*Evans v. Eaton.

Patent law.

Under the 6th section of the patent law of 1793, ch. 156, the defendant pleaded the general issue, and gave notice that he would prove at the trial, that the machine, for the use of which, without license, the suit was brought, had been used previous to the alleged invention of the plaintiff, in several places which were specified in the notice, or in some of them, "and also at sundry other places in Pennsylvania, Maryland and elsewhere in the United States;" the defendant having giving evidence as to some of the places specified, offered evidence as to others, not specified: *held*, that this evidence was admissible;[1] but the powers of the court, in such a case, are sufficient to prevent, and will be exercised to prevent, the patentee from being injured by surprise.

Testimony on the part of the plaintiff, that the persons of whose prior use of the machine the defendant had given evidence, had paid the plaintiff for licenses to use the machine, since his patent, ought not to be absolutely rejected, though entitled to very little weight.

Quære? Whether, under the general patent law, improvements on different machines can be comprehended in the same patent, so as to give a right to the exclusive use of several machines, separately, as well as a right to the exclusive use of those machines in combination?

However this may be, the act of the 21st January 1808, ch. 117, "for the relief of Oliver Evans," authorizes the issuing to him of a patent for his invention, discovery and improvements in the art of manufacturing flour, and in the several machines applicable to that purpose.

Quære? Whether congress can, constitutionally, decide the fact, that a particular individual is an author or inventor of a certain writing or invention, so as to preclude judicial inquiry into the originality of the authorship or invention?

Be this as it may, the act for the relief of Oliver Evans does not decide that fact, but leaves the question of invention and improvement open to investigation, under the general patent law.

Under the 6th section of the patent law, ch. 156, if the thing secured by patent had been in use, or had been described in a public * work, anterior to the supposed discovery, the patent is void, whether the patentee had a knowledge of this previous use or description, or not.

*455]

Oliver Evans may claim, under his patent, the exclusive use of his inventions and improvement in the art of manufacturing flour and meal, and in the several machines which he has invented, and in his improvement on machines previously discovered; but where his claim is for an improvement on a machine, he must show the extent of his improvement, so that a person understanding the subject may comprehend distinctly in what it consists.

The act for the relief of Oliver Evans is engrafted on the general patent law, so as to give him a right to sue in the circuit court, for an infringement of his patent-rights, although the defendant may be a citizen of the same state with himself.

Evans *v.* Eaton, Pet. C. C. 322, reversed.

ERROR to the Circuit Court for the district of Pennsylvania. This was an action brought by the plaintiff in error, against the defendant in error, for an alleged infringement of the plaintiff's patent-right to the use of his improved hopperboy, one of the several machines discovered, invented, improved and applied by him to the art of manufacturing flour and meal, which patent was granted on the 22d January 1808.

The defendant pleaded the general issue, and gave the notice hereafter stated. The verdict was rendered, and judgment given thereupon for the defendant, in the court below; on which the cause was brought, by writ of error, to this court.

At the trial in the court below, the plaintiff gave in evidence, the several acts of congress entitled respectively, "an act to promote the progress of useful arts, and to repeal the acts heretofore made for that purpose;" "an act to extend the privilege of obtaining patents, for useful discoveries

[1] But see R. S. § 4920.

and inventions, *to certain persons therein mentioned, and to enlarge and define penalties for violating the rights of patentees;" and "an act for the relief of Oliver Evans;" the said Oliver's petition to the secretary of state, for a patent,(*a*) and the patent thereupon granted *to the said Oliver, dated the 22d day of January, in the year 1808; (*b*) and fur- [*457

(*a*) To James Madison, Esq., Secretary of State:

The petition of Oliver Evans, of the city of Philadelphia, a citizen of the United States, respectfully showeth, that your petitioner having discovered certain useful improvements, applicable to various purposes, but particularly to the art of manufacturing flour and meal, prays a patent for the same, agreeably to the act of congress, entitled, "an act for the relief of Oliver Evans."

The principles of these improvements consist: 1. In the subdivision of the grain, or any granulated or pulverized substance; in elevating and conveying them from place to place, in small separate parcels; in spreading, stirring, turning and gathering them, by regular and constant motion, so as to subject them to artificial heat, the full action of the air to cool and dry the same, when necessary, to avoid danger from fermentation, and to prevent insects from depositing their eggs, during the operation of the manufacture. 2. In the application of the power which moves the mill, or other principal machine, to work any machinery which may be used to apply the said principles, or to perform the said operations, by constant motion and continued rotation, to save expense and labor.

The machinery by him already invented, and used for applying the above principles, consists of an improved elevator, an improved conveyor, an improved hopperboy, an improved drill, and an improved kiln-drier. For a particular explanation of the principles, and a description and application of the machines which he has so invented and discovered, he refers to the specifications and drawings hereunto annexed; and he is ready, if the secretary of the state shall deem it necessary, to deliver models of the said machines. Oliver Evans.

Description of the several machines invented by Oliver Evans, and used in his improvement on the process of the art of manufacturing flour or meal from grain, and which are mentioned in his specification as applicable to other purposes.

No. I. The Elevator.

Plate 6, Fig. 1. AB, represents an elevator for raising grain for the granary O, and conducting it, by spouts, into a number of different garners, as may be necessary, where a mill grinds separate parcels for toll or pay. The upper pulley being set in motion, and the little gate A drawn, the buckets fill as they pass under the lower, and empty as they pass over the upper pulley, and discharge into the movable spout B, to be by it directed to any of the different garners.

Fig. 2. Part of the strap and bucket, showing how they are attached. A, a bucket of sheet-iron, formed from the plate 8, which is doubled up and riveted at the corners, and riveted to the strap. B, a bucket made of tough wood, say willow, from the form 9, being bent at right angles at *e c*, one side and bottom covered with leather, and fastened to the strap, by a small strap of leather, passing through the main strap, and tacked to its sides. C, a lesser bucket of wood, bottomed with leather, the strap forming one side of it. D, a lesser bucket of sheet iron, formed from the plate 11, and riveted to the strap which forms one side of the bucket.

Fig. 6. The form of a gudgeon from the lower pulley. 7. The form of the gudgeons of the shaft of the upper pulley. 12. The form of the buckle for tightening the elevator strap.

Fig. 17, plate 7, represents an elevator applied to raise grain into a granary, from a

(*b*) See note *b*, page 461.

ther gave in evidence, *that an agent for the plaintiff, wrote a note to the
*459] defendant, in answer to which, he called on the *agent, at Chambers-
burg, at the house of Jacob Snyder, on the 9th of August 1813;
*460] there were a number *of millers present; the defendant then told

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wharf, &c., by a horse; 16 represents an elevator raising the meal in a grist-mill; 18 represents an elevator wrought by a man.

Plate 8, fig. 35, 39, represents an elevator raising grain from the hold of a ship; 33, 34, represents an elevator raising meal from three pair of stones, in a flour-mill, with all the improvements complete.

Plate 9, fig. 1. CD represents an elevator raising grain from a wagon; E represents the movable spout, and manner of fixing it, so as to direct the grain into the different apertments.

Plate 10, fig. 2, 3, and 11, 12, represents elevators, applied to raise rice in a mill for hulling and cleaning rice. The straps of elevators are best made of white harness leather.

No. II. The Conveyor.

Plate 6, fig. 3, represents a conveyor for conveying meal from the mill-stones into the elevator, stirring it to cool at the same operation, showing how the flights are set across the spiral line, to change from the principle of an endless screw to that of a number of ploughs, which answer better for the purpose of moving meal, showing also the lifting flights set broadside foremost, and the manner of connecting it to the lower pulley of the elevator which turns it.

Fig. 4. The gudgeon of the lower pulley of the elevator connected to the socket of the conveyor. 5. An end view of the socket, and the band which fastens it to the conveyor.

Plate 8, fig. 37, 36,—4 represents a conveyor for conveying grain from a ship to the elevator 4–5, with a joint at 36, to let it rise and lower with the tide. 44–45. A conveyor for conveying grain to different garners from an elevator. 31–32. A conveyor for conveying tail flour to the meal elevator, or the coarse flour to the eye of the stone.

Plate 9, fig. 11, represents a conveyor for conveying the meal from two pair of stones, to the elevator connected to the pulley, which turns them both.

Plate 10, fig. 2–11, represents conveyors applied to convey rice, in a rice-mill, from a boat or wagon to the elevator, or from the fan to an elevator.

No. III. The Hopperboy.

Plate 7, fig. 12, represents a hopperboy complete for performing all the operations specified, except only that one arm is shown. AB, the upright shaft; CED, the arms, with flights and sweeps. E, the sweeper to fill the bolting hoppers HH. CFE, the brace, or stay, for steadying the arms. P, the pulley, and W, the weight, that is to balance the arms, to make them play lightly on the meal, and rise or fall, as the quantity increases or diminishes. ML, the leader. N, the hitch stick, which can be moved along the leading line, to shorten or lengthen it.

Fig. 13, SSS, the arms turned bottom up, showing the flights and sweepers comple at one end, and the lines on the other end show the mode for laying out for the flights, so as to have the right inclination and distance, according to the circle described by each, and so that the flights of one end may track between those of the other. The sweepers and the flights at each end of the arms are put on with a thumb-screw, so that they may be moved, and so that these flights may be reversed, to drive meal outwards from the centre, and at the same time trail it round the whole circle: this is of use sometimes, when we wish to bolt one quantity which we have under the hopperboy, without bolting that which we are grinding, and yet to spread that which we are grinding, to dry and cool, laying round the hopperboy, convenient to be shovelled under it, as soon as we wish to bolt it.

Fig. 15. The form of the pivot for the bottom of the upright shaft 14. The

the agent, that he had got Mr. Evans' book, a plate in *the Millwright's Guide, and if the agent would take $40, the defendant would give it him ; the *defendant said that his hopperboy was taken from a plate [*462 in Mr. Evans' book : he said, he would give no more, alleging, that

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plate put on the bottom of the shaft, to rest on the shoulder of the pivot; this plate is to prevent the arm from descending so low as to touch the floor.

Plate 8, fig. 25, represents a hopperboy attending two bolts in a mill, with all the improvements complete.

Plate 9. The hopperboy is shown over QQ. Fig. 4 is the arm turned upside down, to show the flights and sweepers.

No. IV. The Drill.

Plate 6, fig. 1. HG represents a drill conveying grain from the different garners to the elevator, in a mill for grinding parcels for toll or pay.

Plate 7, fig. 17. Bd a drill, conveying meal from the stones in a grist-mill to the elevator. The strap of this machine may be made broad, and the substance to be moved may be dropped on its upper surface, to be carried and dropped over the pulley at the other end: in this case, it requires one bucket like those of the elevator, to bring up any that may spill off the strap.

For full and complete directions for proportioning all the parts, constructing, and using the above-described machines, see the book which I have published for that express purpose, entitled, "The Young Millwright and Miller's Guide." See plate 8, representing a mill, with three pair of mill-stones, with all the improvements complete, except the kiln-drier.

