

## RANSOM ET AL. V. NEW YORK.

[1 Fish. Pat. Cas. 252.]<sup>1</sup>

Circuit Court, S. D. New York. Dec, 1856.

## PATENTS-EFFECT OF GRANTING-CONSTRUCTION OF CLAIMS-INVENTION-IMPROVEMENT IN FIRE ENGINES.

- 1. A patent, when granted, becomes, to a certain extent, a contract on the part of the government with the patentee, that they will, through their courts, and in the ordinary course of the administration of justice, protect him in the exercise of the exclusive privileges which his patent gives him.
- 2. The construction of the claims of a patent is a question of law, exclusively for the court, and not for the determination of a jury, unless there may be technical terms, or terms which need explanation by the evidence given before the jury.
- 3. In determining the construction of the claims of a patent, the court should refer to the whole specification, and consider the whole in connection, although the claim at the end of the specification is usually intended to define and limit the extent, of the claim made by the patentee.
- 4. Where a claim may be open to objections of any kind, it is the duty of the court so to construe it, if it can be done without doing violence to the language used, as not to affect the rights of the patentee, but to give him what and all he has actually invented—in other words, to make the claim commensurate with the invention actually made.
- 5. Before a patent can issue, the thing patented must appear to be of such a character as to involve or require "invention" for its production, as contradistinguished from the ordinary skill of a mechanic in construction.
- 6. Invention, in the sense of the patent law, is the finding out, contriving, devising, or creating, by an operation of the intellect, something new and useful, which did not exist before.
- 7. The patent was for "an improvement in fire engines," and was described as the connecting of the receiving tubes,

or pumps of the engines, by means of hose, to hydrants, in which the water was under pressure, and claimed "the employment of a column of falling water, or the tendency of the hydrostatic pressure upon water at rest, to act in the working of fire engines, by combining a hose or tube conducting said water into the receiving tube of an engine or pump, operated by manual or mechanical power."

- 8. Patents are granted to inventors not for their benefit simply, but for the purpose of benefiting the public, by encouraging inventors to make inventions which may be useful to the public when placed at their disposal.
- 9. *Held:* that the invention patented was "the combination of the pumps or receiving tubes of the fire engine with a connecting pipe or hose, forming a connection between such engine and a hydrant or water pipe, from which water is forced by the hydrostatic pressure existing in the hydrant, into the pumps of the engine, and applied so as to combine the power of this hydraulic pressure, with the power applied to the brakes of the engine," substantially as set forth.
- 10. *Held*, also, that the patent was not for a principle, and did not grant to the patentee the exclusive privilege of using such hydrostatic pressure, in all forms and modes in which it could be applied to the production of the purpose of the character intended by him, but that the patent was only for the means and devices by which the patentee proposed to make such pressure available for the purpose indicated in the specification.
- 11. If the invention patented, in a joint patent, is the sole invention of one of the patentees, and not the joint invention of both, the patent is void.
- 12. The things specified in section 6 of the act of 1836 [5 Stat. 119] are prerequisites to the granting of a patent, and unless these prerequisites are complied with, a party sued for an infringement of a patent, may show that they287 have not been complied with, and so defeat the action of the supposed inventor.
- 13. A patent is prima facie evidence of the fact of first and original invention and utility, and must prevail, unless there is other evidence to overcome such prima facie presumption; and when there has been a renewal, such renewal is also prima facie evidence as to such matters, and of course adds weight to the prima facie evidence furnished by the original patent.

14. If a person having some vague idea of a principle, makes numerous trials and experiments, if those trials and experiments do not result in such a knowledge, on his part, as enables him to put in successful practice the idea of which he has such vague notions, he does not become an inventor in the sense of the patent law. Such a person has never embodied the principle so as to make it available for practical use; and the party who embodies the principle, and makes it available for practical use, is the party who is entitled to a patent, and to protection.

[Cited in La Baw v. Hawkins, Case No. 7,960.]

- 15. An unsuccessful experiment abandoned, although involving the same idea or principle, will not invalidate a patent granted to a subsequent inventor who has reduced the invention to successful practice, and published it by obtaining letters patent.
- 16. An accidental combination of parts, or invention, made under such circumstances that the public obtained no knowledge of the principle, or result, or effect of such combination, the parties themselves who made it not understanding such principle, does not constitute invention. The invention is not made until the parties contriving, or those observing, discovered how it could be made available for the particular purpose.
- [Cited in Schultz Belting Co. v. Willemsen Belting Co., 40 Bed. 158; Boyd v. Cherry, 50 Bed. 283.]
- 17. If an inventor, after his invention is perfected, knowingly allows it to be used in public for more than two years before application for letters patent, it is conclusive evidence of a dedication of such invention to the public, and the patent is void.
- 18. If, after an inventor has made an invention, he deliberately abandons it, and dedicates it to the public, no matter for what reason, the dedication can not be recalled.
- 19. A patentee, subsequent to his patent, may abandon his invention to the public, and waive the exclusive privileges secured to him; and the jury may infer such an abandonment from an acquiescence in the use of his invention by others, a neglect to assert his claims by suit or otherwise, an omission to sell licenses, a neglect to make efforts to realize any advantage from his patent, and similar circumstances.
- 20. If an inventor, after his invention is perfected, unreasonably delays his application for a patent, and others, before such application, actually perfect, and apply

to practical use the same invention, and give the knowledge thereof to the public, and the former, after; the knowledge of such subsequent invention and use, fails to make objection, and apply without unreasonable delay for a patent, he can not sustain the patent he may afterward obtain, because he has failed to give to the public that consideration for the grant of exclusive privileges, upon which all valid patents must be based.

