the *only* sufferers: The different persons to whom they
 “ have sold Grants of these machines are *likewise* manifestly injured in this

“ part of their property ; trusting that the patent Mr. *Arkwright* last ob-
 “ tained was good and effectual in law, they have many of them ventured
 “ to risque great part of their fortunes on the foundation and supposed va-
 “ lidity of his Grants.

“ In short, Mr. *Arkwright* has chosen a subject in manufacture (that of
 “ spinning) of all others the most general, the most interesting, and the most
 “ difficult. He has, after near twenty years unparalleled diligence and ap-
 “ plication, by the force of natural genius, and an unbounded invention,
 “ (excellencies seldom united) brought to perfection machines on principles
 “ as new in theory, as they are regular and perfect in practice : He has in-
 “ duced men of property to engage with him to a large amount ; from
 “ his important inventions, united, he has produced better goods, of their
 “ different kinds, than were ever before produced in this country ; and,
 “ finally, he has established a business that already employs upwards of five
 “ thousand persons, and a capital, on the whole, of not less than 200,000l.
 “ a business of the utmost importance and benefit to this kingdom.

“ These inventions, it must be acknowledged, do him much honour at
 “ present, and will hereafter be an honour to his name and country ; Had,
 “ then, will be his case, if, by an unintentional error, or by the malevolence
 “ of his enemies, his property should be materially reduced ! Without the
 “ assistance of Parliament, the late verdict threatens him with the most se-
 “ rious consequences ; and truly alarming is the *association* against him,
 “ being formed of men of property, anxiously desirous of overbearing him
 “ at all events.

“ From this general view, and from the consideration of the particular
 “ hardships of his case, it is hoped that every generous mind will sensibly
 “ feel for him ; convinced that he deserves the full reward of his labour
 “ and ingenuity. Mr. *Arkwright* asks no *pecuniary* satisfaction or unreason-
 “ able *extension* of the period yet to come in his patents ; nor does he ask
 “ that his exclusive right, under the said letters patent, should extend to the
 “ preparing or spinning of *sheep's wool*, however great the field that now
 “ lies open respecting that article : But only humbly hopes, that the Le-
 “ gislature will be pleased to confirm, connect and consolidate, the two
 “ letters patent, so as to preserve to him the full benefit of his inventions
 “ for the remainder of the term yet to come in the last patent, which fa-
 “ vour would be received by him with the deepest sense of gratitude.”

The ACTS referred to in the foregoing Case.

“ In *June* 1743—An act was passed for vesting in *John Elwick*, Esquire,
 “ the sole property of an engine for making stone
 “ pipes, and to enlarge the terms granted by letters
 “ patent for that purpose.

“ This act was obtained for making valid the letters pa-
 “ tent for the residue of the first fourteen years more,
 “ on the ground or considerations that the work or
 “ undertaking stood still several years ; and by rea-
 “ son that Mr. *Elwick* had, by great pains, labour and
 “ industry, and at a considerable expence, amounting
 “ to several thousand pounds, very much improved
 “ the engine, by bringing the same to perform more
 “ work with less labour and expence than it was
 “ capable of doing when it was first invented.”

“ In

“ In the year 1749—An act was passed for securing the whole property,
 “ benefit and advantage, of an engine invented by
 “ *Israel Pownall*, deceased, for raising ballast, sullage
 “ and sand, and for removing banks, shelves and
 “ shoals, in rivers and harbours, to the children of the
 “ said *Israel Pownall*, for a certain term of years.

“ The equity of this act arose from the death of the
 “ patentee, the inability of his family to work the
 “ engine, and the improbability of their being reim-
 “ bursed the money laid out, unless the property by
 “ the aid of Parliament was farther secured to them;
 “ which was accordingly done.”

“ In the year 1751—An act was passed, “ For vesting, for a certain term
 “ of years, in *Michael Menzies*, Esquire, his execu-
 “ tors, administrators and assigns, the sole property
 “ of a machine by him invented, for conveying of
 “ coals from the places where they are dug, to the
 “ heaps at the mouths of the pits, and in some cases
 “ from the heaps to the staithes or places where they
 “ are put on board ships or keels.”

“ By this act, the benefit was secured to the inventor for
 “ an additional term of fourteen years, the first term
 “ granted by the patent being inadequate to the in-
 “ tense application, and the large sums of money
 “ expended in the pursuit.”

Mr. Serjeant *Adair*. There was a verdict in the Common Pleas for us.

Mr. *Erskine*. And in the King's Bench for us.

Mr. Justice *Buller*. Then it is verdict against verdict, there can be nothing in that.

Mr. Serjeant *Adair*. It is understood as given in evidence.

Mr. Justice *Buller*. I shall not understand either of them as given in evidence.

Mr. *Lee*. Then, my Lord, we must prove them, we must produce an examined copy of that verdict.

Mr. Serjeant *Adair*. We don't dispute it.

Mr. Justice *Buller*. I shall take it so by consent, that there have been verdicts each way, you will consider for a moment, whether it is evidence or not.

Mr. *Bearcroft*. Here we rest the case for the Crown.

Mr. Serjeant *Adair* for the Defendant.

MAY it please your Lordship, and you Gentlemen of the Jury; I feel myself in a very disagreeable situation, from being obliged to trespass upon your patience, which I perceive must be already nearly exhausted, and at a time when I feel myself but ill able to keep up that attention, which a cause of this nature requires in itself: but however, Gentlemen, that solemnity with which my learned friend opened this cause, and the importance which he justly ascribed to it, must be my apology for trespassing upon you at this time, and I am sure I shall meet with the same indulgence from your patience, which my learned friend has done: I flatter myself, I shall not trespass longer upon it, or so long as he has, though, perhaps, I may not be able

Mr. Serjeant
Adair for the
 Defendant.

to

to address myself to you equally to the purpose. However, Gentlemen, that may be, I am satisfied, that, having as yet learned but one side of this question, you have not suffered yourselves to form any thing like a decided judgment or opinion in this case. If there ever was a case which called for a cool and deliberate hearing, and a minute attention to both sides of the question, it certainly is that very important cause which you are to decide to-day. My learned friend said a great deal in his opening, with respect to that, from which I think it right, first to clear this case, before I proceed to follow it any further.

Gentlemen, he talked to you a great deal of that, which I trust his Lordship will hereafter concur in telling you, is nothing to the purpose, and ought to have no influence upon your verdict; I mean that which has passed upon former occasions, either in this Court or any other. I conceive that to be wholly immaterial, because you have had this case fully opened to you, and the evidence fully gone into upon the one side, it will be my duty to attempt the same, and to produce evidence upon the other side, and yours, to decide the cause by what you have heard and seen to-day, and not by the opinions of other persons and other Courts, from any thing that has passed upon a more incompleat examination of the question. I shall therefore spend but very few words, though my learned friend thought fit to use a great many, in observation upon this cause; and the few observations I shall make, will not, as I conceive, be at all material to your decision of the cause, but merely to avoid the possibility of any impression which ought not to be made in your minds, remaining, from the ingenuity or eloquence of my learned friend upon the other side.

Gentlemen, my learned friend set out with one circumstance, from which I must, in the outset, clear myself; for he imputed to me, I think, a little unfairly, a conduct full of absurdity and indecency, if I had been guilty of it; he imputed it to me, of having thrown a reflection upon this Court, in which I have the honour of now appearing, as if they had decided the cause through the ignorance or incapacity of (namely) that very able and respectable judge, or those most ingenious and able advocates who conducted the cause. Those who recollect what fell from me upon the former occasion, if they feel it worth while to recollect it, well know, *that* imputation is wholly groundless, and might as well have been spared: It is true, that I stated upon the former occasion, that, upon the first trial of this cause, the case was not fully understood by the Court, Council, or Witnesses. I repeat the words, nearly, I made use of upon a former occasion: I believe I accompanied that in stating, why it was not so understood, in a manner which would not convey the most distant imputation upon any one of those persons it was so imputed to. It could not, under any one of those circumstances be understood, because it had not been fully explained, though it was not for want of talents of those most able ornaments of their profession, that then conducted the cause for Mr. *Arkwright*, and of the benefit of whose assistance, since, he has been unfortunately deprived; and unfortunate indeed their loss has likewise been for the public, and the profession of the law, and doubly so to Mr. *Arkwright*, who has been so ill able to supply that deficiency; but no ability or ingenuity in a case of this nature, can make that sufficiently understood, which is not sufficiently explained to themselves. The observations made upon that trial, upon the specification, containing the description of Mr. *Arkwright's* invention, were new, they came upon the parties by surprize. Mr. *Arkwright*, understanding his own machine, never fancied it unintelligible

to any one else ; therefore his counsel were wholly uninstructed by him, and consequently, must be wholly unprepared to give an answer to those things—without explanation it is impossible to understand—however, so very able as those learned advocates were in their own profession, they were not mechanics any more than you, or those that now hear me, or those that are now concerned in the cause against us. It required time and attention to understand the nature of a complicated machine, that is not previously explained to them ; no ability upon their part would supply that deficiency, upon a question, which was the only question upon that first trial, which my friend stated truly ; upon that question, those deficiencies, to prove it fatal upon the first trial, were amply supplied by the second trial—The case, as to that point, was fully opened, fully examined into, patiently and attentively heard, and fully tried, and completely decided, as far as the judgment of the Court and Jury, before whom it was tried, could go ; there was no surprize, then ; both sides were prepared for that question : whether the specification was, or not sufficient, it underwent as attentive and accurate an examination as any question, in any court of justice, ever did ; but that upon both the former trials, for whatever reasons I own it is difficult for me to conjecture any one, (some I shall hint at a little hereafter) but for whatever reason it was, that, was the single question upon both the former trials, Whether Mr. *Arkwright* had sufficiently described his invention, or not ?—the utility of that invention, and the originality of that invention, as being the property of Mr. *Arkwright*, has never been disputed till the day in which we are now speaking ; it was reserved, for the first time, till to-day, to call witnesses to shew Mr. *Arkwright* was not the inventor, or that this was not an original invention—As to so much, therefore, of the cause, that respects those issues, the evidence given to-day is certainly as much a surprize upon those concerned for Mr. *Arkwright*, as upon the first trial : that with respect to the specification, because this case having been twice tried before, with all that formidable combination against Mr. *Arkwright*, which supported these proceedings from the beginning to the ending, he could scarcely expect new evidence to be adduced, not a tittle upon that head having ever been brought into a Court of Justice ; but you are certainly to decide the cause upon the evidence before you.

Gentlemen, my learned friend has availed himself of one of the questions which was intended to be tried upon this record, in order to impress your minds with the most dreadful apprehensions of the consequence of this verdict ; if it went to the establishment of Mr. *Arkwright's* patent upon the head of public inconvenience, he was intitled to a verdict upon that question. As it appeared upon the record, I could not object ; it was not foreign to the purpose ; as it then appeared he thought he had a right to state it to you ; and if he had gone on upon that issue, he would have had a right to prove this patent was mischievous and inconvenient to the public ; but has he adduced one single reason, to shew you any one of those terrible consequences he announced would be the effect of the continuance of Mr. *Arkwright's* patent ? I may appeal to your own knowledge upon this subject ; if you never heard of it before, which most unquestionably you must have done, whether the manufacture of this country, in this particular branch (the knowledge of which is reserved to this country) is not that most valuable manufactory, of which my learned friend has not said too much, which is established chiefly at *Manchester*, and in the neighbourhood of that country ; the cotton manufactory was, in fact, increased to a great

degree since Mr. *Arkwright* discovered these new inventions in this manufacture. Another thing, which I should have mentioned first, is, to appeal to your knowledge, whether the number of hands employed have not increased; whether the quality of the manufacture is not become manifestly better in every particular; and whether the price of it, notwithstanding the existence of Mr. *Arkwright's* patent, is not lessened: if all those effects had been produced to you, it would be in vain, if my learned friend was permitted to go on upon such general allegation as that, it would be in vain to prove to you, the continuance of that patent is ruinous to the public, the commencement of which was of such advantage to the manufactories; but that the continuance of a patent, which is a partial monopoly to a particular purpose, may produce some inconveniencies to those engaged in the same branch of manufacture, is a proposition impossible to be denied; but that is an inconvenience which the law has recognized, and which they must submit to, if the party is intitled to the protection of the law, because the law has, for wise purposes, thought it necessary and proper to give this encouragement to ingenious inventors. If no benefit was to be derived to the inventor from the exercise of his ability and ingenuity, for the loss of his time, and the expenditure of his fortune, who, do you believe, would be found sufficiently public-spirited, especially of that class from whence patents usually originate; or what men, in the use of practical parts of the mechanics, would devote their time and labour for the benefit of the public, in a thing that the public were immediately to derive a benefit from; and, for the sake of the public, to ruin themselves and families? for such would be the consequence to every man that gave his time in the pursuit of a new invention and discovery, if, the moment they were brought to profitable use, all mankind were intitled to use the same: but in order to prevent that discouragement, and to prevent all improvement in the manufactures of the country being stopped, the wisdom of the country, though it resists the general spirit of monopoly, has thought fit to hold forth that encouragement to men, to give their time to the improvement of the manufactures of the country; and they could not have framed one, better adapted to the purpose, because, by giving them the exclusive benefit of their invention for a limited time, upon the express condition of securing the benefit to themselves for the discovery of that invention, the reward is proportioned exactly to the ingenuity: if his invention is worth nothing, he will derive no profit to his family; if ingenious, and valuable to the public, he will derive an adequate profit during the time, and the public would receive the benefit in reversion: that, I conceive to be the true meaning of the law, founded upon the highest wisdom and sound policy of the law in granting patents.

Gentlemen, all the consequences, therefore, upon the one side and the other, I am persuaded you will lay out of the question, as you will have no predilection upon the one side or the other in this cause; but the true question upon the evidence, will be, whether, on those issues joined between the parties, Mr. *Arkwright* ought at one single blow, by your verdict, to be deprived of the benefit of all his labour and ingenuity, and stripped at once of his patent, without further discussion; and that will be the consequence of your verdict against him to-day.

Gentlemen, we come, therefore, to the questions you are to try, which are three:

First, Whether this is, or no, a new invention?—In the next place, if it is, Whether Mr. *Arkwright* is, or not, the inventor? And if both those questions

questions are decided in the favour of Mr. *Arkwright*, the next is, Whether he has sufficiently disclosed the nature of that invention, to secure the benefit of it to the public, after the expiration of his patent?

Gentlemen, With respect to the two first questions, it will be necessary for a moment, you should consider the principles upon which you ought to try those questions; and you should form a precise idea, what is a new invention, within the meaning of that word, as applicable to the subject-matter of improvements in the manufactures of the country, or upon machines intended for that purpose. I hinted a little at those principles, in a few questions that I put to a very ingenious mechanic of well-known abilities, that unfortunately appeared against us to-day, I mean Mr. *Cumming*; his authority laid a ground for a better authority than my *dictum*, for those principles that appeared to be the true ground upon which it is to be decided—It is not this day left to be decided, whether a new invention or improvement produced to the public, and made the subject-matter of a patent, must be all, or perhaps any of the constituent parts of the machine new; for we all know, the more important part of the mechanical powers have been discovered, rather than invented, many centuries ago, many thousand years ago; so if you trace things up to their source, to their first constituent parts, I don't think any man living could produce that, which would deserve the name of a new invention; if they were to take off those which are the best of their own kind, which produce the subject of a patent, or those that are brought forward as improvements; but if you examine and see what it consists of, it is wheels, pulleys, axles, rollers, cylinders, and a variety of other mechanic powers, such as screws and wedges, and every thing in mechanics, not one of those parts are new; is there any one witness produced, who hath been the inventor of them, namely, the wheel, the screw, or the pulley used in this machine, not a man of them pretend to it. Gentlemen, it is the combination of those powers in the machine, and producing the effect of them; that, and that alone, constitutes the inquiry of that kind to be a new invention; or, otherwise, that is a new invention in a machine, which consists of a new combination of old parts; that is a new invention, I conceive, and I trust you will be of opinion that is a new invention which consists of a combination of old principles; upon those principles alone you can form any thing like a just and accurate judgment, whether this is, or not, a new invention—In order to shew it is not, the evidence they have produced has been in calling different sets of witnesses to prove, that, in respect to each particular part of the machine, it has been in use before the time of Mr. *Arkwright's* patent; they have called witnesses to you, that have proved, or attempted it, that the feeding machine (that part of the machine called the feeder) was in use before—The crank was in use before—That the cylinder, that carded, that took off the cotton from the other cylinder, the carding cylinder, and delivered it in continued lengths, was in use before—That the rollers, employed afterwards in drawing out the fibres to a greater length, were in use before—That the cylindrical box, called the roving box, was in use before—In short, all the parts of Mr. *Arkwright's* patent machine were known or used by some person or other; but have they ventured to produce any one witness, to say, before the date of Mr. *Arkwright's* patent, he ever saw such a machine as we shall now produce to you? have they brought any witness to swear, the combination of those parts have been applied to the purpose, or that the work to which they have been exercised, has ever been done before by any individual

individual upon earth; I will venture to say, they could not; have they brought a witness to shew, the carding machine, and the roving machine, as produced to-day, and applied to the carding and roving, has ever been used before as applied to the purpose of Mr. *Arkwright's* patent, and the use of the particular parts of it? and the evidence that has been brought is, in many points of it, of a very suspicious nature.

With respect to the crank, No. 4. I will not be hardy enough to expect you should discredit all the witnesses that have spoke upon the subject; undoubtedly, several witnesses have said, that part of the machinery, which certainly is very ingenious, had been in use before the date of Mr. *Arkwright's* patent; in some instances, they have said it was used in their factories, and shops likewise, but only for the sake of experiment; but certainly such a number of witnesses have spoke to the use of that in some shape or other, as applied for the purpose of taking off the cotton from the cylinder; it would be going too far, to expect you should discredit the testimony altogether of all those witnesses; but some doubt has been left upon their testimony, and that will, in some degree, be cleared up when you come to hear our witnesses—Certain it is, the application of that crank, ingenious as it is, was originally made by Mr. *Arkwright*; but it appears, if the evidence of those witnesses be true, that he had been so unguarded, as in other instances my learned friend would have you suppose him to be; for if, before he had applied, and obtained the patent for use of his machine for carding and roving, This crank—the discovery and application of this crank had so far gone abroad, that it was used by others, and applied to the purpose; whether the evidence, when taken together, will amount to such a public use and exercise, even of that part of the machine, as would be sufficient to deprive Mr. *Arkwright*, who certainly was the inventor, of the benefit of his patent, is a question that must be left to his Lordship to decide; for that will be, in some measure, a question of law. The mere circumstance of this use or application of the machine, having been found out or known to others before the date of Mr. *Arkwright's* patent, is not sufficient to avoid that patent; I assert with confidence, and trust I shall be supported by his Lordship in it; the very terms of the issue speak it.

Gentlemen, the question for you to try, is not, whether this was a new invention strictly, as it is called, or not; and so far from having been invented by Mr. *Arkwright* for the first time, or never known by any-body before: but the terms of the issue, expressed in the language of the law, justice, and common sense, are, whether it is a new invention as to the public use and exercise thereof? The man who first brings his invention to that degree of maturity and perfection, as to make it capable of general use, for the sake of improvement of the manufactures of his country, he alone is the man intitled to the patent; and however others may have tried experiments, some of which may have turned out with the same effect, however they may have, for a time, even worked experimentally this machine in their shops, yet if not applied to the general purposes of manufacture; if the public are not intitled to a free exercise and use of it before the date of Mr. *Arkwright's* patent, still, upon the terms of this issue, Mr. *Arkwright* will be intitled to your verdict.

Gentlemen, I have spoken upon that part of the case, where their evidence appears the strongest, applied to that part of the machine, the crank; and the crank being only a particular member of that, with respect to the other part of it, the evidence is by no means so strong, and, as I stated before,

before, is of a most suspicious nature indeed: With respect to the use of those rollers to draw out the cotton after it is carded to a greater length, for stretching and elongating the fibres, I don't remember any one spoke to that, except Mr. *Hayes*, Mr. *Kay* and his wife, the purport of which was, that Mr. *Hayes* was the original inventor of this ingenious piece of mechanism, and in truth, Mr. *Arkwright*, in the language which has been so liberally used to-day, stole that invention from Mr. *Hayes*, by the medium of Mr. *Kay*, that is the purport of the evidence. If Mr. *Hayes* had stood alone, all I could have done must have been to have left his evidence, and considered the probability of that fact, because I was not furnished with any means of impeaching the credit of *Hayes*; and *Hayes* having stated it himself to be a private discovery, he, himself, wished to conceal; it was impossible, from the nature of the thing, I could call a witness to contradict him; if they had rested that part of the case upon *Hayes's* single testimony, I should have left it to those several observations that might arise from the probability of that case, whether it was a more likely circumstance this should be the invention of Mr. *Arkwright* (whose name you all know is known all over *Europe* to be as ingenious a mechanic as any) rather than such as *Hayes*.

Gentlemen, it does not rest there, they have called two others to support *Hayes*, *Kay*, and his wife; in my apprehension, their evidence has had a contrary effect; I know nothing of *Hayes*, you know nothing of him but from his evidence, and the light that he appears in to-day: all I ask of you in respect of Mr. *Hayes*, is to judge of him from his company, his friends, his acquaintance, and his associate, *Kay*; in what situation does *Kay* stand, the servant of Mr. *Arkwright*, worked for him, was possessed of all his secrets, and running away from his master's service upon a charge of felony, which charge, appeared to himself to be so well founded, that he has never dared to return to *Nottingham* to this hour; that servant, so trusted with Mr. *Arkwright's* secrets, running from him upon a charge of felony, and now coming into a Court of Justice, to swear, he and his associates were the authors of Mr. *Arkwright's* invention.

Gentlemen, If you can give credit to Mr. *Kay* under those circumstances, if you do not think such evidence, and the society of such a man, contaminates Mr. *Hayes's* evidence, I am very much deceived in the opinion I entertained of the impressions Mr. *Hayes's* evidence must have made upon your minds: have I not truly described it in the manner I have represented him to you, and whether is it more likely, this fellow *Kay*, exasperated with the just pursuit of Mr. *Arkwright*, to avoid whose prosecution he fled from that part of the country, and left it, never to return again; should trump up this story, together with *Hayes*, and endeavour to arrogate to themselves this invention of Mr. *Arkwright's*, which he must know, as being his workman, or whether it was likely Mr. *Arkwright* should borrow it from such a man as that is? That you must judge, weighing it with the credit of the witness, this you must take into your consideration, from the nature of it, it was impossible utterly to contradict him in it. *Hayes* told you, he wished to keep it a secret, in order to have the future benefit of it.—Who is there but himself, *Kay*, and Mr. *Arkwright*, who is not permitted to be examined before you: I wish he could, for you might hear a little truth upon the occasion, but he cannot contradict what these fellows have said, they have the whole field secured by the grossest perjury: the question is, Whether, standing under such circumstances, you will at once strip Mr. *Arkwright*,

(To highly a deserving man of the public,) of the benefit of his using this invention. Upon the other hand, we cannot doubt a moment what Mr. *Arkwright* would say, if he could speak upon this point; because it is the request of the law, that any man that applies for a patent to the Crown for an invention, must swear he is the inventor, that it is a new invention, and that he is the original inventor; therefore we cannot doubt a moment of what answer Mr. *Arkwright* would give to your questions: you must therefore weigh the circumstances of this case, against the evidence of men, sheltering themselves under the impossibility of being contradicted in this cause, or effectually hereafter; for the single evidence of Mr. *Arkwright*, will not be sufficient to ground a prosecution for perjury against them, or support it; if you are to weigh their evidence against the character and respect due to Mr. *Arkwright*, which is well known, you must weigh his character against the testimony of such witnesses, so sheltered, and standing under such circumstances.

Thus much for the principle parts of those machines, which are said not to be the invention of Mr. *Arkwright*. Another kind of objection I shall take notice of hereafter; with respect to that, I shall hereafter shew you, as a far more important part of this machine, and there has been very little evidence indeed to call at all in question the originality of this invention, I mean, in respect to the second cylinder, applied to the old one for the purpose of taking off the cotton in continued lengths. I don't find any witnesses have spoke precisely to that taking it off that cylinder in continued lengths, except *Pilkington*, whose evidence I conceive, you will think yourself authorized to lay out of the case, for reasons I shall state presently.

Mr. *Pilkington* does say, that, prior to Mr. *Arkwright*'s patent in *December 1775*, some time in *September*, he, and *Wood* his partner, did apply a cylinder, covered over with cards, so as to take off the cotton from the other cylinder in a continued carding.—That, Mr. *Pilkington* swears. He is then called upon to state to you the conversation between himself and Mr. *Arkwright*; and I believe it did not escape your observation, how very convenient his memory was, and ready to say any thing; he had forgotten the most material part of that conversation, for he says, he told him that Mr. *Arkwright* advised him to apply for a patent, for the expedient he suggested of swearing his workmen to secrecy, would be of no consequence; but he suppressed another part of the conversation; which let you into the whole, and puts an end to this part of the evidence. Mr. *Arkwright* told him, that he conceived from what appeared, it was his invention, and it infringed upon his patent; and he said, if it did, he should certainly bring an action; in consequence of that, he and his partner *Wood*, carefully concealed themselves and their work, and kept the doors shut from all persons supposed to come from Mr. *Arkwright*; and from that, they certainly supposed Mr. *Arkwright* had a right, or they would not be afraid of him, though they would have you believe, *Wood* was the original inventor. Now, it is perfectly clear, they thought Mr. *Arkwright* had the right, for they afterwards applied for, and obtained a patent, which is subsequent to the date of Mr. *Arkwright*'s, and therefore, of no consequence; nothing can be plainer than that. Whether they borrowed or stole this part of the invention of Mr. *Arkwright*'s I cannot tell, but whether they did, or whether it occurred to themselves, and that both they and Mr. *Arkwright* actually were inventors of that, which may very well be, yet Mr. *Arkwright*, as to that part of the machine, was clearly intitled to that part of the machine, having most certainly not got it from *Wood*
and

and *Pilkington*. *Wood* and *Pilkington* having kept it a secret, with a view to obtaining a patent, and therefore, it not being before an invention in public use, in the exercise thereof, it is clear from Mr. *Pilkington's* own evidence, nothing passed with respect to himself or *Wood*, that can, in the smallest degree, invalidate Mr. *Arkwright's* patent for that part of the machine; fortunately it will not rest only there. I recollect perfectly who Mr. *Wood*, Mr. *Pilkington's* partner is, and he has as different feelings upon this subject; whether they are the most honourable, you will judge hereafter; he has different feelings from Mr. *Pilkington* upon this subject; he was one of the most material witnesses for Mr. *Arkwright*, upon the last trial, for he was called to prove that, which puts one part of this question, which I shall trouble you with, upon principle beyond a possibility of doubt; I mean, the intelligibility of the specification: he did prove, and I shall call him again to prove the same thing, upon Mr. *Arkwright's* patent coming out, he, being with the evidence *Pilkington*, engaged in pursuits of discoveries of a similar kind, had recourse to the specification, as soon as he got at it, he tried it, and made a machine of a similar nature; that was the evidence of Mr. *Wood* upon the former occasion, and I have no doubt, for I believe Mr. *Wood* to be an honest man, that he will give the same evidence to-day.

Gentlemen, so much with respect to those parts of the machine, which it is alledged Mr. *Arkwright* is not himself the inventor of; but there are other parts of this machine they object to upon different grounds, and they say, Mr. *Arkwright* should not have the benefit of this present patent, because he himself invented them before. That is the effect of his invention say they, they are parts of the spinning machine, which should not have the benefit of the roving machine, they are nothing more than parts of this spinning machine, which Mr. *Arkwright* and his partners have hit upon this device to perpetuate the benefit of.

Gentlemen, it is very natural Mr. *Arkwright* should be desirous of having the benefit of the patent obtained; in the state in which it then stood; he was undoubtedly a loser; it is a most undoubted fact, the spinning patent never paid for itself, nor indemnified Mr. *Arkwright* for the construction of those ingenious machines. But why did it not? Because of the modes in use at that time, during greater part of the continuance of Mr. *Arkwright's* spinning patent, for preparing the cotton from the coarse state; first, the operation of the spinning was so tedious and imperfect, and subject to those difficulties, it is impossible to derive any benefit from the exercise of the spinning machine, for so much time, and so many hands were employed in carding, sizing, and roving the cotton to prepare it for spinning. It is impossible to apply the spinning machine to that extent and celerity as it might have been, if this discovery had been made, which is now pretended to be contemporary with that, that is, what all our manufacturers the witnesses will tell you. Is it possible to believe, as you have now been informed by my learned friend, Mr. *Arkwright's* new patent for roving, was nothing more than an intent to continue the spinning patent; if, as you have heard my learned friend's opening, his spinning machine was equally applicable to this purpose, is it to be conceived he would have been so long without reaping the benefit of this useful invention? had Mr. *Arkwright* known, that at the commencement of his spinning patent, he could have applied that machine to the purpose of roving, and could have had a compleat machine for carding and roving, it would, in all probability, have produced by this time to Mr. *Arkwright*, all those profits which he has never received, but in idea, and that
from

from the liberal manner in which to-day my learned friend has described—but the fact is, it never occurred to Mr. *Arkwright*, or any body else, that those machines were applicable to the purposes which have been since discovered. It is necessary to keep in your view the principles of the new invention, which is, if the invention is new, as to the application and exercise of the machine, and the introduction of a new part, or the application in a different manner, to introduce a different effect, that is to all intents and purposes a new invention, though some parts were used in the old machine. What is alledged? It is alledged, the roving machine in its parts consists of No. 6. and 9. which are the same, as they say, with those in the spinning machine: supposing for a moment they were, is it contended, the roving machine which consists of 6. and 9. are the same parts of the machine with No. 7. They are parts of the machine, though not pretended to produce the effect, with which the spinning machine has nothing at all to do; then it is an answer to say, a combination of those parts has produced a new machine, applicable to a new purpose, and it never occurred to Mr. *Arkwright*, or any manufacturers that carried on that expensive business to a very great extent indeed, during the continuance of Mr. *Arkwright's* spinning patent, I say, it never occurred to any of them, such a machine could be constructed, and applied to the purposes of roving; that, I conceive is a full answer to that head of evidence.

Gentlemen, so much for that head of evidence, by which it has been attempted for the first time to-day, to rob Mr. *Arkwright* of the merit, as well as benefit of his invention, which for the first time to-day has been produced. I have before observed, there must have been some reason or some consciousness in some of the persons conducting this prosecution against Mr. *Arkwright*, that this evidence, in the defence of these encroachments, which is now brought, by some consciousness or other, has been hitherto prevented till so late a period, till down so late as four years from the expiration of the patent; yet that is the kind of evidence which my learned friend would persuade you to-day, amounts to a demonstration and annihilates his patent. If, therefore, they talk of Mr. *Arkwright's* acquiescence under one verdict, upon a former occasion, what must you think of the acquiescence of those Gentlemen, what must be their acquiescence, if true, if they were possessed so many years of the most decisive evidence to annihilate and make void Mr. *Arkwright's* patent; they have put themselves to the expence of thousands of pounds in litigating the other stages of the cause, and it is only to-day they have found out that evidence, which he stated to be so material as to make an end of the cause; that is a conduct I don't impute to my learned friend, if he had known of this evidence five years ago, if he had believed it true, it would have been heard at the first trial, and, if so decisive as he says it is, it would have made an end of it. I don't impute it to him, I know his judgment too well to suppose he knew a syllable of that evidence, till this day, when he was instructed in it. I impute it to those behind the scenes, the movers and conductors of this business; they must have had some consciousness and apprehension, by some means or other, this might be contradicted, and the effect of it turning against themselves, some reason or other must exist against the production of that evidence, which long ago, as they pretended, must have made an end of this business.

Gentlemen, I will therefore trust it to your own sagacity, and upon the judgment you shall form upon that evidence, when you compare it with that of the manufacturers we shall call; they will all tell you, however it might

be their interest to think otherwise, they have always considered this, as they must, as a new and important discovery in the manufacture. I will trust to you for that; and proceed to the other part of the cause, in which also it is necessary for Mr. *Arkwright* to intitle himself to your verdict; for he stands in this critical situation—if any one of those issues are found against him, it is the same as if the whole were; they all equally go to the invalidation of his patent; he therefore, has the labouring oar in the highest degree; it is incumbent upon him to intitle himself to your verdict upon all these issues; it is equal to my learned friend, if he could intitle himself to your verdict upon any one: I must now go to the other issue, trusting there is not a shadow of a doubt upon that, as, upon the former; Mr. *Arkwright* will be intitled to your verdict, and I believe you will reject the insidious attempts that have been made to deprive him of the merit of those discoveries, which, I trust, you will have no doubt, when the whole is gone through, have been properly ascribed to him; you will also be persuaded, Mr. *Arkwright* has complied with the requests of the law in that specification that must be necessarily annexed to his patent.—That, I must make some short observations upon, upon the principles upon which that must, I conceive, also be decided.

That where a man would, by the authority of the crown, intitle himself to an exclusive benefit for a limited time, care should be taken the secret should not fall with him, but it should be preserved and recorded, and remain for the benefit of the public, and free exercise of all mankind, after the expiration of that time: that is the meaning and good sense of the law, that requires a specification and description; it is not a matter of curiosity for those that grant the patent, to know what it is about, at all; it is for a much more important purpose, which I will state to you, *that* alone being the true fair purpose for which it is intended; and I conceive, therefore, the language of the law and common sense is, that, that specification is sufficient which does preserve the benefit of the discovery to the public.