No. V. The Kiln-Drier.

Plate 9, fig. 2. A, the stove, which may be constructed simply of six plates, and inclosed by a brick-wall lined with a mortar composed of pulverized charcoal and clay. B, the pipe for carrying off the smoke. CC, the air-pipes, connecting the space between the stove and wall with the conveyor. DD, the pipes for the heated air to escape. The air is admitted at the air-hole below, regulated by a register, as experience shall teach to be best, so as not to destroy the principle which causes the flour to ferment easily, and rise in the process of baking. The conveyors must be covered close ; the meal admitted by small holes as it falls from the mill-stones.

Witness, { Saml. H. Smith, / Jo. Gales, jun'r. } Oliver Evans.

(*b*) The United States of America: To all whom these Letters-patent shall come:

Whereas, Oliver Evans, of the city of Philadelphia, a citizen of the United States, hath alleged that he hath invented a new and useful improvement in the art of manufacturing flour and meal, by means of certain machines, which he terms an improved elevator, an improved conveyor, an improved hopperboy, an improved drill, and an improved kiln-drier: which machines are moved by the same power that moves the mill or other principal machinery, and in their operation subdivide any granulated or pulverized substance, elevate and carry the same from place to place, in small and separate parcels, spread, stir, turn and gather them by regular and constant motion, so as to subject them to artificial heat, and the air to dry and cool, when necessary: a more particular and full description in the words of the inventor is hereby annexed in a schedule; which improvement has not been known or used before his application ; has affirmed that he does verily believe that he is the true inventor or discoverer of the said improvement, and agreeably to the act of congress entitled, "an act for the relief of Oliver Evans," which authorizes the secretary of state to secure to him by patent, the exclusive right to the use of such improvement in the art of manufacturing flour and meal, and in the several machines which he has discovered, improved and applied to that purpose ; he has paid into the treasury of the United States, the sum

the $100 the agent asked was too much; that the stream on which his mill was, was a small head of Conogocheage. The agent then declared, that if the defendant would not pay him by Monday morning, he would commence a suit in the circuit court.

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of thirty dollars, delivered a receipt for the same, and presented a petition to the secretary of state, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: These are therefore to grant, according to law, to the said Oliver Evans, his heirs, administrators or assigns, for the terms of fourteen years, from the twenty-second day of January 1808, the full and exclusive right and liberty of making, using and vending to others to be used, the said improvement, a description whereof is given in the words of the said Oliver Evans himself, in the schedule hereto annexed, and is made a part of these presents. In testimony whereof, I have caused these letters to be made patent, and the seal of the United States to be hereunto affixed.

Given under my hand, at the city of Washington, this twenty-second day of January, SEAL. in the year of our Lord, one thousand eight hundred and eight, and of the independence of the United States of America, the thirty-second.

TH: JEFFERSON.

By the President,

JAMES MADISON, Secretary of State.

City of Washington, to wit:

I do hereby certify, that the foregoing letters-patent were delivered to me on the twenty-second day of January, in the year of our Lord, one thousand eight hundred and eight, to be examined; that I have examined the same, and find them conformable to law. And I do hereby return the same to the secretary of state, within fifteen days from the date aforesaid, to wit: on this twenty-second day of January, in the year aforesaid.

C. A. RODNEY, Attorney-General of the United States.

THE SCHEDULE

Referred to in these letters-patent, and making part of the same, containing a description, in the words of the said Oliver Evans, of his improvements in the art of manufacturing flour and meal.

My first principle is, to elevate the meal as fast as it is ground, in small separate parcels, in continued succession and rotation, to fall on the cooling floor, to spread, stir, turn and expose it to the action of the air, as much as possible, and to keep it in constant and continual motion, from the time it is ground, until it be bolted: this I do, to give the air full action, to extract the superfluous moisture from the meal, while the heat, generated by the friction of grinding, will repel and throw it off, and the more effectually dry and cool the meal fit for bolting, in the course of the operation, and save time and expense to the miller. Also to avoid all danger from fermentation, by its laying warm in large quantities, as is usual; and to prevent insects from depositing their eggs, which may breed the worms often found in good flour. And further to complete this principle, so as to dry the meal more effectually, and to cause the flour to keep sweet a longer space of time, I mean to increase the heat of the meal, as it falls ground from the millstones, by application of heated air, that is to say, to kiln-dry the meal as it is ground, instead of kiln-drying the grain as usual. The flour will be fairer and better than if made from kiln-dried grain, the skin of which is made so brittle, that it pulverizes and mixes with the flour. This principle I apply by various machines which I have invented, constructed and adapted to the purposes hereafter specified, numbered 1, 2, 3, 4, 5.

My second principle is, to apply the power that moves the mill or other principal machine to work my machinery, and by them to perform various operations which have

The plaintiff further gave in evidence, that another agent for the plaintiff was in the defendant's mill, on the second of November 1814, and saw a hopperboy there, on the principles and construction of the plaintiff's hopperboy. This witness had heard that a *right was obtained under Pennsylvania; but did not know of any rights under Pennsylvania, [*463

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always heretofore been performed by manual force, and thus greatly to lessen the expense and labor of attending mills and other works.

The application of those principles, including that of kiln-drying the meal, during the process of the manufacture, or otherwise to the improvement of the process of manufacturing flour, and for other purposes, is what I claim as my invention and improvement in the art, as not having been known or used before my discovery, knowing well that the principles once applied by one set of machinery, to produce the desired effect, others may be contrived and variously constructed, and adapted to produce like effects in the application of the principles, but perhaps, none to produce the desired effect more completely than those which I have invented and adapted to the purpose, and which are hereinafter specified.

No. 1. The Elevator. Its use is to elevate any grain, granulated or pulverized substances. Its use in the manufacture of flour or meal is to elevate the meal from the millstones in small separate parcels, and to let it fall through the air on the cooling floor, as fast as it is ground. It consists of an endless strap, rope or chain, with a number of small buckets attached thereto, set to revolve round two pulleys, one at the lowest, and the other at the highest point between which the substance is to be raised. These buckets fill as they turn under the lower, and empty themselves as they turn over the upper pulley. The whole is inclosed by cases of boards to prevent waste.

No. 2. The Conveyor. Its use is to convey any grain, granulated or pulverized substances, in a horizontal, ascending or descending direction. Its use in the process of the art of manufacturing flour, is to convey the meal from the mill-stones, as it is ground, to the elevator, to be raised, and to keep the meal in constant motion, exposing it to the action of the air; also, in some cases, to convey the meal from the elevator to the bolting hopper, and to cool and dry it fit for bolting, instead of the hopperboy, No. 3; also to mix the flour, after it is bolted; also to convey the grain from one machine to another, and in this operation, to rub the impurities off the grain. It consists of an endless screw, set to revolve in a tube, or section of a tube, receiving the substance to be moved at one end, and delivering it at the other end; but for the purpose of conveying flour or meal, I construct it as follows: instead of making it a continued spiral, which forms the endless screw, I set small boards, called flights, at an angle crossing the spiral line; these flights operate like so many ploughs following each other, moving the meal from one end of the tube to the other, with a continued motion, turning and exposing it to the action of the air, to be cooled and dried. Sometimes, I set some of the flights to move broadside foremost, to lift the meal from one side, to fall on the other, to expose it to the air more effectually.

No. 3. The Hopperboy. Its use is to spread any grain, granulated or pulverized substances, over a floor or even surface, to stir it and expose it to the air, to dry and cool it, when necessary, and at the same time, to gather it from the circumference of the circle it describes, to or near the centre, or to spread it from the centre to the circumference, and leave it in the place where we wish it to be delivered, when sufficiently operated on. Its use in the process of manufacturing flour, is to spread the meal as fast as it falls from the elevator over the cooling floor, on the area of a circle of from eight to sixteen feet, more or less, in diameter, according to the work of the mill, to stir and turn it continually, and to expose it to the action of the air to be dried and cooled, and to gather it into the bolting hoppers, and to attend the same regularly. It consists of an upright shaft, made round at the lower end, about two-thirds of its length, and set to revolve on a pivot in the centre of the cooling floor; through this shaft, say five feet from the floor, is put a piece called the leader, and the lower end of

sold by the plaintiff; and did not know that it was erected in any mill, *464] after the patent under Pennsylvania. The defendant's *hopperboy had an upright shaft, with a leading arm, in the first place, and

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the shaft passes very loosely through a round hole in the centre of another piece called the arms, say from eight to sixteen feet in length, this last piece revolving horizontally, describes the circle of the cooling floor, and is led round by a cord, the two ends of which are attached to the two ends of the arms, and passing through a hole at each end of the leader, so that the cord will reeve to pull each end of the arms equally. The weight of the arms is nearly balanced by a weight hung to a cord, which is attached to the arms, and passes over a pulley, near to the upper end of the upright shaft, to cause the arms to play lightly, pressing with only part of their weight on the meal that may be under it. The foremost edges of the arms are sloped upwards, to cause them to rise over and keep on the surface of the meal as the quantity increases; and if it be used separately, and unconnected with the elevator, the meal may be thrown with shovels, within its reach, while in motion, and it will spread it level, and rise over it, until the heap be four feet high or more, which it will gather into the hoppers, always taking from the surface, after turning it to the air a great number of times. The underside of these arms are set with little inclining boards, called flights, about four inches apart, next the centre, and gradually closing to about two inches, next the extremities, the flights of the one arm to track between those of the other, they operate like ploughs, and at every revolution of the machine they give the meal two turns towards the centre of the circle, near to which are generally the bolting hoppers. At each extremity of the arms, there is a little board attached to the hindmost edge of the arm, to move side foremost; these are called sweepers; their use is to receive the meal as it falls from the elevator, and trail it round the circle described by the arms, that the flights may gather towards the centre, from every part of the circle; without these, this machine would not spread the meal over the whole area of the circle described by the arms. Other sweepers are attached to that part of the arms which pass over the bolting hoppers, to sweep the meal into them.

But if the bolting hoppers be near a wall, and not in the centre of the cooling floor, then, in this case, the extremity of the arms are made to pass over them, and the meal from the elevator let fall near the centre of the machine, and the flights are reversed, to turn the meal from the centre towards the circumference, and the sweepers will sweep it into the hoppers. Thus, this machine receives the meal as it falls from the elevator, on the cooling floor, spreads it over the floor, turns it twice over at every revolution, stirs and keeps it in continual motion, and gathers it, at the same operation, into the bolting hoppers, and attends them regularly. If the bolting reels are stopped, this machine spreads the meal and rises over it, receiving under it from one, two, to three hundred bushels of meal, until the bolts are set in motion again, when it gathers the meal into the hoppers, and as the heap diminishes, it follows it down, until all is bolted. I claim as my invention, the peculiar properties or principles which this machine possesses, viz., the spreading, turning and gathering the meal at one operation, and the rising and lowering of its arms by its motion, to accommodate itself to any quantity of meal it has to operate on.