- [Cited in Consolidated Fruit-Jar Co. v. Wright, Case No. 3,135.]
- 21. A corporation is liable in damages for infringing a patent, if the patented machines are procured by such corporation, and are used by those employed or paid by it.
- [Cited in Asbestine Tiling & Manuf'g Co. v. Hepp, 39 Fed. 327.]
- 22. No fixed and certain rule for damages can be established, applicable to all cases, but the statute has fixed the general rule that a patentee is entitled to recover such damages as he has shown by his proofs have actually been sustained, in consequence of the use of his invention, without his license and consent.

This was an action on the case [by Franklin Ransom and Uzziah Wenman against the mayor, aldermen, and commonalty of the city of New York], tried by Judge Hall and a jury, for the infringement of letters patent granted to plaintiffs February 13, 1841 [No. 1,980], for an "improvement in fire engines." The defense embraced a variety of issues, which are fully referred to in the charge of the court.

Charles M. Keller, for plaintiffs.

F. W. Gerard and M. V. Wilcoxson, for defendants.

HALL, District Judge (charging jury). The constitution of the United States conferred upon congress the power to promote the progress of the useful arts by securing to inventors for a limited time the exclusive privilege of using their inventions. In pursuance of that power, in 1790, congress passed an act [1 Stat 109] authorizing certain officers of the government to grant patents, for the purpose of carrying into effect the power which had been given them by the terms of the constitution; and in 1836, the

congress of the United States passed an act, repealing the prior acts upon that subject under which act the patent in this ease is granted. The title and object of that act is to promote the progress of the useful arts, and patents are granted to inventors, not for their benefit simply, but for the purpose of benefiting the public, by encouraging inventors to make inventions which may be useful to the public when placed at their disposal; and to place upon the records of the patent office a description of those inventions, so that after the expiration of the term limited by their patent, the public may have the full advantage of their genius and discoveries.

You have been told (and very properly, gentlemen) that in the disposition of this case it is the duty and province of the court to determine the controverted questions of law. It is your duty and your province to determine the controverted questions of fact in issue between the parties. I have certainly no disposition, gentlemen, to interfere with your province in this case, and if in the progress of the few remarks which I shall have occasion to make to you, you shall suppose that I intimate any opinion upon any question of fact, it will be your duty to give to that intimation of opinion (if you should deem it such) no more weight than in your deliberate judgments you may think it deserves. I do not intend, however, to attempt 288 to influence your judgment upon any questions of fact, but to discharge my duty by simply stating to you the rules of law which I think should govern you in your deliberations, and leave you to apply the evidence in the case to those rules and principles, in order to determine what verdict you shall pronounce. But, nevertheless, gentlemen, in the progress of my remarks, it will be necessary to refer somewhat (for the purpose of illustration, or otherwise) to the evidence which has been given; and, as I have before stated, you may suppose that in such reference I intended to intimate, although it may be that I have no such intention, some opinion in reference to a question of fact which it is your sole duty to determine.

Then, gentlemen, let us see substantially what are the questions and legal rules which are necessary to be considered in this ease, before you can reach, by proper means, a verdict as between these parties.

In the first place, the patent act of 1836 provides: "That any person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter, not known or used by others before his or their discovery or invention thereof, and not at the time of his application for a patent in public use or on sale with his consent or allowance as the inventor or discoverer, and shall desire to obtain an exclusive property therein, may make application, in writing, to the commissioner of patents, expressing such desire; and the commissioner, on due proceedings had, may grant a patent therefor."

You will observe that in this part of the section which I have read to you, it is provided, that the invention must be new and useful; not known or used by others before his or their discovery or invention thereof, and must not be at the time of his or their application for a patent, in public use or on sale with his or their consent or allowance.

This last provision, "that it shall not be at the time of his application for a patent in public use or on sale with his consent or allowance," was modified by the act of 1839 [5 Stat. 353], by which the inventor was allowed to permit the use or sale of his invention for two years prior to his application for a patent, without defeating his right under the provisions of this act. The section goes on to provide:

"But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and, in ease of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle, or character by which it may be distinguished from other inventions; and shall particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery. He shall, furthermore, accompany the whole with a drawing or drawings, and written references, where the nature of the case admits of drawings; or with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter, which description and drawings, signed by the inventor, and attested by two witnesses, shall be filed in the patent office; and he shall, moreover, furnish a model of his invention, in all cases which admit of a representation by model, of a convenient size, to exhibit advantageously its several parts. The applicant shall also make oath, or affirmation, that he does verily believe that he is the original and first inventor, or discoverer, of the art, machine, composition, or improvement for which he solicits a patent; and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen; which oath or affirmation may be made before any person authorized by law to administer oaths."

These, gentlemen, are prerequisites to the granting of the patent; and unless these prerequisites are complied with, a party sued for an infringement of a patent may show that they have not been complied with, and in that way may defeat the action of the supposed inventor. You will have observed, gentlemen, that it is required that there should be an invention, that the invention should be new, and that it should be useful. In other words, before a patent can be issued, the thing patented must appear to be of such a character, as to involve or require "invention" for its production—require the exercise of the genius of an inventor as contradistinguished from the ordinary skill of a mechanic in construction. It must also be new. The party applying for the patent must be the first and the original inventor, and it must also be of such a character as to be capable of application to the advantage and benefit of mankind.