Now another circumstance which you should attend to, is, the different subject-matter for which patents for new inventions may be granted: now, of all the subjects of new invention that can come under consideration, there is none in which the minute exactness of a specification is so little required, as in that of an improvement in machinery; for this plain reason, that the moment the machine is brought into use (and till it is, the inventor can derive no benefit from it) but the moment it is brought into use, the inventor, not being himself the maker—Mr. *Arkwright* not being the maker, a smith or a carpenter, or a workman of any other description, does the manual part, and makes the machine; but *he* is the inventor, and director of the numerous workmen employed in making those machines. In a manufacture of great extent, they are all of them possessed of that secret, by which, my learned friend tells you, Mr. *Arkwright* may be knocked up: in this specification, the nature of the thing secures the benefit to the public, in the subject of that patent; for it is an absolute impossibility that the machine can be brought to perfection, and in use, for fourteen years, and the construction of it should remain a secret at the expiration of the term—I don't mean, by that, to contend, the law having made the exception, which I think it might have done, or the law not having made the exception, but it being, as I confess, general; in all cases of patents, a specification and description is required; I don't mean to contend from that principle, those specifications that are necessary, should not be made in the

case of a machine, or that the specification should be wholly unintelligible; or that the party has then complied with that requisite; I am ready to admit, a specification that can't be understood, is the same as no specification at all.

Gentlemen, The reasons which I point out to your attention, are two: First, to shew, in the construction of a specification of a machine, common justice dictates to you to be less critical and exact than you would in the case of a specification of a medicine or instrument, which must die with the author of it; common sense and justice dictates the reason, and that is a most powerful reason, which is this—It appears to me to furnish, from the nature of the thing itself, the most decisive answer to all those imputations which were endeavoured to be thrown upon Mr. *Arkwright*, with a studied hand, if I may use the word, though so hard a word has not been used upon the other side, but amounting pretty near to that of a studied and fraudulent concealment of the invention; for that idea has been conveyed, though my learned friend's politeness has not used so hard an expression; but that principle I have communicated to you, with respect to machines, and which my learned friend will not deny the absolute impossibility of their being kept a secret, furnishes the most decisive answer to the imputation of fraudulent and studied concealment of Mr. *Arkwright*, who is known by all of us to be a most ingenious man; he must be below the common rank of men, to be guilty of so gross an absurdity, as to destroy his own patent, by endeavouring to conceal that, which all the world knows is impossible to conceal, from the nature of his business—Then as to that supposed deficiency, as to the degree of the perspicuity which you, in examining this specification of the machine, may imagine to be the case, I conceive it not only not necessary, but I go the length of saying it is not proper, for reasons I shall state to you by-and-by; if it should be so particularly described, that not only any man, but any man without a previous qualification but that of being a man able to read, that any man should be able to understand to make the machine; I say, if that was the meaning of the law, all those mischiefs, which, there has been some evidence to shew you, did suggest themselves to Mr. *Arkwright's* mind, and suggested themselves wisely, that all those public inconveniences would arise from the invention getting abroad into the hands of foreigners, and perhaps, our enemies, during the time it was locked up in the Patent Office, they might make use of it; all which would be injurious in the strongest degree, if a man was obliged to describe it with such language, delineated with such drawings and models, which no man, however informed in other respects in the principles of mechanism, yet not in this particular branch; that every man, that sees the drawings, shall be able to make it, if a workman, that is not required by law, and, I am perfectly convinced, it ought not to be required by law. What is it the law does require? between those two extremes, I have conceded thus far, that a proper specification is necessary: and, if it is necessary any specification should be made at all, I contend it ought not to be so plain, that he that runs may read. Where then lays the medium? I conceive, it rests here; the description or specification of this, ought to be such, as to enable a mechanic, of reasonable general knowledge in his profession, and thoroughly acquainted with the machines before in use, to produce the same purposes, and all the prior improvements of them; he should, with that previous knowledge, and assistance from the specification together, be able to form that from the specification, and make that machine. That, I conceive to
be

be the just medium, and the true measure and standard upon which the specification should be tried; and if the specification is intelligible to those that ought to understand it, whose business it is, and who have been bred up in it, and know the effects, and the awkward methods applied before; if intelligible to them, it is intelligible according to the law, and sound policy, and it is all which the law requires.—The contrary doctrine would be nonsense; and patentees would hold by a strange tenure indeed, if the description of the whole of the parts should be perfectly clear, so that any man, not conversant with mechanics, could make it; I doubt much, whether it could be obtained by the ingenuity of man; I don't know whether Mr. *Cumming* or Mr. *Harrison* could so specify the ingenious invention of his father, or any other person; is it necessary to make a specification of such an ingenious machine, for instance, as was made by Mr. *Harrison's* father; that a cobbler should be able to understand it, or direct the making of that machine.—The very proposition would make one smile, as it must appear perfect nonsense; but it would be sufficient, if Mr. *Harrison* could, in describing that ingenious machine of his time-keeper, describe the parts of which it consisted; it would be sufficient to describe it so, that Mr. *Cumming*, or any ingenious watchmaker acquainted with all the principles in use before, should be able to understand it perfectly, so as to make it from that.—It would not be necessary so to describe it, that any of these makers of cotton mills should make it; I defy them to do so; as well, upon the contrary, do I hold it necessary Mr. *Harrison* should be able to make a cotton mill upon that specification, because, for the same reason, though both may be good mechanics, both might be ignorant of the prior machines before in use, and the principles upon which it is constructed; I therefore undertake to prove (and I undertake all that is necessary for Mr. *Arkwright* to prove) beyond a possibility of doubt, upon that principle I have stated, Mr. *Arkwright's* specification, is clear and sufficient; and thus I state it to you, to satisfy your minds, it is in that sense perfectly clear and intelligible, as I undertake to shew.—It is perfectly necessary I should remove those doubts and obscurities my learned friend endeavoured to throw over it; I should grossly trespass upon your time, if I was to go through the whole of the witnesses that were examined; I will consider the general objection, as stated by my learned friend's opening; I don't remember any new one, except an extraordinary one that came into the head of Mr. *Viney*; I don't remember any new objection appeared from the witnesses, but those that my learned friend stated, and he stated them in a very accurate manner, with great clearness and precision, following the order and number in the specification.

Gentlemen, I must intreat your patience, while I follow my learned friend in that, and endeavour to obviate my friend's objections: I shall begin with endeavouring to remove from you the great one, as my learned friends have relied much upon. As to that part of the case, there are in this specification, several distinct parts of machinery, which certainly do not now compose any part of the machine; for the construction of the machine, which is intended to produce the effect, that is an objection which, I trust, I can take off, and shew, why they were so introduced; though it was said to be only to puzzle and perplex, and render the specification more obscure. The subject-matter of the patent is, for a method said to be a new invention, and of a public utility in preparing cotton, but not cotton alone, but silk, cotton, flax, and wool for spinning; that is described to be the subject-matter of the patent; now therefore, attend to that.

Gentlemen,

Gentlemen, No. 1. you are told, can be introduced for nothing but to puzzle; you are told it is not used, that if it was, it would serve for nothing but mischief, for the witnesses tell you it seems to be totally out of the case; I cannot call evidence to contradict that, I have not enquired into it, they say it is not only useless, but mischievous, if you were to beat the cotton with it. No. 1. is a beating hammer, I am perfectly justified in giving it that name, it is perfectly clear in that drawing.

Gentlemen, I have stated to you before, that the patent is not confined to cotton I believe, (though you all know) the beating of cotton is improper. I believe there is not any one of you, that have not heard of the beating of hemp. The expression carries conviction along with it, it is a thing that is in constant process, so much so, that it is, you know, the sole employment of a certain set of culprits in this country, who are employed in the hard labour of beating of hemp. Then it is, the constant process in that manufacture that is for beating of hemp and not cotton. I believe it is necessary hemp should be beaten, before it could be carded, or any thing else done with it.

Gentlemen, with respect to No. 2. it was a machine separate and distinct in its nature from the other. It occurred to Mr. *Arkwright*, it might be made useful in drawing out and stretching the fibres of the flax, hemp, and so on, previous to being carded; but the card is afterwards found to answer every purpose intended for that. That has in fact been laid aside, and is not now in use. I can no longer conceive it to be the law, I trust his Lordship will not, that a man is under the necessity of continuing the use of every circumstance he shall specify in his patent, or he shall be in danger of losing his patent. A man applies for a patent frequently in the infancy of an invention; the necessity of it will be still more obvious from the intention of robbing Mr. *Arkwright* of this patent, if attended with success, it is still more necessary a patent should be applied for in the infancy of an invention. What must they do? Must he put every thing in it that appears useful to be applied in that invention; does the law require, if upon repeated experiments, and better knowledge, they find any parts may be more conveniently laid aside, that by laying those aside they forfeit that patent, which was more compleat without them? are they to be accused with putting them in with intent to mislead, when they put them in with the expectation of making use of them, which they were afterwards convinced they were mistaken in? So much with respect to No. 1. and 2. which the Gentlemen upon the other side contend, was for the purpose of puzzling and perplexing. As to No. 8. and 9. those objections, made by the council and witnesses to support it, it appeared to me to arise from a total neglect or forgetfulness of the very terms of the specification itself; and it appeared to me, through the whole of the business, not only my learned friend, that so ably conducted the cause upon the part of the prosecution; but those of my very learned friends that assisted him, seem to stop at No. 9, they totally forgot No. 10. existed, much less the manner in which it is described: in order to shew you that No. 8. and 9. not only are not introduced for the sake of creating obscurity, but that they cannot create obscurity; I will state the language of No. 10.—No. 10. which is a spindle, which being fixed to No. 6. at (a), worketh No. 7, 8, or 9. by the pulley (f, f, f). Now, Gentlemen, don't those words make an end of the question? can any man that reads those words conceive that 7, 8 and 9. are to become parts of the same machine at once, or that Mr. *Arkwright* endeavoured to puzzle people, by representing they were so to be used? Can
language

language be clearer, if Mr. *Arkwright's* powers of explanation had been as great as his powers of invention, which, by the bye, I know they fall extremely short of, if they were, could he have found language more clear than to say No. 8. and 9. are not made use of? It is in the disjunctive, unless No. 10. is stated. No. 10. is a spindle, which being fixed to No. 6. at (a,) worked No. 7, No. 8 or 9, at (f, f, f,) by the pulley (F,) (c, d) a regulator for No. 9; (b) a socket having a bolt going through (d, d,) and (F) and to (G,) stops and sets the whole a-going by means of a catch (a,) for the pulley (G, G) being loose upon the pulley (o,) a lever moveable about (k,) raiseth or falleth the bolt (h). From this not being stated first, before No. 8, and 9, the want of affording that distinction has created that attempt to raise an obscurity, where light itself cannot be clearer. Gentlemen, so far I trust I have removed out of the cause those four numbers, having nothing to do with it, and which were said not to be introduced by Mr. *Arkwright* for any other purpose but to create obscurity, that they could be introduced for no other reason than to create perplexity.

Gentlemen, having got rid of those objections, I shall shew the rest contains a compleat and full description, as I have before stated to you, with respect to the persons to whom it is addressed, an intelligible account of the remaining numbers which I have before stated to you, and I must intreat that attention which I can hardly flatter myself of deserving so long; but with respect to the importance of the cause, and all the parties concerned in it, I must solicit that attention to observations that appear minute, because, in a case of this sort, even minute observations might have weight, and in a case of this sort, keeping them in sight, not only while I am addressing you, but while the witnesses are examining, and what is still more important, while my learned friend is observing upon the evidence, then will be the time to guard yourselves, for he will have the last word. I shall not have an opportunity of setting right any misinterpretation, I must depend upon my Lord's and your attention for it, to keep in your mind the whole of the case, if I am right in the case; if I am wrong, his Lordship will discharge your attention from it. I contend, the specification is to be intelligible to those that are mechanics and acquainted with the machines formerly in use. I will therefore suppose this specification addressed to a man, who was perfectly well acquainted with the carding machine in use, in the year 1774 or 1775, prior to the patent with the last improvements to *December 1775*; to such a man, I conceive in point of law, this specification is addressed, and when addressed to such a man, I will prove it beyond a possibility of doubt: I will request you to stop a moment to see the construction of that in 1774, before the last improvement.

Gentlemen, *that* is the old machine as it stands now.

[*The old machine produced in Court.*]

Now, Gentlemen, you will observe that is the old machine, and I shall prove to you, by uncontrovertible evidence, that is precisely the machine in use in the year 1775, in the cotton manufactory; I will prove it beyond a possibility of doubt; you will observe it consists of these parts:

First, the cloth, distinguished by the name of the feeder you have heard so much of in the evidence, which you see there.

[*To a man at the frame—Put your hand upon it.*]

Next to that, are two rollers, the use of which is to draw the cotton off that cloth which should be spread upon it, and convey them to a cylinder which

G g

which

which stands next, and is covered with cards, placed parallel to one another; next to that is a roller which contains parallel cards to the axis of the cylinder. Just beyond that are the cards which I shewed you in the other machine, the same as explained by my learned friend; the next, which is another cylinder, covered with cards of the same kind with that, and that, that cylinder was in use I shall prove; the second cylinder was covered with cards, placed parallel to the axis as that is, that I will undertake to prove clearly to your satisfaction; there the old machine ended; that is, the whole of the old machine. Now I will explain to you the operation of that machine, and the defects found in it: In the first place, upon the feeder, that cloth which is called the feeder, upon which the cotton is obliged to be spread by hands, as you see it must, there is no machinery for that purpose, and you see, whenever the roller has drawn off as much as was spread upon it, a fresh quantity must be laid on by hand, and that is tedious to be done by hand, and as the machine is worked it would be spread with less evenness and exactness, that was the first defect of the thing in 1775.

The next was the position of the cards upon the two cylinders, for the cards upon the second, being like those upon the first, placed parallel to the axis, and acted at intervals, instead of drawing out the fibres of the carding to one continued length without limits, it necessarily takes them off separately from each card, and only to a length equal to the breadth of the roller, so that the utmost length was the length of card upon the cylinder; those were two of the defects in the old machine; those were defects it is most clear. The last defect was the manner of clearing the last cylinder, and that when the operation of the carding was compleat, and the only remaining thing was, it should be discharged from the machine; that also was performed very incompleat, and according to the manner, it was done by a brush with the hand, notwithstanding all that was said in the evidence about the use of a crank for that purpose, which I shall explain the use of by and by, for that will appear certainly in evidence from those that have worked with the great manufacturers, *that* was used, not only generally, but down to the date of Mr. *Arkwright's* patent, and according to the manner of clearing that cylinder by the hand, by a brush, which need not be further explained by me, but you will receive it better from the evidence than me. Those being the defects of the old machine, it remains for me to state Mr. *Arkwright's* new discovery, in combination and effect, which I will call it, notwithstanding the evidence that is given.

The first is No. 3. that has been so much caviled at, it is described to be a piece of cloth, with wool, flax, hemp, or any other such material spread thereon as at (a).

Gentlemen, if you have the drawings upon both sides, you will see they don't essentially differ; it is a piece of cloth with wool, flax, hemp, or any other such materials spread thereon, as at (a). Now, says my friend, this is an exact description of the old feeder, for that has been proved by the Gentlemen that invented it, with whom I don't dispute the merit of the invention, they are welcome to the invention and the free exercise of it. Mr. *Arkwright's* patent don't prevent them; that is the exact description of the old feeder, a piece of cloth with wool, flax, hemp, or any such materials spread thereon, no doubt it might be the description from those words for twenty other things.

Gentlemen, that which is not explained in words, may be explained to
eye-

eye sight; if you don't understand the specification, look at the drawing, you there will, or ought to find information; if you don't understand the drawing, look at the words, and there will, or ought to find too, what I admit you could fix no very precise idea from, that description of a piece of cloth, with wool, flax, hemp or cotton, or any other such materials spread thereon, if you stop there; but I suppose you are acquainted with the former machine, for without that you could not understand any part of it, if you are, it would convey the idea of that formerly in use.

Look at No. 3. Notwithstanding all that has been said by my learned friend, and all the witnesses, about working like a serpent or a worm, for they wanted to make very merry with this sort of drawing; if you ever saw a large piece of cloth rolled up in a woollen-draper's shop, you would be at no loss to understand it, you undoubtedly have seen many a piece of cloth rolled up; I have a thousand times seen this in the woollen-draper's shops, and this cloth describes all that it shews, it must not be a flat piece of cloth, but a piece of cloth rolled up; consult your own senses, and your eye-sight will fix it in your minds; then see whether the ingenuity hereafter of my learned friend, or any man living, can convince you it does not convey the idea of the end of a piece of cloth rolled up, and of which it is a section coupling that with what I state to you, it is for this purpose the cotton is not to lay flat as before, but to be rolled up, that is all I want of the discovery, as that part of the machine consists in that only. It is not a trifle, but the essence and consequence of that, is a piece of cloth, so used to spread the cotton on it, no longer to lay flat; you will remember it was flat as their machine produced it, and it is no longer to lay flat, but rolled up in the manner of the specification, then you find it must be rolled up; that is all the information of course which is necessary.

Gentlemen, there is another objection to it which is offered; That is unfounded in fact, say they, that is bad and insufficient, because you don't see from the drawing there is no axis in it, or a roller which is rolled round, and which some of the witnesses, but not all, did conceive to be indispensably necessary, if it is to produce its effects; and, say they, the specification is imperfect, because it says nothing of that roller upon which the cloth is to be rolled; now that admits, in my apprehension, of two answers, either of them satisfactory to my understanding, I hope they will be so to yours, both of them; so that if that was true, that some of their witnesses say it was impossible this cloth could be used or unrolled, unless it was rolled up upon a roller, that very man which was of that opinion, and knew it was intended to be used, and unrolled by means of a roller, would have rolled it upon a roller. And I should have thought you need not to have one risen from the dead to tell a man that, notwithstanding it was not specified to be rolled upon a roller, it might be rolled upon a roller if necessary. I should think it would require no great skill in mechanics to roll it upon a common roller. I should think it not right to avoid a specification upon that account, there is no man upon earth so stupid, if he should be of opinion a thing cannot be used which is to be rolled up without being put upon a roller, who would not roll it upon a roller, therefore, that is an objection more proper to be addressed to children than able mechanics. There is the answer: There is another, which if possible, is still more decisive than that, which is, the roller, is not necessary; but take it which way you will, two of their witnesses say, that it is necessary. The greatest fool would add, if it is necessary,
there

There is no complication of powers or knowledge required to roll up a piece of cloth; but in truth it is not necessary.—I will give the fullest proof, it is not necessary; it may be done without any roller at all; and Mr. *Barber* had candour enough to admit the roller was not necessary; he did think it would work without it, but not quite so well.—I think I have answered the objections to No. 3. very fully and clearly.—The next part of the machine is the crank, No. 4.—No one of their witnesses pretended ignorance upon that subject, that, that was not sufficient, because no mechanic, that sees that drawing, could doubt about it; no smith is so ignorant, that he cannot make a crank: I need not trouble you upon that, but to answer one observation; they say, that don't stand next in order, in its application to the machine, though it stands next in number; if you will attend a little, you will see that is as frivolous as any can be made. No. 4. is a crank and a frame of iron with teeth at (a), being moveable at the joints (b, b, b, b) by means of a crank, and by a cord turning the pulley or wheel (c), this motion of the teeth (a) works them backwards and forwards upon the cylinder No. 5, and dischargeth the cotton, wool, &c. from it at (d); therefore it describes the manner alone in which the cord is to be used, by turning the pulley, or the wheel (c); this motion of the teeth (a) works them backwards upon—Upon what?—For here is the answer to their plea of obscurity which they say you would have supposed from No. 4. not being that part which should be placed in the machine next to No. 3. I say, no man that reads this description could so conceive it; the description tells you the direct contrary; it works backwards and forwards, not upon 3. the last number, but the teeth work backwards and forwards upon the cylinder, No. 5, Is it not perfectly clear the crank is to be applied to No. 5. and not No. 3? That is not all, it not only describes the cylinder No. 5. to which it is to be applied, and the purpose for which it is applied, but it says this No. 4. is a crank, and a frame of iron with teeth at (a,) being moveable at the joints (b, b, b, b,) by means of a crank, and by a cord turning the pulley or wheel (c), this motion of the teeth (a) works them backwards and forwards upon the cylinder No. 5. and dischargeth the cotton, wool, &c. from it at (d). Now, can the language and drawing be plainer than that is, the specification expresses the teeth of it to work backwards and forwards upon the cylinder No. 5. and the use of it is to discharge the cotton from that cylinder, so far we are clear from any sort of obscurity whatsoever.

The next is No. 5. and that is the last mentioned cylinder which is mentioned in No. 4. No. 5. is the last mentioned cylinder which has fillet cards. That is the first member of the description, as it describes the cylinder from which the cotton is to be discharged; but you observe, No. 4. was to discharge the cotton; and you observe, the cylinder from which the cotton is discharged, must be from the second cylinder in the machine, because that is the cylinder from which the cotton was to be discharged; that cylinder is to be made with fillet cards, instead of the horizontal cards before used.—Is not that sufficient for any man to know it was the cylinder before in use? you are supposed to know that all along two cylinders were before in use; when you know that, and are told that No 5. is a cylinder from which the cotton is to be discharged, can you entertain a doubt in your mind, or could any man of common sense, that, that is to be the second cylinder and not the first, with the assistance of the first; that, I conceive to be as perfectly clear as the most intelligible language, or the clearest description could make it;

it; it also describes fillet cards; then comes another description: and my learned friend says, the machine now used has not such cards as ours, or the parallel fillets described in the specification, but it has spiral fillets; the spiral fillets are pretty generally used by Mr. *Arkwright*, and those that stole his invention; they have been used for some time back, and are certainly still further improved upon No. 5.—It is true, No. 5. describes the parallel fillets; I don't pretend it describes from that cylinder, the one now in use; it describes one that acts upon the same principle, and will produce the same effect, but in a less improved state to that which subsequent ingenuity has made it.

Gentlemen, I will now recur again to principles. If this is a sufficient description of the invention, and will produce the effect desired, that is sufficient: whether it is a subsequent improvement made by the inventor himself or any-body else (I mean Mr. *Arkwright* or any-body else) it will not affect or have a retrospect to that specification—the specification need only describe the principles upon which it is to act; it would be hard indeed, and counteracting the intention of patents, if that was to cramp and restrain him from making further improvement, lest, by making that further improvement, the specification should be found defective; I conceive, the subsequent improvement by Mr. *Arkwright*, or others, would not vitiate the specification, if the specification contains the description of a machine that will answer the purpose, I shall prove, by the strongest of all evidence, clearly to a demonstration—The Gentlemen say, No, it will not do; for if the first machine, that used the cotton, was spread all over, it is perfectly clear the fillet cards took no more than their own breadth, and the intervals were choaked up, that is perfectly true; it is very true, if they were to be spread all over this cylinder, No. 5. but who told them, it was to be spread all over?—If they make a machine with such fillet cards, would any man spread it over for any other purpose but to choak the machines? Could any man be so ignorant to suppose the fillets could act beyond their own breadth? Could any man be so absurd to spread it over the whole breadth of the feeder? Is there any thing in the specification, which directs them! so to do? If it did, it would be obscure indeed, and no man that saw those cards, and knew what they were intended to produce, would ever dream of spreading the cotton to any greater breadth than that of the fillet cards: that is no answer, no objection of the fillet cards; it will answer sufficiently, if it is spread its own breadth, which is sufficient for all the purposes of the manufacture; but you will observe, in the drawing of the axis of that cylinder, No. 5. round which it turns, as if of a very extraordinary, and, apparently, unnecessary length, it is not cut off just where it should be inserted, in the frame; if the cylinder is to be applied as it is there; if it is of a length that leaves room for the cylinder to be moved backwards and forwards in a direction parallel to its axis. Now the several ingenious mechanics, which I shall call before you in evidence, will tell you, that *that* length of axis would necessarily suggest that idea to their minds, if they intended the cloth to be covered its whole breadth, and that it should be taken off the cloth, it should have the length of axis, which would allow for its being taken off; that, they will tell you, is conveyed by the drawing; it will perform that effect; and even, as I believe, it is still a better method than that which is but just hit upon and carried into use, of the spiral fillets which cards off the whole, and enables you to spread it the whole breadth; I will tell you truly, if it is a better way, and more commodious by the spiral cylinder;

notwithstanding, finding out these principles afterwards, no patent can restrain an inventor from using it. Before I quit No. 5. it will be necessary to point it out in another point of view, more particularly to your attention ; and that is, that I conceive, except what I have stated to you in the instance of Mr. *Wood* and Mr. *Pilkington*, which I have observed upon already, and I will not trouble you with repeating it ; you will have an opportunity of examining that further, in the course of the evidence of *Wood*, when he is called ; except that I don't find any other claim to the use and exercise of this sort of cylinder, which should take off the cotton in continued lengths, for the purpose of making the yarn ; and that I do conceive to be the essential and important art of this, upon the whole, very useful and ingenious discovery ; I conceive, the most important difference of all the others, between this machine, now improved and perfected by Mr. *Arkwright*, for which new improvement he has got his patent, and the one in use before that, in 1775. The very essential difference is ; by the old one, you take off the cotton by short lengths, which rendered the manufacture much inferior, for many reasons, which will be much better explained by the manufacturers, than by me ; and *this* takes them off by one continued operation, the carding going on as long as it should be fed with cotton ; *that* I conceive to be the most useful part of the invention ; *that* stands undisputed with Mr. *Arkwright*. Then we come to No. 6. Gentlemen, I have now gone through No. 3, 4, and 5. which, together with the parts of the old machine, will form a complete carding machine : 3, 4, and 5. and none of the other numbers have any thing to do with it, so that I say, the old machine, together with this, form a complete carding machine ; therefore the specification is sufficient to explain it, and the application of it to the old machine. The want of direction of that application, I believe, has been what was complained of ; now, I conceive, there is an expression here, which all the Gentlemen, most conversant in machines, whom I will call to tell you, say, certainly does most clearly and indisputably point that out ; it is this, that No. 5. (I will only state the first part of it)—No. 5. is the last-mentioned cylinder which has fillet cards behind this cylinder ; attend to these words, “ behind this “ cylinder,” to wit, No. 5.—No. 3. delivereth its contents upon another cylinder. Now, can any man who knew the former machine consisted of two cylinders to a feeding machine, and delivereth its contents upon one of those cylinders, and is told, in the new machine, No. 5. the new cylinder, and feeding machine delivers its contents behind it, upon another cylinder ; Can any man in his common senses, doubt, that that other cylinder is a new cylinder ? the objection is fit for children : Can any man doubt, who is acquainted with the most common machine in the world ? every man must attend, before he could understand ; if you will attend to those which will see the feeding machine discharges the cotton, it is the same as that which was used in the old machine, the account of which is contained in No. 4. which is, that the crank works upon No. 5, and dischargeth the cotton from that. —Then the place of the new cylinder and the old cylinder is correctly ascertained ; for No. 4. describes the crank, as discharging the cotton from the new cylinder ; it fixes the place of that cylinder to be the last of the two ; by the description of No. 5. it is that, behind that, from which the cotton is discharged from the feeder, and that fixes the old cylinder to be the cylinder to be used ; not only the use, but the locality of both those cylinders, is sufficiently described

to every man of common understanding.—Now apply No. 4. instead of the old feeder.

[*To the man at the frame.*]—Work that, as it was before ; feed it with cotton, and let my Lord see it.

[*This was accordingly done, and the man worked it by his hand*]

Gentlemen, you see those cardings, when taken off in that manner, are all short lengths ; and another thing is, that the fibres of it don't give the length, even of those cardings, but are transversed ; whereas you see the fibres of the cotton, carded upon the new machine, are all longitudinally, which is a great advantage to the cotton trade.—That is the old one which you will observe is rolled up, and there is no roller in it.

[*To the man at the frame*] Shew that it unrolls without a roller in it.

[*Which was accordingly done*]

Mr. Serjeant *Adair*. It shews it unrolls without a roller ; So much for the necessity for the roller.

Mr. Justice *Buller*. How do you mean, so much ? What do you mean by that ?—I thought you said there was no necessity for it.

Mr. Serjeant *Adair*. So I say there is no necessity for it ; it has been worked all this while without it, so there is no necessity at all for it.

[*To the man at the frame*] Now put on the cylinder with the fillet cards, and at the same time put on the crank.

Mr. Serjeant *Adair*. And now, Gentlemen, you will see the operations of these two improvements.

[*To the man at the frame*] Now work it fast.

[*The man set it to work, with the crank over the fillet card*]

Mr. Serjeant *Adair*. You see those lengths come off in a continued length from the fillets ; and you will find the fibres run parallel to the length, which, in the other, they do not.

[*To the man at the frame*] Turn it the other way, and let his Lordship see the feeder unrolled without the roller.

Your Lordship sees the operation, and that is enough. Why then, this contains a complete description of No. 3. and the old machine to which it is so applied ; it is a complete description of the carding machine ; and I will shew you, that any man of common sense would prove it is a complete description, because it is plain No. 3. is the feeder which feeds it with cotton ; and it is plain, No. 5. receives the contents of the carding machine ; and the contents are discharged from No. 5. by the crank, after it is carded, which is the last part ; so that you have the first and last ; and it is clear from the description of any of those numbers, no man will look for any part of the carding machine without.

Mr. Justice *Buller*. That is No. 3. as you call it, without the roller, that is striped in three parts ?

Mr. Serjeant *Adair*. Yes.

Mr. Justice *Buller*. Q. Does that agree with your specification ?

Mr. Serjeant *Adair*. I'll state this ; I understand your Lordship's question. I say, my Lord, that it requires no more than common sense to be understood, and nothing but a willing misunderstanding could have puzzled it. It must be seen, if there are three stripes upon the roller which receives the cotton, it should be laid upon those three stripes—if the roller went the whole breadth, the cotton would be spread the whole breadth ; that is the answer.

The next thing for attention is the roving machine, as they call it, that which produceth the two operations of sizing and roving.

[*To the man at the frame*] Hand one of those cardings to the Jury, that they may see the fineness of it.

And now you will see the fibres of it are longitudinal, in the other they are not. The sizing it and roving it is the second operation. Now, Gentlemen, be so good for a moment to turn your attention to the machine before you, which is the machine for roving and sizing, the making of which, I will shortly describe—that machine consists of No. 6, 7, and 10. The reasons why, no man upon earth would conceive, Nos. 8 and 9 made a part of it; I have already stated, that it consists of all the remaining numbers applicable, which are, No. 6, 7 and 10.—No. 6. consists of rollers fixed to a wooden frame, and then it sizes the contents of No. 5. which you see are brought to these rollers. Now you have already seen what the contents of No. 5. are; they are these—long continued cardings, that come from those rollers, they are described to come to the rollers at (a,) look at that drawing, and you will see it introduces them to the mark (a), and introduces them to the two smaller rollers at (a), you have therefore got the carding introduced to the two smaller rollers at (a), brought to it at (a) going through at (b), you cannot misunderstand; the cotton that is brought to the smaller rollers at (a), goes into the larger at (b), so far we have gone; that which comes out of (a), going through at (b), produceth it a proper size, as at (f), (c, c) are brushes for cleaning the machine, which are not essential or material; the description is, it is introduced at (a), and going through at (b), produceth it a proper size, as at (f), that is called sizing the cotton.

Gentlemen, I shall be supported in this, by the evidence of some of the first mechanics in the kingdom, Mr. *Watt*, Mr. *Moore* and Dr. *Darwin*, men, famous for mechanical knowledge, and others of the same description.—I shall be supported in telling you, this drawing, with that description, does convey a distinct and intelligible idea of those rollers, and they could direct any man to make that machine by that description; they will swear they could so direct by that description; they will tell you, from its being said, the effect of the rollers is to produce the cotton a proper size, by the different diameters of the rollers, described in the drawing; from those two circumstances, they seem as clear as if they had been said in different words, the rollers should have different velocities, or they cannot produce it in that form, but by that means it will become of the proper size and length: they will tell you, that it is perfectly intelligible, and the effect of it is, to stretch the thread by the larger roller drawing quicker than the smaller ones, and it presses the fibres by pressing upon the lower roller, which is increased by additional weight or spring, or any other method, by which rollers are compressed together. The next is the roving box, as it is called, No. 7. which is described to be a cylindrical box for twisting the contents of those rollers, at (b)—(a, a) are two rollers; one moving the other, that is rightly described; between which the contents of No. 6. pass into the cylinder, at (b), through those rollers when moved, and there is a dead pulley at (c), fixed to the frame.—(d) is a cord, which, passing from the pulley (c), it standing still till the cord goes round, gives the motion to those rollers, that the mechanical Gentlemen will tell is to them perfectly intelligible.

No. 10. is a spindle which is fixed to No. 6. at (a), which is particularly described where it is fixed, that spindle is fixed to No. 6. at (a), the very place
is

is described, it worketh No. 6. by the pulley (F, c,) which pulley is described in the drawing; why then, that also is a regulator, and the socket with the bolt going through it which stops, &c. sets the whole a-going by means of a catch, by the spindle which is fixed to the rollers; the regulator which stops it and sets it a-going is an improvement but not an essential part of the machine; it may be added or left out, the effect is the same; the only purpose is to stop it or set it a-going by the spindle at (a) as essential, which my learned friends have not attended to through the whole of their opening, it is an essential part of the machine, for it sets the whole a-going, without which it would stop to eternity; that spindle at (a), by the help of the pulley at (f) and to (g), stops and sets the whole of the cylinders and roving box in motion, so without that, the cylinders of the machine would be incompleat: and the machine consists of three parts, 6, 7, and 10, all of which are necessary to produce a compleat effect, and therefore, to compleat the different machine from the spinning machine, you would not find the same combination of parts, and I defy you to find the same parts; upon the whole there is a compleat machine, in some parts essentially different, and in their combination totally different from that in the former patent, than what was before in use, as applied to the spinning, and this is different from the former patent, as applied to the spinning. Until the ingenious invention of this combination of machines of Mr. *Arkwright's*, it never entered into the head of any man, that the spinning machine or any part of it was applicable to the purpose of roving, that I conceive to be essentially a new machine, and the mechanical Gentlemen will prove, it is essentially different from the old.