No. 4. The Drill. Its use is to move any grain, granulated or pulverized substance, from one place to another: it consists, like the elevator, of an endless strap, rope or chain, &c., with little rakes instead of buckets (the whole cased with boards to prevent waste), revolving round two pulleys or rollers. Its use in the process of the manufacture of flour, is to draw or rake the grain or meal from one part of the mill to another. It receives it at one pulley, and delivers it at the other, in a horizontal, ascending or descending direction, and in some cases may be more conveniently applied for that purpose than the conveyor. I claim the exclusive right to the principles, and to all the machines above specified, and for all the uses and purposes specified, as not having been heretofore known or used before I discovered them. They may all be

a large arm inserted *with flights, and leading lines, and sweepers; a little board, for the purpose of sweeping the meal in the *bolting hoppers, and spreading it over the floor; a balance weight, to cause [*466

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united and combined in one flour mill, to produce my improvement on the art of manufacturing flour complete, or they may each be used separately, for any of the purposes specified and alloted to them, or to produce my improvement in part, according to the circumstances of the case.

No. 5. The Kiln-Drier. To kiln-dry the meal, after it is ground, and during the operation of the process of manufacturing flour, I take a close stove, of any common form, and inclose it with a wall made of the best non-conductor of heat, leaving a small space between the stove and the wall, to admit air to be heated in its passage through this space. I set this stove below the conveyor that conveys the meal from the mill-stones, as ground, into the elevator, and I connect the space between the stove and the wall to the conveyor tube, by a pipe entering near the elevator, and I cover the conveyor close, and set a tube to rise from the end of the conveyor tube, near the mill-stones, for the heated air to ascend and escape as up a chimney. I make fire in the stove, and admit air at the bottom of the space, between it and the wall round it, to be heated and pass along the conveyor tube, meeting the meal which will be heated by the hot air, and the superfluous moisture will be more powerfully repelled and thrown off, and the meal will be dried and cooled, as it passes through the operation of the elevator and hopperboy. The flour will be fairer than if the grain had been kiln-dried, and it will keep longer sweet than flour not kiln-dried. I set all my machines in motion by the common means of cog and round tooth, and pinion straps, ropes or chains, well-known to every millwright.

Arrangement and connection of the several machines, so as to apply my principles to produce my improvements complete. I fix a spot through the wall of the mill, for the grain to be emptied into from the wagoner's bag, to run into a box, hung at the end of a scale-beam, to weigh a wagon load at a draught. From this box it descends into the grain elevator, which raises it to a granary over the cleaning machines, and as it passes through them, it may be directed into the same elevator to ascend to be cleaned a second time, and then descends into a granary, over the hopper of the mill-stones, to supply them regularly, and as ground, it falls from the several pair of mill-stones into the conveyors, where it is dried by the heated air of the kiln-drier, and is conveyed into the meal elevator, to be raised and dropped on the cooling floor, within reach of the hopperboy, which receives and spreads it over the whole area of the circle which it describes, stirring and turning it continually, and gathering it into the bolting hoppers which it attends regularly. That part of the flour which is not sufficiently bolted by the first operation, is conveyed by a conveyor or drill, into the elevator, to ascend with the meal, to be bolted over again, and that part of the meal which has not been sufficiently ground at the first operation, is conveyed by a conveyor or drill, and let run into the eye of the mill-stone to be ground over.

Thus the whole of the operations which used to be performed by manual labor, is, from the time the wheat is emptied from the wagoner's bag, or from the ship's measure, until it enters the bolts, and the manufacture be completed in the most perfect manner, performed by the machinery moved by the power which moves the mill, and this machinery keeps the meal in constant motion, during the whole process, drying and cooling it more completely, avoiding all danger from fermentation, and preventing insects from depositing their eggs, and performing all the operations of grinding and bolting to much greater perfection, making the greatest possible quantity of the best quality of flour out of the grain, saving much time and labor and expense to the miller, and preventing much from being wasted by the motion of the machines being so slow as to cause none of the flour to rise in form of dust, and be carried away by the air, and the cases of the machine being made close, prevents any from being lost.

Witnesses { Samuel H. Smith, Jo. Gales, jun. } Oliver Evans.

the arms to play up and down lightly over the meal. The leading arms were abont five *feet long, and seemed to be in proportion, the arm
*467] about fourteen, and the length of the sweep about nine inches. *And
to the defendant, having previously given the plaintiff written notice,
*470] that upon the trial of the *cause, the defendant would give in evidence, under the general issue, the following special matter, to *wit :

"1st. That the improved hopperboy, for which, *inter alia*, the plaintiff in his declaration alleges he *has obtained a patent, was not origin-
*471] ally discovered by the patentee, but had been in use anterior to the supposed discovery of the patentee, in sundry places, to wit : at the mill of George Fry and Jehu Hollingsworth, in Dauphin county, Pennsylvania ; at Christian Stauffer's mill, in Warwick township, Lancaster county, state of Pennsylvania ; at Jacob Stauffer's mill, in the same county ; at Richard Downing's mill, in Chester county, Pennsylvania ; at Buffington's mill, on the Brandywine ; at Daniel Huston's mill, in Lancaster county, Pennsylvania ; at Henry Stauffer's mill, in York county, Pennsylvania ; and at Dihl's mill, in the same county, or at some of the said places, and also at sundry other places in the said state of Pennsylvania, the state of Mary-
*472] land and elsewhere *in the United States.

"2d. That the patent given to the plaintiff, as he alleges in his declaration, is more extensive than his discovery or invention, for that certain parts of the machine in said patent, called an improved hopperboy, and which the plaintiff claims as his invention and discovery, to wit, the upright shaft, arms, and flights, and sweeps, or some of them, and those parts by which the meal is spread, turned and gathered at one operation, and also several other parts, were not originally invented and discovered by him, but were in use prior to his said supposed invention or discovery, to wit, at the places above mentioned, or some of them.

"3d. That the said patent is also more extensive than the plaintiff's invention or discovery ; for that the application of the power that moves the mill or other principal machine to the hopperboy is not an original invention or discovery of the plaintiff, but was in use anterior to his said supposed invention or discovery, to wit, at the places before mentioned, or some of them.

4th. That the said patent is void, because it purports to give him an exclusive property in an improvement in the art of manufacturing meal, by means of a certain machine, termed an improved hopperboy, of which the said plaintiff is not the original inventor or discoverer ; parts of the machine in the description thereof referred to by the patent, having been in use anterior to the plaintiff's said supposed discovery, to wit, at the places above men-
*473] tioned, or some of them ; and the said patent and description therein referred to contains no statement, specification or description, *by

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Washington County, District of Columbia, viz :

This 4th day of November 1807, personally appeared before me, a justice of the peace in and for said county, Oliver Evans, who, being duly affirmed according to law, declares that he is a citizen of the United States, and that his usual place of residence is in the city of Philadelphia, and that he verily believes that he is the true and original inventor of the improvements herein above specified, for which he solicits a patent.

Affirmed before me, OLIVER EVANS.

SAM. H. SMITH.

which those parts, so used as aforesaid, may be distinguished from those of which the said plaintiff may have been the inventor, or discoverer, protesting at the same time that he has not been the inventor or discoverer of any of the parts of the said machine.

5th. That the improved elevator, described in the declaration, or referred to therein, was not originally discovered by the plaintiff, but was anterior to his said supposed discovery or invention, described in certain public works, or books, to wit, in Shaw's Travels; in the first volume of the Universal History; in the first volume of Mormer's Husbandry; in Ferguson's Mechanics; in Bossuet's Histoire des Mathematiques; in Wolf's Cours des Mathematiques; in Desagulier's Experimental Philosophy, and in Proney's Architecture Hydraulique, or some of them.

6th. That the said patent is more extensive than the invention or discovery of the plaintiff, because certain parts of the machine called an improved elevator, were, anterior to the plaintiff's said supposed invention or discovery, described in certain public works, or books, to wit, the works or books above mentioned, or some of them; and that the said patent is void, because it neither contains or refers to any specification or description by which the parts so before described in the said public works, may be distinguished from those parts of which the plaintiff may be the inventor or discoverer, protesting, at the same time, that he has not been the inventor or discoverer of any of the parts of the said machine."

He gave in evidence the existence of hopperboys, prior to the plaintiff's alleged discovery, at sundry mills in the state of Pennsylvania, *mentioned in the said notice; and further offered to give in evidence the [*474
existence of hopperboys, prior to the plaintiff's alleged discovery, at sundry other mills, in the state of Pennsylvania, not mentioned in the said notice; and the counsel for the plaintiff objected to the admission of any evidence of the existence of hopperboys in the said mills not mentioned in the said notice. But the court decided that such evidence was competent and legal. To which decision the counsel for the plaintiff excepted.

The plaintiff, after the above evidence had been laid before the jury, offered further to give in evidence, that certain of the persons mentioned in the defendant's notice as having hopperboys in their mills, and also certain of the persons not mentioned in the said notice, but of whom it had been shown by the defendant, that they had hopperboys in their mills, had, since the plaintiff's patent, paid the plaintiff for license to use his improved hopperboy in the said mills respectively. But the counsel for the defendant objected to such evidence, as incompetent and illegal, and the court refused to permit the same to be laid before the jury. To which decision, the plaintiff's counsel excepted.

The court below charged the jury, that the patent contained no grant of a right to the several machines, but was confined to the improvement in the art of manufacturing flour by means of those machines; and that the plaintiff's claim must, therefore, be confined to the right granted, such as it was. That it had been contended, that the schedule was part of the patent, and contained a claim to the invention of the peculiar properties and principles of the hopperboy, as *well as the other machines. But the [*475
court was of opinion, that the schedule was to be considered as part of the patent, so far as it is descriptive of the machines, but no further;

and even if this claim had been contained in the body of the patent, it would have conferred no right which was not granted by that instrument.

The court further proceeded to instruct the jury, that the law authorized the president to grant a patent, for the exclusive right to make, construct, use and vend to be used, any new and useful art, machine, manufacture, or composition of matters or any new and useful improvement, in any art, machine, &c., not known or used before the application. As to what constitutes an improvement, it is declared, that it must be in the principle of the machine, and that a mere change in the form or proportions of any machine shall not be deemed a discovery. Previously to obtaining the patent, the applicant is required to swear, or affirm, that he verily believes that he is the true inventor or discoverer of the art, machine or improvement for which he solicits a patent; and he must also deliver a written description of his invention, and of the manner of using it, so clearly and exactly, as to distinguish the same from all other things before known, and to enable others, skilled in the art, to construct and use to same. That from this short analysis of the law, the following rules might be deduced. 1st. That a patent may be for a new and useful art; but it must be practical; it must be applicable and referrible by something by which it may be proved to be useful; a mere abstract principle cannot be appropriated by patent. 2d. The discovery must not only be useful, but new; it must not have been *known or used before in any part of the world. It was contended by the plaintiff's counsel that the title of the patentee cannot be impeached, unless it be shown that he knew of a prior discovery of the same art, machine, &c., and that said true and original are synonymous terms in the intention of the legislature. But, as it was not pretended, that those term meant the same thing, in common parlance, neither was it the intention of the legislature to use them as such. The first section of the law referring to the allegations of the application for a patent, speaks of the discovery as something "not known or used before the application;" and in the 6th section it is declared, that the defendant may give in evidence that the thing secured by patent, was not originally discovered by the patentee, but had been in use, or had been described in some public work anterior to the supposed discovery. 3d. If the discovery be of an improvement only, it must be an improvement in the principle of a machine, art or manufacture, before known or used; if only in the form or proportion, it has has not the merit of a discovery, which can entitled the party to a patent. 4th. The grant can only be for the discovery, as recited and described in the patent and specification. If the grantee is not the original discoverer of the art, machine, &c., for which the grant is made, the whole is void. Consequently, if the patent be for the whole of the machine, and the discovery were of an improvement, the patent is void. 5th. A machine, or an improvement, may be new, and the proper subject of a patent, though the parts of it were before known and in use. The combination, therefore, of old machines, to produce a new *and useful result, is a discovery for which a patent may be granted.