Upon these points, gentlemen, upon the question whether or not the thing patented is an invention, whether or not the parties named in the patent were the first and original inventors, and whether or not the invention was useful at the time the patent was applied for and granted, the patent itself produced upon the part of the alleged inventor is prima facie evidence, and must prevail unless there is other evidence brought forward upon the part of the defense, or otherwise, that shall satisfy the jury; that that prima facie evidence shall not prevail against the other evidence produced before 289 them, and where, as in this case, after a lapse of nearly fourteen years after the granting of the letters patent, there has been an application for a renewal, and after an examination of the whole subject, that renewal has been granted, the fact of such renewal is also prima facie evidence upon those questions, and, of course, adds weight to the prima facie evidence furnished by the original patent.

Nevertheless, this prima facie evidence may be overthrown by countervailing evidence, and it is for you to say, in the case of this patent, whether it has been overthrown by the evidence produced upon the trial.

In the first place, gentlemen, perhaps it is well that you should consider, to some extent, the reason of the legal rules which apply to cases of this character. You will see the reason why it is required that the party applying for the patent should be the inventor of the thing which he seeks to patent; why it is required that he should not only be the inventor, but the original and first inventor, and why it is required that it should be useful. When the patent is granted, it becomes, to a certain extent, a contract upon the part of the government with the party named in the patent, that they will, through their courts, and in the ordinary course of the administration of justice, protect him in the exercise of the exclusive privilege which his patent gives to him; and there could be no justice in granting to a party an exclusive privilege to use what he did not invent, or to use, exclusively, for fourteen years, what had been already invented by another; because he has paid no consideration for the grant, no consideration for the promise of the government to secure him in the exercise of these privileges, if he has not, by his invention, and by placing a description of it upon the records of the patent office, added to the stock of useful knowledge which may be applied for the benefit of the citizen. You must, therefore, be satisfied in this case, gentlemen, taking the prima facie evidence afforded by the patent itself and its renewal, and all the other evidence in the case, that these plaintiffs, jointly, were the first and original inventors of what they claim as their invention in the patent, and of what the patent purports to secure to them as their exclusive right and privilege.

The counsel for the respective parties have presented to me certain requests to charge, upon certain rules of law which they think applicable to the case, and in disposing of these requests, gentlemen, I shall probably be able to state to you most of the rules and principles of law which should govern you in the progress of your deliberations; but, nevertheless, I have found, upon questions of law, as" you will find, probably, upon questions of fact, that in some respects I am unable to agree with either counsel, and therefore I shall give you, in the first instance, certain instructions, independent of the requests which have been made by counsel for the respective parties. And, first, in order that you may determine this case properly, it is necessary to know what the plaintiffs claim to have invented, and what, upon the face of the plaintiff's patent, appears to be secured to them as their exclusive property for the period of fourteen years by the original patent, and for the additional period of seven years, by the act of renewal which has been indorsed upon it In order to determine what the plaintiffs claim as their invention, we are to look to the specification annexed to their patent, which specification is in the language of the alleged inventors themselves, is made by law a portion of the patent, and must be referred to for the purpose of determining what the patentees claimed as their invention, and what the government have agreed to secure to them, as their exclusive privilege. In determining the construction of these claims (and their construction is a question of law, exclusively for the court, and not for the determination of the jury, unless, indeed, there may be technical terms, or terms which need explanation by the evidence given before the jury), it is proper that the court should refer to the whole specification, and consider the whole of it in connection. Although the claim at the end of the specification is usually intended to define and limit the extent of the claim made by the patentees; you will see, that by the terms of the patent law, as I have read to you, it is the duty of the patentee, not only to show the extent of his claim, so as to show what he claims as his own invention, and what he admits to be new, but that it is also necessary that he should state upon the face of his specification such a description of his invention as will enable a mechanic skilled in that branch of the art of construction to which his invention belongs, to construct and put in practice the invention patented.

Referring, then, to the claim at the end of the specification, it appears that the claim of the plaintiffs is: "The employment of a column of falling water, or the tendency of the hydrostatic pressure, upon water at rest, to act in the working of fire engines, by combining a hose or pipe, conducting said water into the receiving tube of an engine, or pump operated by manual or mechanical power, the same being constructed substantially in the manner set forth in the plaintiffs' specification." This is substantially the language of the claim; but, as frequently happens, you have found that great difference of opinion exists between the counsel, in reference to the precise construction that is to be put upon this language, and it is the duty of the court to decide, as between the counsel, what construction must be placed upon it, and what construction the jury must adopt in deliberating upon their verdict in this case. I therefore propose to state to you, somewhat in detail, but briefly, certain admitted facts, and certain peculiarities in this specification which 290 I think should have their influence, and which, in my mind, have had their influence in determining the construction to he placed upon this claim.