Gentlemen, I am afraid I have troubled you with a tedious explanation of *that* which I could not venture to shorten; in a case of this consequence, I dare not trust my own judgment. I hope I have made things clear, and I hope you do understand the improvement that is made upon the old machine, by Mr. *Arkwright*, and the manner of applying the improvements to the old machine, and the manner I have applied the direction of the specification for that application, and you want nothing now but to have those propositions I have stated to you confirmed by the evidence of those mechanical witnesses, what that evidence will be, I will state in a very few words: We shall call to you three distinct classes of witnesses, one class, those acquainted with the cotton manufacture, that will tell you with one voice that these machines, in their improved state, were not in use before the invention of Mr. *Arkwright's*. They will tell you with one voice, if they had been in their improved state, the benefit would have been so great to the manufactures it would have spread like wild-fire through every cotton-mill in the kingdom; they will tell you with one voice, those machines in that rude state, (whatever might be said by some witnesses, in a few particular instances to the contrary) were not in use before the time of Mr. *Arkwright's* patent

The next class of witnesses, which consist of some of the most eminent mechanics in this country or the world, will explain to you much better than I could, this specification, and give you the most solid reasons that occur to them; from being thoroughly persuaded, they will declare to you, upon their oaths, from that specification alone, provided they were informed of that machine before in use, they could have produced a machine in its improved state; that will be proved by the most able mechanics, and when I have done that upon the point of the specification, I think, as to evidence, I

shall be at least upon a footing with my learned friend, if I was to stop there. All that he has done upon that point, is, to produce to you several Gentlemen that have told you, they could not make the machine from that specification, that is the utmost extent of their evidence: they have stated their reasons why they think it obscure, which I have myself endeavoured perfectly to answer; all their evidence, in fact, goes to this, they don't understand the specification well enough to make a machine from it; many of them are totally unacquainted with the machines in use before, they are ingenious watch-makers, and persons of different branches of business, that are unacquainted with the cotton machines before in use, and therefore I am not at all surprized it is unintelligible to them; to meet them we shall produce those which are of that trade; they say it is intelligible to them; so far we are even with the evidence upon this part of the case: as for the untrod manner of the former proceedings in this Court, I will cite the authority of my learned friends, I cannot express it in better words, God knows; when one good advocate is gone, they seldom choose so good a one: upon the whole you have evidence, the opinion of that is evidence, which, if you believe it, will go the whole length of demonstration upon that point; I mean the evidence of four or five different workmen, who will not content themselves with swearing, as the other Gentlemen will do, that they could make the machine from the specification, but who will swear they have made machines from the specification without any other instruction, but apprised of the machines formerly in use, and they have brought them to a state of perfection to act upon the same principles, and produce the same effects; as to that issue, therefore there is a compleat end of it, notwithstanding all that ingenuity can suggest, and all that arguments and imaginations could invent to convince you, that *that* specification could not be understood, by which common workmen have made the machine without any other instruction; it exceeds the ingenuity of my learned friend to puzzle your observations; so far, therefore, as the attempt made to prove there is obscurity in the specification, it is perfectly nugatory: if they swear that, (which I have no occasion to doubt they will, as they have sworn it in my hearing already) without any other instruction but the drawing and the specification, they have made them to produce the effects this does, knowing the former instruments in use: It will be in vain for my learned friend to endeavour to puzzle your judgment, in making you believe there is obscurity in that which preserves the invention so effectually to the public, that if, by an earthquake, all the machines in use at present should be compleatly lost for ever, any man that has known the machine before, could go to the inrollment office and make that machine, it has been done by four or five people who will prove it—If you disbelieve them, you will reject them, their characters are unimpeached, and it is an imputation you will not lightly throw upon them, to say they are perjured.

Gentlemen, It is time to leave the cause with you; but the last piece of evidence, and immediately connected with this, for the reasons I have stated before, requires much observation to that case, as it is called, that paper, that was given by Mr. *Arkwright* to Mr. *Pilkington*; it purports to be a case intended for the House of Parliament. In what way Mr. *Arkwright* was advised to state his case there, I conceive, is wholly immaterial, in a case that affords so much actual evidence of the fact; and that Mr. *Arkwright* could study to conceal from his country this invention, which, I contend,

is

is effectually described, and which we will prove to be effectually described, in a manner I have described to you, is altogether an impossibility; and therefore Mr. *Arkwright*, for want of a sufficient clearness to day, if it is intentionally rendered not clear (as somebody at least says) in that case produced by Mr. *Pilkington*, if it was intentionally rendered not so clear as to be understood by Frenchmen, who are totally strangers to the cotton manufactory, and all the cotton machines in *England*, he has done right, and has done laudably, if he has not done it so as to conceal it from the millwrights and machine-makers, who understand the former machines in use; and I hope you will to day confirm him by your verdict, that his patent is most effectually secured to him by his specification, as well as by the explanation of it in his return sent to the patent office.

EVIDENCE for the Defendant.

Richard Pridden sworn; Examined by Mr. *Cowper*.

Q. I believe you have been bred up to the business of preparing cotton and wool for spinning? Evidence of
Mr. Pridden.

A. I have.

Q. How many years?

A. Fourteen years.

Q. Are you acquainted, or was you acquainted with it at the time Mr. *Arkwright's* patent machine took place?

A. I was.

Q. Was you acquainted with the old machine in use before Mr. *Arkwright* invented his patent machine?

A. I was.

Q. Perfectly?

A. Perfectly.

Q. Will you describe to us before you go any further, the old machine in use before Mr. *Arkwright's* inventions?

A. By taking this roll of cotton out, and placing that other cylinder which was in before, this is the compleat old machine.

Q. The crank was out of the question entirely?

A. Yes.

Q. This cylinder, with the other cylinder in before, and this roller taken off was the old machine?

A. Yes.

Q. In the first place, How was this cylinder fed?

A. By the hand upon this cloth.

Q. What was the nature of the other cylinder?

A. For taking off.

Q. Aye?

A. By the hand cards.

Q. What sort of lengths did the other cylinder, when it was taken off, produce?

A. In short lengths.

Q. Those short lengths being so taken off, how were they prepared for spinning?

A. They were pieced together by the hand while they form the whole.

Q. At the time when Mr. *Arkwright* first began, was you acquainted with the business in general?

A. I was.

Q. From

Q. From that time down to the time Mr. *Arkwright* invented this patent machine, was there any other method of preparing the business than that you now described?

A. I did not know of any other.

Q. Was you acquainted with the business in general, was you very much in the manufactory?

Mr. *Bearcroft*. Q. Have you no interest in this patent?

A. No.

Q. Are not you a partner with Mr. *Arkwright*?

A. No, I am not a partner with Mr. *Arkwright*.

Q. Are not you a partner in a mill, called *Roffiter's* mill?

A. Yes, with his son.

Q. Have you any interest under the patent?

A. I don't know that it is any interest to me at all.

Q. You are a partner with his son?

A. Yes.

Q. His son has an interest under the patent, and works that patent?

A. Yes.

Mr. *Coxper*. What then?

Mr. *Bearcroft*. What then!—If this witness is partner with the son, which son works the patent machine, this witness is interested in support of himself.

Mr. *Coxper*. I submit that is not clear upon this evidence—My Lord, I was going to say, I conceived there is not upon this evidence, any thing like the colour of an objection, I don't know whether I can give a better answer than this, I don't comprehend there is a colour of objection to the witness, because he says he works with Mr. *Arkwright's* son.

Mr. Justice *Buller*. That is an objection to his credit, and not to his competency, he has no legal right in it; Mr. *Arkwright* may suffer his son to work at it, it depends upon his pleasure whether he will or not, if he does, his son has an advantage which the rest of the trade has not, therefore it goes to his credit.

Mr. *Bearcroft*. Q. Don't you know that the son is allowed a share by his father, a certain time to work this machine—upon your oath?

A. I never heard him say any thing about it, to my knowledge.

Q. Do you apprehend his father may take it away from him to-morrow?

A. I don't know it one way or the other.

Mr. *Coxper*. I dare say his son will have the benefit and advantage of the patent some time or other, if the patent is established.

Q. I understand from you, when the cotton is taken off in a short length, the only way of roving it preparatory to the spinning, was by the hand wheel?

A. Yes.

Q. Now we come to the crank No. 4.—Go to the feeder first, the feeder No. 3. That is the feeder described in the patent?

A. Yes, Sir.

Q. Was that at all in use to your knowledge, previous to the obtaining the patent, or was it fed by the hand?

A. It was fed by the hand.

Q. To your knowledge?—I don't repeat to your knowledge every question I put to you, I understand you, speaking of that you know, if you don't know it you will say so.

A. Certainly.

Q. Did

Q. Did you find any inconvenience in that mode of feeding?

A. Not at all.

Q. Do you find it is more inconvenient than the manner of feeding which you have seen—you have been in Court all the day?

A. Yes.

Q. You see what they called the old feeder?

A. Yes.

Q. Is *that* more inconvenient than the old feeder?

A. I should think not.

Q. Now, Sir, the crank you say you never heard of before Mr. *Arkwright's* patent?

A. Yes.

Q. At any other place or time?

A. No.

Q. Or previous to that?

A. No.

Q. The crank operates as a taker off?

A. It does; it takes it off.

Q. Proceed to No. 6. and describe it to the jury, the manner in which the roving is conducted on to the spinning there, the carding, I mean, conducted on to the roving?

A. The carding ends at the short lengths there.

Q. Explain how the operation of roving and spinning is carried on by that additional machine, which before was prepared for spinning by the hand-wheel?

A. It comes off the carding machine, and is conveyed into a box through these rollers, and drawn through here, and drops into this box which gives it a twist.

Q. That is, No. 7. is not it?

A. Yes.

Q. It passes between the rollers, No. 6?

A. Yes.

Q. That you call sizing it?

A. Yes, sizing it.

Q. It goes into the roving box, No. 7. where it is twisted?

A. Yes.

Mr. Justice Buller. Where is your roving box?

[A man at the frame]. A. Here it is.

Q. How does it get into that?

A. In this manner [the man working it about]

Q. What was his answer? [to Mr. Cowper]

Mr. Cowper. He described the operation of carding; the taking off the carding in a continued length, instead of short lengths; and the operation of sizing, roving, and spinning, he has shewn.

Q. [to Mr. Cowper] Tell me what was his answer to that; was it an answer to any number of the specification?

Mr. Cowper. No. 6. consists of rollers.

Mr. Justice Buller. Is that what you call rollers? there is no appearance in the world of it.

Mr. Cowper. Your Lordship will hear from the mechanics, that is perfectly intelligible; they are sections of rollers; they are put longitudinally.

Mr. Serjeant *Bolton*. They may as well give you two lozenges, for it shews neither the wheels nor the handles.

Mr. *Cowper*. When it has passed through those rollers at No. 6. it falls down into that cylindrical box at No. 7. it is then sized and roved, as you were obliged to do it before by a hand-wheel?

A. Yes.

Q. Now, was there any other preparation for spinning, namely, the sizing and roving, which you knew of before Mr. *Arkwright's* patent, except the hand-wheel?

A. I knew no other.

Q. To your knowledge, there was no other?

A. I never heard of any other.

Q. Now what defect was that invention to remedy, or what is the advantage; in other words, why is that method of sizing and roving better than performing the same operation with the hand-wheel?

A. Because it took more hands to perform the operation; and it was still worse, by being pieced together in short lengths.

Q. Then, in the best manner, I understand, it could not be so well done?

A. Not by a great deal.

Q. Do you know, or did you live with Mr. *Arkwright*, at the time of those articles being invented?

A. I did.

Q. How long was he about it; was it done all in a moment, or from time to time, that he made a progress in the invention?

A. He was a considerable while about it, a year, for any thing I know.

Q. From what you know, do you believe he was a year about it?

A. Yes.

Q. Was you with him during those years, till he took out his patent?

A. Yes.

Q. Then the machine was not completed all at once, and in a short space of time; but you say, from time to time he produced gradual improvements, till he produced this which is the subject of the patent?

A. It is so.

Q. Was you concerned in making the articles in the machine?

A. I was concerned in making that, No. 7. the roving box.

Q. Was you concerned in the other?

A. No, not much in the other; it was out of my branch.

Q. How long had you lived with him, before he applied for the patent?

A. I came to him in 1771; I rather think it was 1771.

Q. And the patent is in 1775; that is four years?

A. Yes.

Q. During the greatest part of this time, he was making a gradual progress in the attainment of this machine?

A. He did.

Mr. *Bearcroft*. I shall follow a good example, and shall not cross-examine, without there is occasion for it.

Charles Wilkinson. Examined by Mr. *Wilson*.

Q. I believe you lived formerly at *Nottingham*?

A. I did.

Q. You were keeper of an academy there?

A. I were.

Q. Were

Q. Were you at all conversant in mechanics ?

A. I were.

Q. Do you remember Mr. *Arkwright* applying to you at any time ?

A. Yes.

Q. What did he apply to you for ?

A. To draw him a specification.

Q. You were the person applied to, to draw the specification of this machine ?

A. I was, Sir.

Q. The first, or the last ?

A. The last machine.

Q. Do you know at what time that was ?

A. I cannot pretend to say the time or year exactly ; it was about nine or ten years since, to the best of my recollection.

Q. Now when he made that application to you, did you draw it ?

A. I did.

Q. You drew the specification ?

A. Yes, Sir.

Q. Had you any instructions from Mr. *Arkwright*, to make it obscure ?

A. No, Sir, very far from it ; he desired me to illustrate it as much as possible.

Q. What did he desire you to do ?

Mr. *Bearcroft*. I object to it ; for they are going a great deal too far.

Mr. Justice *Buller*. It is not evidence : it is one of the great rules of evidence, that what a man has said at one time against himself, is evidence against him ; but what he has said at another time for himself, is not evidence for him.

Mr. *Cowper*. Suppose this the case that is imputed to him ; he expressed a design of rendering it so obscure, nobody could understand it : the evidence we give, is this, he carries this evidence to the machine, and says, Make a drawing.

Mr. Justice *Buller*. That is another question. Ask him the question directly, How he drew it ? that is good evidence.

Mr. *Cowper*. And whether he had a direction to draw it, in writing ?

Mr. *Bearcroft*. He has said, he had no directions to make it obscure.

Mr. *Wilson*. Did you do it according to the best of your skill ?

A. Yes, I did.

Q. That drawing which makes a part of it, and the specification, were then before you ?

A. Yes, they were.

Q. They were both drawn according to the best of your ability, and in the best manner you could ?

A. Yes, Sir.

Q. You have seen that old machine ?

A. Yes.

Q. Now, from your knowledge of the old machine, and your skill in mechanics, do you think, in your judgment, that thing could be made ?

A. Yes, I think, from that specification alone, it could be made.

Q. Are you acquainted with cotton mills ?

A. No.

Q. Are the essential parts and principle of that machine described ?

A. They certainly are.

Q. Could

Q. Could you, from that specification, and that knowledge of the old machine, give directions for making such a machine as this ?

A. Most certainly.

Q. Would there, in your judgment, be any difficulty in knowing how the rollers were put in motion ?

A. Which number do you mean ?

Q. The roller at No. 6. you know the manner in which they could be put in motion ?

A. Yes.

Q. And you could give directions to a mechanic, how to make it ?

A. Yes, Sir.

Cross-examined by Mr. *Bearcroft*.

Q. You were master of an academy in the country ?

A. No, Sir, I am not now.

Q. I did not say so ; but you *were* ?

A. I was.

Q. The second master of a country academy ; you professed the knowledge of all arts and sciences ?

A. No.

Q. Have you ever been in your life, an operatical mechanic ?

A. No, I never was a working mechanic.

Q. Then you are a theoretic one ?

A. Yes, Sir.

Q. Did you ever teach it ?

A. Yes, Sir, many times.

Q. Now, have you been used to make drawings from machines ?

A. Yes.

Q. Very many ?

A. Very often.

Q. Not very many ?

A. Very often.

Q. Was you ever employed to draw any for a patent before ?

A. Yes, a great many.

Q. Name me one or two ; what sort of things ?

A. Improvements in stocking frames and spinning machines.

Q. Any other ?

A. Yes, Sir.

Q. Now mind ; Did not you draw them from models ?

A. Some from machines themselves.

Q. Others from models, perhaps ?

A. I cannot recollect.

Q. Did you draw this from the machine ?

A. No.

Q. Did you draw it from the model ?

A. Part from the model ; the roving box from the machine, at least.

Q. From what part besides ?

A. The crank, I believe.

Q. All the rest you took from *Arkwright's* descriptions ?

A. No, I don't know that ; some parts I did from some sketches which he made upon paper.

Q. Now,

Q. Now, be so good to tell me—Don't you apprehend that the best way of describing the machine that is a new invention, is, by making the drawing of the machine itself, or the model of it?

A. Undoubtedly it is.

Q. And if it so happens, that in making that drawing of it, perspective, one part hides another, which will happen, I believe the course is, to take and draw those parts separate?

A. I believe it is.

Q. No such course was taken here?

A. Yes, Sir, it was.

Q. Did you draw it from the model?

A. No, Sir, from the machines themselves.

Q. Part from the machines, and part from the description?

A. Yes.

Q. Tell me, Sir, as you used to draw those, have you been likewise used to put a scale upon your drawing, that the proportion may be seen between one part and the other, and the real size of it?

A. A machine drawn in perspective does not admit of a scale.

Q. Has it not been usual to you sometimes to make a scale by which you see the proportions of the parts?

A. When you draw sections, it is customary, but when you draw perspective, it is impossible.

Q. When you draw ends of two rollers to be of different sizes, taking their motion from the same principle to move in different velocities, upon your oath, as a man, whether a scale is not necessary there, to have the proportions?

A. I don't think it necessary upon that occasion.

Mr. Justice Buller. That is not an answer to the question; give an answer direct.

A. In cases of sections, it is necessary to have the scale, but not in perspective.

Mr. Bearcroft. Q. You say, in cases of sections, it is?

A. Yes.

Q. I ask, when you take the end of a roller, or any thing like it?

A. Yes.

Q. I ask you, then, when the different velocities are occasioned by the different sizes of those rollers or their diameters, I ask you, as a man of skill and drawing, whether it is customary, by a scale, to mark the different proportions?

A. I don't recollect it is necessary here.

Mr. Justice Buller. You avoid it every time; it has been asked three or four times, tell us this, whether it is, or not essential?

A. I don't know, my Lord.

Mr. Justice Buller. Then why not say so?

Mr. Wilson. For different purposes, would not different proportions of rollers be necessary?

A. I believe they would.

Q. For flax, wool, or cotton, would not there be different proportions of rollers necessary—would there not?

A. I am not acquainted with the manufacture of cotton.

Mr. Samuel Moore sworn. Examined by Mr. Chambre.

Q. Mr. Moore, I believe I need not ask you, whether you have had a good deal of experience in mechanics. Evidence of
Mr. Samuel

A. Sir, the situation I hold in life, requires I should make myself pretty well acquainted with mechanics; and I think I have so. Moore.

Q. You have been examined as a witness upon the two former trials respecting this patent?

A. I have.

Q. When you was examined first as a witness in the King's Bench, here, were you then acquainted with the old carding machine, the machine in use before the letters patent?

A. My Lord, no longer before that trial, than the preceding day, had I ever seen any machine at all in the business of cotton, carding, or spinning.

Q. You are speaking of the first trial?

A. Yes, I think it was that evening before, or two days before, I will not charge my memory exactly with the day, but within a very little time of the first trial, I ever became acquainted at all with the machine for carding of cotton.

Q. In the interval of time, between the time of the first and second examination, was you acquainted with both machines?

A. Do you allude to the trial in the Common Pleas?

Q. Yes.

A. My Lord, between those two times I saw several machines; I was at *Cromford*, I saw Mr. *Arkwright's* new machine, and had seen some others in *London*.

Q. Have you got the drawings of the specification and explanation?

A. I have both of them; I have the explanation and the drawing.

Q. You have been in Court, I believe, during the whole of this trial?

A. From the beginning of it, from early this morning.

Q. Having the drawing in your hand, I believe you will be better able to explain it, than from any questions I can put; will you begin with No. 3.?

A. My Lord, when I first gave evidence in this cause, I have already said I was unacquainted with these sorts of machines; I had one brought for me to look at, and I gave the best account I could; I then concluded myself bound simply to the form of the machine that stood by me in Court; I was to consider myself totally unacquainted with any machines before used; I looked upon it in that light; since that, I have found it is allowable for a witness to consider himself as having been acquainted with the old machine, the machine in use previous to the additions supposed to be in the specification, for, my Lord, those are rather additions to the machine, than the old and complete machine itself.

Q. Having possessed yourself of that sort of knowledge, I ask first a general question, Whether you are of opinion you could, or not, have directed the making a machine that would have answered the purpose of the improved machine?

A. My Lord, I do believe I could, with due attention to the old machine, and the due consideration of all the parts that are here, I do believe I could give such directions to an accurate and ingenious workman, as would enable him to make a machine for the purpose.

Q. You have heard the objections made to each particular part; we will now begin with No. 3.

A. Whatever objections there are, I would wish to have them recapitulated.

Q. One objection to No. 3 is, the cylinder roller, or axis upon which it turns, is not described in the drawing?

A. Certainly it is not described in the drawing.

Q. How

Q. How far does it appear essential, or not, to be described, suppose such a roller necessary for the complete use of that part of the machine?

A. It seems to me, a piece of cloth with cotton, or any other materials that was to be carded, rolled up in it, it would certainly move much stronger for having a roller in it;—I say, it seems to me, indeed it is palpable to every body, that it would move more regularly, and less liable to be out of order, if it had the roller in the centre of it; but I think, my Lord and the Jury have seen that it does do without a roller in the centre.

Q. Supposing it had been found not to answer so well without its being put in the centre, would it occur to any mechanic of tolerable knowledge to supply that defect, would he think it a proper direction?

Mr Justice Buller. That is not sufficient, to ask what an ingenious man would think of to supply the defect; it is very different, whether he found it by the specification; your very question implies, it is not so; you are asking what an ingenious man would do to supply the defect which he has discovered.

Mr. Moore. Am I to answer that question?

Mr. Justice Buller. Yes, you may.

A. Then I think it would very easily have occurred to any man deserving the name of a mechanic, putting a cylinder or a roller in any thing that wants to be rolled up; there don't seem to me to be any great want of ingenuity to describe that.

Q. Does the form described in the drawing, sufficiently explain to you the manner in which the cotton was to be rolled up in the cloth?

A. I think, if you consider it the section of a roller, it would easily occur to any person qualified for making such a machine as this, if it was to be rolled in this manner, it would shew the mode of rolling it up—I do think it would.

Mr. Justice Buller. Q. Is there any thing in that plan that imports that there is a roller in the cloth?

A. Not in the cloth, my Lord.

Mr. Chambre. Look at No. 4.—That is what has been called the crank.

Q. Is there any difficulty in the explanation of that part of the machine?

A. There does not appear any difficulty at all; respecting the evidence I have heard as to No. 4. every body appears to be clear; I don't recollect any body said it was not clear, and therefore I certainly think it is very clear to any body what is meant by No. 4.

Q. Look at No. 5.

A. No. 5. is the carded cylinder and fillet cylinder.

Q. Is that intelligible to you, from that plan and description?

A. Yes, Sir, certainly intelligible, as it is here, and so it always appeared; but I must beg leave to revert, with your Lordship's permission, to what I said in the first trial. When this was put into my hand, I plainly perceived it was intended these fillet cards should run parallel to one another, and parallel to the ends of the cylinder; that machine which stood before me, and which was then in Court, had, upon the cylinder, a fillet, but it was in the spiral manner, ending in a spiral form round the cylinder; I therefore have given it in evidence, and I hope I shall never change my evidence—I had given it in evidence, that from this specification, if it were to be bound in the form prescribed, I certainly could not give directions for making a spiral one from seeing this; but it has been changed in principle; in another Court,

Court, the question ran upon the principle of the machine, and not the form only.

Mr. *Erskine*. We ran upon the fact.

A. Well, Sir, you shall have the fact from me, as well as I can state it.

Mr. *Chambre*. Q. Will you cast your eye upon the verbal part of that description—"No. 5. is the last mentioned cylinder, which hath fillet cards behind this cylinder; No. 4. delivereth its contents upon another cylinder." Having knowledge of the old machine, would that part of the description be sufficiently intelligible to you, to inform you in what manner the contents of that cylinder would be delivered?

A. If I had to give directions about such a machine, I should consider, knowing the former machine, that the contents, as it is called, of this cylinder, was to be delivered upon another cylinder, and I could find it no where but in the former machine; I know of no where else to find it, I should conclude it was the cylinder, there.

Q. You have heard the difficulties suggested, the filling up the machine by interstices where there are no cards, does any method occur to you of obviating that difficulty?

A. My Lord, I gave it in evidence, when I was in this Court before, if I am not much mistaken, that certainly the interstices between the parallel fillets would, by the rotatory motion, be filled up, and the motion of the card impeded; I give it in evidence, and it is certainly so, if they are to move exactly as they appeared to be here: but I was asked then, Whether the length of this spindle did not suggest to me some ideas of an horizontal motion of this upon the machinery, and the same time as this vertical motion goes on, that was suggested to me, and from the length of this spindle, which I cannot find any other use for, it does look as if it was intended to give it that motion.

Q. Could that, in your judgment, have the effect of preventing the cylinder from being choaked up?

A. I think, my Lord and Gentlemen, it would prevent it.

Q. Is there any other method by which you think the same purpose would be answered, by making use of the same length of spindle which you see there?

A. It is suggested, the idea of an horizontal motion of this part of the machine, at the same time as it is making this rotatory motion.

A Juror—There is not a word of that in the specification.

Mr. Justice *Buller*. No, not a word in it, all this is the conclusion of a very ingenious, sensible man.

Mr. *Chambre*. Q. Was there any other method, Mr. *Moore*, by which the same purpose might be answered?

A. When I gave evidence before, the cotton was spread upon the whole breadth of the cloth, and consequently the whole breadth of the cylinder; that was the reason of its obstructing the motion of the machine; but since I have seen it is the custom, when they use such fillets as these are, to spread the cotton only in breadths, similar to the breadth of the fillet, and consequently there being no cotton in the interstices they will not be filled up, and they would perhaps occur, and very easily; if any body had erected such a machine as this, nobody could for five months have worked it, but their own mind would have suggested *that* was the most easy and ready way of preventing the accident.

Q. Would

Q. Would it be necessary to feed the machine with cotton, where there was no cards to clear it?

A. There would be no necessity, it would be absurd to think of it, it would destroy the effect of it.

Q. You have read the verbal explanation of that part?

A. I have.

Q. Does it not appear to you, from the drawing and explanation, those are sections of rollers?

A. The appearance here is the appearance of sections of rollers, but every man that knows at all the signification of the word, knows that the roller is not a surface only, but it is a cylinder consisting of some length, and these being called rollers, though they appear here merely as the surface, every man of understanding must know they must have a due length, to constitute them rollers, they are not rollers without.

Q. Would any mechanic conceive those rollers were to be in a state of inaction?

A. For my own part, I don't know what a mechanic would think of the rollers being in a state of inaction, for they are not rollers if they do not act.

Q. Seeing they should be put in motion, was it necessary to give any particular account or description of the manner by which the rollers were to be put in motion?

A. I don't think it was, if you consider the former machine.

Q. You don't think it was?

A. I don't think it was.

Mr. Justice Buller. Q. Is there any thing in the description of those rollers, that indicates to you, or any man that sees this plan, what degree of comparative velocity is to be between the one and the other?

A. The rollers here, are of different diameters, that being the case, this being of a smaller size than the other, it implies strongly, and I think explains pretty fully, that there is a different velocity.

Q. But could you ascertain from what you see, that there ought to be different velocities?

A. I believe, my Lord, as this patent is not granted for one material only, as for instance, for cotton, but for different materials, such as wool, flax and hemp; I believe all those different materials will require different velocities, I speak theoretically, not practically.

Q. But suppose the rollers of different sizes, which cotton only might have required, can you from thence say what should be the degree of velocity of one roller, and what for the other?

A. I think there is nothing that will precisely lead to say what that would be, I could easily say what the different pairs of rollers would be, but were it applied to the spinning of cotton, I don't think it could.

Q. The object is to elongate the cotton?

A. Certainly it is.

Mr. Chambre. Q. No. 6. consists of rollers fixed in a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper size at (f); that being the object of the rollers, must not there be a different degree of velocity, or something different in the diameter, might not they vary according to the materials to be elongated if they went through twenty pair of rollers, if they moved with equal velocities,

cities, the size will not be changed ; now, if here is a different velocity, what different degrees of fineness would accrue from these different sizes.

A. I don't take upon me to be a judge, there will be a difference, and mechanics themselves could hardly ascertain, when they come so fine as their threads are, without experience or trial, what should be the different velocities, the calculation would be too much, it would be too abstruse for indifferent mechanics to make.

Q. It would produce one degree of fineness ?

A. Yes, it would.

Q. But if a different degree of fineness was to be produced, the diameter must vary ?

A. I believe it must.

Q. One scale would not do for all purposes ?

A. I think not.

Q. Will you look at No. 7. Do you understand that in the specification ?

A. Pretty well, but I think it is more particularly and better explained from the machine itself.

Q. It is better explained by the machine itself ?

A. Certainly.

Q. Do you understand it in a sufficient degree to be able to make a workman make it ?

A. I think I could, knowing the former machine, and acquainted, as at present I am, with a little of that manufacture of spinning the cotton, and roving it ; I think I should be able, without any great difficulty, to make a sufficient workman understand to make it fit for the purpose.

Q. Look at No. 10.

A. As to No. 10. I don't think that is a difficult matter to account for.

Q. I conclude with the question I began with to-day. You think you could have directed the construction of those different parts to produce the different effects ?

A. Knowing the original machine, I take it for granted, all the way through knowing the original machine, I take for granted, I should.

Cross examined by Mr. *Erskine*.

Mr. Moore. I am at present examining you as a witness for the side, I have before had the honour of examining you ; you have given a very candid, and at the same time a very necessary explanation of the difference of your evidence upon the two occasions, and I find, when the evidence runs upon fact and upon principle, it makes that difference in the evidence ?

A. It certainly does undoubtedly, and I hope I have given a consistent evidence.

Q. I wish you would let your evidence run upon facts, you say, Mr. *Moore*, there is no person deserving the name of a mechanic, but would instantly put the roller in this feeder. I take it for granted you was deserving the name of a mechanic, when I was examining you before in this cause ?

A. You do me credit.

Q. None but what you deserve, full as much as it strikes me to-day, but you did not observe it so far as to suggest the roller at that time ?

A. I don't conceive it my business to suggest it.

Q. You know you were asked, and pretty distinctly, Whether No. 3. could suggest to any man, there should be a roller in the centre, and your ingenuity did not furnish you with the idea at that time.

A. I think I have said the same now.

Q. That

Q. That confirms me in the truth of the No. 5. You have truly said, even if the artist himself had used the spiral fillet before, if you had known it, and if he had used the spiral fillets before, you would feel yourself bound to have used the parallel one—from looking at No. 5. please to attend, Sir, you admitted to-day, Suppose you had known and seen the machine used by any body else for spinning of cotton, in which there was a cylinder with a spiral fillet, yet, following this specification, and meaning to make the machine which Mr. *Arkwright* directed, you would have thought yourself bound by No. 5. to put the parallel fillets?

A. If I was identically to follow it, I certainly must have done so.

Q. If any other artist used a spiral one, and you meant to make this, you would feel yourself bound to make a parallel one?

A. If I considered myself bound to make it according to the specification, I certainly should. But give me leave.

Q. Run with me upon facts as much as you please, afterwards upon principle; but I now ask you upon this, not upon your own ideas of what is better, or what is worse, about making this machine from the direction of the artist who says he invented it, whatever fillets were used, whether spiral or not, however like to the specification, you would cover the cylinder with parallel fillets?

A. There cannot be a doubt of it, I have said it over and over again.

Q. You said, while in the other Court, running upon principle, the length of the spindle, suggested to your mind, the spindle itself might move itself horizontally, and by that means, though parallel and not spiral fillets, it would come and strip the cylinder?

A. I mean so.

Q. Now has it such a horizontal motion?

A. No, it has not.

Q. In going through the whole course of the evidence, when we run upon principle, those things don't exist when we run upon facts—you say there is no reason for it to do so in either of those machines?

A. There is no reason in the world why I should do so in those machines; those that have spiral fillets don't want it, and those that have these parallel fillets, the cotton being spread only to that breadth of the parallel fillets, have therefore no occasion.

Q. But looking at No. 5. following the specification, as we are bound to do, there would be a palpable error by choking the machine?

A. No, I beg pardon, I have not said that: I said, if I were to follow specifically the drawing here, I should make it with parallel fillets, and if I was so absurd as to fill the cloth with cotton all over, and then to set to work, the machine would be choked.

Mr. Justice *Buller*. Q. Are there any directions as to the feeder No. 3. to cover the feeder partially, so as to make the parallel fillets operate without choking up?

A. My Lord, there is no direction that I meet with that is given for either covering it wholly or partly, I see no directions for either.

Mr. Justice *Buller*. Stop for me to ask one question, Mr. *Erskine*. As to this No. 3. Mr. *Moore*, suppose it a material part of the invention, this should be in fillets, do you call this a proper explanation of it, is there any thing upon it that imports it ought to be in fillets?

A. It imports only, there is to be a piece of cloth with cotton upon it, rolled up.

Q. Whether

Q. Whether with fillets or not?

A. Neither is implied, my Lord.

Q. Here attend a moment; if that is a material part of the invention, that it should be in fillets, can any body, by looking at that, discover it?

A. It is so far material it cannot act without it.

Q. Do you find that here?

A. It is not said so.

Mr. Erskine. Q. You do not?

A. No.

Q. Here Mr. Moore, No. 3. by this specification is a piece of cloth with wool, flax, hemp, or any other such materials spread thereon as at (a). You are not told to spread it with interstices, and leaving part there, that is not the way you spread your bread and butter?