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The above principles would apply to most of the questions that had been discussed. It was strongly insisted on by the defendant's counsel, that this patent is broader than the discovery; the evidence proving, that in relation to the hopperboy, for the using of which this suit is brought, the plaintiff can pretend to no discovery beyond that of an improvement in a

machine known and used before the alleged discovery of the plaintiff. This argument proceeded upon the supposition, that the plaintiff had obtained a patent for the hopperboy, which was entirely a mistake. The patent was "for an improvement in the art of manufacturing flour," by means of a hopperboy and four other machines described in the specification, and not for either of the machines so combined and used. That the plaintiff is the original discoverer of this improvement, was contested by no person, and therefore, it could not, with truth, be alleged, that the patent is broader than the discovery, or that the plaintiff could not support an action on this patent against any person who should use the whole discovery.

But could he recover against a person who had made or used one of the machines, which in part constitute the discovery? The plaintiff insisted that he could, because, having a right to the whole, he is necessarily entitled to the parts of which that whole is composed. Would it be seriously contended, that a person might acquire a right to the exclusive use of a machine, because when used in combination with others, a new and useful result is produced, which he could not have acquired, independent of that combination? *If he could, then if A. were proved to be the original inventor [*478
of the hopperboy; B. of the elevator, and so on, as to the other machines, aad either had obtained patents for their respective discoveries, or chose to abandon them to the public, the plaintiff, although it was obvious, he could not have obtained separate patents for those machines, might nevertheless, deprive the original inventors, in the first instance, and the public, in the latter, of their acknowledged right to use those discoveries, by obtaining a patent for an improvement, consisting in a combination of those machines to produce a new result.

The court further charged the jury, that it was not quite clear, that this action could be maintained, although it was proved beyond all controversy, that the plaintiff was the original inventor of this machine. The patent was the foundation oi the action, and the gist or the action was, the violation of a right which that instrument had conferred. But the exclusive right of the hopperboy was not granted by this patent, although this particular machine constitutes a part of the improvement of which the plaintiff is the original inventor, and it is for this improvement, and this only, that the grant is made. If the grant, then, was not of this particular machine, could it be sufficient, for the plaintiff to prove in this action, that he was the original inventor of it?

Again, could the plaintiff have obtained a separate patent for the hopperboy, in case he were the original inventor of it, without first swearing or affirming, that he was the true inventor of that machine? Certainly not. Has the plaintiff then taken, or could he have taken, such an oath in this case? Most assuredly he could not; because the prescribed form of the oath *is, [*479
that it is the inventor of the art, machine or manufacture for which he solicits a patent. But since the patent which he solicited was not for the hopperboy, but for an improvement in the manufacture of flour, he might, with safety, have taken the oath prescribed by law, although he knew. at the time, that he was not the true inventor of the hopperboy; and thus it would happen, that he could indirectly obtain the benefit of a patent-right to the particular machine, which he could not directly have obtained, without doing what, it must be admitted, in this case, he had not done.

But this was not all. If the law had provided for fair and original discoverers a remedy, when their rights are invaded by others, it had likewise provided corresponding protection to others, where he has not the merit. What judgment could the district court have rendered upon a *scire facias* to repeal this patent, if it had appeared, that the plaintiff was not the true and original inventor of the hopperboy? Certainly not that which the law has prescribed, viz., the repeal of the patent; because it would be monstrous to vacate the whole patent, for an invention of which the patentee was the acknowledged inventor, because he was not the inventor of one of the constituent parts of the invention for which no grant is made. But the court would have no alternative, but to give such a judgment, or, in effect, to dismiss the *scire facias;* and if the latter, then the plaintiff would have beneficially the exclusive right to a machine, which could not be impeached in the way prescribed by law, although it should be demonstrated, that he was not either the true or the original inventor of it. And *supposing
*480] the jury should be of opinion, and so find, that the plaintiff was not the original inventor of this machine, would not the court be prevented from declaring the patent void, under the provisions of the 6th section of the law, for the reason assigned why the district court could not render judgment upon a *scire facias?* Indeed, it might well be doubted, whether the defence now made by the defendant could be supported at all, in this action (if this action could be maintained), inasmuch as the defendant cannot allege, in the words of the 6th section, that the thing secured by patent was not originally discovered by the patentee, since, in point of fact, the thing patented was originally discovered by the patentee, although the hopperboy may not have been so discovered. But if this defence could not be made, did not that circumstance afford a strong argument against this action? If the plaintiff was not the inventor of the parts, he had no right to complain that they were used by others, if not in a way to infringe his right to their combined effect. If he was the original inventor of the parts which constitute the whole discovery, or any of them, he might have obtained a separate patent for each machine of which he was the original inventor.

Upon the whole, although the court gave no positive opinion upon this question, they stated, that it was not to be concluded, that this action could be supported, even if it were proved, that the plaintiff was the original inventor of the hopperboy. But if an action would lie upon this patent, for the violation of the plaintiff's right to the hopperboy, still the plaintiff could not recover, if it had been shown to the satisfaction of the *jury, that
*481] he was not the original discoverer of that machine.

It appeared, by the testimony of the defendant's witnesses, that Stauffer's hopperboy was in use many years before the alleged discovery of the plaintiff; that the two machines differed from each other very little in form, in principle or in effect. They were both worked by the same power which works the mill; and they both stir, mix, cool, dry and conduct the flour to the bolting chest. Whether the flights and sweepers in the plaintiff's hopperboy were preferable to the slips attached to the under part of the arm in Stauffer's; or whether, upon the whole, the former is a more perfect agent in the manufacture of flour than the latter, were questiont which the court would not undertake to decide; because, unless the plaintiff was the original inventor of the hopperboy, although he had obtained a separate patent for it,

he could not recover in this action, however useful the improvement might be, which he had made in that machine. If the plaintiff had obtained a patent for his hopperboy, it would have been void, provided the jury should be of opinion, upon the evidence, that his discovery did not extend to the whole machine, but merely to an improvement on the principle of an old one, and if this should be their opinion, in the present case, the plaintiff could not recover.

It had been contended by the plaintiff's counsel, that the defendant, having offered to take a license from the plaintiff, if he would consent to reduce the price of it to $40, he was not at liberty to deny that the plaintiff is the original inventor of this machine. *This argument had no weight in it, not merely because the offer was rejected by the plaintiff's agent, [*482 and was, therefore, as if it had not been made; but because the law prevents the plaintiff from recovering, if it appear on the trial, that he was not the original inventor. If the offer amounted to an acknowledgment that the plaintiff was the original inventor (and further it could not go), this might be used as evidence of that fact, but it would not entitle the plaintiff to a verdict, if the fact proved to be otherwise.

The plaintiff's counsel had also strongly insisted, that under the equity of the tenth section of the law, the defence set up in this case ought not to be allowed, after three years from the date of the patent. This argument might, perhaps, with some propriety, be addressed to the legislature, but was improperly urged to the court. The law had declared, that in an action of this kind, the defendant may plead the general issue, and give in evidence that the plaintiff was not the original inventor of the machine for which the patent was granted. The legislature has not thought proper to limit this defence in any manner; and the court could not do it.

But what seemed to be conclusive of this point was, that the argument would tend to defeat altogether the provision of the sixth section, which authorizes this defence to be made; for, if it could not be set up, after three years from the date of the patent, it would be in the power of the patentee to avoid it altogether, by forbearing to bring suits, until after the expiration of that period. And thus, although the law has carefully *provided [*483 two modes of vacating a patent improvidently granted, the patentee, though not the original inventor, and however surreptitiously he may have obtained his patent, may secure his title to the exclusive use of another's invention, if he can for three years avoid an inquiry into the validity of his title.

The last point was, that Stauffer's invention was abandoned, and, consequently, might be appropriated by the plaintiff. But if Stauffer was the original inventor of the hopperboy, and chose not to take a patent for it, it became public property by his abandonment; nor could any other person obtain a patent for it, because no other person would be the original inventor. To this charge, the plaintiff's counsel excepted.

February 6th. *C. J. Ingersoll*, for the plaintiff, premised, that this patent granted an exclusive right for fourteen years, in the improvement in the art, by means of the five machines, and for the several machines; the peculiar properties of each, in its practical results, and the improvement of the art, by the combination of the whole. The proof of this position is,

that the defendant used the precise machine, copied from the plaintiff's publication, and offered to pay for it; but they differed in price, which led to the contesting the originality of the plaintiff's invention.

1. It is said, in the charge of the court below, that the action is founded on the patent, which contains no grant of a right to the several machines, but is confined to the improvement in the art, by means of those machines. *484] The patent is to be made out in the *manner and form prescribed by the general act. What are that manner and form? By reciting the allegations and suggestions of the petition; giving a short description of the invention or discovery; and thereupon granting an exclusive right in the said invention or discovery. The manner and form of these letters-patent are a recital of—1st. The citizenship of the patentee: 2d. The allegations and suggestions of the petition, as to both the improvement and the machines, in a short description, referring to the annexed schedule for one more full and particular in the inventor's own words: 3d. That he has petitioned agreeable to the special act: 4th. A grant of the said improvement. The description must be short and referential. It must be a description. By the first section of the act of the 10th of April 1790, ch. 34, it was to be described clearly, truly and fully; perhaps, because the board, constituted by that law, was to decide whether they deemed the discovery or invention sufficiently useful or important for letters-patent. The patent, by express reference, adopts the special act *in extenso*. The connecting terms *which* and *said*, bind the whole to the granting clause; the allegations and suggestions recited are part of the grant: the machines are the means of every end, particular as well as general; nor can there be any practical result without them. To confine such a patent to one general result from a combination of the whole machines, nullifies it. It is never so in practice, and would operate infinite injustice in other cases.