The fire engine, and the peculiar character of its organization and construction, are not claimed as the invention of the plaintiffs, nor do they claim as their invention any peculiar mode or form of construction of the close pipe, or hose, which they claim to have been the first to combine with the fire engine, and connect with a hydrant or water pipe, so as to apply the principle of the hydrostatic pressure for the purpose stated; neither do they claim as their invention any peculiar device or arrangement for connecting the ends of this pipe or hose with the engine and the hydrant, or water pipe. The fire engine and the suction pipe, or hose used with such engine, pipes of different materials, and hose of different kinds, were all well known, and in common use for purposes similar to those to which they are now applied, in the use of what the plaintiffs claim as their invention, and no one of these could have been separately the subject of a valid patent to the plaintiffs. But, conceding this, the plaintiffs claim, as their invention, and as secured to them by letters patent, the combination of the receiving tubes, or pumps, of a fire engine, with a close tube connecting such receiving tubes, or pumps with an opening in a hydrant, or pipe containing water, under such a degree of hydrostatic pressure as to make that pressure available to some extent (the extent not being material), in aid of the other power applied to the working of the fire engine.

The invention patented is, therefore, in my judgment, "the combination of the pumps, or receiving tubes of the fire engine with a connecting pipe, or hose, forming a connection between such engine and a hydrant, or water pipe, from which water is forced by the hydrostatic pressure existing in the hydrant or water pipe, into the pump or pumps of the engine, and applied so as to combine the power of this hydraulic pressure with the power applied to the brakes of the engine, substantially by the means, and in the manner set forth in the plaintiffs' specification." Now, upon this claim of the plaintiffs, sundry questions have been raised by counsel for the respective parties.

It has been claimed, on the one hand, that this patent is void, because the plaintiffs have sought to patent the principle of hydrostatic pressure, and that the discovery of a principle of that character is not the subject of a patent. That is true; it is not the subject of a patent; but it is the duty of the court, in construing claims of this character, to so construe them, if they can without doing violence to the language used, as not to defeat the claim of the patentee, but to give to the plaintiff what he has actually invented, and to give him all that he has actually invented; in other words, to make the claim commensurate with the invention which has been actually made by the patentee. Now, in this case, if the court should construe this claim to cover the principle of hydrostatic pressure, and to grant to the plaintiff the exclusive privilege of using this hydrostatic pressure, in all the forms and modes in which it can be applied to the production of the purposes of the character intended by the patentee, I think I should make the claim too broad, and would, under the patent law, as I understand it, render the patent void, as an attempt to cover, by the patent, what is not a patentable subject. Upon this part of the case, counsel on both sides have read to you the decision of the supreme court of the United States, and, among others, the case of O'Reilly v. Morse [15 How. (56 U. S.) 62], which is the leading case upon that subject. That was a case where Mr. Morse, the inventor of the electric telegraph, had, in his patent, claimed, in seven distinct claims, the particular machinery by which he sought to accomplish the end desired, and he added, at the end of those seven claims, another, in language which I will presently read to you. It was decided that the last claim was too broad-covered what could not be covered and secured by a patent, and that, therefore, the patent, in respect to that particular claim, was void, although it was good in respect to other claims, which described and explained particular machinery by which the principle was made available for the purposes intended. The patentee, after claiming the particular machinery used, set up this as his eighth claim: "I do not propose to limit myself to the specific machinery, or parts of machinery described in the foregoing specification and claims, the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed, for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer."

"He sought there to patent, irrespective of any machinery which he had described in his specification, the right to use this motive power, however developed, or however applied, for the marking or printing intelligible signs or characters, at any distances, claiming that it was a new application of that power, of which he claimed to be the first inventor or discoverer.

The court in considering that claim, says: "It is impossible to misunderstand the extent of this claim. He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters, at a distance. If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means 291 of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated, less liable to get out of order, less expensive in construction and in its operation. But yet if it is covered by this patent, the inventor could not use it, nor the public have the benefit of it without the permission of the patentee."

In another part of the opinion they say: "Indeed, if the eighth claim of the patentee can be maintained, there was no necessity for any specification further than to say he had discovered, that by using the motive power of electro-magnetism, he could print intelligible characters at any distance. We presume it will be admitted on all hands that no patent could have issued on such a specification. Yet this claim can derive no aid from the specification filed. It is outside of it, and the patentee claims beyond it; and if it stands, it must stand simply on the ground that the broad terms above mentioned were a sufficient description, and entitle him to a patent in terms equally broad. In our judgment, the act of congress can not be so construed."

Now, in "this case, the plaintiffs could not secure by letters patent the right to apply the hydrostatic pressure to the working of fire engines in every mode and by every means which could possibly be devised for that purpose. They had a right to apply for, and the patent office had the right to grant, a patent for the devices or means only by which these parties proposed to. make this hydrostatic pressure available for the purpose indicated in their specification; and having obtained a patent for these means and devices, they were protected against the use by other persons of those means or those devices, or any others which were substantially the same, or which were mere mechanical equivalents of those specified by the patentees as the means which they used for the purpose of producing the effect desired.

Then, considering this to be the patent of the plaintiff: "The combination of the fire engine with this connecting pipe or hose, by which the water is conducted from the hydrant or water pipe into the works of the engine, and this hydrostatic pressure applied," it would be your duty, gentlemen, to determine whether in the first place it required invention, after the knowledge which the public had of the application of this principle in similar modes for the accomplishment of similar purposes, to produce the combination or arrangement, or what the plaintiffs call their invention, as described in the specification annexed to their patent. If, with the knowledge that the public then had, it required no invention, but simply the ordinary skill and ingenuity of the mechanic, to produce this combination—to produce these results—in other words, if the inventive faculty was not at work at all, and was not needed to produce this alleged invention, then the patent would be void, because there was no invention to be secured to these patentees; and you have a right, in taking into consideration this question, to consider all the evidence which has been given in reference to the common pump, the reference to the pumps' in use at the Fair-mount Water Works and the navy yard in Philadelphia, and then to say whether, with all the knowledge the public then had, it required invention, on the part of the plaintiffs, to produce the combination and arrangement which is described in their specification, so as to produce the results which they say they attain by their invention.