A. I seldom eat bread and butter.

Q. Now here is No. 6. These are the sections of rollers, now I ask you, Sir, Whether if you had never seen, (indeed I need not ask you, for you have said so) the spinning machine for which Mr. Arkwright had formerly a patent, but which is now expired, you could have no doubt of making that roving machine now, from that description?

A. I have observed these marks as to the sections of rollers, and being in that writing called rollers, every body knows a roller must have length, and every body will conclude it is some length, and length enough to pass between them.

Q. Do you conclude that from your own ingenuity, or the direction of the artist?

A. I think it is from the direction of the artist, because he calls them rollers, and calling them rollers, I should think they must have length.

Q. I wish to know, whether the different velocities of the rollers are not operated as much by the wheels as by the sizes of the rollers?

A. It must depend upon the wheels they are turned by.

Q. Do not the separate velocities, with which these rollers operate upon one another, upon which the elongation of the thread depends, do not their relative velocities depend upon the wheels that set those rollers in motion, and the pinions of them?

A. I think not.

Q. Do you think the relative velocities of the rollers don't depend upon the wheels and pinions?

A. The relative velocities of the rollers depend upon their size.

Q. Do you mean to pledge yourself upon that, from the machine?

A. I don't say so, from the machine.

Q. I believe you are not a practical mechanic, you never made a machine of any sort?

A. I have made a model; my situation in life is very well known, it is known I am not a practical mechanic.

Q. I know you to be a theoretical one, very ingenious, and a man of science: I ask you, whether there is a difference of principle between No. 6. the rollers as described there, in this new roving machine, for which the patent was given to Mr. Arkwright, and the spinning machine for which he got the patent before?

A. You will easily get an answer from me, I don't believe there is any difference in the principle, nor do I conceive there is any difference in the principle, if you come to principle.

Q. As

Q. As you have gone into principle, I will follow you as well as I can; you and I differ about the idea of fact, for nothing can be more a fact than the same things, having the same principle or not. I ask, whether in the machine for spinning, the patent for which is expired, are not all the wheels and rollers, by which the thread is elongated for spinning and roving, exactly upon the same principle?

A. I think rollers moving over one another, and elongating any thing, whether thread or cotton, are in principle the same.

A. *Juror.* Is not the diameter of the axis of the roller you are now speaking of, intended to determine the size of the thread?

A. I should suppose that is intended to determine the size of some thread, of a thread.

Q. Could you give directions from the drawing, to make rollers of such a diameter, as would produce such a size?

A. From the drawing! No.

Q. The velocity of the rollers must differ by some mode or other?

A. It does not shew how to differ the velocity of the rollers.

Mr. *Erskine.* Did you observe No. 9?

A. Yes.

Q. That is nothing more than one of the flyers fixed to one of these machines?

A. No, nothing more.

Q. I ask, whether 6 and 9, which are considered here as original inventions, whether they, coupled together, are not in fact the old machine?

A. It is so difficult to say what is an original invention, one can hardly tell how to define it, those are machines used time immemorial, in drawing out threads, it is a kind of thread, though a very odd thread.

Q. I am asking, whether upon the specification No. 6. which describes the rollers, and every thing of that sort contained in the old machine, without reference to which you could not make this, as that acted with the common flyer to receive the thread; whether in fact No. 6. and 9. is not exactly the old spinning machine?

A. They are very much like it to be sure.

Q. When a Gentleman obtains a patent, and to entitle himself to the benefit of that patent, he has specified in what the original members of it consists, you would expect to find more material matters, and not that which is nothing more nor less than what was specified before, in that patent which is expired?

A. I cannot say what other Gentlemen would do in specifying it; it would be much more compleat than now, if those things were not inserted, by the bye.

Q. How would you get over No. 2; where have you got a place for that?

A. I have always considered this machine as adopted for spinning of cotton; I don't believe No. 2. was meant to allude to cotton.

Q. As to No. 1. it puts one in mind of something else, one would wonder how the devil it got there?

A. I believe they were first used in your own country, by Mr. *M'Pharson*, for beating of hemp.

Q. I love my country as much as you do; but as to No. 2. I allude to that, Where is that to be placed?

A. No. 2. I know nothing about, I have never considered it, I don't

know what it alludes to, I have been taught from the beginning of this business to confine myself to No. 3.

Q. You give your evidence very fairly?

A. I hope so.

Q. I am not imputing the contrary—Now No. 7. Will you look at the cann, No. 7. is the cann; now, without those rollers at top, at the mouth of the cann, I ask you, as a man of science and a mechanic, whether this verticle motion of the cann, turning round upon its axis, will not twist the thread into a weft without those rollers?

A. It might do it, but much more ineffectually without the rollers.

Q. It was unfortunate for your observation; the way the artist himself describes it, is a box to twist it, and not rollers—"No. 7. is a cylindrical box, "twisting the contents of No. 6. at (b), (a, a) are two rollers, one moving the "other, between which, the contents of No. 6. passeth into the cylinder (b)." —The artist first says, a cylindrical box for twisting; the artist says, *that* has the effect of twisting. Now, if Mr. *Arkwright* had said, my invention consists in this, in putting this cann at the bottom of my own spinning machine, and only putting the rollers at the mouth of the cann, that I think would be intelligible?

A. It might have been intelligible.

Q. He has here given you a more full description than if he had given you an account of a new cann to be added to it; here this patent is taken out, not only for this which he professes to be new, but by that he has tyed up all that is old?

A. I suppose he did not mean to take out a patent for any thing old, but added those as necessary appendages for the whole of the business.

Q. I will ask you but this one question more; if you had happened to be the inventor of these machines, and wished to make it plain and public, would you have found any difficulty by making a model and taking the drawing of it, and describing accurately what it was the invention consisted in?

A. That is saying too much of one's self, to say how I should describe things, as I am in the habit of making machines continually?

Mr. Justice *Buller*. Then lay yourself out of the question, might it not be explained more intelligibly than that?

A. It might have been explained more intelligibly than it is, I will not go farther now, but I think it is even now sufficient for a man of science to make a machine by it.

Re-examination by Defendant's Counsel.

Q. First, with respect to fillet cylinders, No. 5. you have been asked, whether there is any thing in the specification, which directs you to spread the cotton upon the feeder in narrow bits, like the fillets; you have answered there is not, and there certainly is not: I will ask you, Whether seeing the machine, which was to card the cotton, was to be covered in bands, common sense would not direct you to do it proper?

A. Mr. Recorder was not in Court or he would have heard me give the answer; I have said, a man so far from deserving the name of a mechanic, would be an idiot not to do it.

Q. You have been asked, Whether there is any thing with respect to the rollers No. 6. or any thing in this specification that would lead you to form the

the rollers, so as to make the thread of any particular size, you have said truly there was not; now, Sir, is it any part required of this machine to produce the thread of any particular size, or is not the same specified to be varied according to the size of the thread you produce?

A. Certainly, I believe it is intended to be varied in many instances, and I have already said as much as I thought amounted to that, that it must be varied for different purposes, I have no doubt it is varied for different sizes.

Q. Would not the specification have been imperfect if it had so described these rollers, that they would only produce a thread of any given size?

A. I think it would not only have been imperfect in that matter, but imperfect in a matter I alluded to before, and that is, the machine is intended and patent granted, not for spinning cotton only, but for flax and hemp and several other things, that must have occurred to your Lordship; for that very reason, I suppose it, as Mr. *Arkwright* has taken care not to be too particular for every thing, for if he had specified it for cotton, he could not have specified it for flax; and if he had specified it for flax, he could not have specified it for cotton.

Q. Therefore you think it would not be proper without them?

A. I should think so.

Q. What is the reason this large cylinder has a frame upon the top of it, covered all over at top?

A. That only cards as it goes.

[*To the man at the frame—Take the top off and see whether it is meant to be so.*]

Mr. Moore. If the feeder is only partially covered with cotton, the other should be partially covered; it is much easier to make it in whole lengths, than in pieces, it is not worth while to make that feeder in fillets, it is more expensive.

Mr. Erskine. Will any man pretend to say, Mr. *Arkwright's* machine is filleted parallel?

Mr. Moore. That is another thing.

Q. Do you know in point of fact that he ever made use of a filleted feeder that was covered only partly?

A. I have seen it here, but as far as I have seen, they have been worked with these spiral fillets, and the feeder covered all over.

Q. Of course then, in the specification, Mr. *Arkwright* has described it so, that every man would think it ought to be covered all over, was not you at Mr. *Arkwright's* mill?

A. I was.

Q. How does he place his feeder there?

A. As far as I observed, it is covered all over, and the fillets of the cylinder are spiral; this was the first thing Mr. *Arkwright* specified upon. Mr. *Arkwright* might at this time, for what I know to the contrary, do it in this way then, though he has found a way of doing it better now.

Q. This filleted feeder is an idea of your own?

A. Not my idea, I have seen it brought into Court.

Q. You never saw it till you saw it here?

A. Never, till I saw it in Court.

Q. Never, till the first trial?

A. No, at the second; it is more convenient.

Mr.

Mr. Justice *Buller*. If it is more convenient, and, as you say, it is not worth while to put the feeder into fillets, why is it not worth while to cover it intirely ?

A. It will not come off so as to make a continued carding,

Q. Why so, if you observed just now they did it so to-day ?

A. They did.

Q. I want to know why it is not worth while [*to the counsel*]. He says, it is not worth while to make the feeder filleted, it is not worth the expence and trouble.

Mr. *Cowper*. That is not the feeder that he is talking of.

Mr. Justice *Buller*. Mr. *Erskine* asked him four or five questions about that part which is now covered.

Mr. *Cowper*. That is not the feeder, they call them both cylinders.

Mr. Justice *Buller* *Q.* To Mr. *Moore*. Why is it not worth while to make the little one in fillets ?

A. I fancy they find it act better without the parallels ; I have not considered that matter, so as to give your Lordship a direct answer to it ; I may now judge, probably some of the practical men will give your Lordship a better answer to that, than I can.

Mr. *Chambre*. *Q.* When you see the fillets, there are four distinct pieces of carding ?

A. Yes.

Q. Would that be the case, if they were all one continued fillet ?

A. No, it certainly would not ; his Lordship thinks that broad thing might be twisted, as well as those four.

Mr. *Cowper*. *Q.* Suppose that properly filleted, the spiral one, it matters not a farthing whether the covered ones we see buckled down with the belt, are covered ?

A. Not at all.

Q. Those covered, would it be more trouble to make them with fillets, than to make them intire ?

A. Certainly not.

Q. But upon the small cylinder, is it necessary ?

A. I believe it is, but I cannot tell.

Mr. Serjeant *Bolton*. As you admit the velocity of the rollers depends upon the wheels, would it not be as well if they were described in the patent ?

A. It might, or not.

Q. You don't mean to say, they do not ?

A. I have not examined them.

Q. If they did, would it not be as well to describe that in the specification, and not leave the rollers alone without that description ?

A. Do you mean what I think really ?

Q. I meant hypothetically ; suppose they do, why I know they depend upon the wheels and the different motions ; would it not be as well to put it in the specification ?

[*No answer*]

Mr. Serjeant *Bolton*. Every body must know it must come from the wheels somehow or other ; that, I believe, is entered down.

Mr. Justice *Buller*. That is not entered ; but I think there is no occasion for it.

Mr. *James Watts* sworn. Examined by Mr. *Baldwin*.

Q. You are a mechanic ?

A. Yes, Sir.

Q. Could

Q. Could you, from the specification, give directions to the workmen for making such a machine as we have here?

A. When I was first shewn this specification, I was almost perfectly ignorant of every thing concerning the cotton machine; I had never seen one; I had heard many imperfect descriptions, which might mislead me in my ideas.

Q. You have heard many previous questions supposing you had a previous knowledge of the other old machine?

A. I cannot answer that but by explaining myself, because otherwise I should mis-spend the time of the Court to less purpose. I was told, that the two first parts, the articles No. 1. and No. 2. were not used in the manufacturing of cotton, but were applied to some other purpose; No. 3. I see by the description, is a piece of cloth with wool, flax, hemp, or any other such materials spread thereon, which I easily understood to be a piece of cloth with materials so spread upon it, and rolled up. The next point my attention was directed to, and that which I directed my attention to, was No. 4; after a little consideration, I perceived it was a machine upon joints, by means of a crank; No. 5, I did not immediately perceive the use of; I was not acquainted with the terms of fillet cards: I perceived, upon inspection, they were cards going round the cylinder upon its axis, or parallel to itself, and, by the ends of the fillets, coming down to the cylinder, more in that drawing than this I have now in my hand, I perceive these were intended to represent fillets of cotton coming off the cards; at least, I apprehend so.

Mr. Justice Buller. You have now sufficient knowledge of what the old machine was?

A. Yes.

Q. Well, knowing what the machine was, and having the specification in your hand, could you make a new machine that would act?

A. I think I could, my Lord; but I was going to give your Lordship the reason why I could not so much depend upon my present opinion, which was, that on reading the specification, I did not immediately perceive that there was an old machine; I did not know it; I had been informed formerly of the cylinder cards only that were of Mr. *Arkwright's* invention, which misled me; I found afterwards they were not; but that it was a machine used, as now appears in Court to be the old machine; after seeing that, I readily could believe I could have made those new additions to the old machine.

Mr. Baldwin. Respecting No. 3. that is the feeder, could you understand that?

A. I did understand that it was a piece of cloth with cotton spread upon it.

Q. By the specification, it does not appear to have a roller; could it act without a roller?

A. I have seen it act without a roller.

Q. Supposing the roller would have made it act better, is that such a thing that could have occurred to a common mechanic?

A. Nothing more common than, when a person wants it, to take a roller to roll a piece of cloth upon; what might have happened upon trying experiments, I cannot tell.

Q. Is it not a thing very unlikely to occur to any man of common sense?

A. It stands to reason, in rolling up a piece of cloth or paper, to take a roller to roll it upon.

Q. You see there are filleted cards upon the cylinder; do you see that?

A. I do.

Q. Now if the cotton was to be put upon a cloth, in order to make it cover that cylinder, with the fillet cards in it, why, as it is now put on by the specification, would it not occur to you to cover the cloth with cotton in fillets?

A. As I have seen it put on in Court, I must say it might be put on in three separate fillets; my first idea was, the filleted card might be made to travel upon its axis horizontally.

Mr. Justice Buller. From that plan, you had no idea it was to be put on in fillets?

A. I had no idea, from this, the cotton was to be put upon the cloth in fillets; I think there are several ways in which the objection might be obviated.

Q. You have mentioned two, do you know of any other?

A. The fillets might have been put on in a waving manner, which would have answered the effect; they were waving in some degree; that, I found afterwards, was an inaccuracy.

Cross-Examination by Mr. Serjeant Bolton.

Q. Nobody doubts your merit, as a mechanic; but I will ask you this question about the first part, Mr. *Watts*, without any information from any person, whether you would have thought of No. 1?

A. I will tell you what I did think of it; as I did think upon this subject before I heard any thing said upon it, I thought it was a thing for clearing cotton from the hufks.

Q. Suppose you had been to make the machine, would you have put that upon the machine, such as you have seen to-day; where would you put No. 1?

A. I should have considered it as a separate machine to any thing relating to carding, but something relating to preparing. There is one thing I must say, that the first part here, the hammer, is not new; I have seen it in common practice in my own country, beating flax; I know it somewhat better from that, perhaps, and for that reason I conceive it to be a machine for clearing cotton or flax.

Q. Then you know, the first thing in the specification was not a new invention?

A. I had seen it in *Scotland*, but I never saw it used in *England*.

Q. It is in *Emerson's Mechanics*. Now I want to ask you about the rollers; you have told us, since you was first applied to, you have been made acquainted with machines?

A. I have.

Q. Tell me then, whether the rollers themselves, as you have seen them in this last patent as it is called, the roving rollers, are or are not any-wise different from the spinning rollers in the spinning machine?

A. My Lord, I was in the place where the machines were, about an hour or an hour and a half; there I saw roving rollers of very different sizes and kinds, according to the different processes required; some half an inch diameter, and some an inch and an half, and some of one inch.

Q. I want to know whether, for roving and spinning, the principles of the rollers are the same?

A. Do you mean the rollers that elongate the thread?

Q. I do, Sir; I mean the same rollers used in the roving and spinning machine of the first patent.

A. They seem to me both to perform the same things; they must operate upon the same principle, to elongate the thread; but there are some that do not.

Q. I would ask, whether the different degrees of velocities in the upper and lower rollers, do or not depend upon the wheels that turn, or upon the surfaces of the rollers?

A. I think it might depend upon very different circumstances; it may be effected by the wheels.

Q. I want to know whether it does, or not; please to turn it round, and tell me whether that does, or not, depend upon the wheels; that is my question?

A. These wheels seemed to me to be all of equal numbers; in that case, the different velocities will have nothing to do with it; they seem to me to be equal.

Q. I want to know whether they had the patent for those wheels as they mention?

Mr. Serjeant *Adair*. No, we say no such thing.

Q. Now, is there a word about those wheels that turned the rollers?

A. That is so plain, it is a question that need not be asked.

Q. There is not a word of a wheel in it?

A. There is not.

Mr. *Baldwin*. Q. I gather from your cross-examination, this is not the first time you have had any thing to do with carding machines?

A. No.

Q. In those which you saw, the rollers acted upon different principles, according to the different grounds they were to operate upon?

A. In different proportions; they seem to me to be some of the rollers I saw which appeared to be employed in compressing it, to make it firmer; others that seemed to elongate it a little; others that were used previous to its being elongated; but I don't understand the business.

Q. Then it is impossible for an indifferent mechanic to know that it is necessary to describe them?

A. I should apprehend so; I was told it was necessary; and it required, according to the degree of elongation wanted, to give a different degree of velocity to the rollers, that the rollers would, and did actually move with different velocities.

Q. What is your opinion as a mechanic, whether it is necessary to be described?

A. I must be told, I cannot conceive things by intuition; in a business I do not understand, I can only speak from information.

Q. These rollers must be of different diameters?

A. They may be the same, if they have different velocities of wheels to move them.

Mr. Justice *Buller*. Q. Then they may be the same, or they may be different?

A. They may be the same, if differently moved by wheels, or bands, or pulleys.

John Stead, being one of the people called Quakers, upon his affirmation made the following declaration: "I will speak the whole truth, and nothing but the truth, to the best of my understanding."

Examined

Examined by Mr. Anstruther.

Evidence of
John Stead.

Q. What business are you?

A. A millwright.

Q. Where do you live?

A. At Birmingham in Warwickshire.

Q. You have seen Mr. Arkwright's specification, and the explanation of it?

A. Yes, I have.

Q. You have studied a little, and looked at it?

A. I have.

Q. And do you think that you are able, with the knowledge of the old machine—do you know the old machine?

A. Yes, I do know the old machine.

Q. You know the old carding machine?

A. Yes, I have seen it work.

Q. With the knowledge of the old carding machine, and Mr. Arkwright's specification, could you make a machine similar to that you have seen to-day?

A. I believe I could: I don't doubt it; I never did it; I have done part from the drawing alone, without the specification.

Q. Now, what part did you make?

A. The rollers for sizing; I also put the roving box, but not wholly according to his drawing; my intention was at that time to steer clear of the patent. At the former trial in the Common Pleas, I did make use of the word "avoid," or "steer clear of the patent," I don't know which; if I might be heard, I hope to be allowed to explain my meaning—That was, to make a machine that should be wholly clear of his description, and yet so that it should answer the intended purpose—That was my intention at the time; and there were some observations made upon what I said, that were sharp, that gave me some concern.

Q. You are sure you did make the machine from that specification?

A. Yes; and the intention of that was, to try the experiment of sizing or stretching the cotton, that it might be lengthened out; and I made some models of rollers, or caused them to be made; I hope I am understood to mean the same thing.

Q. Could you have gone on to make the same machine?

A. I do believe I could.

Q. You really could?

A. I think I really could.

Q. Look at the specification; look at the roller, No. 6. did you or not, from looking at No. 6. know those rollers were to move by the same or different velocities?

A. I did think they were to move with different velocities; the one pair of rollers, the front rollers, were drawn of a larger diameter than the other, and the revolutions in a given time might be the same; and the velocity of the surface must receive what is called the foundation roll, and, as such, it must stretch and draw the cotton of a less size than before; I could not conceive it should go the back way to make it larger, that is absurd in itself—I may observe, having been accustomed to make rollers, and ordering them to be made for flattening of iron, brass, silver, and gold, in a manufacture where a great deal of work is done, and I have directed such works; but this I fully understand.

Q. Is

Q. Was it possible to have laid down any specific scale for the diameter of those rollers that would have answered for all sorts of threads?

A. I believe not, I am fully persuaded that could not have been done for all sorts; I have tried a pretty many experiments, and I found that rollers of different diameters, and relative diameters one to another, of different lengths and different velocities, will do that, they will size the cotton, and size it properly.

Q. Did you understand that from the specification?

A. Yes, and the experiments that I made—there seem from my understanding, to be a very great latitude, and a variety of diameters of rollers, and in short, almost the whole of what is specified with respect to the carding and the other part of the machine, the diameters relative and absolute, may be varied without injuring it.

Q. Would it injure the machine to vary them?

A. According to my judgment it would not—I will just observe as a matter of opinion, I do believe that any knowing person (*Richard Arkwright* himself we will say) if he was called upon to fix upon any given diameters and velocities throughout the whole of the work, I do believe and suppose he could not do it; to give the diameters now at this time, so as all the manufacturers might be as well acquainted as himself in it, they would not all agree what was the best diameter, the best velocities, either absolute or relative; I have made a great variety of experiments, I have made the models, and also the machine at large.

Cross-examined by Mr. Wood.

Q. Have you any concern in business with Mr. *Arkwright*?

A. None at all—I have no concern in trade, I never had from coming into the business, and I have no property at all in it.

Q. You say, from the specification and experiments together, you think you can make it out?

A. The model that I made was in order to try experiments; I wished to evade it, if that word may be allowed, so that I might not come under the description of the patent.

Q. It was necessary to make experiments to find out something?

A. To find out something that might be clear of the patent.

Q. Do you mean to say, *that* specification particularly describes the machine?

A. It so describes it, I have no doubt whatever of making it.

Q. In the patent it is required to be particularly described: I wish you would be so good as to tell me whether you find the particulars; where do you find the roller upon which the feeder is, the particular description of that?

A. That roller does not appear, but I know very well the purpose may be answered without the roller, but I will not say so perfectly, according to my conception.

Q. Have you seen the way Mr. *Arkwright* does it?

A. I have seen the mill that I understand was his, which I was informed was built under his patent.

Q. Is that with a roller?

A. There is a roller.

Q. Is not all Mr. *Arkwright's* with a roller?

A. I don't know, I have only seen one.

P p

Q. How

Q. How would you find out, Mr. *Stead*, from that specification, this spiral card?

A. The spiral card is not specified, it does not appear.

Q. Is not that the card Mr. *Arkwright* always used?

A. I don't know that.

Q. Have you seen what he has used?

A. No, I have seen one, my Lord.

Q. What was that, was that with a parallel card?

A. No, that was with the spiral.

Q. That was Mr. *Arkwright's*?

A. No, not his mill.

Q. You never saw that at all?

A. No.

Q. Now this mill you saw, was it purchased of *Arkwright*?

A. It was erected under his patent, there was some consideration paid, and leave given.

Q. It was made under Mr. *Arkwright's* patent?

A. Yes.

Q. That was with a spiral?

A. Yes.

Q. Do you find nothing of that in the specification?

A. No.

Q. Is there any thing in the specification that appears to lead you to it?

A. No, it does not appear to me to be in it.

Mr. *Wood* sworn. Examined by Mr. Serjeant *Adair*.

Q. I believe you was once partner with Mr. *Pilkington*?

A. Yes, I was.

Q. Have you looked over Mr. *Arkwright's* specification?

A. Yes, Sir, I have.

Q. Could you make the whole or any part of the carding and roving machine for cotton, from that specification?

A. I believe the last time I was called and examined upon this business, I told you I had tried to see if I could make one from *Arkwright's* specification; the cards I had at that time, covered the whole of the cylinder, and this appears to me to be parallel stripes, but I did not know whether the surface of this card might be eight, six or four inches, but from those drawings. If I recollect right, I told you from the specification, this box, which is No. 7. I added; I took it off from the first place, from the method I had before I saw the specification, both by the bobbins, fly and spindles fixed in the frame, something like a spinning jenny: when I saw this specification, I thought this box would take it more simply and answer the end better, which I adopted, not putting in the two rollers, but I know it perfectly well from this drawing.

Q. Did you make the machine answerable to it?

A. I put cards similar to it, with which I have worked ever since.

Q. Had you seen any of *Arkwright's* machines before you made it?

A. I never saw *Arkwright's* machines before *September* last, nor no other whatever; I cannot say but what I had seen a model for spinning with four threads.

Q. You thought the specification intelligible?

A. It was intirely to me, I put it in use, I put these cards as I said before,

fore, I put No. 6. No. 7. and No. 4. I made use of no other upon this paper, nor did I find any other number needful; I conveyed it to the rollers No. 6 and there sized it, and from that I received it into a box with rollers at top, that I have done two years ago.

Q. You have seen this Mr. *Arkwright's* machine?

A. Yes, last *September*.

Q. Is that you are speaking of, which you made, like his?

A. I do not use thole now, but I have used the very same.

Q. Is that you are speaking of like his, No. 4?

A. Which 4 do you mean?

Q. The one that was made, was that like No. 4. which you mentioned?

A. As I told you before, I made a box as soon as I saw this drawing, to answer my purpose, but without the small rollers at the top of the box; I did evade it by another method, that answered. Upon the frame I call the muzzle of the box, which directed it right into the whole, and it was brought down by its own weight, and answered the same.

Q. Do you mean to say you made any machine with 5. or 7?

A. No. 4. 6. and 7. was all.

Q. Those were added to the common carding engine?

A. To the common carding machine; I had at that time these cards—that is No. 5. and a common carding engine, before this was found out; and I had these cards on this as well. These cards I had some knowledge of in the year 1773; but in the year 1774, I believe, I began to work this, in the latter end of 1774, or the beginning of 1775, and I continued with those cards, I have not had them wholly employed from that time, or very little from that time to this.

Q. Then you found from that specification all you thought necessary to add to your former machine?

A. I believe nobody that ever practised will find any thing necessary upon this paper, but this No. 4, 5, 6, and 7. I should not, for my part, look after any one thing upon the paper beside.

Q. You do not think it necessary?

A. I don't know that it is.

Q. Did Mr. *Arkwright* use any thing else?

A. I don't know, I don't recollect I saw any thing else but what I have mentioned in Mr. *Arkwright's*.

Q. From the specification you are enabled to add those to the former machine?

A. To the common carding machine—I was wanting something that I had not, and I looked, and it struck me directly this would be of service in having those two rollers, which I am certain I put to it soon after the specification came out, about half a year after, which I have had in use ever since.

Cross-examined by Mr. *Erskine*.

Q. You made use of the cann, No. 7. without the rollers at the mouth?

A. Yes, I did.

Q. You think it answers the purpose as well without?

A. Yes, you will understand me, there is two different kinds of rollers; an operation furnished by rollers must be a different operation to what is furnished by a jenny.

Q. You have made use of a cann?

A. No, No, I have made use of the boxes for seven years.

Q. The

Q. The roller No. 6. is the same as the old spinning machine?

A. I always apprehended so, I have tried it with the same rollers I spin with.

Q. You have made use of it with a cann?

A. Not the rollers at the mouth of the cann.

Q. But you have made use with the same kind, in roving with the spinning machine?

A. Yes, excepting the diameters, with very little alteration.

Q. You roved with the old spinning machine by adding the cann to it, with very little alteration?

A. With the alterations I have been mentioning, I did.

Q. What cylinder was it worked in 1773 and 1774, before the date of Mr. *Arkwright's* patent?

A. The first roving card I had, I had cotton upon; here the common carding engine was the first, in order to feed it with cotton I formed a box which stood upon as much as two foot and an half, and I sunk my cotton in it, and the cards drew it out as if it was from a rack, and it drew the cotton out, I found it deficient, for every place where they were divided it came in joints in the card, the moment it struck me an endless carding might be made, that was the first time it ever struck me.

Q. This struck you in 1774, that there might be a perpetual card?

A. Yes, and we fixed two pieces of leather together to make a card of it, Mr. *Pilkington* and I did, in order to see whether it could be done, he was of opinion it could not be done, but we were satisfied and convinced, before we came away from it, we might join two pieces of card together and use it; it struck me, and I came home, I went again to get a pair of cards or alter it; but in the year 1774, I believe, I made full trial of it, and I took it off in an endless carding, and received it upon fillets, in a very awkward manner sure enough, the latter end of 1775, I took it off in spirals.

Q. In 1774 you made use of the filleted cylinder?

A. Yes.

Q. And you made use of an endless carding with parallel fillets in 1774?

A. Yes, I did, in the latter end of 1774, or beginning of 1775, I will not say which.

Q. You made use of perpetual carding, with parallel fillets upon the small cylinder?

A. Yes.

Q. With respect to the roving machine, you say you can rove with the old spinning machine, with the cann, without the two rollers at the mouth of it?

A. Why it did not make much difference.

Q. Not between the machine for spinning and when you roved with it?

A. No, it did not.

Q. You found the cann did not require the rollers at the mouth of it?

A. No, I used it without.

Mr. *Erskine*. Then there is an end of the old machine from the beginning to the end.

Mr. Serjeant *Adair*. Q. The alterations you made to produce the roving machine, you made from Mr. *Arkwright's* specification?

A. The box which is now in the room of the flyer, which was then used, I believe I was not above two hours finding out the use of it.

Q. The alterations you made in the spinning machine to apply it to the roving, were taken from Mr. *Arkwright's*?

A. Yes, undoubtedly.

Q. Are

Q. Are not roving and spinning distinct operations ?

A. I always understood so.

Q. At the time the spinning machines were in general use ; and the manufactures would have derived a great profit from it, if the use of these machines for preparing the carding and roving had been known ?

A. It certainly has answered a very good end.

Q. Had it been known before, would it not have been brought to general use ?

A. To be sure it would ; I don't think any-body doubts that.

Q. Now, you are so ingenious as to hit upon the invention of the connected carding, when you say you executed it in a clumsy and imperfect manner ?

A. Certainly it is imperfect.

Q. You had not brought it, if I understand you right, to perfection, or public use, till Mr. *Arkwright* got beforehand with you, and obtained this patent ?

A. No, certainly I had not.

Q. I speak now of the cylinder for the continual card ?

A. Yes.

Q. You had not brought that into public use till Mr. *Arkwright* got his patent ?

A. I believe, before Mr. *Arkwright* got his patent, I used what I have now ; there is no perfection in it.

Q. Did you ever know of that crank in the manufacture, for taking it off, before ?

A. No, I never did.

Q. Never before this patent ?

A. No, I never did.

Q. You had been all your life-time in the business ?

A. No I never had before.

Q. Then you never knew of a crank applied as a taker off, before this ?

A. No.

Mr. *Erskine*. Then there wanted nothing but the crank to make your carding machine complete ?

A. I did not want the crank.

Q. Then you have as good a method as the crank itself ?

A. I don't know but it is as good ; it is nothing but the fluted roller, with needles ; I am sure it doffs it as regular ; I think it rather injures the cards worse than the crank does—They don't stand so well.

Mr. *Erskine*. Q. The old spinning machine answers for roving, by only adding a cann to it, without having the rollers at-top ?

A. The rollers are principally the same—There are different things to it undoubtedly ; I observed it ; they cannot be called the same things—There is nothing but the rollers and the cards that have any thing to do with it.

William Allen sworn. Examined by Mr. *Cowper*.

Q. Do you remember being applied to by Mr. *Stead* at any time ?

A. Yes.

Q. I believe Mr. *Stead* furnished you with the specification of Mr. *Arkwright's* patent ?

A. He did.

Evidence of
William Allen.

Q 9

Q. When

- Q. When did he first apply to you?
 A. Before the last trial.
 Q. Did he furnish you with the specification?
 A. Yes, and the drawing.
 Q. Did he desire you to take a model of the drawing and specification?
 A. I examined to see whether I thought I could do it.
 Q. Did he call upon you?
 A. Yes.
 Q. When you had had the opportunity of examining it, what was the result of the observations you made?
 A. I told him, I believed I could.
 Q. Did you make a model?
 A. I did.
 Q. Did you complete it?
 A. I did.
 Q. Did it answer the purpose of the carding machine and the roving machine?
 A. Yes, much the same, the carding and roving.
 Q. Had you any other assistance to make that machine that you furnished for *Stead*, except the assistance of the drawing and specification, and the old machine?
 A. I had another friend that talked with me upon the matter.
 Q. Had that other friend any other information; who was that other friend?
 A. One Mr. *Whitmore*.
 Q. He is here, is not he?
 A. Yes; he informed me, he had not seen Mr. *Arkwright's* mills and machines.
 Q. Did he know any thing of Mr. *Arkwright's* mills and machines, except what you communicated to him?
 A. He told me he did not.
 Q. Laying your heads together, you completed the machine?
 A. I did.
 Q. You say, it answered the purpose of carding and roving?
 A. Since I have seen this, I find it does.
 Q. It is idle to ask, whether you conceive that specification to be competent to enable the workman to complete the machine?
 A. I find it so, there is no doubt about it.
 Q. Cast your eye upon the rollers at No. 6; those rollers appeared to you, I presume, in the drawing delivered to you by Mr. *Stead*, as they do in that drawing?
 A. The very same.
 Q. Did it occur to you, they were to be moveable rollers?
 A. Most certainly.
 Q. It must be a folly, and a contradiction in terms, to talk of a roller that will not roll?
 A. Most certainly.
 Q. In order to procure different degrees of fineness in the thread?
 A. Not the thread.
 Q. I don't properly speak of it; the roving that passed between those rollers; it is necessary, is it not, there should be different degrees of velocities in those rollers?
 A. Yes.