*485] 2. But the schedule is part of the patent in all cases: *in this case, it is especially so. By the act of 1790, ch. 34, § 6, the patent or specifications are *primâ facie* proof of everything which it is incumbent on the plaintiff to establish; and by the existing law, the specification is considered as explanatory of the terms used in the patent, so as to limit or enlarge the grant. *Whittemore* v. *Cutter*, 1 Gallis. 437. But it is said in the grant, that the schedule annexed is made part of the patent. It is made so by the public agent, to avoid trouble, litigation and unnecessary recitals. The petition, schedule and description are all referred to, and incorporated with the patent. What does the law mean by a recital of allegations and suggestions? What more can a petitioner do than allege and suggest? He cannot shape or prescribe the manner and form of the grant. The charge denies that the schedule, at any rate, is more than descriptive of the machines, or that it would confer any right, even if claimed in the patent. But if no right would be conferred by insertion in the grant itself, what becomes of the argument which ascribes such potency to the grant? The charge says, the grant can only be for the discovery, as recited and described in the patent and specification. The grant is not for the parts, because it is for the whole; not in their rudiments or elements; not for wheels, cogs or weights, nor for wood, iron or leather; but for the peculiar properties, the new and useful practical results from each machine, and the vast improvements from their combination in this art. The charge supposes it

impossible to obtain a patent *for a hopperboy, unless the plaintiff could swear that he invented that machine. But the oath is not a material, or at least, not an indispensable pre-requisite. *Whittemore* v. *Cutter*, 1 Gallis. 433.

3. The special act for the relief of the plaintiff, decides him to be the inventor of the machines and improvements for which he has obtained a patent. By the constitution, art. 1, § 8, congress have power to promote the progress of science and the useful arts, by securing, for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries. This has been done by congress in the instance of the plaintiff. The special act is an absolute grant to him, binding on all the community, and precluding any inquiry into the originality of the invention. It includes a monoply in his invention, discovery and improvements in the art, and in the several machines discovered, invented, improved and applied, for that purpose. The patent is to issue on a simple application in writing by the plaintiff, without any pre-requisites of citizenship, oath, fee, or petition, specification and description to be filed. The act of 1793, ch. 156, requires all these, and then grants a patent for invention or discovery; whereas, this grant is for that, and for improvements in the art, and in the several machines. It is a remedial act, and should receive a liberal construction, to effectuate the intentions of the legislature. *Whittemore* v. *Cutter*, 1 Gallis. 430. The patent is as broad as the law, if the grant be governed by the recital. Its construction is to be against the grantor, and according to the intent; *nor is it to be avoided by subtle distinctions: if there are [*487 two interpretations, the sensible one is to be adopted. Jenk. Cent. 138; *Eystor* v. *Studd*, Plowd. 467; *United States* v. *Fisher*, 2 Cranch 386, 399.

The improved hopperboy of the plaintiff is the only new and useful discovery which was in evidence in the case; the court misconstrued the law in their charge in this respect, inasmuch as the true construction of it is, not that the patentee shall be the first and original discoverer of a patentable thing, but "the true inventor" of such a thing; that such a thing was truly discovered and patented, without knowledge of its prior use, or public employment or existence; more especially, where, as in the present instance, the controversy is not between conflicting patents, but between the true patentee of a new and useful patentable thing, and a person defending himself against an infringement, on the plea of its prior use by third persons, who had no patent, and whose discovery, even if proved, was of a thing never in use or public existence, but in total disuse. The stat. 21 Jac. I., ch. 3, § 6 (Anno. 1623), grants the monopoly "of the sole working or making of any manner of new manufactures, within this realm, to the true and first inventor and inventors of such manufactures, which others at the time of making such grant, shall not use," &c. It is contended, under our law, that the utility is to be ascertained as well as the originality; and that this, as well as that, is partly a question for the jury. The thing patentable must be useful, as well as new. The useful thing patented prevails over one, not useful nor patented, though in *previous partial existence. This is not the case of conflicting [*488 patentees; and to destroy this patent, the previous use must appear, there being no pretence of description in a public work. The title of the act is "for the promotion of the useful arts." The first section speaks of "any

new and useful arts," not known or used, &c. The sixth, of that which "had been in use, or described in some public work, anterior to the supposed discovery." What degree of use does the law exact? A use known or described in a public work. Not merely an experimental, or essaying; nor a clandestine, nor obscure use. It must be useful, and in use, perhaps in known, if not public use; something equivalent to filing a specification on record. Now, here, utility was lost sight of in search of novelty. It seemed to be taken for granted, that proving the pre-existence of an unpatented hopperboy, defeated the plaintiff's patent. The desuetude of the rival hopperboy from inutility was established. The question was between a new and useful patented machine, and a useless and obsolete one, never patented; and which, not being useful, never could be patented. But that the patentee's is useful, nobody questions. At all events, the question of fact, whether in use, should have been left to the jury. The jury are substituted for the board, which, under the first law, was to decide whether the supposed invention was "sufficiently useful and important" for a patent. The court below suppose Stauffer to have given his discovery to the public. But it fell into disuse; there was nothing to give. Stauffer dld not know its
*489] value; if he *had abandoned a field, with unknown treasure in the ground, could be afterwards claim the treasure? Grotius, *de Jure Belli ac Pacis*, lib. 3, ch. 20, § 28.

5. The defendant's testimony of the use of hopperboys in mills, not specified in his notice, was erroneously admitted. The object of the provision in the 6th section of the patent law of 1793, ch. 156, was to simplify the proceedings, and to enable the defendant to give in evidence, under his notice, what he would otherwise be obliged to plead specially. The sufficiency of the notice is, therefore, to be tested by the rules of special pleading; which, though technical, are founded in flood sense and natural justice, and are intended to put the adverse party on his guard as to what the other intends to rely upon in his defence. But such a notice as this could not answer that purpose.

6. The plaintiff's testimony of the payment for licenses to use his improved hopperboy, ought not to have been rejected. It ought to have been admitted, as circumstantial evidence entitled to some weight.

Hopkinson and *Sergeant*, contrà.—1. The admissibility of evidence of the use of the hopperboy, anterior to the plaintiff's alleged invention, in mills not specifically mentioned in the notice, depends upon the construction that may be given to the 6th section of the act of the 21st of February 1793, ch. 156, taken in connection with the notice. This section is substituted for the 6th section of the act of the 10th of April 1790, ch. 34. The office of
*490] the section, *in each of these acts, is two-fold: 1st. To state what shall constitute a defence: 2. To state the manner in which the defendant may avail himself of it. And whatever difficulties may exist (if any there be) in the construction of the section, arise from the combination of this two-fold object. That this was the object of the section, is perfectly obvious. The general issue would be a denial of the allegation contemplated by the 5th section of the act of 1793, and the 4th of the act of 1790. If the acts had stopped there, it is manifest, that the defendant could have had no defence, but what was legally within the scope of the general issue.

The 10th section would not have availed him, because, the limitation of time, and the grounds for repealing a patent upon a *scire facias*, are totally different from those which ought to constitute a defence to the action. The patent may be opposed, in an action, upon the ground, that the patentee is not the original inventor; but it can be repealed only upon the ground, that he is not the true inventor. Fraud (proof that it was surreptitiously obtained) is the necessary basis in the one case; but error and mistake is equally available in the other. Neither could the defendant avail himself of the provisions in the prior part of the act: for these are merely directory, and they terminate in the provision made by the 5th section, which would have been conclusive; the 6th section is, therefore, a proviso to the 5th. The 6th section of the act of 1790, made the patent *primâ facie* evidence only, which would have opened the inquiry as to the truth of the invention. It appears, then, that the object of the proviso was, in the first place, *to settle what should constitute a defence. These matters would not have been within the scope of the general issue, by the [*491 rules of pleading; they would have presented the subject of a special plea in bar. The act, therefore, at the same time provides, that they may be given in evidence under the general issue. The design, in this respect, was to save the necessity of special pleading, on the one hand, and on the other, to give a reasonable notice. Does the law require the evidence to be set out? No; and yet, if surprise is to be fully guarded against, this ought certainly to be stated, in order that the plaintiff may prove that it is false, or proceeds from corrupt witnesses, &c. Is it then necessary, that all the particulars should be given, the state, county, township, town, street, square, number of the house? The law does not require it. What certainty, then, is required in the notice? The answer is obtained, by ascertaining the use and intention of the section, which were to save the necessity of special pleading. What then must be alleged in a special plea? Not the evidence or facts, but the matter of defence, which may be, that the plaintiff was not the true inventor, but that the invention was before his supposed discovery. You must state what is the ground and essence of the defence, and nothing more; all else is surplusage: *e. g.*, that the plaintiff was not the true inventor of the hopperboy, but the same was in use, prior to his supposed discovery, at the mill of A. Now, its being in use at the mill of A. is not of the essence of the defence, for it is as good, if used at the mill of B.: the essence is, that it was used before. The defendant *then would be entitled to [*492 lay the place under a *videlicet*, and of course, would not be obliged to prove it, but might prove any other. If, then, the law did not mean to increase the difficulty of the defendant, the same may be done in a notice. Consider the inconveniences of a contrary practice. A machine has been used in a foreign country: the country, town and place may be unknown. Shall I, therefore, be deprived of my invention? Again, it is known. I am bound to give thirty days' notice, before trial, and no more: *cui bono*, that I should mention a town or place in England? The intention is, that the plaintiff shall come prepared to prove where his invention was made, and not to disprove the defendant's evidence; that he shall have notice of the kind of defence intended, in order that he may shape his case accordingly. If notice is given, that the defendant will give in evidence, that the plaintiff's machine was used before his supposed discovery; this is notice of

special matter, tending to prove that it was not invented by him. The law does not require a statement or description of the special matter, but notice that special matter will be given in evidence, tending to prove certain facts. There is no reciprocity in the contrary rule. The declaration is general; it does not specify the date of the invention, the place of the invention, nor the evidence or facts by which the originality and truth of the invention are to be proved. Yet these are all extremely important to the defendant, to enable him to prepare his defence. As to the breach, it is equally general; it does not state the time, except as a mere matter of form, by which *the plaintiff is not bound. It does not state the place, except by the very liberal description necessary for the venue, but which is not at all binding. And finally, the rule contended for is impracticable, consistently with the purposes of justice; for it may, without any fault of the defendant, deprive him of the benefit of a perfectly good defence, upon a mere requisition of form, which he cannot possibly comply with. The notice states the use of the hopperboy, at a number of mills, specially described by the state, county and name of the proprietor, "and at sundry other places in the said state of Pennsylvania, the state of Maryland, and elsewhere in the United States." It is not alleged, nor could it be, that the defendant had the knowledge that would have enabled him to extend the specification. Nor is it alleged, that he could have acquired the knowledge, by any exertion he might have made; on the contrary, the course he has taken is indicative of perfectly fair intention. The exception is, that the defendant was permitted to give evidence, that the hopperboy "had been used at sundry other mills in Pennsylvania," precisely in the words of the notice. To sustain this exception, then, the court must decide, that this cannot in any case be done. But if it cannot be shown, that in a single supposable case, this would work injustice, and defeat the law, it is sufficient. Now, it is very clear, that in many cases, this may be precisely the state of the party's knowledge, and all he can obtain, and it may be precisely the state of the evidence. Suppose, a witness should know that hopperboys were used in sundry mills, but not their precise local *situation, name of owner, &c. Or suppose, he should have seen a hopperboy that bore the most evident marks of having been used in a mill or mills. The effect of such evidence is quite another question; its competency and relevancy are for the court; its credibility, and the inferences of fact that are to be made from it, are for the jury. The same supposition would apply to its having been described in a public work. Is it necessary to give the title of the book, name of the author, and number of the edition? This may be impracticable. The defendant may have a witness who has seen the thing in use in a foreign country, and not be able to give a single particular; or who has seen it described in a foreign work, of which he can give no further account. Such evidence, if credited, would be entirely conclusive; and yet he could have no benefit of it, because he had not done what was impossible. But even if the witness knows all these particulars, the defendant has no means of compelling him to disclose them before the trial. The rules of pleading aim to establish a convenient certainty on the record, by giving the party notice of what is alleged, and furnishing evidence of what has been decided. In many instances, they fall short of this, their avowed design; in none, do they go beyond it. For the purpose of preventing surprise, they are wholly