If you are satisfied, gentlemen, that it required invention to produce this, you are then to inquire whether the plaintiffs were the original and first inventors or contrivers of this combination or connection, and if you are satisfied that the plaintiffs were not the original and first inventors or contrivers of this combination or connection, but that it had been used prior to the alleged invention, the plaintiffs can not recover in this action. In other words, if this invention had been previously made, if other parties had produced this combination, and had given to the public the benefit of their knowledge, so that these patentees were not the first and original parties, they can not succeed in this action.

Now, in reference to this question of "prior invention," it is perhaps necessary that you should consider that "invention," in the sense of the patent law, is the finding out, contriving, devising, or creating something new and useful, which did not exist before, by an operation of the intellect; and that if there was at any time, or under any circumstances, an accidental combination similar in character to that which the plaintiffs have patented—if that combination was made accidentally or otherwise, under such circumstances that the public obtained no knowledge of the invention-obtained no knowledge of the mode in which this hydrostatic pressure could be made available, then the invention was not made by the parties who produced this combination. In other words, if the parties who made the combination, although seeing with the eye, perceived not, or hearing with the ear, understood not what would be the result of this combination, they added nothing to their own stock of knowledge; and the fact if observed by other men, (if they understood it not), added nothing to the knowledge of science upon that subject Therefore the invention was not made until the parties contriving, or others observing, the existing combination, saw that it could be made available for the purpose of producing a result, similar to the one which the plaintiffs have mentioned in their specification.

In reference to the elements of this combination, gentlemen, the great and principal element is undoubtedly the fire engine, and without that as one of the elements of the combination, this combination can not exist It is not therefore necessary that you should 292 consider upon this question of prior invention, the use of this principle in the pumps at the Fairmount Water Works, or the navy yard, although you may refer to them upon the question of whether invention was required to produce this arrangement; hut upon the mere question of priority of invention, you need not refer to those in considering this case, because the principle and essential element in this combination being the fire engine, the combination patented by the plaintiffs never existed, and can not exist except in the cases in which that engine was used.

In reference to the other elements of the combination, I feel it my duty to instruct you that the

patent requires no particular mode of constructing this connecting-pipe—it neither requires that it should be a flexible hose nor an inflexible metal pipe-and a pipe constructed like the ordinary suction-pipe, and being to some extent flexible, secured against collapse when the supply of water becomes deficient, was equally within the plaintiffs' claim. This question has been elaborately argued by the counsel for the respective parties, and that is the opinion which I felt it \$\$\$ duty to express to you upon this question. You will see that, in the language of the specification, there is nothing indicating that this connecting-pipe, or connecting-tube, must necessarily be the ordinary hose which has been generally used with a fire engine, previous to this invention. The specification shows that it must be a close tube. That language is found in the specification itself, and it results from the nature and character of the invention, for without a close tube the water would escape, and the hydrostatic pressure, which it is the object of this invention to apply, could not be available for the purpose indicated by the specification; but in reference to the character of the conducting-pipe as a flexible hose, or inflexible pipe, there is nothing, as I said, in the language of the specification; and it appears to me, that there is nothing in the character of the invention itself, or of the purposes for which it was used, which renders that essential and vital for the combination of the plaintiffs. He has described in his specification no such hose as being essential and vital to his combination, or as being absolutely necessary to the proper working of the engine; and, as I understand it, it is not essential, under certain circumstances, that such a hose or pipe should be used for the purpose of making available the principles which the patentees have intended to make available by means of their invention. It is true that it may be, and probably must be, ordinarily, the mode of connection, but in the language of the claim, the patentees have said that they intend to use this hydrostatic pressure by the means specified—by the combination specified, and in aid either of the manual or mechanical engine.

Now, for the purposes for which a fire engine is used, I can conceive a case in which (and I think you may well conceive a case as within the language of the patent, and intention of the patentee) this connection might as well or better be made by an inflexible pipe as by a common or flexible hose. Take the case of a fire engine used for the single purpose of security against fire, in a large manufactory or other building, where the engine is to be worked by mechanical or steam power, if you please. You can see readily enough, gentlemen, that in that case the connection might be just as well, and perhaps better, by an inflexible pipe, and there is nothing, as I understand it, which requires, for the purpose of applying this, that the pipe should be inflexible, except the convenience of using your engine at any point desirable. If you wish to use it at a fixed point-to make it stationary at a fixed point-then the unbending, rigid, inflexible tube may be used just as well for the purpose of applying this hydrostatic pressure as the other, and perhaps better, and for this reason. You will bear in mind that the witnesses, in speaking of the experiments which were made prior to the issuing of this patent, and in speaking of the operation of engines, which, it is confessed, have used the principle of this invention since that, say: "When there is not a large or sufficient supply of water to make this hydrostatic pressure available at every moment in the action of the engine, a collapse of the hose sometimes follows;" and then, of course, this principle is not made at all available in the operation of the engines, and the evidence perhaps is rather, that under such circumstances, it is better not to use this principle, but to discharge the water into the box, because of the collapse in the hose.