Q. Therefore

Q. Therefore any specific admeasurement (I don't know whether I speak intelligibly to you) any specific diameter of those rollers, could only answer one particular purpose, and one particular size, could it?

A. Not any particular size; it was to draw it through.

Q. It must draw it through of some particular fineness?

A. Yes, most certainly.

Q. If a fineness of a different size is wanted, there must be rollers moved with different degrees of velocity?

A. Most certainly.

Q. Now, with regard to securing those rollers upon the roving machine, they talk to me of weights being necessary; are they necessary?

A. No matter whether weights or springs are necessary, sometimes the rollers will do themselves.

Q. Are there either weights or springs there?

A. It seems to me to be the weight, the gravity of themselves.

Cross-examined by Mr. Serjeant *Bolton*.

Q. Are there either weights or springs in the specification; look and tell me?

A. No, I don't see any.

Q. Then they must have weights or springs to keep them down, and there are neither?

A. I apprehend the roller itself will be sufficient.

Q. Yet I ask you one thing, did you make this machine without conference with Mr. *Whitmore*?

A. We had liberty to talk with each other.

Q. Perhaps, Mr. *Allen*, he had tried to make something like it before; did you see that he had made?

A. I don't think he had tried to make it before.

Q. Don't you know, upon your oath, he had?

A. No, I don't know that he had.

Q. Upon your oath, Have you not seen the things he made?

A. I never in my life saw any thing that he made, or any thing of the same kind, or similar to it, or heard of any thing of the same kind.

Q. You did not, upon your oath?

A. No, nor saw it, or heard from any-body of his making one.

Q. Have you got that machine, *Allen*?

A. It is in Court.

Q. Have you not made any one, without conferring with any other person?

A. Only with a friend concerned in making it.

Q. Have you not said and sworn before, at a former examination, you made this from the specification, without talking with any-body?

A. No.

Q. Do you mean to swear that you have not said that before?

A. What I say now, I said before, we had liberty to talk about it.

Q. Did you say, in your former examination, you had talked with *Whitmore* about it?

A. Yes, I did.

Mr. *Bearcroft*. Q. Did you do it yourself, or did any-body else assist you? was the question put to you; and the answer is, A servant of mine assisted in making another model.

Mr. *Allen*. Give me leave to explain, that I had no servant at the same time; I meant a friend, I said a friend I had consulted; that was Mr. *Whitmore*.

William

William Whitmore sworn. Examined by *Mr. Wilson*.

Evidence of
William
Whitmore.

Q. What business are you, Sir?

A. I call myself a clock and watch tool-maker.

Q. Have you been used to make models of machines?

A. Not very much to making models of machines; but making machines for different purposes, in the *Birmingham* manufactories principally.

Q. Have you seen that drawing and the specification?

A. I have, Sir, or one similar to it.

Q. Can you tell me when or about what time it was that you first saw it?

A. I believe about the beginning of last *January*.

Q. Who shewed it to you?

A. *Mr. Stead*.

Q. For what purpose?

A. To know if I could make it; that is, make a model from the drawing and specification

Q. What did you do it by?

A. I examined it about half an hour, or it might be a little more, I cannot exactly tell as to the time; I told him, I thought I could; I looked at it, and I understood many of the parts, and, of course, I concluded I could make it out; and therefore I told him, I would undertake to make one; if I did not succeed, I would have nothing for my trouble, or nothing for my pains, I don't exactly recollect the words.

Q. That is the substance of what passed at that time?

A. Very likely there might be a model desired to be made.

Q. Without any knowledge except what you derived from that specification and drawing, and the knowledge of the old machine for carding, did you or not make that?

A. I had not even the knowledge of the old machine at first; about three weeks after that, *Mr. Arkwright* sent for me, and he asked me to make a drawing; in the course of the conversation, which was perhaps an hour, or perhaps two or three hours, it happened to be *Saturday* night, and, to describe it in the best manner I could, by the *Sunday* morning, ten o'clock. I did so, and *Mr. Arkwright* thought I could make a model, and wished me to make one; however, the time was very short; I did not much like the job; he wanted it in five or six days; I told him, if it had been as many weeks, I might; however, he shewed some desire I might make one; accordingly I set about it, and it is in Court, I believe.

Q. You know *Allen*?

A. *William Allen*?

Q. Aye.

A. I do.

Q. Had you any conversation with him upon the subject?

A. We were ordered to confer together; that is, *Mr. Arkwright*, as I had seemed rather unwilling to make the model, asked me, if I would assist *Mr. Allen*? and we had some little conference together.

Q. That was not much?

A. No; he did see my model before it was finished, I believe.

Q. You believe he saw it before it was finished?

A. I believe he saw it before it was finished: Whether he collected any material matter from it, I cannot tell; he was as forward as I was about it; I believe he finished his as soon as I did; it went upon the *Monday* night by the coach, and mine was not finished an hour before the coach set off.

Cross-

Cross-Examined by Mr. *Bearcroft*.

Q. I observed you said you had two or three hours conversation with Mr. *Arkwright*?

A. Yes, I had.

Q. Did you talk of politics?

A. We talked about different subjects.

Q. Did you at all touch upon the subject with Mr. *Arkwright*, about the same machine of his?

A. We touched upon it at last.

Q. I verily believe, whilst you were there, that was the principal point you touched upon?

A. No, that was not the tenth part of our conversation, nor was it directed to me; I did not much like the job.

Q. You did not much like the job, because it was to be finished in two or three days?

A. No, Sir, we wished to have time to finish.

Q. You said you could easily make it, did he explain how you could easily make it in four or five days?

A. No, he did not.

Q. How came you to alter your mind?

A. I had three or four days grace.

Q. You spent that time in praying for some supernatural assistance, when you talked of grace, I suppose?

A. I believe it was not from Mr. *Arkwright*; I had not it from him immediately, but a Gentleman that I dare say had it from him, that if it was finished in three or four days more it would do.

Q. That was what you called days of grace: Now mind, *Whitmore*, upon the oath you have taken, do you mean to swear you had no description whatever except what you derived from that fact?

A. I had the description after I had made the beginning of the model, I had a description of the old machine, as it was then termed, but it was all alike to me at that time, I did not know whether it was old or new.

Q. How would you know any thing about the machine, unless you were told of it?

A. I was told that was the old one.

Q. You would be puzzled with business, and not able to make it, as nobody possibly could, unless they brought you acquainted with that part called the old machine—I tell you why, if you observe, all this new invention is adding something to the different sides and parts of the old machine; if you had no notice of it, how could you have done it without the old machine being described to you, upon your oath?

A. I made the beginning of the old machine before I was told of it.

Q. By what description?

A. By the description of the back cylinder.

Q. That is Latin for the old machine?

A. I don't know whether that is English or Latin.

Q. Why does that give you an idea from the words that are alluded to in the specification, is that a back cylinder, the description is, No. 3. delivereth its contents upon another cylinder, behind that cylinder that is described; but why does that give you an idea of such a machine as that?

A. I did not know very well what a machine this was, for I did not see any thing of this part of the matter at all.

Q. All that you found there was the back cylinder ?

A. Yes, which No. 3. shews.

Q. That made you understand this machine ?

A. I don't say I had a thorough knowledge of it, I had some information given me respecting the old machine, or back cylinder.

Q. Who gave you that information ?

A. Mr. *Stead*.

Q. The honest Quaker ?

A. Yes, he is so thought.

Dr. *Darwin* sworn. Examined by Mr. *Chambre*.

Evidence of
Dr. *Darwin*.

Q. You have seen the specification and seen the drawings, I believe you have been conversant in mechanics ?

A. Yes, Sir.

Q. You have seen the writings and drawings ?

A. I believe I had seen the machine, previous to the drawings, about three months ago.

Q. When you saw the drawings and the verbal explanations, did you take them into consideration ?

A. Yes, Sir.

Q. Did you endeavour to form any opinion, whether from those drawings, and that verbal explanation, you could have directed the construction of the machine ?

A. Yes, Sir, I could.

Q. You are of opinion you could have completed the construction of the new machines ?

A. Yes, Sir.

Q. Have you any doubt upon the subject ?

A. None, I think it extremely easy.

Q. You have no doubt you could have done it, it being extremely easy ?

A. I think there are all the essential parts there, and with a little time I could easily have done it.

Q. Do you think it is liable to any objection upon account of not having an exact scale of proportion ?

A. It would have been worse if it was intended for different purposes, but it being for one kind of manufactory it is not so material.

Q. You think it would have been worse if it had been intended for different purposes, and different materials ; so the scale which would have stood for manufacturing one sort of material, would not have stood for manufacturing another ?

A. No, of different finenesses.

Q. Do you perfectly comprehend the sort of velocity given to the rollers ?

A. I easily see they must differ ; in order to draw out the thread, they must necessarily have different velocities.

Q. Is there any circumstance upon the face of the drawing itself, that points it out ?

A. Yes, the different diameters.

Q. Are you acquainted with the operations that are usually performed of that sort ?

A. I have made machines of every species the particular subject of my attention.

John

John Haggett sworn. Examined by Mr. Serjeant *Adair*.

Q. What are you, Mr. *Haggett*?

A. I have superintended a cotton manufactory.

Evidence of
John Haggett

Q. Have you been long acquainted with that business, and the construction of that machinery?

A. I suppose I have been acquainted with it fourteen years.

Q. How long have you known Mr. *Arkwright*?

A. Nearly the same time.

Q. Are you acquainted then with the machine used before Mr. *Arkwright's* patent in the year 1775?

A. Yes.

Q. Now have you seen and considered Mr. *Arkwright's* specification?

A. I have.

Q. Does it appear to you to be a sufficient description of the improvements upon the old machines, for which he obtained that patent?

A. I think it is a sufficient description for the person acquainted with the old machinery to make one from the specification.

Q. You think any person acquainted with the old machinery might make a new one from the specification?

A. Yes.

Q. Do you believe you could so adapt it?

A. Yes.

Q. I believe you know something of the progress of this, made by Mr. *Arkwright*?

A. I suppose I do.

Q. Was you employed by him at any time to make any experiments or parts of those which are the subject of this patent?

A. I was.

Q. Will you state how?

A. Mr. *Arkwright*, in making these discoveries, employed me; I was employed by Mr. *Arkwright* from the first beginning of those machines, for which this patent was obtained, and in trying experiments from the directions I got from him.

Q. Did Mr. *Arkwright* give you your instructions at once what to do, as a thing he knew before, or had borrowed from any body else, or were there repeated experiments tried?

A. He gave me directions by chalking upon a board sometimes, and crooking of lead and wire and things in that shape.

Q. Were his first directions those afterwards abided by?

A. Principally, I remember making changes in some particular parts of them.

Q. According as he found it answer to different experiments?

A. Yes.

Q. Do you know the crank used in taking the cotton off the cylinder?

A. Yes, I do.

Q. When did you first become acquainted with that instrument?

A. I think, as far as I can recollect, it was in the beginning of 1772, I cannot be quite sure.

Q. Were you employed to make that?

A. Yes, Sir, I was.

Q. Do

Q. Do you know whether it had been in use, or known in the manufactory before, to that purpose?

A. Never, to my knowledge.

Q. Who employed you to make that?

A. Mr. *Arkwright*.

Q. Do you know any thing respecting other persons having made it before that time—immediately before or after?

A. I do not.

Q. You do not know of it having been in use before by the manufacturers at that time?

A. No, I do not.

Q. Do you know any thing about *John Kay*?

A. I have seen *John Kay*, and have worked in the same shop he has.

Mr. *Bearcroft*. I object to your asking him any thing about *Kay*—I will let you put it, if you will pledge your credit upon it.

Mr. Serjeant *Adair*. Now answer the question.

A. I have seen *John Kay*, and have worked in the same shop along with him.

Q. Now, what have you seen him at work upon?

A. I have seen him at work in making rollers, and things in different parts of the machinery in use at that time.

Q. By whose directions?

A. By Mr. *Arkwright*'s.

Q. Did you ever hear him say he had received those instructions or information from any body else but Mr. *Arkwright*?

A. I cannot say that I ever did.

Q. Then you never remember at any time, his saying he had received instructions from any body before Mr. *Arkwright*?

A. No, I do not.

Thomas Bell sworn. Examined by Mr. *Cowper*:

Evidence of
Thomas Bell.

Q. What business are you?

A. A joiner.

Q. Did you ever work for Mr. *Arkwright*?

A. Yes, five years.

Q. How long ago is it since you first began to work for him?

A. About seventeen years.

Q. Was you at all concerned in preparing those machines in the different progress of time?

A. I was at work upon them during all the time I was with him, preparing them.

Q. You know Mr. *Arkwright*'s patent machine, the subject of this dispute at present?

A. Yes.

Q. Was you concerned in making it, or the parts of it?

A. I was concerned in making parts of it.

Q. Was the machine invented from time to time, or patterns given to make it all at once?

A. From time to time, and sometimes it would be pulled all to pieces and new ones supply their places.

Q. Do you remember seeing the crank when Mr. *Arkwright* first used it?

A. Yes.

Q. The

Q. The crank, No. 4. had you never known of its being used before Mr. Arkwright used it ?

A. No, I never did.

[Here the Evidence closed on the Part of the Defendant]

And Mr. Bearcroft addressed the Court, in Reply, as follows :

Gentlemen of the Jury, I shall not affront you with any apology for the performance of my duty, because it will consume your time in doing it. You are too well acquainted with yours, to withhold your patience from a full hearing of every part of this case, since it certainly must have appeared to you, for a considerable time past, and it is agreed on all hands to be, a cause of much public as well as private importance. I shall, therefore, submit with satisfaction, to your judgment, certain observations which I hold it incumbent on me to make, not doubting to receive all reasonable attention. I promise you, however, that I will not waste your time in any wandering observations, but I will state the questions that remain for your decision—I will take the liberty to make some strictures upon the substance of the evidence which has been given on both sides, without adverting to every particular witness by name, or rehearsing every part of his evidence, as has been done by my learned friend with respect to our witnesses.

Gentlemen, I stand up to contend now, as I did at the outset, that three propositions are made out, every one of which destroys the validity of this patent.—I quit the first issue in obedience to my Lord's directions ; but the other three, or any one of them, will equally answer the purpose.

The first of those three allegations admits of contention in evidence upon both sides, and it has not been wanting here ; the question is, Whether the balance and the weight of evidence is not manifestly in our favour ?

Gentlemen, that first proposition is, that this machine for preparing cotton and other materials for spinning, was not a new invention upon the 16th day of *December 1775*, when this patent was obtained.

That is the proposition, and every word that I have stated in it, is an essential part of it.

Gentlemen, what is the invention ? Mr. Arkwright states, “ A machine for preparing cotton and flax upon simple principles, but in a very different way than ever was done before by spinning ”—That is the thing professed to be done. Now is this done by any new invention ? If it is, is it not done by the application of several other things to the old carding machine ? and I should be beating the air, instead of talking to men who understand me, if I did not give you full credit, at this time of the day, for understanding what the old carding machine is. Does the merit of the invention consist in that ? why is it not so described ?—I asked my learned friend the question, early in this business, but to this instant I have not received an answer. I trust, my Lord will think it no immaterial question, for if the merit of this machine was ever so new and ever so meritorious, I say, they have not described it in their patent, not even in the outline of it ; for if the merit and the novelty of the invention consists in the application of all the parts in the old machine, and any new matter added, any invention to produce any new effect in its application to the old carding machine, I insist upon it, in point of law, in order to maintain their patent, *that* ought to be their description ; and though I mean to avoid repeating what I have said before, yet it is material to repeat this, because I appeal to your recollection, whether any one of the counsel upon the part of the defendant has been bold enough to attempt a single answer.

S f

Gentlemen,

Gentlemen, it is a settled point, and I trust my Lord will tell you so, for it has been so determined, that if a new invention, which is the ground of a patent, is the addition of a new application to an old machine, they should so describe it in their patent; for that, the patent should be granted; it was expressly determined in a case in which several of the Gentlemen were concerned—Mr. *Erskine* was, and I was myself—I remember it perfectly well; “*Williams against Brodie* :” *Williams* brought an action against *Brodie*, for invading his patent for a machine, which was described all of it together, taking it in the patent, and covering the old stove, which was an existing thing, which the world were in possession of before.—What was the plaintiff *Williams*’s merit? Very great; it was allowed, on all hands, to be excessively ingenious, and perfectly equal to maintain a patent—It was the insertion of a pipe for conveying the air into the same stove, to the great convenience of every body that used them; it was much admired, and the whole world bought it, but it was not described properly in the patent; you have taken it with the addition, describing the thing in your patent, and the stove with it, but they have not described it as it is, that is, they had not described it as a new application of a new invention upon an old thing;—upon which, the noble Lord that tried that cause directed there should be, and there was a verdict for the defendant.

Gentlemen, you see the importance of this distinction, for if an addition is made to an old machine, and you chuse to describe it all together in your patent, nothing but confusion will follow; and although the patent, upon the face of it, seems to cover the whole, it does not. Many are the inventions (which are extremely ingenious, and of infinite value to this country) of new applications to that wonderful machine, the old stocking frame, that was the form of all the patents; we know them all, we have seen them; they are patents for that application, describing it as a new application.—Is this so?—No; what say the friends and witnesses of Mr. *Aikwright*? they saw such as you see, the two machines together; and thus it is described to be, to all men who are not idiots, says Mr. *Moore*, but worthy the name of mechanics; and by the eye looking upon the drawing, or by the eye accompanied with the description that accompanies the drawing, they will see every part of the old machine is referred to, and all the rest of the witnesses were called to tell you so; and they say every part of it is plain, particularly one of the witnesses who is now called,—that they are able to make the old machine as part of it.—Now let us see, taking these as additions to the old machine, can you take this as a real novelty at the time of this patent in 1775?

Gentlemen, first of all, the alteration that strikes my mind and meaning, is this feeder; What is it?—Cotton upon cloth. What was the old one?—Cotton upon cloth. What is the difference?—It is rolled up so, if you take a view of the end of it, it makes an extreme pretty figure in the specification; but have any one of the witnesses proved to you any important or great convenience of the sort it describes? to you the Jury, I will put the question (and then that part of the case will be dismissed) to say upon your oaths, that the invention of this cloth, rolled up and covered with cotton, is so superior to the old one in use long before—That it alone is enough to ground the merit of a new invention? Why should it be superior—for that presents the cotton to the card which draws in the cotton; and suppose the original was filled with the hand, that is sufficient to feed the machine, and this feeder does no more; I venture to rely upon it, that the novelty
and

and merit does not lie in any difference between that cloth feeder rolled up, or the old cloth feeder, which is allowed and agreed upon all hands to be equally good.—I am now going to examine all the parts, and see whether any part of it has any merit, so as to make that machine an absolute novelty, so that in point of new discovery it is intitled to the patent.—I will undertake to prove to you (applying all that he makes use of to the machine) there is no essential difference between them.—After the cloth feeder, we come to the old carding machine. I am hunting after novelties — Then we must dismiss that old machine.—Then what is the novelty? It is a cylinder; it is said to be a cylinder that procures a perpetual carding—Is that a novelty? *Pilkington* swears the contrary. Then *Mr. Wood*, whom I trembled at when I saw him, produced as a man that was to contradict *Pilkington*; but how has he contradicted him? I refer you to his evidence, you will have it very correctly from my Lord. He tells you, in 1774, or the beginning of 1775, in the end of that year, at the time of the patent in question, he himself used, What?—a cylinder that performed a continual carding, exactly in the way described by *Mr. Arkwright* in his specification; for he swore it was by means of a cylinder with parallel fillets upon it.—Then there is no novelty in that invention; therefore in that part of the specification most certainly there is not. Say the Gentlemen, that is an improvement; and if we have a patent, may we not improve it afterwards, and use it? Most undoubtedly you may; but what have you got this patent for? Substantially only for that which existed at the time of the patent: It is not granted for that which is to be invented afterwards; but finding, as they say, the spiral fillets more convenient in a way you were perfectly in possession of hours ago, inasmuch as that takes all off, I should be glad to know upon what ground that is to be taken to be part of the patent; if it is not, the merit of the spiral fillet is totally out of the question, for it is no part of the ground of the patent, as it is not specified, and did not exist at the time; it is an after-thought, that is suggested; and an improvement, as *Mr. Arkwright's* own counsel have stated to you. Then, *Pilkington*, instead of being contradicted by *Wood*, is confirmed by *Wood*, that in the latter end of 1774, or the beginning of that important year 1775, that very cylinder, which performs the continual carding, was performed with a filleted cylinder with parallel lines, exactly in the same way as stated in the specification. It is not in public use, says my learned friend! I don't know what he means by not being in public use; it was used by this man in the presence of *Arkwright*, he used it for the purpose of his trade, it was used in the presence of all his servants that were employed about him, and I should be glad to know whether that is not in public use, if my learned friend did not give some definition or clear line of what was public use, to shew you this was not so.—Oh! says my learned friend, it is clear, that was all stolen from *Mr. Arkwright*—Why?—Because, after *Mr. Arkwright* threatened him, he never suffered *Mr. Arkwright* to come there again, nor would he suffer any strangers or any-body else to know what was going forwards. Has it not been proved, that was *Mr. Arkwright's* course, and the course of all the great manufacturers of the kingdom; and if you happen not to know it, I must inform you it is of great importance they should shut up their doors, and not admit people, and I wish they would learn to keep all foreigners out of their manufactories; I have heard say that some foreigners of rank have done, what is hardly justifiable, availed themselves of admission conceded to their quality, and carried away the secret of some
valuable

valuable machines in this country. But the shutting it up, they say, is a proof he was afraid of Mr. *Arkwright*. Surely, my friend forgot the conversation between *Pilkington* and Mr. *Arkwright*! It is proved out of Mr. *Arkwright*'s own mouth—he said, “ You had better get a patent for it; as “ to swearing the men, it does not signify a farthing, for if they can get a “ penny more, they will tell any-body.” Have you any doubt, upon the evidence, if Mr. *Arkwright* thought this *Pilkington* was invading his patent, he could not have got some of the various servants that assisted in that operation to have given evidence against him?—That Mr. *Arkwright* can get witnesses to speak out, the whole defence to-day has amply demonstrated.

Gentlemen, what could be the reason that Mr. *Arkwright* did not commence an action against him? Mr. *Arkwright* is ready enough with his actions—God knows, he would have brought his action against Mr. *Pilkington*, if he had dared; and the true reason why he did not, was that which appeared in Court to-day, that is, they invented, and were in the exercise and enjoyment of it before him; that is the only and true reason that operated with Mr. *Arkwright*, to prevent his bringing an action.

Gentlemen, I am searching, if you please, now, upon the first head, upon the novelty of this matter, to see if I can find out any thing new. I have shewn, I trust, the cotton reeder is not so; I have shewn, the continual carding by fillets is not so. You must put the spiral fillet out of the question, as it was not existing at the time, nor in the specification.

Now let us look about, and see what else. There is the crank.—Is that new?—Do I dream, or did the learned serjeant, hours ago, in his speech as counsel for the defendant, tell you, the evidence about the crank was too strong to struggle with? I appeal to your recollection, I will not waste your time, I stand upon a clear ground; I have a right to that conclusion which is drawn from their own evidence, though I don't want it; I believe, my Lord has a note of what one of their witnesses said, that it was used in 1772, and now I will not say a syllable more about the crank.

Then we are to resort to another account, that is what you never suspected when you read the specification of the several machines—For what? To prepare cotton for spinning. I will go to the roving machine; where is the novelty there?

Gentlemen, I beg your attention; my friend asks, Is there no novelty at all in the rollers, which is the most ingenious part of the invention? I admit it to be so, but I say there is no novelty in it at all, because the witnesses upon both sides have expressly agreed, even Mr. *Morre*, who, alas! is no longer any friend of ours, but a zealous partizan of theirs; in truth, there is no doubt, as a witness, he is intitled to that character; no man can say otherwise of him, but that he is the zealous friend of Mr. *Arkwright*, for this reason, that never fails to increase zeal when they change sides, because you see he was our friend, and once our witness (but so long as they live, renegadoes, when they change their religion, are most violent against it); he seemed to be struck with a particular piece of the evidence when I called to him; I fancy he was so much struck with it, he really forgot the character of an auditor and witness for the party; I caught him in a character that I have no doubt about—Let me see a man's actions, and whether he is struck with evidence for the defendant or the plaintiff, I will then tell you which side he wishes for. One would hope to have witnesses without wishes; I dare say, he has worked himself up to think differently from what he did, and directly opposite to that opinion which he was of, in the former cause;

he

he is excessively fond of it, he had some struggle to maintain every part of his evidence with my friend Mr. *Erskine*, which you will be so good as to recollect. The rollers, I say, were not new in *December 1775*, because they were invented before; and if you will please to give him the full merit of it, we will suppose it, by Mr. *Arkwright*, upon which his original patent for spinning was granted him, and for which original patent has he not had the benefit for fourteen years, and though my learned friend asserts he has got no benefit by it, he appears to be so much benefited by it as to lay out 30,000*l.* here, and 20,000*l.* there, which his own counsel have made out. What are the profits of patentees, when they can lay out twenties and thirties of thousands of pounds? I should not overstate it with respect to Mr. *Arkwright*, if I stated his profits to be, as I did originally, such as raised a great fortune of above 100,000*l.* upon his receipts, from the benefits of his original patents for spinning; but he is not content; Who is content with getting of money? It is a part of the character of every man that gets money, that he wants immediately to double it. I wish I could recollect the words of the printed case, “he wanted to *connect* and *confirm* and to *consolidate* the former patent with the present.” That appears from his case.

Gentlemen, Did not I tell you, *that* was the secret of the whole?—That was his great object; and yet I vow to God I did not know of that expression in the case; but he lets the cat out of the bag in the case, before the House of Commons, and he tells you his great object is to preserve and elongate that patent which expired too soon, though it lasted fourteen years; he cannot by law get the same thing which he tried the House of Commons for—and now as all those rollers for roving are the identical rollers for which he had the benefit of his former patent, and applied to the spinning; for even his own friend Mr. *Moore*, has allowed, though they are not quite the same thing, yet all the difference between the roving and spinning, is, the one is a coarse thread, the other a finer; and you are told, when they put a quantity of fresh carded thread, and the coarse or roving together, then it spins it into a fine one—where is the novelty, if this produces the same effect, and the difference only coarse or fine? is that the novelty of the invention?—Oh, yes, says the learned Serjeant, it is, it never occurred to any body before—there is no proof of it. To take the learned Serjeant’s words, “no proof,” if it did not appear in point of evidence, whether it was or not, where is the invention?—A simple difference between a coarse and a fine thread? If it is equally spun by those things which he has had the benefit of by a former patent, I will admit it that merit, it is excessively ingenious; I have a right to say to Mr. *Arkwright* of all men breathing, that in *December 1775*, *that* had been in public use, he had permitted it to be in public use, and had received a great deal of money for so permitting it. Then we are to try, whether there is not something else that remains as a novelty; and I do think, in the course of hunting, which I have taken after this novelty of carding and roving, I have fairly hunted them into that same box, and they felt it themselves—into the tin cannister, and after trying every thing, after having gone over and through the whole, and if they could not make you believe all were novelties, and each of them deserving a patent by itself, at last they take refuge in the tin box. The learned Serjeant himself says, this tin cannister is itself an invention that deserves a patent, Why?—because they have clapped a couple of rollers upon the top of it. *That*, our witnesses say, does more harm than good. That was more to be attended to than any of the testimony, for that is evidence that stands uncontradicted to

this moment; some people, the first manufacturers in point of profit and revenue, work it without rollers, Why? Because they cannot buy it? No, because they cannot get any thing by it.

Gentlemen, There is not a bit of novelty in this to be found, any more than in the crank: As to that, the use of it has been proved in a variety of shapes; as to the use of the cann, that is certainly a very simple proceeding, after the thing is roved and permitted to drop (to talk plainly) into a tin pot, which is an old invention, contrived to turn round, and in doing that, it must of necessity give it a gentle twist, and then we have fairly traced the fox to his hole, and I trust, have dug him out of it. The last place Mr. *Arkwright* took refuge in by way of a new invention, is this new tin cannister, after that, (I am pretty sure I am right) there has not been an attempt made by the Counsel to state any novelty of invention. These observations, I flatter myself, will be sufficient to maintain our first allegation, and *that* my Lord will tell you is sufficient to intitle the King to your verdict.

Gentlemen, I will now proceed to another point; Suppose it is new, (taking it for granted for the sake of argument) Mr. *Arkwright* is not the inventor; and now I come to a very serious question indeed, I have called to you a witness, a man of unfulled character, (Mr. *Hayes*) who was bred up in this business, who, upon his oath positively tells you, he himself invented rollers exactly like those, and that they were employed in the same business, that he communicated it as a secret to one *Kay*; *Kay* is brought, and he is confirmed by his wife, and he tells you this concerning Mr. *Arkwright*, and I will not be so polite now, as I am supposed to have been before, for I have no difficulty to say, that Mr. *Arkwright* stole this invention.

Gentlemen, If you believe the man, it is the clearest of all proofs—*Hayes* invented it, he communicated it to *Kay*—*Kay* tells Mr. *Arkwright* of that—*Arkwright* is not struck with it at first, he goes to bed, and his good genius upon his pillow makes him think of it; by the bye, many manufacturers, it has been proved, have, in the day time gone to bed, and shut up their windows, to think the more intensely upon these subjects, and by the morning, (for this is the only merit of Mr. *Arkwright* (*by the morning*) he certainly had the ingenuity to be satisfied in point of fact of the value of this invention. That is a merit. Being in possession of that opinion, What does he do? He comes to the man that told him that *Hayes* had found out this; What does he do with this man? He takes him for a servant, keeps him two years, employs him to make several models of that which is now called a new invention, and made the foundation of this patent. How is all this evidence to be got rid of?—By a cool observation of the Counsel at the bar: Pardon me, Gentlemen, for using the expression, when it comes to be examined, it is perfectly ridiculous; there is this *Hayes*, and *Kay* and his wife, three in all to confirm each other in this—What is the answer to it that is given by the Counsel?—Oh! Mr. *Hayes* is a good honest man, says the Serjeant; if he stood by himself, we could not attack his credit, but *noscitur ex sociis*, says my learned friend, but he keeps such horrid company—That company Mr. *Arkwright* was glad to borrow from him and keep two years—My learned friend, says, Oh! he is a sad man, a felon that committed larceny, and fled from prosecution for fear of Mr. *Arkwright*. They chose to use that weapon, that two-edged sword, Mr. *Arkwright* frightened this fellow out of the country, I doubt it not. There is not a more miserable or dangerous situation for a poor man, than to be in possession of a secret, of which a powerful and rich man dreads the discovery.

Gentlemen,

Gentlemen, History furnishes instances, where men have lost their lives for being in possession of royal secrets ; many a person has been driven out of the country by the power of a private person, for the same reason. The learned Serjeant said, he dared not to return, he dared not to face Mr. *Arkwright*—What has he done to-day ? Has he not faced him and dared to provoke him, and given evidence ? if Mr. *Arkwright* shall think it proper, has he not now an opportunity of prosecuting him ? yet the man dares to present himself face to face, notwithstanding which it is said, this man is not to be believed. I would not have you, sitting there, believe what every man swears, it is not fit you should. It is not a simple, single proposition of fact, which this man swears, he tells you a fact, which, if untrue, might be contradicted, and might be proved to be untrue. He says, two years he was employed in making models in *Arkwright's* house. Why take *John Kay* to be his servant two years, except it be for this ? those facts are clear and cannot be done away by such kind of evidence. Oh ! but says the learned Serjeant, you must consider, before Mr. *Arkwright* could get his patent, he must take his oath he is the inventor. What the man means when he takes an oath that he has found out an invention, I cannot tell, unless it was that he found it from Mr. *Kay*, therefore, he might think himself the inventor. But let Mr. *Arkwright's* oath upon a proper occasion be of what weight it may, permit me to remind you, Gentlemen, of the oath you have taken, namely, to try this cause upon the evidence ; now, no man can by law give evidence for himself, and therefore the oath of Mr. *Arkwright* is totally to be laid out of the question. But, says the learned Serjeant, it does not depend upon that ; Mr. *Arkwright* being the first mechanic in *Europe*, his fame is immortal, and the man that contradicts him, and charges him with an immoral action, must not be believed.

For a moment, Gentlemen, let us go back a little in point of time. There was a time, and it now behoves us to remember it, when Mr. *Arkwright* and poor *Hayes* were equals. Equally rich and poor, and they lived together, and were of equal credit ; and how do we find that Mr. *Arkwright* is this great mechanic, that the kingdom never saw the like ; all I have learned about him, is, he is mechanic enough when he finds any person in possession of a good invention, he is prudent enough to seize it, you never find him a practical mechanic, but since he has found this out from *Kay*, he has thought it worth his while to nurse and attend to it.

Gentlemen, Three witnesses have positively sworn to a fact which I trust they have a right to be believed in.

Gentlemen, I don't find the learned Serjeant was surprised by this evidence, no man of common sense will believe Mr. *Arkwright* is the only man in *England*, that never heard the accounts spread abroad by every man that speaks upon the subject, that he did get this from *Hayes*, by means of *Kay*, it is a notorious story in the manufacturing counties, all men that have seen Mr. *Arkwright* in a state of opulence, have shaken their heads, and thought of these poor men, *Hayes* and *Kay*, and have thought too, that they were entitled to some participation of the profits, What is the consequence of this ? Mr. *Arkwright* must have expected this evidence, Where are the witnesses that tell you Mr. *Hayes* has a bad character ? Where are the witnesses that tell you *Kay* and his wife are of bad character ? or that either of the three is not intitled to belief upon their oaths.