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ineffectual ; they give no notice of particular facts, of evidence, of witnesses. The corrective of the evil, if evil there be, is to be found in the exercise of the general superintending authority of the court, applied to cases where there may really be surprise or fraud. So, in this case, if there really had been surprise *(fraud is out of the question), the court had the power [*495
to grant a new trial. This power is an amply sufficient corrective ; and its existence affords a decisive answer to the argument drawn from the possible injustice that may be done.

2. The exception to the refusal to admit evidence of the payment for the use of licenses, will be easily disposed of. The fact to be established on the one side, and disproved on the other, was that the hopperboy was in use, before the alleged invention or discovery of Evans. The evidence offered had no bearing whatever upon the question of fact. If believed, it went no further than to show, that those who had paid, thought it best to pay ; a decision that might be equally prudent, whether the fact was, or was not, as alleged. Such testimony would be more objectionable than the opinion of the witness ; for it would be only presumptive proof of opinion, without the possibility of examining its grounds. As opinion, it would be inadmissible ; as evidence of opinion, it would be still more objectionable.

3. The plaintiff's patent can only be considered in one of three points of view. 1st. As a patent for the improvement in the art of manufacturing flour ; that is, for the combination. 2d. As a patent for the combination, and also for the several machines ; that is, a joint and several patent. 3d. As a patent simply for the several machines. It is very clear, that the patent itself is for the combination only ; though it is equally clear, that by the terms of the law, he might have obtained a patent for the whole, and also for the several parts. That this is the necessary construction *of [*496
the patent, is plain, from the patent itself, taken in connection with the act of the 21st of January 1808, ch. 117. The act authorizes a patent to be issued for his improvements in the art of manufacturing flour, and in the several machines, &c. The matters are plainly different. They are the subject of distinct patents, to be obtained in the "manner and form" prescribed by the act of 1793, ch. 156. The object of the special act was, to put Evans upon the same footing as if his former patent had not been issued ; but it did not mean to dispense with any of the requisites of the general law. With the general requisite (that he was inventor) it could not dispense ; the constitution did not permit it. By the general law, improvement in an art, and improvement in a machine, are distinct patentable objects. This patent is only for the improvement in the art of manufacturing flour, and the recital of the special act, and the words "which" and "said" do not at all help it. It is true, it is an improvement operated by means of the machines, but not exclusively. The result may be secured, without securing the means. This patent was granted to the plaintiff ; was received by him ; and must be presumed to be according to his application and his oath. The oath is, that he is the true inventor of the "improvements above specified ;" which term is applied in the specification, as in the patent, only to the art. But it is said, the specification is a part of the patent, and limits or enlarges it, as the case may be. Mr. Justice STORY, in the case which has been cited, only says, that the specification *may control the generality of the patent. [*497
Whittemore v. *Cutter*, 1 Gallis. 437. But the specification, in the case

now before the court, does not claim the machines. If the patent was for a combination, the plaintiff's action was gone; he could not maintain it against a person using one of the machines. If the patent was for the combination, and also for the several machines, that is, a joint and several patent, then the patentee might proceed upon it, as the one or the other, according to the nature of the alleged invasion. If he proceeded upon it, for a breach of the right to the combination, he must show the originality of invention, and might be defeated by opposite proof. If for a breach of the right to any one of the machines, he might be defeated, by showing that he was not the original inventor of the machine. So, if it be considered a several patent, that is, as if he had five distinct patents. But in no conceivable case, can he stand upon any but one of these three grounds, nor claim to have the benefit of a larger, or even of a different patent.

4. From this analysis, which in necessary to prevent confusion, we come to inquire into the nature of the case presented to the court for decision, and to which the charge was to be applied; premising, 1st. That no exception can be taken to what the court did not give in charge to the jury; and 2d. That no exception can be taken to an opinion, however erroneous, that had no bearing upon the issue to be decided by the jury. It is apparent from the record, that the action of the plaintiff was founded upon the alleged *use, by the defendant, of a machine called a hopperboy, of which the plaintiff claimed to be the inventor; that the evidence on both sides applied to this allegation, and to this alone; the plaintiff claiming to be the inventor, and the defendant denying it. The charge of the court noticed the several arguments that had been used at the bar, and examined the general question as to the character of the patent; upon which, however, as it had not been discussed, no opinion was given. This is clear; for if an opinion had been expressed, it must have been, that the action was not maintainable. Nothing short of that would have been material. But the court left the case to the jury, as of an action that was maintainable, and instructed them as to the principles by which it was to be decided; which negatives the conclusion of any opinion having been given, that the action was not maintainable. If the defendant had required the court to charge, that the action was not maintainable, and they had charged that it was, or declined to charge at all, he would have had ground of exception. But the plaintiff cannot complain, because he has what is equivalent to a decision in his favor.

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5. The statute of James (21 Jac. I., c. 3) A. D. 1623, confined monopolies to the first and true inventors of manufactures not known or used before. One hundred and seventy years had elapsed when our act passed; commerce and the arts had made such advances, such facilities had been created for the diffusion of knowledge, that everything known by use, or described in books, might be considered as common property. It would have been strange, to adopt a different *principle. The act of congress does not. It is a mistake to suppose, there is in this respect any difference between the act of congress and the act of parliament. One says "useful" inventions, the other "new and useful;" but both have the expressions "not used or known before." A patent can only be had, upon an allegation that the applicant has invented something new and useful. Its novelty may certainly be questioned; perhaps, its usefulness. But where the defence is, that the

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thing was known or used before, is it necessary to prove the usefulness of the thing so known or used? The act does not require it; nor is there any good reason why the patentee should be permitted to controvert it.

Harper, in reply, insisted—1. That the court below had erred in admitting testimony of the use of the plaintiff's machine, in mills not specified in the notice. The statute was not framed with a view to the benefit of the defendant alone. The notice to be given is not that vague, indistinct, general notice, which is set up on the other side. It must be an effectual, useful notice; such a notice as may put the patentee on his guard, and enable him to see what are the precise ground of defence. It must be more specific than a mere transcript of the particular class of grounds of defence, such as suppression of parts, redundancy, &c. The circumstances of the time, the place, when and where used, and by what persons, are essentially necessary, in order to enable the patentee to meet the defence. The burden of proof, is, in effect, thrown upon the patentee; and the law *intended that he should meet it fairly. Such a notice as that given in this case would [*500 not be good, if put into the form of a special plea. The degree of certainty required in a plea, in the statement of the time and place, when and where material facts have happened, is one of the most difficult questions of the law; but these circumstances must always be laid, and must be proved as laid, whenever it is essential to enable the other party to maintain his case. There is a distinction between the matter of defence, and the evidence by which it is to be maintained. A notice of the particulars of the evidence is not required, but of the time and place where the former use of the machine in question occurred. Nor is this unreasonable; for it is highly improbable, that anybody would be able to testify as to the minute particulars of an invention, without being able to remember in what work he had seen it described, or to state in what place and at what time he had seen it used.

2. The special act for the plaintiff's relief is a distinct, substantive, independent grant, declaring the plaintiff to be the original inventor, and, as such, entitled to a patent. It contains no reference to the general patent law, nor does it reserve any right in others to contest the originality of his invention. The defendant, therefore, cannot say, that the plaintiff is not the inventor, though he may deny that he has violated the plaintiff's rights as inventor. Congress is not confined by the constitution to any particular mode of determining the fact, who are inventors or authors. It is true, a patent or copyright can only be granted to an inventor or author; but the originality of the invention *or authorship may be determined by con- [*501 gress itself, upon such testimony as it deems sufficient; or by an administrative act, by the decision of some board or executive officer; or, lastly, by a judicial investigation; according as the legislative will may prescribe either of these several modes. The act of parliament, 15 Geo. III., for the relief of Watt and Boulton, the inventors of the improved steam-engine, and extending the term of their patent for twenty-five years, contained an express provision, that every objection in law competent against the patent, should be competent against the act, "to all intents and purposes, except so far as relates to the term thereby granted." *Hornblower* v. *Boulton*, 8 T. R. 95, 97. The act of congress for the relief of Oliver Evans contains no such provision The conclusion, therefore, is, that the legislature meant to quiet

him in his claim, after he had so long enjoyed it, and in consideration of his peculiar merits, and of his former patent having been vacated for informality.

3. The court, below, instructed the jury, that the patent was not for any one machine, but for the combined effect of the whole; though they concluded, by leaving it upon the prior use, still, the intimation that the action could not be maintained, even though the prior use was not proved, did not leave the fact to the jury, free from bias. Though not a positive direction to the jury, to find for the defendant, it had the effect of a nonsuit. The wishes of the grantee, and the intention of the grantor, both extended, as
*502] well to a patent for the several machines, *as to a patent of the combined effect of the whole. The word "improvement," though in the singular number, extends not only to the plaintiff's improvement in the art of manufacturing flour, but to his improvement in the several machines by means of which the operations of the art are conducted. This was a patent for an improvement on the particular machine in question, and not for its original invention. In this respect it is like that of Watt and Boulton for their improvement on the steam-engine.

4. The prior use, which is to defeat a patent, ought to be a public use. The defence here set up, under the 6th section of the patent law of 1793, ch. 156, was, that the patentee was not the original discoverer, and that the thing had been in use, &c. But how else could it be shown that he was not the discoverer, but by showing that it had before been in public use? A mere secret, furtive use would not disprove the fact of his being the original discoverer. If this were so, then the art of printing and gun-powder were not invented in Europe, because they had been before used in a sequestered corner of the globe, like China. But there is a distinction between a first discovery and an original discovery. The art of printing was originally discovered in Germany, though it was first invented in China. So, the plaintiff would not cease to be the original inventor of the hopperboy, even if it had been proved, that another similar machine had been before privately used in a single mill. It ought, therefore, to have been left to the jury, to find for the plaintiff, if they believed that the use was a secret use.