Now, gentlemen, you will recollect that the evidence of the use at Baltimore shows that when the water was low, the pressure of water was not great.

It was found that the use of an inflexible hose which would not collapse, was beneficial, because it operated upon the principle of suction to obtain a greater supply of water, and if this hose is inflexible, the collapse would not follow, and some of the disadvantages of the flexible hose would undoubtedly be avoided. But it is enough for me to say, in this connection, that, in my judgment, a flexible hose is not an essential and vital element of the combination, and therefore, for the purpose of making the combination indicated by the patent, it is not necessary that the flexible hose should be used to the exclusion of the inflexible tube, of such a character as to allow the operation of this hydrostatic principle.

I would say further, that, in order to avoid the plaintiffs' patent, on the ground of want of originality, it is necessary that the jury should be satisfied that there was substantially the combination and connection in the organization and arrangement which existed <sup>293</sup> prior to the plaintiffs' alleged invention, as is claimed in the invention of the plaintiffs, in the specification annexed to their patent; and, as one of the essential elements of the combination so claimed is the fire engine, no previous combination in which a fire engine was not one of the essential elements, can be substantially identical with the combination claimed by the plaintiffs as their invention; but the jury may take into consideration the manner in which this principle of hydrostatic pressure had been applied in the common pump, in the pumps of the water works, at the navy yard of Philadelphia, for the purpose of determining whether, after the application of the principle in those pumps and others, it required the genius of the inventor, in contradistinction to the ordinary skill and ingenuity of a competent mechanic, accustomed to the application of that principle in the construction of such pumps and others in known and public use, to devise or make the combination and arrangement patented by the plaintiffs, as the means of producing the intended result.

It will become necessary in relation to that, that you should determine, gentlemen, the precise date of the plaintiffs' invention. In order to determine that, the jury must determine at what time the plaintiffs (not one of them, for the patent is an invention by the plaintiffs jointly) first perfected the intellectual production, or the idea or conception of the thing patented, so that without more inventive power, or further trial or experiment, they could have successfully applied it in practice, and could at once have complied with that provision of the statute which requires that an inventor, before he shall receive a patent for the invention or discovery, shall deliver to the patent office a written description of his invention, and explain the principles and the several modes in which he has contemplated the application of that principle or character by which it may be distinguished from other inventions; and that, in order to determine whether any other person has invented "the same thing patented" by the plaintiffs, prior to the plaintiffs' invention thereof, they must apply the same rules in determining the date of such alleged prior invention.

It is also proper, that I should say to you, gentlemen; that if the invention patented by the plaintiffs in this case, was the sole invention of one of the plaintiffs only, and not the joint invention of both, the patent is void, and the plaintiffs have no right to recover in this action.

I now propose, gentlemen, to state to you substantially the requests to charge you, made by the counsel for the respective parties, and to state what disposition I have felt it my duty to make of those requests; one of the requests is, that according to the true construction the plaintiffs' patent is for operating a fire engine by the combined force applied at the brakes or levers which operate the pistons, and the hydraulic pressure of a column or head of water, by combining the hydrant with the cylinders of the engine by a hose, whereby the engine may be placed in any situation convenient to discharge water on the fire, whatever may be the location of the hydrant, the said hose being distended against the pressure of the atmosphere by the hydraulic pressure of the column or head of water.

This I decline to charge, gentlemen, referring you in regard to the principles which are sought to be enforced by this request, to the charge which I have previously given you.

And the objection which I find to this request is, that it seeks a charge from the court, that the patent is for operating a fire engine, by the combined force, and so on, following the language of the specification, and not for a specified device, contrivance, or means by which it is operated; and also, that it seeks a charge from the court, that it is necessary, in order to constitute the plaintiffs' combination, that the connection should be made by the ordinary hose.

I therefore refuse to charge as required by the plaintiffs, in that respect.

I am also required by the plaintiffs to charge: That an unsuccessful experiment, abandoned, although involving the same idea, or principle, will not invalidate a patent granted to a subsequent inventor, who has reduced the invention to successful practice, and published it by obtaining letters patent. Much less will it invalidate letters patent granted to a prior inventor, who was also the first to present the invention in a practical form.

This, gentlemen, is undoubtedly the rule of law upon that subject If a person has some vague idea of the application of the principle which another party has made available—if he makes numerous trials, and long continued experiments—if those trials and experiments never result in such a knowledge, upon his part, as will enable him to put in successful practice the idea of which he has this vague and undefined notion, he has never become an inventor, in the sense of the patent law; he has never embodied the principle so as to make it available for practical use; and the party who embodies the principle, and makes it available for practical use, is the party who is entitled to a patent, and to protection under the patent law. The case of Gaylord v. Wilder, 10 How. [51 U. S.] 477, referred to, is a case where the supreme court has laid down the doctrine, perhaps, in terms applicable to this case. In that case, the patent was for a mode or manner of constructing fire-proof safes; and in disposing of one part of the case, the chief justice, in delivering the opinion of the supreme court, uses this language:

"The remaining question is upon the validity of the patent on which the suit was brought. It appears that James Conner, who 294 carried on the business of a stereotype founder, in the city of New York, made a safe for his own use, between the years 1829 and 1832, for the protection of his papers against fire, and continued to use it until 1838, when it passed into other hands. It was kept in his counting-room, and known to the persons engaged in the foundry; and after it passed out of his hands he used others of a different construction. It does not appear what became of this safe afterward, and there is nothing in the testimony from which it can be inferred that its mode of construction was known to the persons into whose possession it fell, or that any value was attached to it as a place of security, for papers, against fire, or that it was ever used for that purpose."