Gentlemen, I trouble you with these observations, because this is the evidence that goes to a very important and decisive point. I submit to you,
this

This evidence stands uncontradicted, is there any thing in this cause that can call upon you to treat the oaths of three witnesses so lightly, as to say We don't believe a word of what they have sworn? But if you believe it, our case is proved, if you believe that the merit of the invention was not *Arkwright's* invention, but the invention of *Hayes*, or of any other man than *Arkwright*.

Gentlemen, I come now to the last question, which is the same that has been twice tried. It was decided one way in this Court, another way in the Court of Common Pleas, it comes therefore fairly and without prejudice for your decision upon the present trial, and the present evidence. I appeal to my Lord, and you, if I don't put that matter fairly to you. Now I address myself to you to make out the last point in question, as to which, I never have been more confident in my own poor judgment, that we are clearly right. That point is, that Mr. *Arkwright*, by this specification, not only did not make a fair disclosure, but purposely intend to puzzle and confound the secret, to prevent its being understood. Is there any doubt, Mr. *Arkwright*, this great mechanic as he is called for certain purposes, was perfectly equal to the description? he could have done it fairly, if he had been fairly disposed to do it.

Gentlemen, I will convince you, when he has to explain he has the ability to do so. You heard at the beginning of the day read, at my desire, his specification under the first patent for the rollers for spinning, Was not that a discovery of importance?—Has not he found it so?—Was there any reason why he should be more willing to part with *that* to the French than the new patent? if there is, let Mr. *Arkwright* or his friends, or his Counsel (if they are not all gone—No, they are not all gone, one still remains I see.) Let any man still get up and interrupt me, I challenge him to say why he should be more disposed to let the French run away with *that* than the present. Only mark the disclosure in the first patent, with all his fears about him; I beg you to take it in your hands: That is the specification of his first patent, there he does all which I wished him to do here, all that a man does who fairly means to disclose the thing he does, that is to say, there is that exact drawing of the machine itself, the perspective, in such a situation, you can best see the most of its parts. But because the drawing in perspective, would of necessity hide some parts of it, the principal parts you will see, the several rollers, are drawn by themselves up in a corner at length, no ends, no sections, nothing of that kind, the rollers themselves are twice over placed, and described exactly, and least there should be a mistake about it, there is a scale too at the bottom of that drawing. That is the specification, and that is the description by which any workman, who makes machines, can make that machine: it shews you, Mr. *Arkwright* can disclose when he pleases, and can put it in every part so plain, that any child may understand it; and why not do it afterwards? Oh! it was through fear of the French. Alas! the French were as terrible as to stealing, before, as now. Why disclose fully in the first instance? He knew the value of his patent, and was ready to pay the price of it—why not do the same now? because if he did, he knew that any man living who put his eyes first upon that patent and specification, and then upon this specification, if fairly and fully made, would have seen that they were in truth the same; and I defy any man to give another reason for the difference of Mr. *Arkwright's* conduct in the two cases.

Gentlemen, I did not trouble you upon the several numbers, but I must say a word or two upon this specification of his, it turns out now, the important

portant parts of the invention, as he states it, are not described. Let me ask a question or two: He describes with great pomp, and puts in the front of the battle, this No. 1. the hammer—What is that for? The learned Serjeant has not cleared that up; he passes that sort of sentence upon it which in another character he is sometimes compelled to do on those who appear before him; he condemns it to beat hemp. Why insert in this specification a hammer to beat hemp? Don't you think that the old machine would have been as useful? Don't you think the other parts of the machine, which are not here, would have been more useful to be inserted? What can you think the drawing of the rollers only by the end of them, and presented to your eyes, by way of putting out your eyes? Don't you think it would have been better to put two or three rollers fully drawn, instead of this hammer to beat hemp, which would not have taken half the room? There it is, it fills the paper almost, and all together you have a great number of materials to perform great operations. I don't mean to repeat my Lord's question, but if I did not misunderstand him, he put that question, which operated in the manner I was just going to state; what would they do, and what would they perform? It is an awkward question, it could not be answered. All these things together would not do half what was wanting; some were for hemp, and some for cotton, some for nothing at all; here they are, here you are to find them, pick them out as you can; here is No. 3. the feeder, 4 the crank, 5 the fillet cylinder, 6 the rollers, 7 is the cann, and 8, 9, and 10 are instruments used in spinning; these are the things that perform this operation. What is it to perform? The operation of carding and roving. Have not I a right to ask this Gentleman for a description? Be so good to tell us *how* they are used for carding. Now having done with the carding, here the roving begins; the roving is performed singly by No. 6. and 7.—For God's sake, give yourself the trouble to say how it performs the roving—No, take your choice; you may take all together, or any of them, which you like; or take them all together, they are to be shook in a basket, you may use them all if you possibly can.

Gentlemen, I will not fatigue you in making the same observations I did before, but I ask you, whether, upon these observations, above all, comparing this specification which he chuses to make, with that he made before, whether you think he could not, if he would, have given a proper description of it? It is true, he chuses not to do it; if this had been the first time, he would have had an excuse; he might have said at first, I did not understand it, if the first had been incomplete; the second I did understand better, because I had experience. However, the second description is not the best, but it is just the reverse. Here the first is completely done, and the second is not done at all; and wherefore is it so ill done? Manifestly for the purpose of deception.

Gentlemen, I am almost ashamed (but the natural, and therefore I hope pardonable zeal of an advocate, has led me into it) to have spent so much time in making these observations as to this part of the case; for in truth I had not forgot, and I trust you will not forget when you give your verdict, there was a piece of evidence given, of the utmost importance to the question now before you, to which the ingenuity of counsel on the other side has been unable to furnish any thing like an answer. Do you think they have such short memories, that they have forgot the evidence of *Crofts*? yet not a word has been said about it. I appeal to the short-hand writer's

notes, whether the counsel for Mr. *Arkwright* said one syllable about *Crofts's* evidence; *Crofts* is a man to whom Mr. *Arkwright* goes to make a drawing of the specification; and what does he do? does he give him the machine to do it by, or a model?—No, he describes to him, how it is done; and the man very modestly says, I don't think this is a proper specification, I am afraid it will not do. Says Mr. *Arkwright*, I mean it should do very well for the patent; I don't mean to repeat his very words, my Lord has got them down. That seems to be the substance of his answer to *Crofts*. And why not do it?—My learned friend says, he chuses to keep it from the *French*.

Gentlemen, I must remind you again of the printed case; it states two or three times over, *that* to be done on purpose; I will not take up your time unnecessarily; you cannot forget the expressions in the case, which have been repeated over and over again, especially the words *intentionally* and *purposely*, which will bear no other construction. Then coupling that with what we are about; are we sitting in a Court of justice in *England*, where common sense must prevail; is it possible you can say any thing but this of it, that, beyond all doubt, this Gentleman meant not to disclose the invention.

The learned Serjeant asked a question, which certainly was a very proper one; says he, What is the sort of disclosure required by law? I will tell you most exactly, because I will read you the words of the statute upon the subject: these are the words of the Act of Parliament, and the words of the concession upon which all letters patent are granted; it ought to be a specification particularly “describing and ascertaining the *nature of his invention*, “and in *what manner the same is to be performed*.” I beg of you to remember those expressions, apply them fairly and justly to this cause, and I am content.

Gentlemen, I am to observe upon the evidence upon both sides which have been called to that point, and, I protest, it seems to me, that if you fairly consider the nature of that evidence, it comes to what we all allow, that doctors differ in opinion. We have brought practical mechanics, and men of great experience and judgment, and persons of undoubted skill as theoretic mechanics; and I am persuaded, Mr. *Moore*, when he said, a man must be an idiot, and not a mechanic, unless he could see, such a thing should be applied to it, if not in the specification, did not mean to speak of Mr. *Harrison* or Mr. *Cumming*; nor have they produced any body to impeach the character or abilities of any of those mechanics that were produced by us. Then what is the evidence you have from persons of great eminence? Some say it is impossible to do it by the specification; others upon the other side giving an opinion it may be done; and I don't mean to forget, two persons have been produced, who have chosen to swear to you, they did it without any assistance; it is wonderful and extraordinary, and so extraordinary, that if that sort of thing could be fairly performed, it is of the utmost importance to Mr. *Arkwright* to take care to demonstrate the fact to be so.

Gentlemen, though I said I would not take notice of what passed at the former Cause, I will take the liberty, for one moment, to say this, Mr. *Arkwright* was warned by the two first trials, and he must know that such evidence was of importance, and he ought to have taken care to have gained it the utmost credit of which it was capable. Two men swear it; one of them had a conversation with Mr. *Arkwright*, and, somehow or other it was, he took care to acquaint him with the old machine; two or three
words,

words, cleverly put in, might direct the man's idea to this. What should have been Mr. *Arkwright's* proceeding? That man, with the assistance of two or three words, can do it by the specification—What ought he to have done? He ought to have desired persons (for he does not mind expence) to pick out two or three able workmen, and put them in rooms with witnesses, and have paid them well, and have had no connection or communication with those witnesses, and brought witnesses to say he had no communication with them, and never had at any time before, and have put this description and the specification into the hands of the persons appointed to do it; and if they did it, it could have been fully proved. This I recommended to Mr. *Arkwright* to do, upon the former trial; nothing of the kind has been done; upon the contrary, he has brought two men to swear they have made them without receiving any particular directions themselves. It is impossible for any man not to see they had some little assistance of that kind, for I will not bring myself to believe, two such men as were produced here, could do that sort of thing personally, which Mr. *Cumming* and Mr. *Harrison* say they verily believe was impossible for any-body to do—I will put that evidence out of the question, as, I trust, you cannot rely upon the evidence of those two men, who were brought here to swear they did it by the specification alone.

Gentlemen, the observations upon the face of the specification itself, the evidence of the man that drew it by Mr. *Arkwright's* directions, and the printed case confessing the fact, are decisive he did not mean to disclose, and that he has not disclosed it.

Gentlemen, it is not enough, with submission to his Lordship I speak it, to give such a description, that, by a possibility, some who are of the business may be able to do it; I say, it ought to be plain and certain to common understandings, and common skill in subjects of this kind. I agree with the learned Serjeant, the disclosure need not be such as that a cobbler might thereby perform the work, but it ought to be so plain, that persons conversant in mechanics may understand it. Even if you believe Dr. *Darwin*, and the rest, they could do it? What then, does it follow, that because two or three are found to say they could do it, that any-body else could do it? There is still so much difficulty, as shews his intention was to conceal it.—To sum up the whole, Mr. *Arkwright* has been too clever; he has been too careful to conceal it; he has failed too near the wind, and must abide the legal consequence.

Gentlemen, I am sorry to have taken up so much of your time; but if you put it upon all the three grounds, I trust they are with the prosecutor; If you are of opinion they are, you ought to find a verdict for the prosecutor; and I sit down with confidence that you will find that verdict, which will be of great benefit to the public: and in regard to Mr. *Arkwright*, he has received sufficient profits from the old patent, and he has no reason to complain of infringement upon, or the loss of, the present patent.

*Mr. BEARCROFT having finished his Reply on the part of the Prosecution,
Mr. Justice BULLER summed up the Evidence as follows:*

Gentlemen of the Jury, this is a *Scire facias*, brought to repeal a patent granted to the defendant for the sole use of instruments or machines, which he represented to his Majesty, that he had invented, and which would be of great utility to the public, in preparing silk, cotton, flax, and wool for spinning; and that these machines are constructed on easy and simple principles,

principles, very different from any that had ever yet been contrived; that he was the first and sole inventor thereof, and that the same had never been practised by any other person whatsoever. It was upon this representation made by the defendant, that he obtained the patent now in question.

The proceeding by *Scire facias* to repeal a patent, is somewhat new in our days; none such has occurred within my memory, though in former times they certainly were very frequent.

The decision of this cause, it is admitted, is of very great importance to the public upon the one hand, and to the individual who has the patent upon the other. The value is likewise stated to be very extensive; and besides, there have been two different decisions upon the question.

It was for these reasons I chose to give the Cause a much fuller and more patient hearing, than I should have thought either necessary or proper, if it had been merely an action for damages between two individuals.

If I found myself under the necessity now of differing in opinion from either of the two very great and respectable authorities before whom this question has been brought, I should do it with great hesitation, and with great diffidence of my own opinion; but, happily for you and for me, we are relieved from that difficulty, because it is admitted upon both sides, that different evidence has been produced now, from that which was laid before either of the Courts upon the former trials, and therefore it will be for you to decide the several questions which I will state to you presently, upon the evidence which you have heard here, without regard to either of those former decisions.

The questions for your decision are three:

First, Whether this invention is new?

Secondly, If it be new, Whether it was invented by the defendant? And,

Thirdly, Whether the invention is sufficiently described by his specification?

It seems to me, the last is the question of the greatest importance.—Because, if you should be of opinion, upon that question, that the specification is not certain enough, it may have the effect of inducing people who apply for patents in future times, to be more explicit in their specifications, and consequently, the public will derive a great benefit from it; and therefore I will state to you the evidence upon that point first, and will endeavour to state it separately from all the evidence which is applicable to the other points of the cause.

Upon this point it is clearly settled as law, that a man, to intitle himself to the benefit of a patent for a monopoly, must disclose his secret, and specify his invention in such a way, that others may be taught by it to do the thing for which the patent is granted; for the end and meaning of the specification is, to teach the public, after the term for which the patent is granted, what the art is; and it must put the public in possession of the secret in as ample and beneficial a way as the patentee himself uses it. This I take to be clear law, as far as it respects the specification; for the patent is the reward, which, under an Act of Parliament, is held out for a discovery, and therefore, unless the discovery be true and fair, the patent is void.—If the specification, in any part of it, be materially false or defective, the patent is against law, and cannot be supported.

It has been truly said by the counsel, that if the specification be such, that mechanical men of common understanding can comprehend it, to make a machine by it, it is sufficient; but then it must be such, that the
mechanics

mechanics may be able to make the machine by following the directions of the specification, without any new inventions or additions of their own. The question is, Whether, upon the evidence, this specification comes within what I have stated to you to be necessary by law, in order to support it?

The prosecutors have attacked it in almost every part.

The first witness who speaks to the specification, is *John Lees*, a Quaker—He takes it up, upon the feeder marked No. 3. He says, the old feeder was made by him, he has examined this specification, and thinks he could not make that feeder which is now used, from the specification, he could not make it, if he followed that specification.

Hall, the next witness, says, it is not possible to make such a feeder from the specification; he could have made nothing of it.

The next witness that speaks to any part of the specification, is *Hayes*; He says, rollers were made by him in 1767; that in 1769, they were the same as this, and those used by the defendant; the one was fluted, and the other covered with leather; first, they were fluted wood, upon an iron axis; the other was the same, only covered with calves leather; he says, he originally made them of a different proportion, and one to move faster than the other.

If there was any alteration that the defendant made that was material, it ought to be specified in the patent; but, in speaking of that article, it is perfectly silent as to the material or form in which it should be made.

Then *John Kay*, speaking of the rollers, likewise says, one turned faster than the other; and there was an use in this, because it was to draw the cotton finer—In this also the specification is perfectly silent.

In the plan, one appears to be something smaller than the other; but how much, or what were to be the relative dimensions, or upon what scale they were to be made, the specification says nothing.

Then they call Mr. *William Doubleday Crofts*, who spoke to the whole of the specification. He says, the defendant applied to him, after the patent was granted, to prepare his specification—The plan was drawn, and he employed the witness to draw up the written account; says he, upon drawing up that, I told the defendant, I thought it was imperfectly done, and that it would not answer the purpose. I asked for the former specification, and he said, *that* was drawn from a model of the machine, by a draughtsman in *London*—The defendant said, he meant it should operate as a specification, but to be as obscure as the nature of the case would admit; for at the expiration of fourteen years the public would have the benefit of the machine; and he thought the machine ought to be locked up; but if it were not, he wished to prevent its being taken abroad. This witness says, he has seen the specification many times since, and, notwithstanding this conversation, it remained the same as it was when he first saw it.

I begin with this evidence, because it is very material to be considered, whether the specification, in any part of it, bears a doubt, because the obscurity of it was pointed out to the defendant before he made it, and he then professed to make it as obscure as he could; his object was, to get the benefit from the patent so far, as putting money in his own pocket, but as to the benefit the public were to receive, it was to be kept back as far as it could.

The next witness was *Francis Ambrey*, a machine-maker, who has worked at it six years; he attempted to make one according to the specification, but found it impracticable, and gave it up.

The next is *Joshua Wrigley*, he made machines four years, he tried to do the best he could, but he could not make the machine from the plan. That he tried it before there was any objection made to the specification.

The next was *Thomas Leaming*, he says, he examined the specification, he is a machine maker, has followed the business about ten years and an half, that he could not make it from the specification, that there was no roller in the cloth, that the fillet cylinder is deficient and will only discharge half the cotton from the large cylinder, that the rollers have no pinions to shew their movements, neither any weights to keep them together, he could have made a machine according to the drawing, but if he had, that machine would be of no use at all.

The next witness is, *Immison*, he says, he is used to make machines from drawings, that there are very few parts of the carding machine described, the crank and one cylinder belonged to it. He says it is impossible to make such a feeder as that described in the plan, because there was no axis to it, and from the specification he should have made a parallel cylinder, and never thought of making a spiral one; yet you observe, that is the one used by the defendant—as to the rollers, it don't appear by the specification, some were to go faster than others, and from the specification without other sources, it is impossible to say how they should be made, as there is no scale to work by, no plan to go from, it is impossible to know how to do it.

Upon his cross-examination he says, as to the feeder, there is nothing but the want of a roller which makes that defective; that a roller is necessary to give a regular direction to the work, that it will not answer without it. He says, from the knowledge he has now, he should add a roller if he was directed to make the machine. But, Gentlemen, that don't prove the specification to be sufficient, because, if a man from the knowledge he has got from three trials, and seeing people immediately employed about it, is able to make use of it, it is his ideas to improve the plan, and not the merit of the specification; if he makes it complete it is his ingenuity, and not the specification of the inventor. He says, as to No. 5, it will not work five minutes together before it will be entirely full of cotton: he is asked, supposing the cotton was to be spread upon the feeder only the breadth of the fillets, would it have that effect, he says it would not do even then.

The next is *Benjamin Pearson*, who says the cylinder the defendant uses was a worm, which stripped the whole of the large cylinder, and they spread the cotton the whole breadth.

The next is *Thomas Barber*, he says, he has been used to make machines from drawings, that he could make the limbs of this, but he does not see how to put them together from the specification, that there is no connection, no moving part or principle, no way of putting them together—nothing to set the rollers a-going. That if there is no axis, the feeder might move without it, but not with any regularity; that the fillet cylinder is not connected with any thing, the parallel filleted cylinder will not make the edges of the rovings good, it would not be carding, part of it would not be carded, that it must leave the cotton upon the great one, and must clog the machine. That, with the assistance of the written specification he could not put the machine together.

John Johnson says, the specification is not a sufficient description of the machines that were produced in Court, he has compared them with the specification and writing, and he is satisfied in his mind they could not be made from them; that No. 3. is in want of a roller, and therefore defective:

that

that No. 4. is pretty well described, that there is no description of the rest of the machinery sufficient to make one by. That he is a cotton engine-maker. He says there is not sufficient directions to put the parts together; that one part is directed to be put to another, but there are chasms between.

The next is Mr. *Cumming*, he is a watch-maker, that he has seen the machines more than once. He says it was mighty easy to have given a description of the machines, to bring it within the scope of a common mechanic, that is not done—that putting himself in the situation, he first saw the specification, he could not comprehend it at all, that now he has examined it so much, that he could not make it from the specification, informed as he is; so you see his knowledge is from other means. At first he could not comprehend it, that if he had employed an artist to make the machines, he must have been asked a great many questions which he must have resolved, though he never should have been led to it by the specification; and if by accident I had hit upon the same machine the defendant has made, I should not have known it was that meant by the specification.

This evidence is as strong as any evidence that could be given upon the point. He says No. 6. would not give any instruction, that he could not find out by it that Mr. *Arkwright* meant the roller should be fluted, and that they would have relative velocities, that he has no authority for the motion by the specification, and it never could have occurred to him to have looked at the old machine, for he thought it an intire new invention, and not depending upon the old description. He says, if No. 6. was representative of the roving passing from it into No. 7. which is the cann, he should have understood it; but No. 7. is represented as a solid, and not a hollow axis to admit any thing else, and he thought *that* a want of evidence of its being an original invention. That it was very easy upon paper to distinguish the spiral from the parallel, but these are represented as parallels. He says, he never understood till that time No. 7, 8 and 9. would any of them serve the same purpose. He says the principal cylinder appears by the specification to be the parallel cylinder, and, says he, if I had been conversant with the former machine, and even known the spiral cylinder had been used in that, yet I should have thought this plan meant to distinguish it from the spiral cylinder. If he is right in that, which don't seem to be contradicted by any witness that I can find, if he is right in that, there is nothing else to be said about this plan, but that it is calculated to deceive and mislead: If calculated to represent the cylinder made use of in the old machine, it might have been done by reference, and then the argument would have been proper, which the Counsel for the defendant pressed; but if the defendant meant to make use of the parts of the old machine, he, by his description has misled every body, who was to make this machine now in question, because he has in his plan, made the specification directly contrary to that used in the old machine. And therefore it is for you to say (if Mr. *Cummings*'s reason be not conclusive in itself) whether, if there be one thing known, and a man gives a design of a different thing in contradistinction to that, and yet means that the thing known should be used, is it not misleading mankind? This witness says, there is nothing in the specification that puts No. 2. out of the question, he should have thought by finding it in the plan it was to be of some use, but he could imagine none for it.

The next witness is *John Vincy*, he says, a gentleman brought the drawing to him, he observed there was no scale, and it was not possible to form any idea of the dimensions of any one part of it. That within three weeks
from

from this time, two other Gentlemen brought it to him ; that his reply was exactly the same, that he could not pay attention to any thing so totally void of any sort of means for understanding it; they produced the description of the drawing, that he reviewed it at two or three different periods ; at last, says he, I was left totally ignorant of the means of constructing the machine this was meant to describe, as ignorant as if he had never seen it. He says, he never saw a cotton mill, but from his knowledge in general he could form no idea of any man being capable of working from drawings that had no scale.

Thomas Walford says, he is conversant in filletting machines, that from this specification he could not have made the machine, it wants the means of communication ; he takes No. 3. to be more like a worm than any thing else from the appearance of it, and he could not tell how to apply it, that he could not put all the parts together ; that it was a very easy matter to describe them so as to be understood, that the spinning machine was accurately described, and this is not at all so, that there is no scale to go by.

Mr. Harrison, who was with his father at the experiments for the discovery of the longitude, told you, that he has examined attentively the drawing, and the explanation, and the machine, that this machine is not described by the drawings ; he says, he could not make them from it, but they might have been very easily described. He says, if he had added the roller to No. 3. that would have been his own invention—that he never had seen a place for No. 2. and so many things are thrown in which have nothing to do with the business, he thinks it must have been for the purpose of perplexing : he says, he concluded No. 6. was new, and did not refer to the first specification, and he gave the same reason that *Cumming* did about the rollers.

Mr. Ewer, who is chairman of the committee of mechanics, at the *Adelphi*, says, that he is acquainted with mechanics in general. He says, if a person confines himself to the specification solely, it is impossible to make the machine perfect without exercising his own inventive faculties ; he does not think a person could make a machine intirely by that specification ; he says No. 3. has no roller, that No. 5. is exceedingly imperfect. He makes the same objection the others do, about the filleted cylinder, that he has seen a great many specifications, that he never saw one so obscure as this ; some of the drawings are in perspective, the others only sections, and that those that are the most important, are the most confused in the description.

Mr. Pilkington says, that *Mr. Arkwright* gave him some cases, which he was to present to the House of Commons, and desired the witness would read them, and promised to send him more by his servant, which he did. Those which were delivered by the defendant, seem to me to be material, because they shew what the defendant's sense of this business was immediately after the first trial. It has appeared from what has been said upon both sides, and it was so stated in this case, that he was beat upon the first trial upon the subject I am now stating to you, that is, the specification. He admits in that he has not properly specified how the machine was made, and he says, he purposely (in prevention of an evil, that foreigners might not get them) omitted to give so full a description of his inventions in the specification attending the last patent, as he otherwise would have done. This he admits, and he goes on and states a trial in *Westminster-Hall*, in *July* last, at a large expence, when solely by not describing so fully and accurately the
nature

nature of his last complexed machines, as was strictly required by law, a verdict was found against him—he bows with the greatest submission to the Court and the verdict against him, and he deprecates the favour of Parliament.

Now, in a case, where an invention is lucrative to so enormous a degree as you have heard, and where the verdict was given against him upon a particular point, had he not been most thoroughly convinced that the verdict was right, or if he could by any explanation have supported his specification, is it to be conceived for three years and a half he would lye by and totally loose the benefit of his patent? But, excepting this application to Parliament, which does not go upon the grounds of his patent being good, but abandoning it on account of his own fault, and desiring favour and bounty there, he relinquishes the patent for three years and a half.

This is the evidence upon the part of the prosecutor against the specification, and it is material to see a little, how the defendant's counsel endeavour to support it. Here is a specification that states ten different instruments; it is admitted by them, that as to No. 8. it is of no use, and never was made use of by the defendant in his machine. It is also admitted, No. 9. stands exactly in the same situation, as these could not be put into the machine. This is a little extraordinary, for if he meant to make a fair discovery, why load it thus with things that they make no use of, and which are totally unnecessary? That could answer no purpose but to perplex. But say the Counsel, we will shew you that there were two machines, and they were two distinct things; for, say they, No. 3, 4, and 5. are the material parts of one machine, and those alone afford all the information necessary. Then besides that, there is the roving machine, which consists of No. 6, 7, and 10. joined together. If that be the truth of the case, and there are to be two distinct machines to be made up by parts only of the instrument specified in this plan, let us see whether it is so said in the specification; there is not a word of it.—It begins with the first, or No. 1. which is a breaker or beater of seeds and husks, and a finer of the flax, hemp, and other articles, which are to be prepared for dressing. Then says the counsel, there was a difference as to those things, because the hammer was proper for the hemp, and not proper for wool: if there be that difference, it was necessary for the defendant to state it in his specification, but he has made no distinction, he has left to those who are to learn his art and secret, to use the same machine for every part of it. He has not distinguished between the cotton and the flax: the specification states that it is proper for every thing. Is it so? It is admitted it is not. Is there any thing which states that these parts are for two machines, and how they are composed? That, the specification is totally silent about—What is there in the specification that can lead you to say you must make use of three things for one of the machines, and three for the other, and which three for one or the other? and even if it were so, what is to become of the other four? If those are of no use but to be thrown in merely to puzzle, I have no difficulty to say upon that ground alone, the patent is void, for it is not that fair, full, true discovery which the public have a right to demand from an individual, who, under the sanction of the Parliament, gets so great a reward as a monopoly for fourteen years together.

However, upon the part of the defendant, they have called several witnesses to shew you it is perfectly intelligible, and that they can make the

machines from this specification. The first is *Richard Pridden*, he, you observe, is partner with the defendant's son, and the defendant's son does actually work this machine: says he, No. 3. is the feeder described by the patent, and that was not in use before to his knowledge, he can only speak to his knowledge. Says he; No. 6. are the rollers, with these the cotton is sized and roved, this is done with less labour than before, and better, because the lengths are longer.

The next is *Charles Wilkinson*, he says he lived at *Nottingham*, kept an academy there, that he was applied to by *Mr. Arkwright* to draw the specification, that he had no directions from the defendant to make it obscure, and he did it to the best of his skill. He had seen the old machine before. He thinks from this specification alone, it might be made; he is not acquainted with the cotton business, but the essential parts are described; but, he says, he looks upon the rollers to be the essential parts of the old machine; as to the roving box and the crank, he took them from a model of part of the machine, and all the rest from the defendant's description: as to a scale, he says, a thing drawn in perspective does not admit of a scale; when you draw sections it is necessary, he thinks it is necessary to have a scale to shew the different proportions of the rollers.

Now you see this man took his information, or a great deal of it, from the defendant himself, and supposing it true, that he or any other person instructed by the defendant, and having seen what he does, can make a machine from the specification, yet that will never support it, unless other people, from the specification itself, who have any knowledge in the business, can also do it. That is not the case with this man: but the last thing he says, is also a material thing against the patent, for he says, for different purposes, different proportions of the rollers are necessary. How is any man to find that out?—It is not said in the specification it must be different in the one case from the other, and that you are to have different rollers for hemp, or for cotton: All this remains to be the subject of a future discovery.

Mr. Samuel Moore says he is well acquainted with mechanics, that he has been examined at both trials, that he never saw a cotton machine, till a day or two before the first trial; he says he has seen the old machine in use before, he says these are rather additions to the machine than a whole and complete machine itself. Now you will observe what he says as to the making of it, "I believe, with due attention to the old machine, and an accurate attention to the specification, I could direct a skilful artificer to make the machine." This is all that a very ingenious sensible man can say of this specification. He has examined the instruments and machine, and seen a great deal of it between the trials, and at last, he believes, with all the extreme caution that I have mentioned to you, that he could direct a skilful artificer to make the machine. He says, that as to No. 3. a piece of cloth with cotton or any other material that was to be carded, rolled up in it, would certainly move much better, and more steady with a roller with inside, but it would do without it. If wanted, he thinks it would easily occur to a mechanic to put it in, that is, that a sensible man would have understanding enough to supply any defect in this specification; but in this case it proves the specification is insufficient. If it will not do of itself but wants something to be added, it is deficient, and there is nothing in the specification that imports there should be a roller in it.

He

He says the crank is clear : as to No. 5. that is intelligible to him, but, says he, if I was bound to proceed according to the form of the plan, I certainly could not direct a spiral cylinder.

According to this account, how is the machine to be made ; the question is, Whether that machine can be made by persons that follow their trade, hereafter, from this specification ? The defendant uses a spiral cylinder, Is that to be found out by the specification ?—Why, No, Mr. *Moore* says it cannot be done. The specification states that there must be parallel fillets, and the defendant uses a spiral one. He admits it is so material to the case, that if it moved in a parallel form it would choak the work ; he says it does look as if it were intended to have an horizontal motion by the length of the spindle, but he admits there is no such description in the specification ; he says upon the former trial it was spread the whole breadth, the cotton was spread the whole breadth, and then it choaked, but now he sees it is put in fillets, there is no necessity for putting it the whole breadth of the cloth ; he says he has read the verbal explanation, and it appears from the drawing, and explanation, that No. 6. is the sections of the rollers.

Now it is admitted by the former witnesses, if there are sections of rollers there ought to be a scale, and there is no scale, there is nothing in the plan to shew the different comparative velocity of the rollers, but there will be a difference, because the one is larger than the other in diameter.

You see how that applies to this part of the evidence.—There is nothing, says he, that shews what the difference of velocity should be, *that* remains for experiment hereafter.—Is that the case with the defendant ?—No, he knew to a certainty what it was—The man that comes to give an account of the invention, says, I had calculated it, and the difference of the velocity was to be as five to one, this is the way I made my rollers, now the defendant has not said a word of that in the specification. In that he has kept back the knowledge he had as to the size of the rollers and velocity, and it is left to people to find it out as chance may direct.

He says he understood pretty well what No. 7. was, but that was better explained by the machine itself. No. 10. he don't think is a difficult matter to account for ; he says, that knowing the original machine, he could have put the machine together.

He thinks now, he could do it ; but that does not apply to the question at all, if he means he could now do it from the four instruments, and the old machine, which the Counsel have told you was all necessary to be understood, for that is not the thing described by this specification.

Upon his cross-examination, he says there is nothing in the specification which imports the cotton is to be laid on in fillets, *that* depends upon the rollers ; as to the velocity of the rollers, that may or not depend upon their size ; he says he is not a practical mechanic ; he thinks there is no difference between the rollers of the first and last machines, he says, from the sections of the rollers he could not determine what diameter the rollers should be for making any particular thread. He says No. 6. and 9. are very much like the old machine ; No. 2. is not used in this machine at all, he does not know what it alludes to. He thinks the cann might do without rollers, but much more ineffectually without the rollers ; he thinks, upon the whole, it sufficient for an intelligent mechanic now to make the machine by it.

The next witness is Mr. *James Watt*, he says, having known the machine, and having the specification in his hand, he thinks he could make such a
machine

machine as this; but when the specification was first put into his hand, he was told No. 1. and No. 2. were not used in the cotton manufactory. Then this man did not act in the same way the others did that were called for the prosecutor, because he had other knowledge conveyed to him more than he could collect from the specification. He did not immediately conceive what was meant by No. 5; he was not acquainted with the term fillet cards, upon reading the specification he did not conceive there was the old machine in it; he, by his own account, was misled, and formed a different idea of the specification and plan from what the defendant used. He says No. 3. would do without a roller, but if it was necessary there would be nothing so common as putting in a roller; that it must occur to any man of common sense; from the plan he had not an idea the cotton was to be put in fillets; as to No. 2. he should have conceived *that* a separate machine; he admits the hammer, No. 1. is not a new invention, and that the rollers used in the roving and spinning machine, perform the same thing, he says there is not a word about the wheels to turn the rollers, he says, to effectuate the different purposes, they may be of different diameters, or the same if they are differently moved by the wheels.

The next witness is *John Stead*, he says he has seen the specification and the old carding machine, and knowing that, he believes he could make this machine from the specification, that he has done part from the drawing, that what he did was to try experiments; says he, my object was to make the new machine, but to avoid his patent—he has no doubt but he could have made the whole, he said it was necessary to find out something that might be clear of the patent, and what he made, was, by substituting different things, meaning to make a machine that might not come under the description of the patent; he says the specification so describes it, that he has no doubt whatever of making it. He says the roller in the feeder does not appear, but the purpose may be answered without; he has seen a mill, which he was informed was built under the patent, and that is with a roller. The spiral card does not appear. As to the rollers, he says there must be a different velocity, but what that might be he cannot tell, and he believes no one set of rollers, of different diameters, could be ascertained for all sorts of work, he says the size of the rollers is not specified, and they could not specify that, because there must be different rollers for different sorts of work.