*503] *March 7th, 1818. MARSHALL, Ch. J., delivered the opinion of the court.—In this case, exceptions were taken in the circuit court, by the counsel for the plaintiff in error, 1st. To the opinion of the court, in admitting testimony offered by the defendant in that court. 2d. To its opinion in rejecting testimony offered by the plaintiff in that court. 3d. To the charge delivered by the judge to the jury.

Under the 6th section of the act for the promotion of useful arts, and to repeal the act heretofore made for that purpose, the defendant pleaded the general issue, and gave notice that he would prove at the trial, that the improved hopperboy, for the use of which, without license, this suit was instituted, had been used previous to the alleged invention of the said Evans, in several places (which were specified in the notice), or in some of them, "and also at sundry other places in Pennsylvania, Maryland, and elsewhere in the United States." Having given evidence as to some of the places specified in the notice, the defendant offered evidence as to some other places

not specified. This evidence was objected to by the plaintiff, but admitted by the court; to which admission, the plaintiff's counsel excepted.

The 6th section of the act appears to be drawn, on the idea, that the defendant would be not at liberty to contest the validity of the patent on the general issue. It, therefore, intends to relieve the defendant from the difficulties of pleading, when it allows him to give in *evidence matter which does affect the patent. But the notice is directed for the security of the plaintiff, and to protect him against that surprise to which he might be exposed, from an unfair use of this privilege. Reasoning merely on the words directing this notice, it might be difficult to define, with absolute precision, what it ought to be include, and what it might omit. There are, however, circumstances in the act which may have some influence on this point. It has been already observed, that the notice is substituted for a special plea; it is further to be observed, that it is a substitute to which the defendant is not obliged to resort. The notice is to be given only when it is intended to offer the special matter in evidence on the general issue. The defendant is not obliged to pursue this course, he may still plead specially, and then the plea is the only notice which the plaintiff can claim.[1] If, then, the defendant may give in evidence, on a special plea, the prior use of the machine, at places not specified in his plea, it would seem to follow, that he may give in evidence its use, at places not specified in his notice. It is not believed, that a plea would be defective, which did not state the mills in which the machinery alleged to be previously used was placed. [*504

But there is still another view of this subject, which deserves to be considered. The section which directs this notice, also directs, that if the special matter stated in the section be proved, "judgment shall be rendered for the defendant, with costs, and the patent shall be declared void." The notice might be intended, not only for the information of the plaintiff, *but for the purpose of spreading on the record the cause for which the patent was avoided. This object is accomplished by a notice which specifies the particular matter to be proved. The ordinary powers of the court are sufficient to prevent, and will, undoubtedly, be so exercised, as to prevent the patentee from being injured by the surprise. [*505

This testimony having been admitted, the plaintiff offered to prove that the persons, of whose prior use of the improved hopperboy the defendant had given testimony, had paid the plaintiff for licenses to use his improved hopperboy in their mills, since his patent. This testimony was rejected by the court, on the motion of the defendant, and to this opinion of the court, also, the plaintiff excepted. The testimony offered by the plaintiff was entitled to very little weight, but ought not to have been absolutely rejected. Connected with other testimony, and under some circumstances, even the opinion of a party may be worth something. It is, therefore, in such a case as this, deemed more safe to permit it to go to the jury, subject, as all testimony is, to the animadversion of the court, than entirely to exclude it.

We come next to consider the charge delivered to the jury. The errors alleged in this charge may be considered under two heads: 1st. In construing the patent to be solely for the general result produced by the com-

[1] Grant *v.* Raymond, 6 Pet. 246; Day *v.* New England Car-Spring Co., 3 Bl. C. C. 179; Latta *v.* Shawk, 1 Bond 259; Phillips *v.* Comstock, 4 McLean 525.

bination of all the machinery, and not for the several improved machines, as well as for the general result. 2d. That the jury must find for the defend-
*506] ant, if they *should be of opinion, that the hopperboy was in use prior to the invention of the improvement thereon by Oliver Evans.

The construction of the patent must certainly depend on the words of the instrument. But where, as in this case, the words are ambiguous, there may be circumstances which ought to have great influence in expounding them. The intention of the parties, if that intention can be collected from sources which the principles of law permit us to explore, are entitled to great consideration. But before we proceed to this investigation, it may not be improper to notice the extent of the authority under which this grant was issued. The authority of the executive to make this grant, is derived from the general patent law, and from the act for the relief of Oliver Evans. On the general patent law alone, a doubt might well arise, whether improvements on different machines could regularly be comprehended in the same patent, so as to give a right to the exclusive use of the several machines, separately, as well as a right to the exclusive use of those machines in combination. And if such a patent would be irregular, it would certainly furnish an argument of no inconsiderable weight against the construction. But the "act for the relief of Oliver Evans" entirely removes this doubt. That act authorizes the secretary of state to issue a patent, granting to the said Oliver Evans the full and exclusive right, in his invention, discovery and improvements in the art of manufacturing flour, and in the several
*507] machines *which he has invented, discovered, improved and applied to that purpose. Of the authority, then, to make this patent co-extensive with the construction for which the plaintiff's counsel contends, there can be no doubt.

The next object of inquiry is, the intention of the parties, so far as it may be collected from sources to which it is allowable to resort. The parties are the government, acting by its agents, and Oliver Evans. The intention of the government may be collected from the "act for the relief of Oliver Evans." That act not only confers the authority to issue the grant, but expresses the intention of the legislature respecting its extent. It may fairly be inferred from it, that the legislature intended the patent to include both the general result, and the particular improved machines, if such should be the wish of the applicant. That the executive officer intended to make the patent co-extensive with the application of Oliver Evans, and with the special act, is to be inferred, from the reference to both in the patent itself. If, therefore, it shall be satisfactorily shown from his application, to have been the intention of Oliver Evans to obtain a patent including both objects, that must be presumed to have been also the intention of the grantor.

The first evidence of the intention of Oliver Evans is furnished by the act for his relief. The fair presumption is, that it conforms to his wishes; at least, that it does not transcend them. The second, is his petition to the
*508] secretary of state, *which speaks of his having discovered certain useful improvements, and prays a patent for them, "agreeably to the act of congress, entitled, an act for the relief of Oliver Evans." This application is for a patent co-extensive with the act. This intention is further manifested by his specification. It is not to be denied, that a part of this specification would indicate an intention to consider the combined operation

of all his machinery as a single improvement, for which he solicited a patent. But the whole, taken together, will not admit of this exposition. The several machines are described with that distinctness which would be used by a person intending to obtain a patent for each. In his number 4, which contains the specification of the drill, he asserts his claim, in terms, to the principles, and to all the machines he had specified, and adds, "they may all be united and combined in one flour-mill, to produce my improvement in the art of manufacturing flour complete, or they may be used separately for any of the purposes specified and allotted to them, or to produce my improvement in part, according to the circumstances of the case."

Being entitled by law to a patent for all and each of his discoveries; considering himself, as he avers in his specification and affirmation, as the inventor of each of these improvements; understanding, as he declares he did, that they might be used together so as to produce his improvement complete, or separately, so as to produce it in part; nothing can be more improbable, than that Oliver Evans intended to obtain a patent solely for their combined operation. His affirmation, *which is annexed to his [*509
specification, confirms this reasoning. To the declaration that he is
the inventor of these improvements, he adds, "for which he solicits a patent." With this conviction of the intention with which it was framed, the instrument is to be examined.

The patent begins with a recital, that Oliver Evans had alleged himself to be the inventor of a new and useful improvement in the art of manufacturing flour, &c., by the means of several machines, for a description of which reference is made to his specification. It will not be denied, that if the allegation of Oliver Evans was necessarily to be understood as conforming to this recital, if our knowledge of it was to be derived entirely from this source, the fair construction would be, that his application was singly for the exclusive right to that improvement which was produced by the cambined operation of his machinery. But in construing these terms, the court is not confined to their most obvious import. The allegation made by Oliver Evans, and here intended to be recited, is in his petition to the secretary of state. That petition is embodied in, and becomes a part of the patent; it explains itself, and controls the words of reference to it. His allegation is not "that he has invented a new and useful improvement," but that he has discovered certain useful improvements. The words used by the department of state in reciting this allegation, must then be expounded by the allegation itself, which is made a part of the patent. The recital proceeds, "which improvement has not been known," &c. These words refer clearly to *the improvement first mentioned and alleged in the pe- [*510
tition of Oliver Evans, and are, of course, to be controlled in like
manner with the antecedent words, by that petition. This part of the recital is concluded by adding, that Oliver Evans has affirmed, that he does verily believe himself to be the true inventor or discoverer of the said improvement. But the affirmation of Oliver Evans, like his petition, is embodied in the grant, and must, of course, expound the recital of it. That affirmation is, that he does verily believe himself to be the true and original inventor of the improvements contained in his specification. In every instance, then, in which the word improvement is used in the singular number, throughout the part of the recital of this patent, it is used in reference to a

paper contained in the body of the patent, which corrects the term, and shows it to be inaccurate.

The patent, still, by way of recital, proceeds to add, "and agreeably to the act of congress, entitled 'an act for the relief of Oliver Evans,' which authorizes the secretary of state to secure to him, by patent, the exclusive right to the use of such improvement in the art of manufacturing flour and meal, and in the several machines which he has discovered, improved and applied to that purpose; he has paid into the treasury, &c., and presented a petition to the secretary of state, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose."

*511] *To what do the words "said improvement" relate? The answer which has been given at the bar is entirely correct. To the improvement mentioned in the statute and in the petition, to both of which direct reference is made. But in the statute, and in the petition, the word used is "improvements," in the plural. The patent, therefore, obviously affixed to the word improvement, in the singular, the same sense in which the plural is employed, both in the statute and in the petition. We are compelled, from the whole context, so to construe the word, in every place in which it is used in the recital, because it is constantly employed with express reference to the act of congress, or to some document embodied in the patent, in each of which the plural is used. When, then the words "said improvement" are used as a term of grant, they refer to the words of the recital, which have been already noticed, and must be construed in the same sense. This construction is rendered the more necessary, by the subsequent words, which refer for a description of the improvement to the schedule. It also derives some weight from the words, "according to law," which are annexed to the words of grant. These words can refer only to the general patent law, and to the "act for the relief of Oliver Evans." These acts, taken together, seem to require that the patent should conform to the specification, affirmation and petition of the applicant.

It would seem as if the claim of Oliver Evans was rested, at the circuit court, on the principle, that a grant for an improvement, by the combined

*512] operation *of all the machinery, necessarily included a right to the distinct operation of each part, inasmuch as the whole comprehends all its parts. After very properly rejecting this idea, the judge appears to have considered the department of state, and the patentee, as having proceeded upon it, in making out this patent. He supposed the intention to be, to convey the exclusive right in the parts as well as in the whole, by a grant of the whole; but as the means used are, in law, incompetent to produce the effect, he construed the grant according to his opinion of its legal operation. There is great reason in this view of the case, and this court has not discarded it, without hesitation. But as the grant, with the various documents which form a part of it, would be contradictory to itself; as these apparent contradictions are all reconciled by considering the word "improvement" to be in the plural instead of the singular number; as it is apparent, that this construction gives to the grant its full effect, and that the opposite construction would essentially defeat it, this court has, after much consideration and doubt, determined to adopt it, as the sound exposition of the instrument.