Upon these facts, the court instructed the jury: "That if Conner had not made his discovery public, but had used it simply for his own private purpose, and it had been finally forgotten, or abandoned, such a discovery and use would be no obstacle to the taking out of a patent by Fitzgerald, or those claiming under him, if he be an original, though not the first inventor or discoverer."

That is the rule which the supreme court adopted in that case, and it is undoubtedly the furthest that they have gone, or will go in reference to this question of abandonment; and if, gentlemen, you were satisfied that in all the experiments and trials that were made by other parties, previous to the invention of the plaintiffs, they had not discovered the benefits to be derived from the application of this principle, and that they abandoned their experiments and trials in consequence of not having discovered it, then they did not complete the invention, in the sense of the patent law, in such a manner as to defeat the patent of the plaintiffs.

Upon this part of the defense, a large number of requests to charge have been presented.

The sixth of these is in the following language: "If, using the hydraulic pressure through a flexible hose, or pipe, is the essence of the patent, then the patent is void, for a defective specification, in not so stating."

In regard to this, it is proper to say that I refuse to so charge; but I charge thus: "That using the hydraulic pressure through a flexible hose, or other flexible pipe, is not essential or necessary to an infringement of the patent."

The ninth request is: "If the plaintiff did not use reasonable diligence to perfect the patent after he conceived the idea, and in the mean time other persons conceived the idea, and practically applied it before he took out his patent, then bib patent is void."

I decline to charge as here requested, but I charge you, gentlemen, in respect to the subject-matter of these and the three following requests, as follows: If the plaintiffs did not use reasonable diligence to perfect the invention patented, after the idea of it was first conceived, and in the mean time other persons not only conceived the idea but perfected the invention, and practically applied it to public use, before the invention of the plaintiffs had been so far perfected that it could be applied to practical use, the plaintiffs' patent is void, because they were not the first and original inventors of the thing patented. And if the plaintiffs, after they had perfected their invention, unreasonably delayed their application for a patent, and other persons, before such application was made, actually perfected and applied the same invention to practical use, and gave the knowledge thereof to the public, and the plaintiffs, after the knowledge of such subsequent invention or discovery, and its public use, failed to make objection, and to apply, without unreasonable delay, for a patent for their invention, they can not sustain their patent, because they failed to give to the public that consideration for the grant of exclusive privileges, upon which all valid patents must be based; and if the plaintiffs, after their invention was perfected, knowingly allowed it to be used in public for more than two years before they applied for letters patent, it is conclusive evidence of a dedication of such invention to the public, and their patent is void. And, so, also, if the plaintiffs, after their invention was "perfected, acquiesced in its use in public, for a less term than two years, without applying for a patent, and the jury shall be satisfied, from such acquiescence, and the other facts of the case, that the plaintiffs, in fact, abandoned their invention, concluding not to patent it, but to dedicate it to the public use, they could not recall such dedication, or defeat such abandonment by a subsequent application for a patent, and their patent is therefore void.

That is in reference to an abandonment prior to the application for a patent. If, after the plaintiffs had made this invention (if they did make it), they, in fact, deliberately abandoned it to the public use, and concluded not to patent it; if they dedicated it to the public use, no matter for what reason, then that dedication can not be recalled, and they have no right to recover. That if the plaintiffs, subsequent to the date of their letters patent, have abandoned their invention to the public, and waived and abandoned the exclusive privileges intended to be secured by such patent, they can not recover in this action; and that the jury has a right to infer such an abandonment, from their acquiescence in the use of the invention by others, their neglect to assert their claims by suit or otherwise, their omission to sell license to use such invention, their neglect to make efforts to realize any personal advantage from their patent, and similar circumstances, if they think the evidence establishes such fact of abandonment; and 295 that circumstances of that character may also be considered in connection with the other evidence upon the question of the originality of the plaintiffs' alleged invention. But where the jury are satisfied that the plaintiffs have not abandoned their invention and privileges granted by the letter patent, their neglect to prosecute parties infringing such patent will not bar their right to be recover such damages as they have actually sustained by the defendants' infringment. Not that you are bound, gentlemen, to infer anything of this kind, but you are at liberty to infer such an abandonment from the evidence I have indicated, and from the other evidence in the case, if you are satisfied, upon the evidence given, that the plaintiffs did actually abandon and waive entirely the privileges which were secured to them by the patent.

And I also instruct you, that circumstances of that character, that is, the character of those mentioned, may also be considered in connection with the other evidence upon the question of the originality of the plaintiffs' invention; but that unless the jury are satisfied that the plaintiffs have so abandoned the privileges secured to them, their failure to bring suit against those infringing such patent should have no effect in reference to the question of damages. In other words, if they have abandoned their rights under the patent—have dedicated those rights to the public, they can not recover at all; but if they have not, although they have failed to bring suits for the purpose of enforcing their rights, the statute giving them their actual damages, the jury can not reduce the damages which they have actually sustained in consequence of their neglect to prosecute.

In the eighteenth request, I am asked to charge, that the corporation, the defendant in this suit, is not liable in this case for infringement by the use of these engines for the fire department.