Then, according to his account, the defendant has not stated that, which was necessary for any one thing. It is not so stated as to enable the person that reads that specification, to know what size they are to be for any one thing to which this patent relates.

The next witness is *Thomas Wood*, who was partner with *Pilkington*, he says he has examined the specification, he put No. 4, 5, 6, and 7. together, and that machine he has worked ever since, he don't recollect that the defendant used any thing else. If that be true, it will blow up the patent at once, he says he believes no-body that ever practised would find any thing necessary upon this paper, but the No. 4, 5, 6, and 7, he should look after no others.

Now if four things only were necessary instead of ten, the specification does not contain a good account of the invention. As to the cann, he made use of it without rollers at the mouth, he thinks it answers just the same without it.

William Allen says, *Stead* furnished him with the specification and drawing, a fortnight before the last trial, and desired him to make a model from the drawing

drawing and specification, which he did, which answered much the same for carding and roving; but, says he, I had another friend I talked to, that was one *Whitmore*, he says the specification is competent to enable a workman to complete the machine: He says it occurred to him they were moveable rollers which were described to him at No. 6; he says, in order to procure different degrees of fineness in the roving that passed between those rollers, it is necessary there should be different degrees of velocity.

William Whitmore has made models of machines for different purposes. He has seen the drawing and the specification—*Stead* shewed it him, that he undertook to make the machine for carding, that he had not even the knowledge of the old machine at first; he says the defendant employed him to make a model, and that *Allen* saw his model before his own was finished; says he, I had two or three hours conversation with the defendant after I had begun the model. I had a description of the old machine, but I think I could have done it without.

The next witness is *Dr. Darwin*, he says he had seen the machine previous to the drawings, he thinks he might have made it from them, he says the want of a scale was not very material, but it would have been worse if they had been intended for different purposes, he says the rollers must have been of different diameters for different purposes.

John Haggett tells you he has known the defendant fourteen years, he says he has seen the specification, he thinks it is a sufficient description for a person acquainted with the old one to form a new one; that he was employed by *Mr. Arkwright* from the first beginning of these new machines, and trying experiments: that he gave him directions sometimes with chalk upon a board, and sometimes by crooking of lead and wire as models, he says he don't remember hearing him say he received instructions from anybody else.

Then *Thomas Bell*, a joiner, is called, he was concerned for the defendant about five years, in making parts of the machine that were invented from time to time; he says the crank, No. 4. he had never known to be used by any persons before the defendant.

This is the evidence that relates to the specification upon the one side and the other. You see, upon the part of the prosecution, they have called to you very ingenious men, that seem to be much beyond what are called common mechanics in life, they have all told you it is impossible for them to make the machine according to the specification.

Upon the other hand, several respectable people are called upon the part of the defendant, who say they could do it, but there is this difference in their description, most, if not every one of them, have looked at and seen how the machines were worked by the defendant, and have got their knowledge by other means, and not from the specification and plan alone; besides, they admit the manner the defendant works it, is not consistent with the plan laid down, particularly as to the cylinder, a particular part of the business; for *Moore* says, this upon the face of it must be taken to be a parallel, whereas that which plainly appears to be used is a spiral; besides, after all this, they have spoken most of them in a very doubtful way, particularly *Mr. Moore*, who qualified his expression in the way which I have stated to you, and the others qualifying their expressions, saying, they think upon the whole they could do it. Suppose it perfectly clear they could, with the subsequent knowledge they had acquired, yet, if it be true, that sensible men that know something of this particular business, and mechanics in general,

general cannot do it, it is not so described as is sufficient to support this patent: it will be for you to say, upon this part of the case, whether you are satisfied this specification is such, as, with the plan, it may be made from it or not, taking the whole machine in to its assistance, which by the bye the specification has not taken notice of as known. If you think it is not sufficiently described, that alone puts a compleat end to this cause, and then it will be unnecessary to trouble you with any other. As to the other points, they are two: first, Whether it is a new invention; and, in the next place, Whether it was an invention made by the defendant.

Now if, in your opinions, it is material to go into these points, I think the law in general is very different on them from what I have stated in the specification, because, in the case of an invention, many parts of a machine may have been known before, yet if there be any thing material and new, which is an improvement of the trade, that will be sufficient to support a patent; but whether it must be for the new addition only, or for the whole machine, would be another question. It seems to me, not to be necessary now to state precisely how that would be, because this patent is attacked upon the ground that there is nothing new; therefore I will go over the articles one by one, and see what is stated upon the different articles which are here mentioned.

As to No. 1. see how the defendant has stated that in the specification—That is stated to be a beater or breaker of seeds, husks, &c. and a finer of the flax, hemp, and other articles, which are to be prepared for dressing, in which (a) is a wheel with teeth, which, by acting upon a lever, raises the hammer (c), the lever being moveable upon the centre (d).

Now this, it is said, is not stated by the specification to be joined to any thing else, and therefore it must be taken to be a distinct thing. It is admitted, that is not a new discovery, for *Emerson's* book was produced, which was printed a third time in the year 1773, and that is precisely the same as this—Several other witnesses speak to that—Upon the part of the defendant, there is no contradiction; and therefore I will pass it over without going over the rest of the evidence, as clear that it is not new.

Then, the second thing is an iron frame with teeth at (a,) working against a lower frame with like at (b)—It says, this lower frame is firmly connected to a wooden frame, by means of the screws (c, c,) and the upper teeth are made to act against the lower by means of the joints marked (d).

Let us see, how has this been used. Says *Benjamin Pearson*, I never saw it used by the defendant at all, as I recollect; if I ever saw it used, it is no part of the invention; if I have, it is more than I know. I worked with him seven years after the patent was granted, I don't know that he ever used it at all.

The next is *Josua Wrigley*, he says, I never saw No. 2. used in the business; he has been in the business four or five years, and worked for several gentlemen, not with the defendant, but this was not used. Indeed this was likewise laid out of the question by the counsel for the defendant, for that, he said, had nothing to do with it.

If it had nothing to do with the machine, it is very difficult to say, how, with a good motive, it could ever come into the specification or plan.

The next is No. 3. That is described to be a piece of cloth with wool, flax, hemp, or any other such materials spread thereon.

No. 3. says *Wrigley*, I have seen work ; that is the feeder—This he produced as the feeder used before the defendant's patent, and performs exactly the same operation as the defendant's ; and it is better, because the cotton needs no spreading upon a table, neither does it require taking the cloth off and on, and, according to the defendant's, you must take it off every time the cloth is filled. He says, he has been acquainted with most of the cotton works, and the old feeder is most used.

He says, the specification don't shew how No. 3. is to be worked, nor how the cotton is to be taken off, and it shews no roller nor centre.

The next witness is *John Lees*. He says, he is the inventor of the old feeder ; that he made it in 1772, and in *August* 1772 he worked with it, and that is now commonly used in his country. He has never seen the defendant's used, but the description of the defendant's is the same as his.

This also shews, first of all, that it is no new invention.

Secondly, it is not invented by the defendant, for this invention is spoken of as used before the time of the patent. And,

In the next place, it is proved to you not to be the invention of the defendant, by the person who actually invented it.

Thomas Hall says, he worked with *Lees* at the time he made the feeder, in *July* 1772 ; that he never saw or heard of it before that ; that it is better than the defendant's, and much used now.

Henry Marstrand tells you, that he used the feeder in 1771 ; that in 1772 the defendant came to see his works ; that he made no objection to his using the feeder. These are all the witnesses that speak to that article, except *Innison*, who, I see, speaks to it likewise ; says he, as to that, there is an objection to it, for the want of a roller, but it is proved by the other witnesses it might be made use of without a roller. The defence to that is, though there is no axis, yet it might be made use of, though it would not move with the same regularity, and the work could not be carried on so well as it should.

The first witness upon the part of the defendant is *Richard Pridden*, who has been in the business for preparing wool and cotton for spinning fourteen years ; he says, the feeder used in this machine was the feeder described by the patent, he don't know that it was in use before—*Mr. Moore* treats it as an addition only ; but he admits the roller is proper, and yet it is not stated.

Mr. Watts says it would do without the roller ; but, if necessary, a man must be a great idiot if he has not sense enough to discover it.

The evidence for the prosecution on this article is not at all contradicted ; and it is shewn, that it was invented by the man who proved it himself, by *John Lees*, that is not contradicted by any one witness whatever for the defendant ; upon the contrary, he is confirmed by one of the witnesses, *Hall* ; and *Marstrand* proved he used it long before the time of the patent—The next is No. 4. that is the crank ; *Mr. Marstrand* says, that after he had used the crank, the defendant objected to it, therefore says he, I gave it up.

But *Elizabeth Hargrave* tells you, this crank was first used by her husband (and he died about eight years ago) in partnership with *James* at *Nottingham* ; that he worked by himself, and took great pains about the crank, and compleated it so long ago, that he began working it thirteen or fourteen years since. She says, he carded with it, and took the carding off the cylinder by such a crank as is now produced ; that it took it off exactly the same ; that he used it in his factory. She says, the defendant was then in
business,

business, and lived at *Nottingham*; that she never saw the crank any-where but in her husband's room; she afterwards told you, when that crank was finished, it was carried down to the shop thirteen years ago, and above, and he there worked with it; and when her husband invented it, he employed *Whitaker*, a smith, to put it in iron.

Then *George Hargrave* says, his father used the crank in the public shop where all the men worked; this was in 1773, when he came from *Lancashire* to *Nottingham*; after the time that he got there, his father had it in public use; that one *Bird* also used it at the same time in his factory.

It is proved by these witnesses, first, that it was invented between thirteen and fourteen years ago; and it was not Mr. *Arkwright*, but *Hargrave*, who invented it; and it was used publicly in two factories, where men came to work.

If that be so, that will put an end to this article, namely, the crank.

George Whitaker says, he is a smith and frame-maker; that he made many cranks; that *Hargrave* came to him, and told him he wanted such a machine, and the purpose he wanted it for; and by his directions, and his own judgment, he made a crank like this which is produced, only turning the joints the other way; that it took off the cotton the other way from the cylinder, but exactly the same; that some call it the taker off, some the comb; then it got its name. He says, he has made some for one *Hudson*, three for *Grimshaw*, some in 1773, and one for *Lister*; and he says, he has made near twenty in the whole. He says, they got into very general use before 1775. It was used in the public shop of *James* in 1773; that it was worked so much, that in *January* 1774 the witness repaired it; there were several brought to repair in 1774, and they were chiefly in use after 1775; they were never left off, as he knew of.

The next witness is *Richard Hudson*, who says, he has made many carding engines, in 1774; he thinks, some before, but is not sure; these cranks were used then by him; there were cranks in all the engines, and the same as these; that he employed *Whitaker* to make the cranks; that he made one for *Brotherton* that was in *Scotland*, another for *Smoke* in *Nottingham*, and he made them for *Rawson* and Co. at *Nottingham*; and one for *Lister*, for carding wool.

Then *John Bird* says, in 1773 he had a crank of his own, used in his own shop, in his cotton manufactory at *Nottingham*.

Thomas Chatterton says, in *January* 1774 he saw one at Mr. *Bird's* at *Nottingham*; that *Hudson* made it, and he used it in his manufactory in *April* 1774, at *Ashbourn*.

Then *Thomas Ragg* says, that the cranks were in public use before 1775. He was apprentice to *Whitaker* the maker; he speaks to the time.

Then as to this article upon the part of the defendant, Mr. *Moore* contents himself with saying, the specification is clear enough as to that; his evidence does not apply to this part of the case.

Wood says, he never saw the crank in use before *Arkwright's*.

John Haggett says, he was employed to make one for Mr. *Arkwright*; that he never knew it used by any person before, to his knowledge.

And *Thomas Bell* likewise says, he never knew it used before Mr. *Arkwright* used it.

Some of the witnesses have proved them made in great numbers, and used in different factories publicly, and they have proved it by the persons who made them.

Upon

Upon the part of the defendant, the witnesses never having heard of it, may be perfectly true, and yet no contradiction to the evidence for the prosecution.

As to No. 5. the filleted cylinder, Mrs. *Hargrave* speaks of it, and says, the original cylinder was covered all over with cards; that her husband used it for ribband filleting; that he used it about fourteen years ago, but he never brought that to any shop or factory; he thought the other better, and carried that to the shop with the crank.

Then *George Hargrave* says, it had no fillets, that he recollects, in 1773; but, you observe, he did not come till 1773 to *Nottingham*.

Then *Robert Pilkington* says, the first engine he was concerned in was made by *Richard Livesey* and himself in 1770; that it had a filleted cylinder; that he got one that was striped in the fillets, like this; that he had a cylinder that was quite covered that was meant for tumming, the first operation in carding; that it was one continued carding, instead of so many rovers or lengths; he does not know that the filleted cylinder will answer any purpose the other does not.

The next is *Thomas Hayes*, He says, he has made engines; that he has seen the defendant's about twelve or thirteen years ago; and he says, his cylinder was covered over with cards, the same as the one now produced. In 1767, he speaks of making the rollers, and says, he made the machine that made continual roving, as this does; that he had a cylinder, like that which was produced, to take off the cotton from the other; this was twelve years ago; he sold them to manufacturers for use; that he made his machine for spinning and roving; that he made it rove and spin with the same rollers, by doing it twice over in the manner he shewed to you.

Then upon the part of the defendant, as to this article, *Wood* mentions at first, and his evidence falls in also with what was said upon the part of the prosecution, that in 1773 it struck him the cylinder might be intirely carded, and he did it so; and in 1774 he made a full trial of it. He had parallel cardings in 1774. He did not make much difference between the roving and the spinning machines.

He also proves it used long before the defendant's patent; he confirms what was said by the other witnesses; and what the other witnesses have said against it, is nothing at all to this article, for here it is proved to be used in both ways, in the manner the defendant has used it now, and likewise being carded quite through.

Now if it was in use both ways, that alone is an answer to it; if not, there is another question—Whether the stripe in it makes a material alteration? for if it appears, as some of the witnesses say, to do as well without stripes, and to answer the same purpose, if you suppose the stripes never to have been used before, that is not such an invention as will support the patent; upon that ground, it is fully answered.

Then it comes to No. 6. *Hayes* says, he made use of rollers in 1767; and in the same manner two years after, as these were; one was fluted wood, upon an iron axis; the other the same, only covered with leather.

Hayes says, he tried the spinning of cotton by the rollers; he employed one *Kay*, a clock-maker from *Warrington*, to make a small model.

John Kay says, he told the defendant, that he made these things in the year 1767.

Says the witness, the discourse came up about spinning cotton by rollers, and he said, he thought it would answer very well. Says the defendant, it

A a a

will

will never answer, many have ruined themselves by it; notwithstanding *Kay* persisted he thought he could do it, if he had money. The next morning, before he was out of bed, the defendant came to him, and asked if he could make a small model. He came again, and the witness got the model from *Hayes*, and told the defendant, that he and another person had tried it. Then afterwards he says, he went with the defendant to *Nottingham*, and worked with him upon the discovery found out by himself and *Hayes*.

Kay is confirmed in it by his wife *Sarah Kay*.

The next is *Neddy Holt*. He says, he was employed in 1774 to make these rollers; that the defendant came to him, and told him he was an intruder upon his patent, because his roving was the same as his spinning.

This, I think, is the evidence as to the 6th article.

Then for the defendant, *Pridgen* says, that, that which is described as No. 6 is the same that is used, that is, the rollers; but it is admitted, it is not stated in the specification, of what size they ought to be; and I think the rest of the evidence upon this article goes merely to the description in the specification, and not as to its being a new invention; so that, that evidence stands also uncontradicted.

As to *Hayes* and *Kay*, there is no contradiction at all to the evidence they have given, namely, that they were made before, and used in the different ways I have stated to you, and that the defendant got the secret from them.

Then the 7th article is what they call the cann. *Holt* says, the only difference between the two, the spinning machine and the present roving machine, is, that the latter has a cann; and indeed, that, at one time, was admitted by the counsel for the defendant.

If it be so, it brings the case to a short point indeed; for if nothing else is new, the question is, Whether it is material or useful? The witnesses upon the part of the prosecution say, it is of no use at all. In the first place, they had that before which answered the same purpose, though not made exactly in the same form; it was open at-top, it twisted round, and laid the thread precisely in the same form, and had the same effect this had; so if it was new, it is of no use; but they say it is not new, for though it was not precisely the same shape, in substance it was the same thing, that is not contradicted.

That part also stands without any contradiction upon the part of the defendant, for the defendant's witnesses satisfy themselves with telling you they think it intelligible, and it might do without the roller, though it might not be so effectual as with the roller. It is admitted by several, it could do without, that appeared from the experiment made; they shewed you by one of the engines, how it did with the roller, and how without; and that it was done without, just the same as with it.

As to 8. and 9, it is admitted those are intirely out of the cause, and may be used, says the counsel for the defendant, instead of No. 7.

The question they make is, the specification does not import that 8. or 9. was necessary to be used, and because No. 10. is to be fixed to No. 6. to work No. 7, 8, or 9. Now the words of the specification are these,
 “ No. 8. is a machine for twisting the contents of No. 6. in which (d, d) is
 “ a frame of iron; (b) a roller upon which a bobbin is fixed, this is turned
 “ the same as No. 7. that is, by a dead pulley, or wheel fixed to a wooden
 “ frame at (G). Then, No. 9. is a spindle and flyer fixed to No. 6. for
 “ twisting

“ twisting the contents from (b) in No. 6. — (a) is a pulley under the
 “ bobbin, which hath a communication by a band to No. 10. at (d, d,) it
 “ being a conical or regulating wheel, which moves the bobbin quicker or
 “ slower as required.”—This is the account given of those two, namely,
 that nothing imports to be used with No. 7. but, on the contrary, that
 was to be used instead of them; therefore you may take any one of
 these things, and it will do.

The first question is, Whether that is the fair construction of this specification? Suppose it was so, it is perfectly clear the defendant has never used either of them, and some of the witnesses tell you they cannot use them at all. One tells you they cannot be used, and therefore it is a little unfortunate they got into this specification, if nothing more was meant than to make a fair discovery of what was useful; but in this manner the description is given.

As to No. 10. nothing is said about it for the defendant. First, Mr. Moore said, it was not difficult to conceive it; but there is no witness that says at all what the use of it is—So this seems to stand without any evidence at all.

Gentlemen, thus the case stands as to the several component parts of this machine; and if, upon them, you are satisfied none of them were inventions unknown at the time this patent was granted, or, that they were not invented by the defendant; upon either of these points the prosecutor is intitled to your verdict.

If upon any point you are of opinion with the prosecutor, you will find a verdict for him.

If upon all the points you are of opinion for the defendant, you will find a verdict for him.

The Jury, without a minute's hesitation, brought in their verdict

FOR THE CROWN.

On the 10th of November 1785, the Court of King's Bench was moved by Mr. Serjeant Adair, in behalf of the defendant, for a Rule, to shew cause why a new Trial should not be granted; and he stated to the Court as follows:

In the business of the KING and *Richard Arkwright*, I am instructed, my Lord, by Mr. *Arkwright*, to apply to your Lordship, for a Rule, to shew cause why there should not be a new trial.

This cause was tried the Sitting after the last *Trinity* Term, before Mr. Justice *Buller*—The Court, I believe, are already sufficiently apprised of the general nature and history of this case, to render it almost unnecessary for me to state, that it was a Cause of as great consequence as ever came on for trial, in this or any Court, for a number of years; a Cause of great consequence, whether it was considered with regard to the property of the parties, and the value of the matter to the public, from the effects which
 will

will ensue from a verdict upon the one side or the other—therefore, the Court will wish this question should undergo, before it is finally closed and decided, as full and complete an investigation as possible, in order, that the verdict and judgment, in a matter of such moment, may give universal and public satisfaction.—Under these circumstances, therefore, I trust and hope, it will appear, from what I am instructed to state to the Court, of such consequence as will induce them to think, this matter ought not finally to be determined by this trial, but that Mr. *Arkwright* should have, what, under the circumstances of the case, he instructs me he has not had, the opportunity of laying before the Court, completely, all the facts which are connected in this business, so as to enable the Court to see and judge with accuracy and precision, upon which side the right lays.

Your Lordship is apprised, this question has been the subject of discussion in two trials, prior to that which was the subject of the present application, and it is a fact that will be in the recollection of the learned Judge, who heard the full opening of the former proceedings, that in the two former trials, each turned (though the evidence was different) upon the same question, that is, upon the sufficiency or insufficiency of the specification which the law requires, in order to support a patent.—On the first trial, Mr. *Arkwright* was not so well prepared as he might have been, upon the question, and the verdict went against him, and, for a considerable time, he acquiesced in that verdict, conceiving, as he states in an affidavit I have before me, the law to be stricter in that respect, then he was afterwards advised it was; upon being led to understand that there was a different construction of law upon the point, he thought it right to make another trial upon that principle, with respect to that question which had been the only one agitated in the first cause; in consequence of which, he brought a new action; the event your Lordship is apprised of, and further, that the sufficiency of the specification upon the second trial as well as the first, was the only point that was then gone into, either in evidence or in argument, before the Court.—This case, my Lord, having thus undergone two investigations of the nature that I have stated to the Court, Mr. *Arkwright* states, that upon the present *Scire Facias* being brought against him, he was led to suppose that his opponents had already brought forward all their artillery, and that the subject of the *Scire Facias* was only to procure, in another shape, and in another Court, a revision of the same question which had been agitated before.

My Lord, he was led to suppose, that upon two trials, upon a question of such importance, no evidence that appeared material to the party, would have been suppressed and kept back, and that they had gone into all the cases that could be made against his patent: under these apprehensions, he swears, that he did not expect them to adduce, in the next stage of the business, and after so many trials, evidence to attack that, which he was conscious could not be justly attacked, namely, the originality of the invention—he went therefore into the defence, and instructed his counsel with a view to that question, merely, of the specification; and he came to trial upon the *Scire Facias*, altogether unprepared with respect to the evidence that appeared as to the novelty of the invention, except so far as the witnesses that were accidentally called to explain the specification, could speak upon the subject, he came prepared with evidence upon the question of the specification, and that was the cause, my Lord perfectly recollects—when we saw the two

issues that were joined upon the *Scire Facias* upon the point, as to the originality and novelty of the invention, we found a very manifest deficiency as to the evidence upon those heads, but your Lordship knows, when those matters are laid before counsel, it is then too late to seek for new instructions, and he was under the necessity of going to trial, with that preparation and that evidence that was thought fully sufficient by Mr. *Arkwright*, as he was fully persuaded, they would not venture to attack the originality of his invention: however, it turned out upon the trial, contrary to the expectations of Mr. *Arkwright*; it was then agitated, and the chief force of the evidence was then against the originality of the invention, and the evidence under those circumstances was a very considerable degree of surprise to Mr. *Arkwright*, upon application to him, we found him not prepared with witnesses, they not being then in town to contradict, and he had reason to believe the learned Judge would set it right, and the verdict of the jury, which was a general verdict for the Crown, was principally founded upon that kind of evidence.

Mr. Justice *Buller*. Which?

Mr. Serjeant *Adair*. Upon that point, as to the originality of the invention.

Mr. Justice *Buller*. I cannot say that, nor can I say, if you ask now, which point it was, they were all so strong.

Mr. Serjeant *Adair*. I will state to your Lordship one ground upon which it appears strongly to me, if I am rightly instructed, it was the principal point upon which the jury rested their verdict: I am instructed; after your Lordship had stated the evidence upon the one side and the other; that related to the specification in the patent, that your Lordship then paused, stating to the Jury, if they were sufficiently satisfied upon that point, it rendered it unnecessary to trouble them with any more evidence in the cause; after which, I am instructed; the jury desired your Lordship to go through the whole of the evidence.

Mr. Justice *Buller*. I will state how that was—You state it very clearly and accurately, it appeared to me, after we had been four or five hours in the cause; the defendant had not a leg to stand upon; I thought it a point of duty and decency in me, in such a cause, and of that consequence, and where it had been tried before two respectable judges, who held a difference in sentiments; that I should hear it fully out. I began with directing the idea of the jury, to that point, and I believe it occurred to the jury, that if it was ever so clear, it was better they should hear it all out.

Mr. Serjeant *Adair*. Thinking at least that was doubtful, what opinion the jury might have with respect to it, my application to the Court rests upon this ground, that Mr. *Arkwright* states in his affidavit, that for the reasons that I have mentioned to the Court, he was not prepared with that evidence which he would have adduced, and should be able to adduce upon a future occasion, if the Court will give him an opportunity, in order to contradict and explain such part of the evidence for the prosecution against him, that deprived him of the opportunity of proving the originality of his invention.—Besides his own affidavit upon that subject, he will produce another affidavit, if the Court thinks it right in this stage of the business before them.—The purport of those affidavits are, severally, to state the evidence that could have been given to contradict the evidence of *Kay* and

Mrs. *Hargrave*, and some others that were material witnesses upon that part of the case.—Your Lordship recollects, one part of the evidence was, the use of a part of this machine, called the crank; another, and a very material part of it was, that respecting *Hargrave* and *James* at *Nottingham*, the widow of *Hargrave* and her son were called, respecting the crank, and they swore to the use of that, thirteen or fourteen years before, they carried their evidence to 1772.—Now I have the affidavit of Mrs. *James*, the widow of the other partner, and of his son, and one or two of the workmen employed under *Hargrave* and *James*, that will contradict that fact respecting the crank, and state, that it did not come into use till the latter period; and they will further state, that they were informed from *Hargrave* himself, that the invention had been surreptitiously obtained from a workman of Mr. *Arkwright's* himself, and so far the proof of attacking the originality was opened with respect to *Hargrave* and *James*, and it was said, when fully laid before the Court, it would be an additional circumstance to prove, in truth, *Hargrave* was the original inventor of the crank.

There is another point, upon which Mr. *Arkwright* states he was not provided with evidence, not conceiving it was the point to be litigated, which was, there were some articles in the specification which your Lordship recollects were supposed to be immaterial, and to be inserted only for the purpose of puzzling and perplexing.—It can be proved to be so far from being the case, that some or most of the parts were material, when the machine came to be applied to wool instead of cotton, and the others had actually been used by Mr. *Arkwright* himself and his workmen. It was therefore necessary to insert them in the patent, in order to cover the whole of, what he conceived, his invention, and not for the purpose of perplexing, and this ground seems to derive additional strength from the conduct of the parties. Upon the other side, if your Lordship will recollect, that some surprise was expressed, not only by us, but I believe even by the Court, when this body of evidence was produced upon the part of the prosecution; Why did it not appear upon the former occasions? for if it was true, and uncontradicted, it was your Lordship's opinion it would make an end of the cause: upon that, I recollect, it appeared that though it had not been made use of upon former occasions, yet the parties were clearly in possession of it so early as the first trial; for it was stated, that many of those witnesses were in the original brief upon the first trial—if it be so, upon what ground upon earth, but that of deceiving and reserving a masked battery of evidence, could it be possible, a party in a matter in which he was so much interested, would not discover it?

Earl of *Mansfield*. They did very right, I suppose they saw the opinion of the Court upon the specification.

Mr. Serjeant *Adair*. It certainly, in a question of that kind, was keeping back that body of evidence intended to produce the effect it has, to prevent Mr. *Arkwright* coming prepared to contradict or explain that evidence—if the whole of that evidence had been adduced upon the first, or even on the second trial, there might have been an opportunity, in the further discussion of the business, to procure an examination of that matter, by fresh evidence, or some other way, when the defendant would certainly have it in his power to lay evidence before them upon that occasion, and they ought not to have waited till the trial by *Scire Facias*, which is the last stage the law admits, the event of which, in the nature of it, is final. In respect to the right
between