The second error alleged in the charge, is, in directing the jury to find for the defendant, if they should be of opinion, that the hopperboy was in use, prior to the improvement alleged to be made thereon by Oliver Evans. This part of the charge seems to be founded on the opinion, that if the patent is to be considered as a grant of the exclusive use of distinct improvements, *it is a grant for the hopperboy itself, and not for an improvement on the hopperboy. The counsel for the plaintiff contends, that [*513 this part of the charge is erroneous, because, by the "act for the relief of Oliver Evans," congress has itself decided, that he is the inventor of the machines for which he solicited a patent, and has not left that point open to judicial inquiry. This court is not of that opinion. Without inquiring whether congress, in the exercise of its power "to secure for limited times, to authors and inventors, the exclusive right to their respective writings and discoveries," may decide the fact, that an individual is an author or inventor, the court can never presume congress to have decided that question in a general act, the words of which do not render such a construction unavoidable. The words of this act do not require this construction. They do not grant to Oliver Evans the exclusive right to use certain specified machines; but the exclusive right to use his invention, discovery and improvements; leaving the question of invention and improvement open to investigation, under the general patent law.

The plaintiff has also contended, that it is not necessary for the patentee to show himself to be the first inventor or discoverer. That the law is satisfied, by his having invented a machine, although it may have been previously discovered by some other person. Without a critical inquiry into the accuracy with which the term invention or discovery may be applied to any other than the first inventor, the court *considers this question as [*514 completely decided by the 6th section of the general patent act. That declares, that if the thing was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, judgment shall be rendered for the defendant, and the patent declared void. Admitting the words "originally discovered," to be explained or limited by the subsequent words, still, if the thing had been in use, or had been described in a public work, anterior to the supposed discovery, the patent is void. It may be, that the patentee had no knowledge of this previous use or previous description; still, his patent is void: the law supposes he may have known it; and the charge of the judge, which must be taken as applicable to the testimony, goes no further than the law.

The real inquiry is, does the patent of Oliver Evans comprehend more than he has discovered? If it is for the whole hopperboy, the jury has found that this machine was in previous use. If it embraces only his improvement, then the verdict must be set aside. The difficulties which embarrass this inquiry are not less than those which were involved in the first point. Ambiguities are still to be explained, and contradictions to be reconciled. The patent itself, construed without reference to the schedule other documents to which it refers, and which are incorporated in it, would be a grant of a single improvement; but construed with those *documents, it has been determined to be a grant of the several improve- [*515 ments which he has made in the machines enumerated in his specification.

But the grant is confined to improvements. There is no expression in it which extends to the whole of any one of the machines which are enumerated in his specification or petition. The difficulty grows out of the complexity and ambiguity of the specification and petition. His schedule states his first principle to be the operation of his machinery on the meal, from its being ground until it is bolted. He adds, "this principle I apply by various machines, which I have invented, constructed and adapted to the purposes hereafter specified."

His second principle is the application of the power that moves the mill to his machinery. The application of these principles, he says, to manufacturing flour, is what he claims as his invention or improvement in the art. He asserts himself to be the inventor of the machines, and claims the application of these principles, to the improvement of the process of manufacturing flour, and other purposes, as his invention and improvement in the art. The schedule next proceeds to describe the different machines as improved, so as to include in the description the whole machine, without distinguishing his improvement from the machine as it existed previous thereto; and in his fourth number, he says, "I claim the exclusive right to the principles, and to all the machines above specified, and for all the uses and purposes specified, as not having been heretofore known or used, before I discovered them.

*516] *If the opinion of the court were to be formed on the schedule alone, it would be difficult to deny that the application of Oliver Evans extended to all the machines it describes. But the schedule is to be considered in connection with the other documents incorporated in the patent. The affirmation which is annexed to it avers, that he is the inventor, not of the machines, but of the improvements herein above specified. In his petition, he states himself to have discovered certain useful improvements, applicable to the art of manufacturing flour, and prays a patent for the same; that is, for his improvements, agreeable to the act of congress, entitled, "an act for the relief of Oliver Evans." After stating the principles as in his schedule, he adds, "the machinery consists of an improved elevator, an improved conveyor, an improved hopperboy, an improved drill, and an improved kiln-drier." Although, in his specification, he claims a right to the whole machine, in his petition, he only asks a patent for the improvements in the machine. The distinction between a machine, and an improvement on a machine, or an improved machine, is too clear, for them to be confounded with each other.

The act of congress, agreeable to which Evans petitions for a patent, authorizes the secretary of state to issue one, for his improvements in the art of manufacturing flour, "and in the several machines which he has
*517] invented, discovered, improved and applied to that purpose." *In conformity with this act, this schedule, and this petition, the secretary of state issues his patent, which, in its terms, embraces only improvements. Taking the whole together, the court is of opinion, that the patent is to be constructed as a grant of the general result of the whole machinery, and of the improvement in each machine. Great doubt existed, whether the words of the grant, which are expressed to be for an improvement or improvements only, should be understood as purporting to be a patent only for improvements; or should be so far controlled by the specification and

petition, as to be considered as a grant for the machine as improved, or in the words of the schedule and petition, for "an improved elevator, an improved conveyor, an improved hopperboy, an improved drill, and an improved kiln-drier." The majority of the court came at length to the opinion, that there is no substantial difference, as they are used in this grant, whether the words grant a patent for an improvement on a machine, or a patent for an improved machine; since the machine itself, without the improvement, would not be an improved machine. Although I did not concur in this opinion, I can perceive no inconvenience from the construction.

It is, then, the opinion of this court, that Oliver Evans may claim, under his patent, the exclusive use of his inventions and improvements in the art of manufacturing flour and meal, and in the several machines which he has invented, and in his improvements on machines previously discovered. [*518 *In all cases where his claim is for an improvement on a machine, it will be incumbent on him to show the extent of his improvement, so that a person understanding the subject may comprehend distinctly in what it consists.

Some doubts have been entertained, respecting the jurisdiction of the courts of the United States, as both the plaintiff and defendant are citizens of the same state. The 5th section of the act to promote the progress of useful arts, which gives to every patentee a right to sue in a circuit court of the United States, in case his rights be violated, is repealed by the 3d section of the act of 1800, ch. 179, which gives the action in the circuit court of the United States, where a patent is granted "pursuant" to that act, or to the act for the promotion of useful arts. This patent, it has been said, is granted, not in pursuance of either of those acts, but in pursuance of the act "for the relief of Oliver Evans." But this court is of opinion, that the act for the relief of Oliver Evans is engrafted on the general act for the promotion of useful arts, and that the patent is issued in pursuance of both. The jurisdiction of the court is, therefore sustained.

As the charge delivered in the circuit court to the jury differs in some respects from this opinion, the judgment rendered in that court is reversed and annulled, and the cause remanded to the circuit court, with directions to award a *venire facias de novo*, and to proceed therein according to law.

Judgment reversed.

*Judgment.—This cause came on to be heard, on the transcript of [*519 the record of the circuit court for the district of Pennsylvania, and was argued by counsel, on consideration whereof, this court is of opinion, that there is error in the proceedings of the said circuit court, in this, that the said court rejected testimony which ought to have been admitted; and also in this, that, in the charge delivered to the jury, the opinion is expressed, that the patent, on which this suit was instituted, conveyed to Oliver Evans only an exclusive right to his improvement in manufacturing flour and meal, produced by the general combination of all his machinery, and not to his improvement in the several machines applied to that purpose; and also, that the said Oliver Evans was not entitled to recover, if the hopperboy, in his declaration mentioned, had been in use previous to his alleged discovery. Therefore, it is considered by this court, that the judgment of the circuit

court be reversed and annulled, and that the cause be rendered to the said circuit court, with directions to award a *venire facias de novo.*(*a*)[1]

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*520] *LENOX *et al. v.* PROUT.

Indorsement.—Answer in chancery.

The indorser of a promissory note, who has been charged by due notice of the default of the maker, is not entitled to the protection of a court of equity, as a surety; the holder may proceed against either party, at his pleasure, and does not discharge the indorser, by not issuing, or by countermanding, an execution against the maker.[2]

By the statute of Maryland, of 1763, ch. 23, § 8, which is, perhaps, only declaratory of the common law, an indorser has a right to pay the amount of the note or bill to the holder, and to be subrogated to all his rights, by obtaining an assignment of the holder's judgment against the maker.

The answer of a defendant in chancery, though he may be interested to the whole amount in controversy, is conclusive evidence, if uncontradicted by the testimony of any witness in the cause.[3]

Appeal from a decree of the Circuit Court for the district of Columbia. The facts of this case were as follows: William Prout, the plaintiff in the court below, on the 29th of July 1812, indorsed, without any consideration, a promissory note made by Lewis Deblois, in his favor, for $4400, payable in thirty days after date. This note was discounted by the defendants, as trustees for the late bank of the United States, for the accommodation and use of the maker, and not being paid, an action was brought against him, and another against the indorser, in the name of the trustees, and judgment rendered therein, in the same circuit court, in the term of December 1813.

*521] In the April following, Prout, fearful of Deblois' *failure, called on the defendant Davidson, who was agent of the other defendants, and requested him to issue a *fieri facias* on the judgment against Deblois, promising to show the marshal property on which to levy. On the 16th of April, or thereabouts, Davidson directed an execution of that kind to issue, and Prout, on being apprised thereof, offered to point out to the marshal property of the defendant, and to indemnify him for taking and selling the same. But before anything further was done, Davidson countermanded this execution, and on the 2d of May 1814, or thereabouts, a *ca. sa.* was issued against Deblois, by the clerk, through mistake, and without any order of Davidson or the other defendants. This was served on Deblois on the 10th of May, who afterwards took the benefit of the insolvent laws in force within the district of Columbia, the effect of which was, to divide all his property among his creditors, whose demands were very considerable. It appeared, from the evidence, probable, that if the *fieri facias* had been prosecuted to effect, a great part of the money due on the judgment against Deblois, which had been recovered on the note indorsed by Prout, would have been raised, and the latter, in that case, would have had to pay but a

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(*a*) See Appendix, Note II.

[1] For a further decision in this case, see 3 W. C. C. 443, affirmed in this court, 7 Wheat. 356.

[2] S. P. Sterling *v.* Marietta and Susquehanna Trading Co., 11 S. & R. 179; Beardsley *v.* Warner, 6 Wend. 610; s. c. 8 Id. 194; Rose *v.* Jones, 22 Wall. 576.

[3] Higbie *v.* Hopkins, 1 W. C. C. 230.