In my judgment, they are so liable, if the plaintiffs have sustained by their testimony the patent which they have given in evidence in this suit. It is conceded here by the counsel upon the part of the defendant, that the fire engines used by the fire department are obtained at the expense of the corporation; and although the fire department may be for certain purposes a distinct corporation, and possibly, to some extent, independent of the action of the corporation of the city, in its entire corporate capacity, yet I think that if the plaintiffs have a valid patent in this ease, and the firemen have used engines procured by the corporation, and that use has been without the consent of the plaintiffs, and in infringement of the plaintiffs' patent, that the defendants are liable in this action, in consequence of the damages which the plaintiffs have sustained by reason of that infringement.

Then the only remaining question is, that of damages; and this is certainly, in many cases, one of the most difficult questions that can be presented in suits for the infringement of patents.

I think that no fixed and certain rule can be established applicable to all cases; but the statute has itself fixed the general rule which must govern a jury in their estimating damages. They are to give the actual damages which the plaintiff has sustained—not vindictive or speculative damages, but such damages as the plaintiff, by his proofs, has shown to the satisfaction of the jury that he has actually sustained by the infringement of his patent; and in order that the parties may except to what I may say to you upon that subject, without having any controversy in reference to the precise character of the construction, I have put in writing, in this instance, as I have in others, what I propose to say in reference to this rule of damages.

If the plaintiffs are entitled to recover, in this action, they are entitled to recover such damages as they have shown, by their proofs, have been actually sustained by them in consequence of the use of the invention patented, without their license or consent by the fire department of the city of New York. The extent of the benefits accruing directly to the corporation in its corporate character, should undoubtedly form an element for consideration when the question of damages is reached, if it shall be reached by the jury. If the invention is valuable—if, by its use, the power and efficiency of the fire engines belonging to the defendant are so increased, that fifty engines, used with this improvement, are equal in practical effect to seventy-five, or any other number of engines used without this improvement the jury are at liberty to infer, if they think the inference is a just one, that the defendant, in its corporate capacity, has saved the cost of the purchase and operation of the additional number of engines, which would have been required to produce the same results if this invention had not been used, and that the corporate authorities, if they had admitted the plaintiffs' rights, would have paid the amount of this additional cost or a large portion of it, as the consideration for a license to use this invention rather than to abandon its use, and that the plaintiffs have, therefore, lost by the infringement what the defendants would have so paid to secure such license. It is for this reason that the benefits received by the defendants in their corporate capacity, from the use of the invention in the consequent reduction of its expenditures, for fire engines, and their management and operation, are proper subjects for consideration in determining the plaintiffs' damages, and the jury must determine for themselves, upon the consideration of this and the other facts of the ease-if they find that the plaintiffs are entitled to recover-what damages actually sustained have been by them, in 296 consequence of the unauthorized and wrongful acts of the defendants; being careful only, to give the actual damages proved, and not to speculate upon the possibility or even probability of damages beyond such as are proved to have been sustained by the plaintiffs.

I believe, gentlemen, that these are all the instructions upon questions of law which it is necessary to give you in the present case. These instructions, as I have given them, have naturally been disconnected and desultory, but I am inclined to think that they will furnish a guide to you in reference to the questions of law involved in the present case.

If, however, in the course of your deliberations you shall find that you have misunderstood them, and that you are unable to agree in consequence of any such misunderstanding, it will be your duty, as it would undoubtedly be mine, to come again into court for the purpose of having an explanation in relation to the points upon which such a misunderstanding should exist. It is important undoubtedly, in this case, that there should be a verdict for one of the parties, and which ever way that verdict; is, it is probable that this case will be carried to the supreme court of the United States, for the purpose of correcting any errors which the court has made in the construction of the rules of law, which I have stated to you, and it is necessary that the jury should follow these instructions, in order that the ease may be properly disposed of in the court above, because the court, in considering this case, upon a writ of error, looks only to the charge of the judge upon the questions of law, and has no power to review the decision of the jury upon questions of fact. You will, therefore, of course, do your duty, gentlemen, in following the instructions of the court upon questions of law, and you will determine for yourselves the questions of fact involved in the case. Upon those questions of fact the parties upon both sides have had the benefit of very able and elaborate arguments by their counsel, and the court will not attempt, under any circumstances, to restate to you the evidence in detail, or to suggest any opinions in reference to them. You will take the case, gentlemen, without prejudice, without passion, feeling, or sympathy, and without anxiety (except the anxiety to do right); you will consider it carefully and deliberately, and then you will render such a verdict under your oaths as you think, under the instructions of the court, it is your duty to render.

The jury found for the plaintiffs with \$20,000 damages.

[NOTE. On the 12th of December, 1857, plaintiffs entered up a judgment for the amount of the verdict and for costs. Subsequently a motion was made by defendants to have that judgment vacated, which was accordingly done; a motion for a new trial heard and denied; a bill of exceptions signed and filed. The plaintiffs then issued an execution on the judgment of December 12th, claiming it to be still in force, on the ground that all the conditions had not been complied with. A motion made by defendants to have this execution set aside was granted. Case No. 11,572. The cause was then carried to the supreme court on a motion for a rule on the judges of the circuit court to show cause why a mandamus should not issue to vacate this last order. The motion was denied. 20 How. (61 U. S.) 581. Subsequently defendants sued out a writ of error to the supreme court, where the case was remanded for a venire facias de novo. 23 How. (64 U. S.) 487.]

<sup>1</sup> [Reported by Samuel S. Fisher, Esq., and here reprinted by permission.]

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