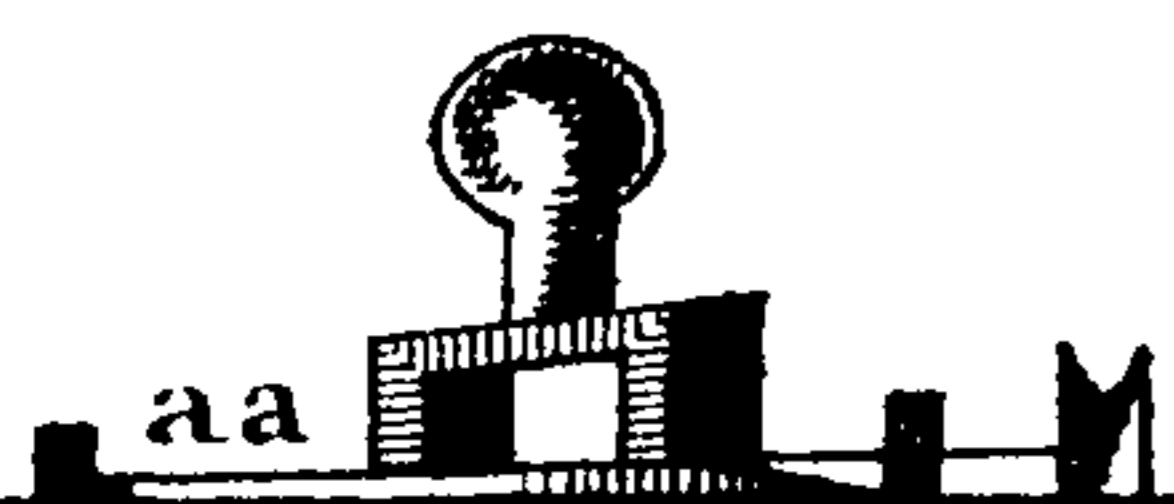
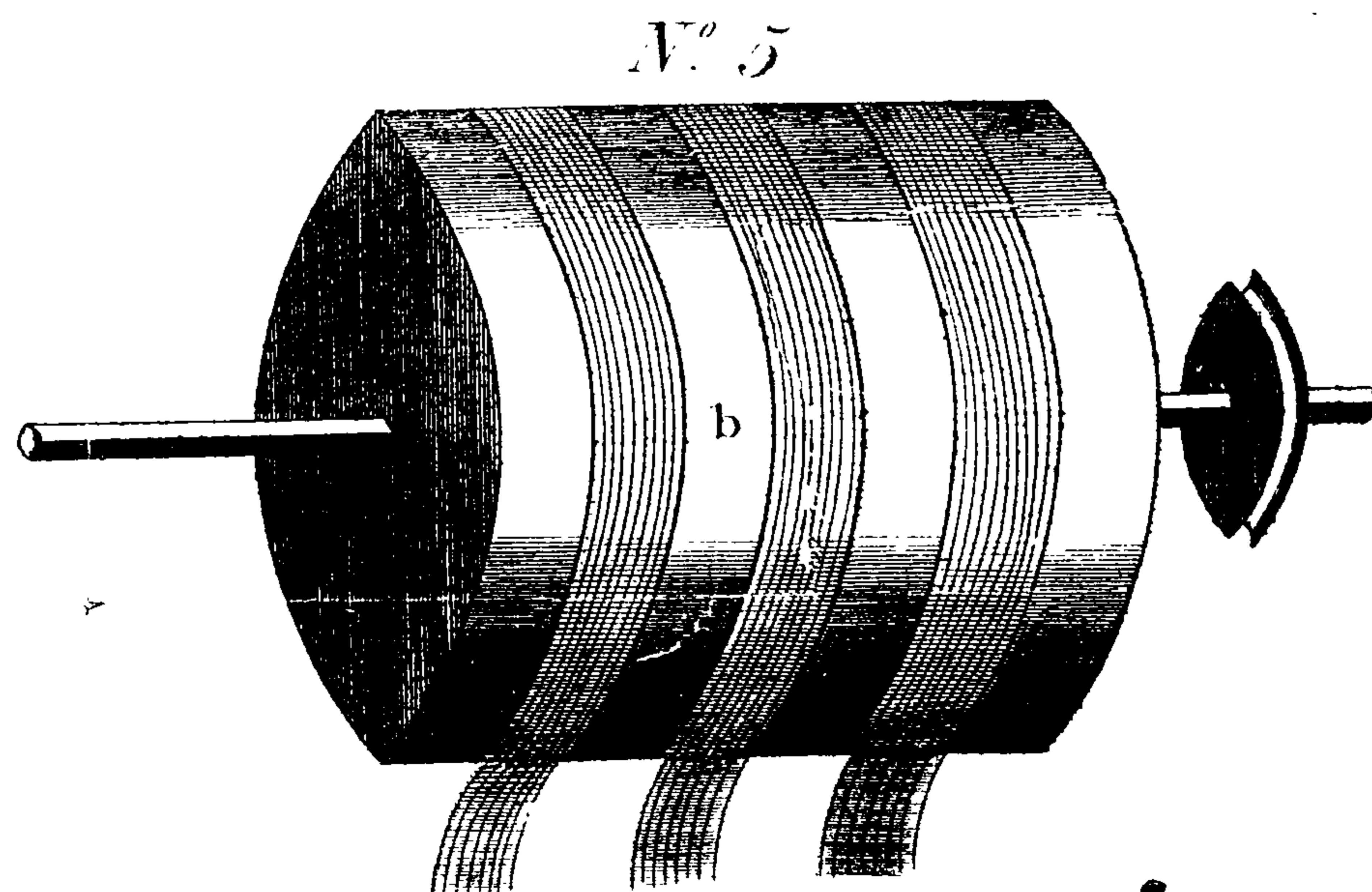
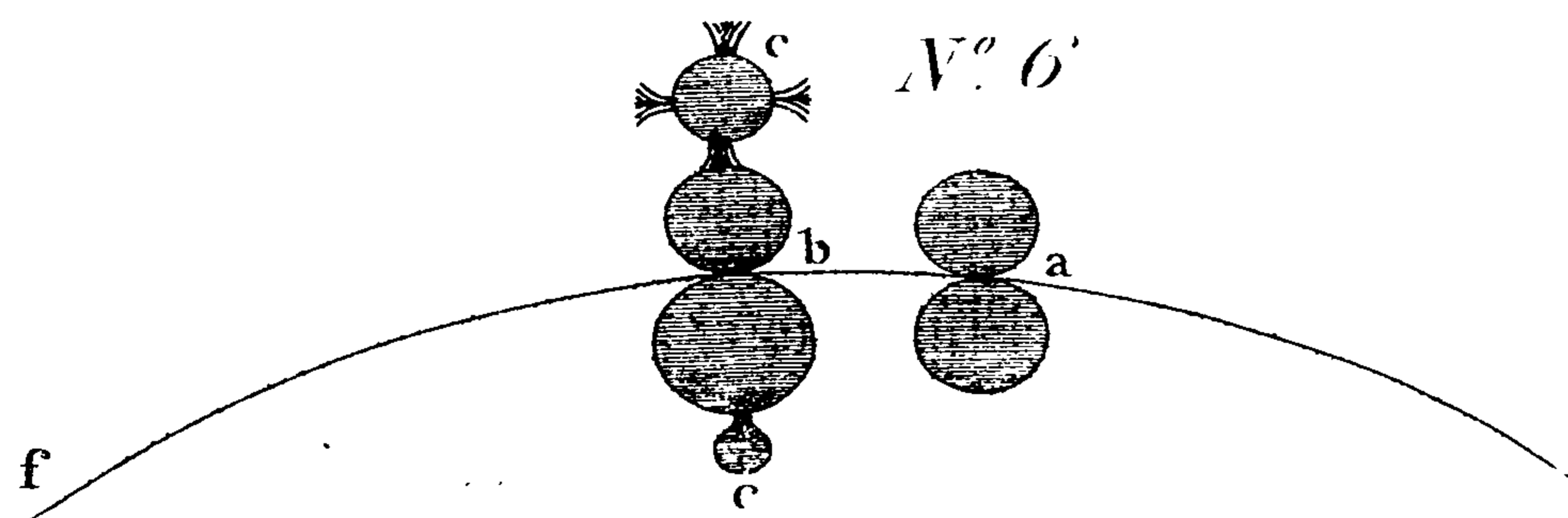
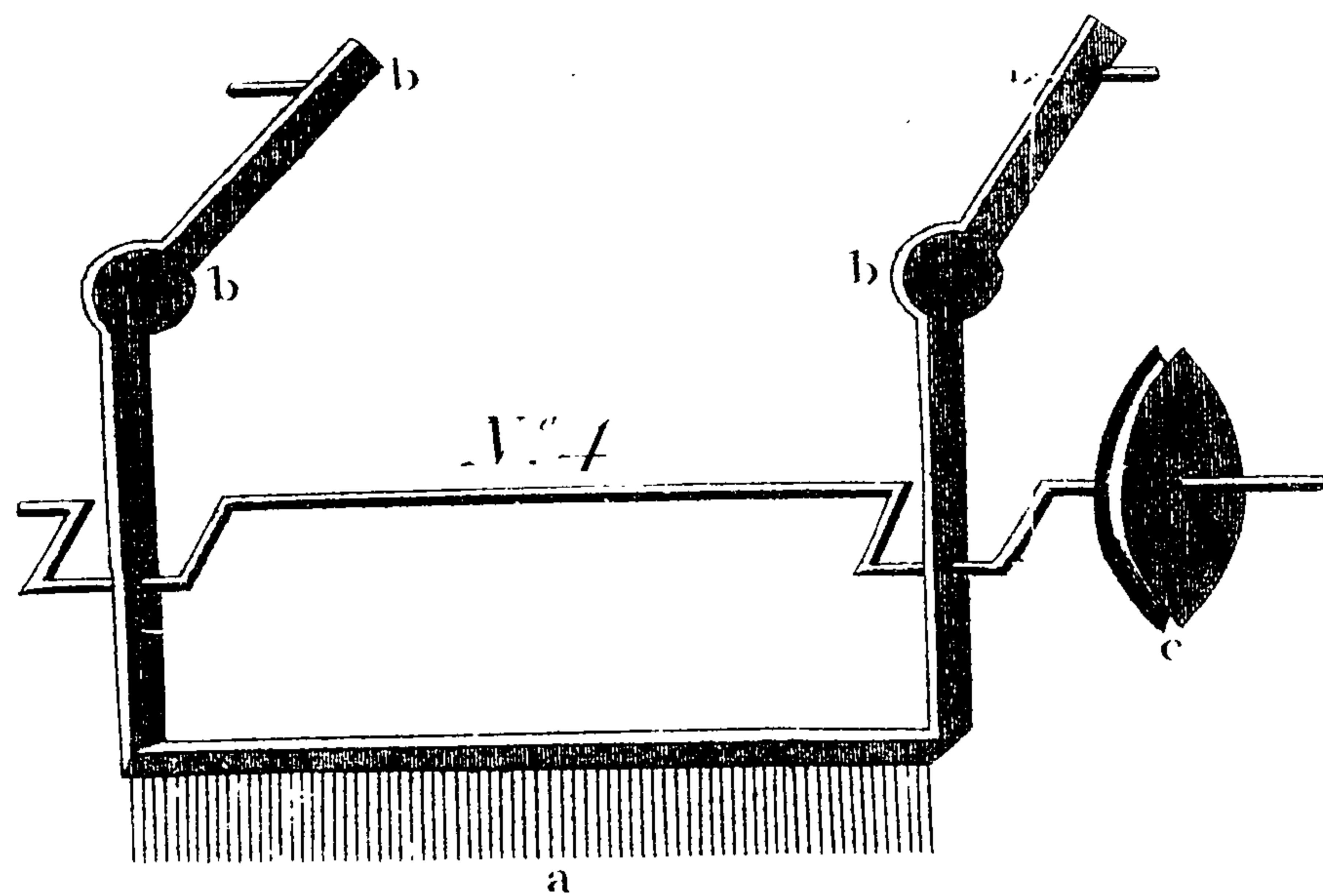
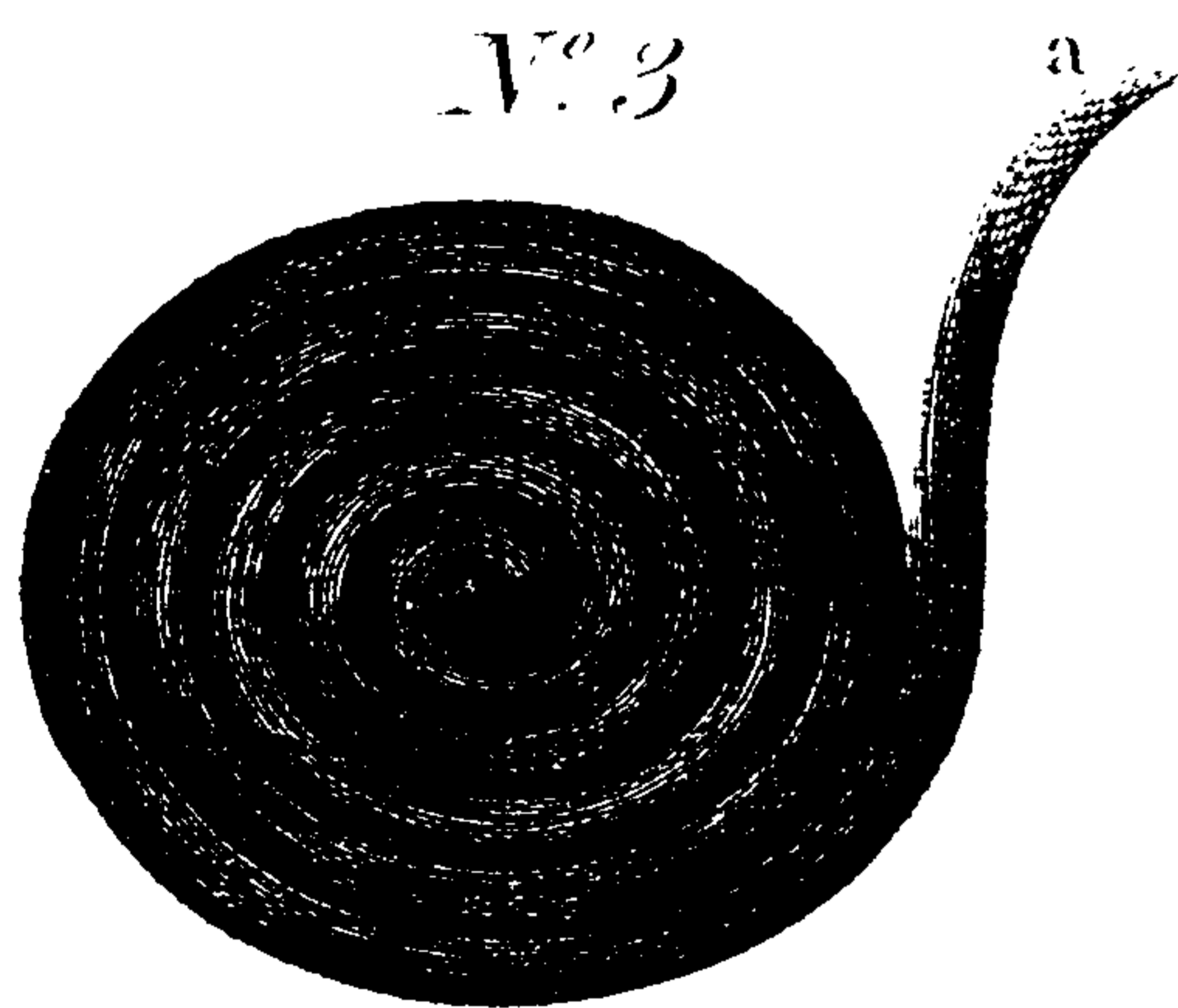
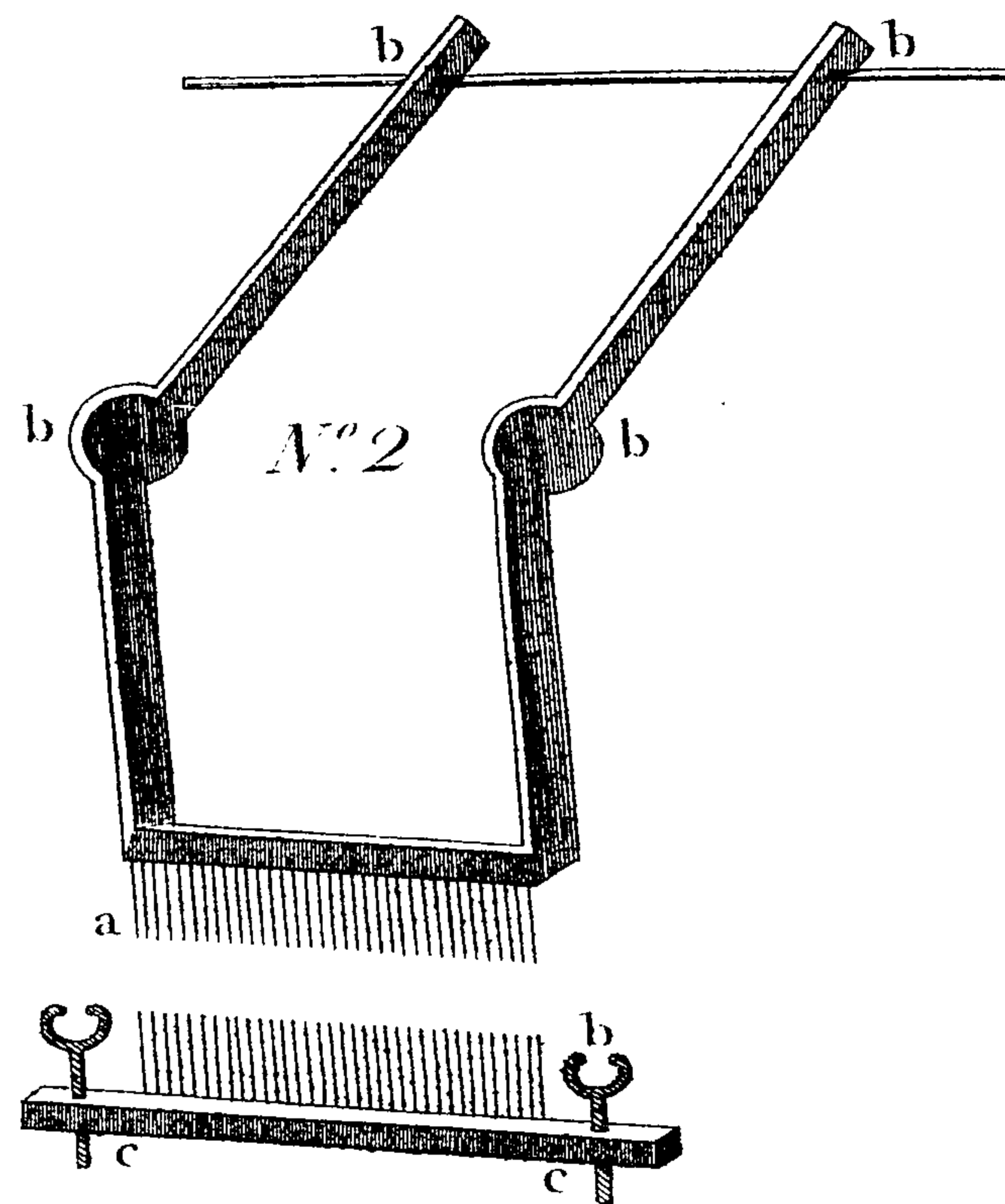
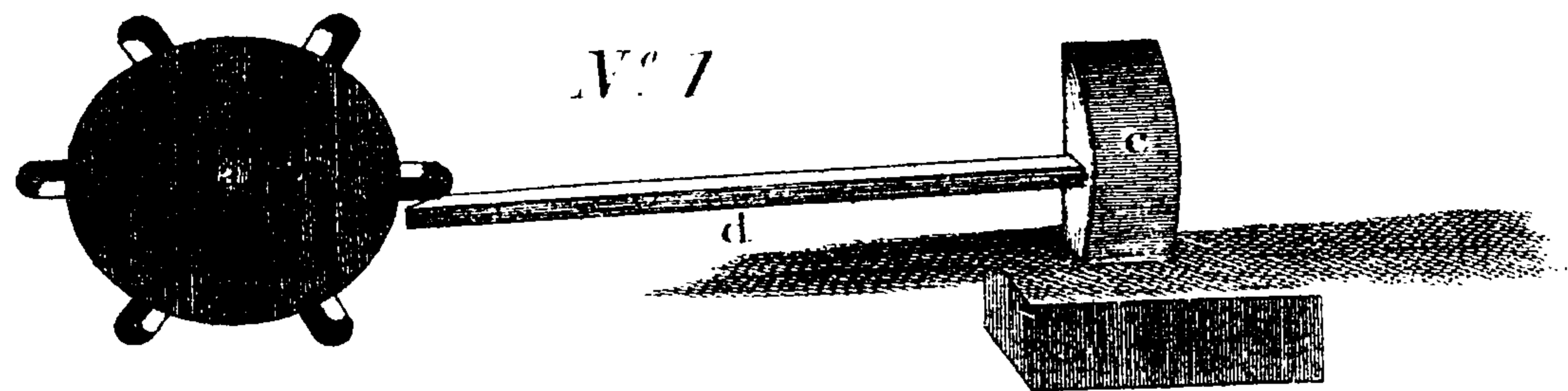
between the parties, they had an opportunity of bringing that evidence forward with safety, and without a possibility of being contradicted afterwards, unless we can succeed in the present application to the Court, and I flatter myself, upon reading this affidavit of Mr. *Arkwright's*, and the other witnesses, the Court will see sufficient reason to grant a new trial, when this matter will be more fully discussed.

Earl of *Mansfield*. It is very clear to me, upon your own shewing, there is no colour for the rule; the ground of it is, if there is another trial, you may have more evidence. There is no surprise stated, no new discovery, but upon the material points in question, you can give more evidence.—There were two questions to be tried, that is, the specification, and the originality of the invention; there has been one trial in this Court, another trial in the Common Pleas, where this patent has been questioned, and this proceeding is brought finally to conclude the matter—for it is a *Scire Facias* to repeal the letters patent. The questions to be tried, are stated upon Record—there is not a child but must know they were to try the questions there stated; they come prepared to try them, they have tried them, and a verdict has been found, which is satisfactory to the Judge, and now you desire to try the cause again, only that you may bring more evidence.—There is not a colour for it—The rule was not granted—And

Afterwards on the 14th of November 1785, the Court of King's Bench gave Judgment to CANCEL the Letters Patent.

F I N I S

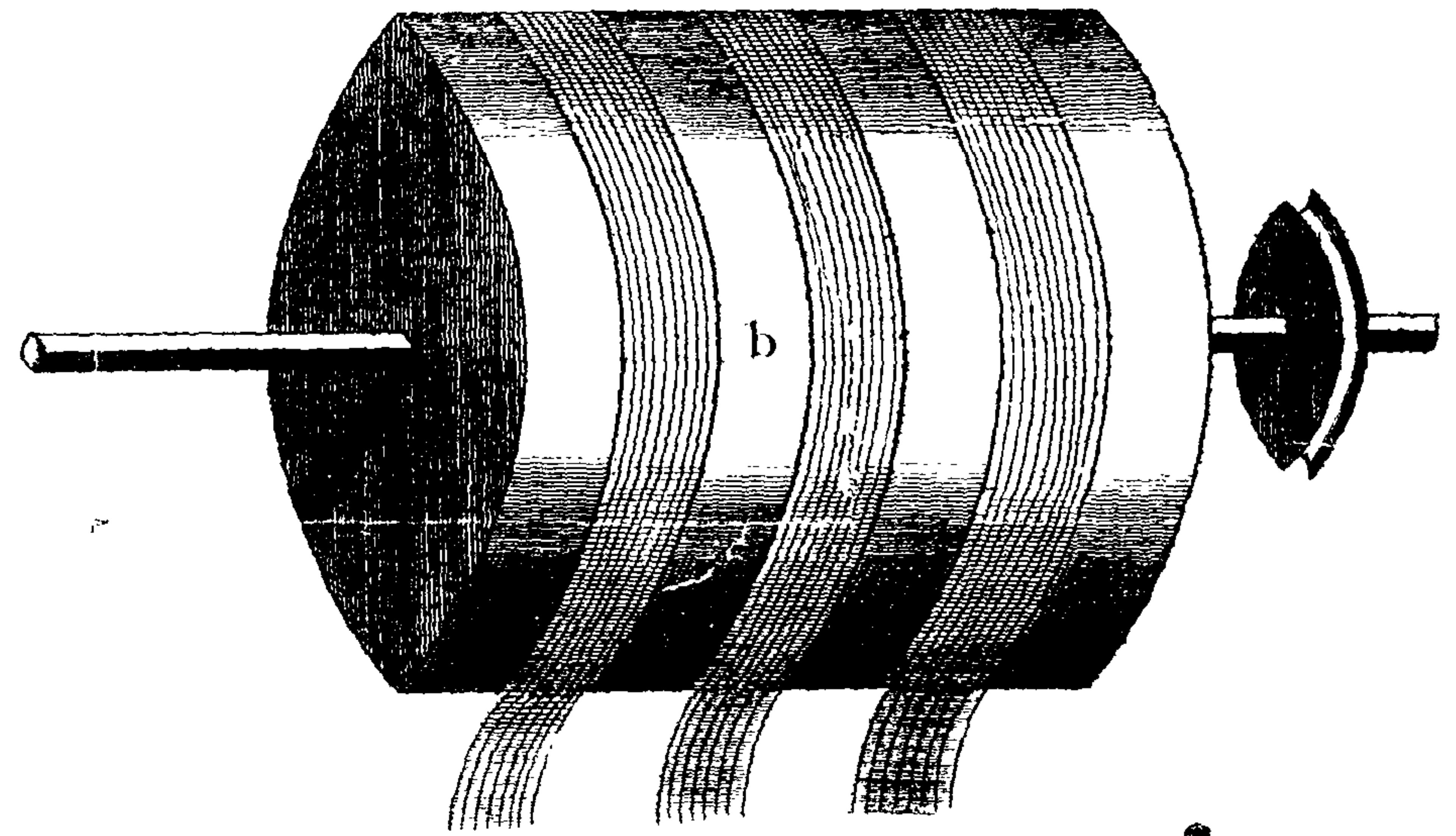
M^r. ARKWRIGHT'S Plan of the Machine for preparing, Silk, Cotton, Flax and Wool for Spinning, 1775.



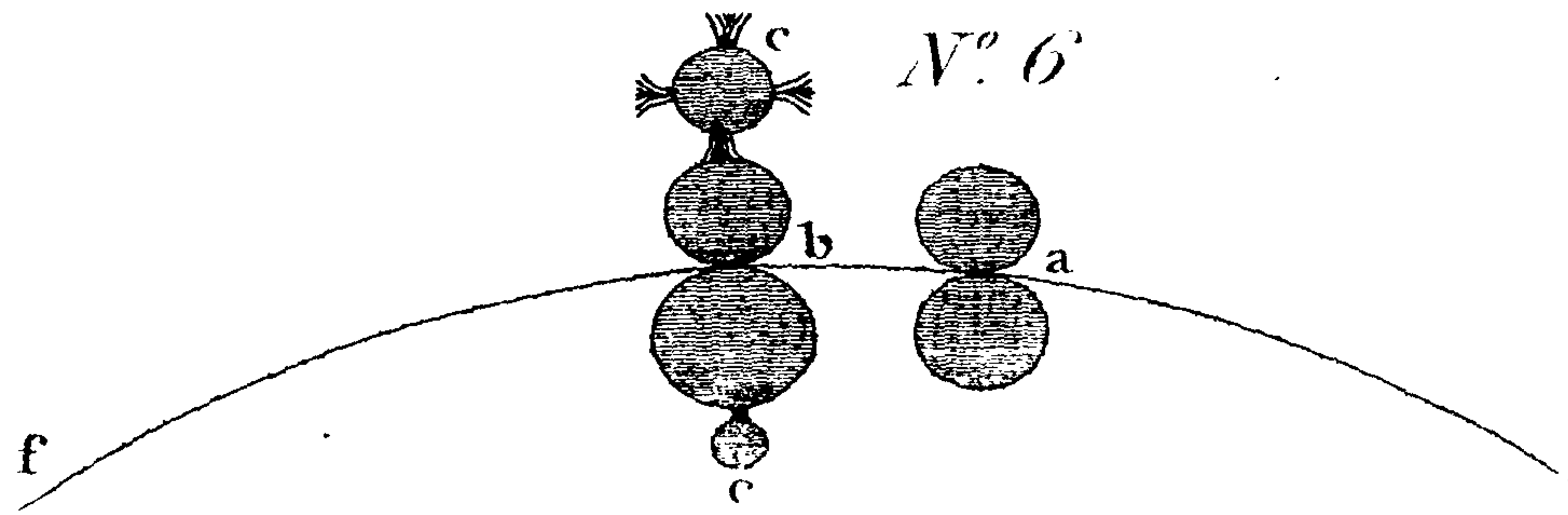


a

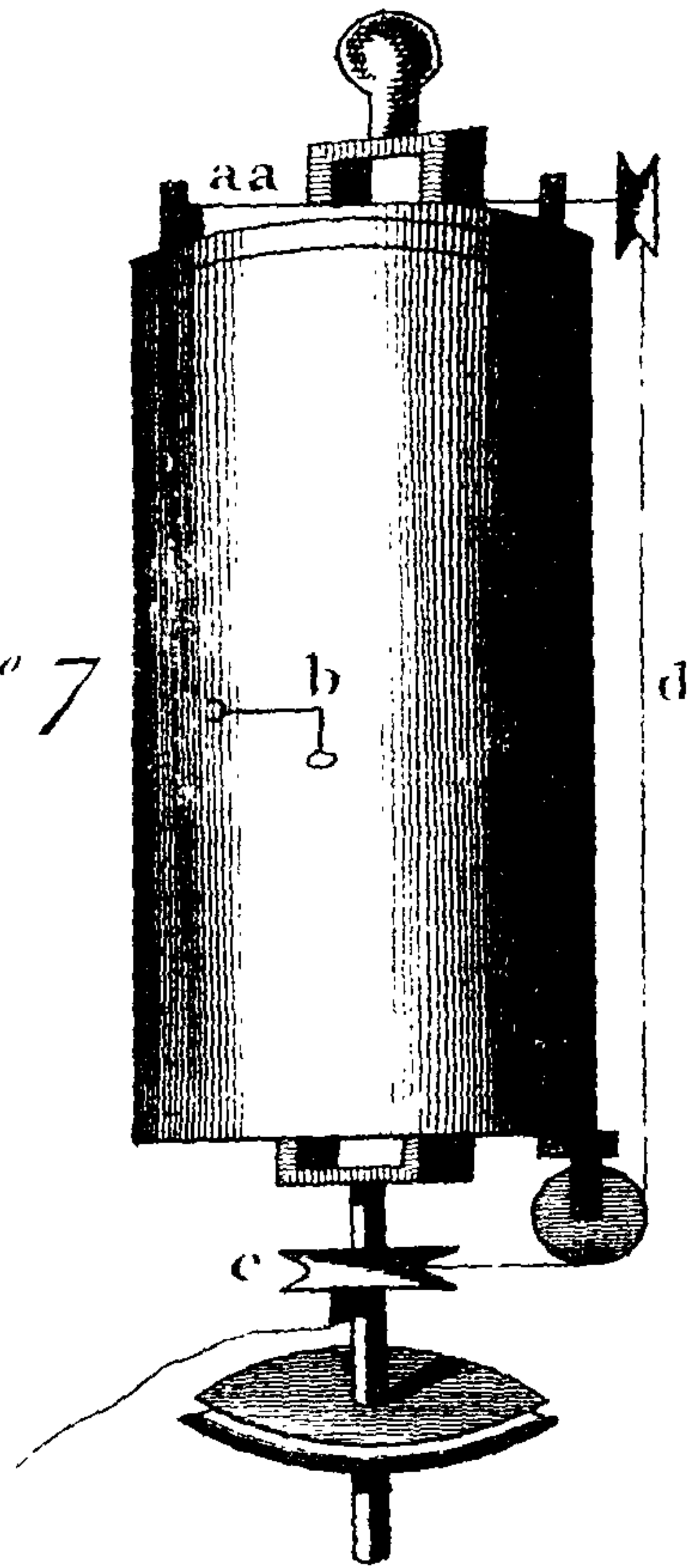
N^o 5



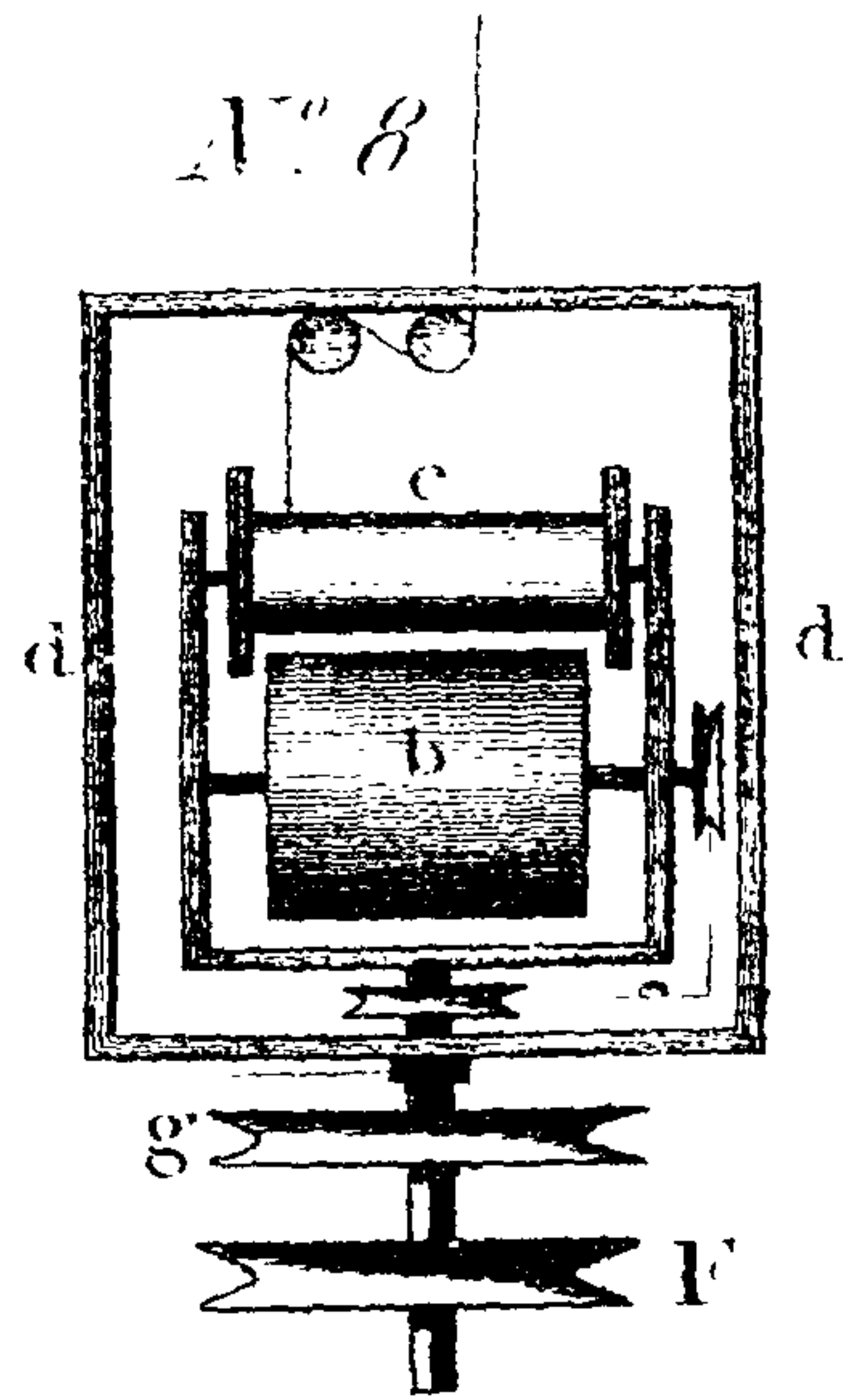
N^o 6



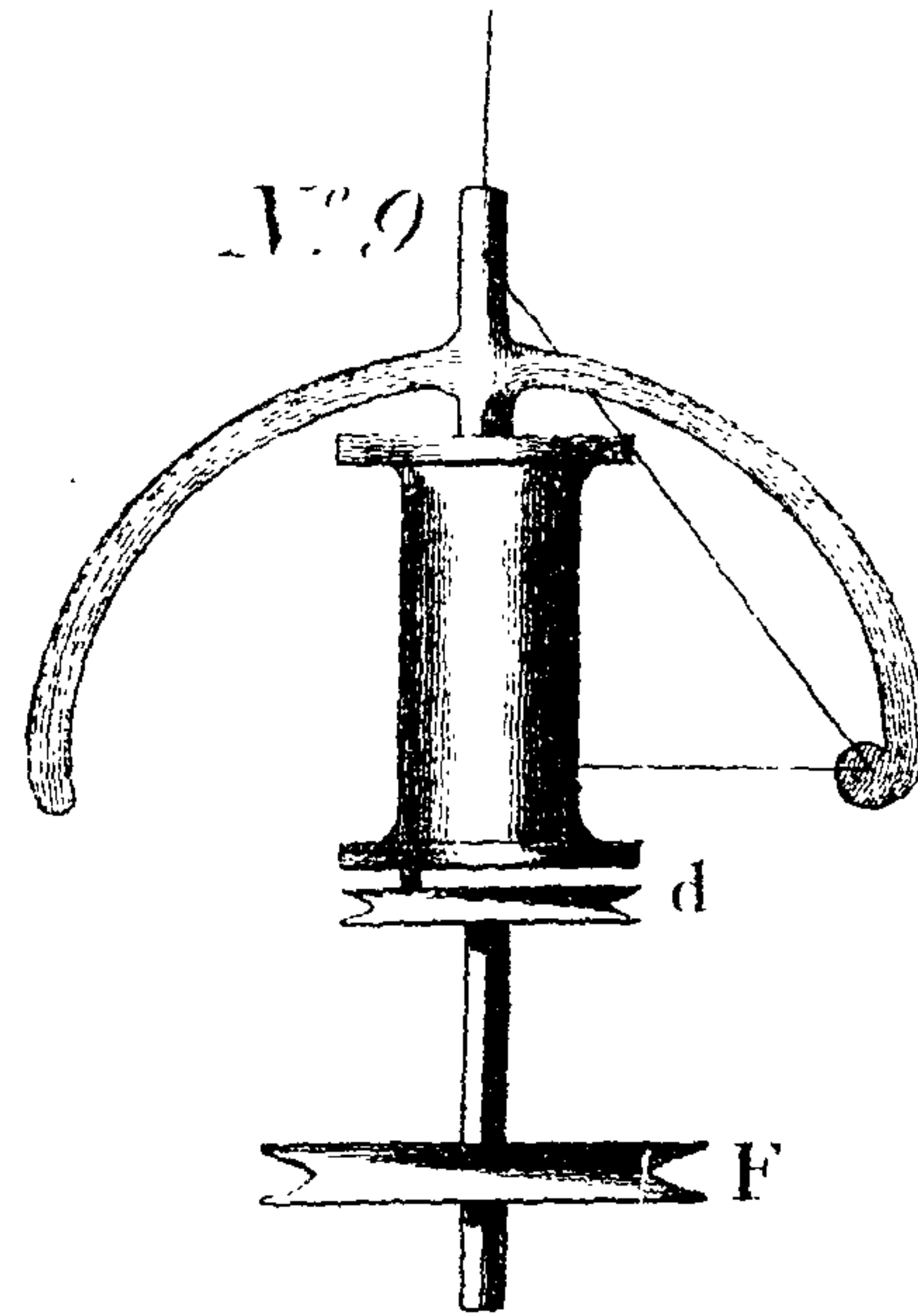
N^o 7



N^o 8



N^o 9



N^o 10

