
HENRY O'REILLY, EUGENE L. WHITMAN, and W. F. B. HASTINGS,
Appellants, v. SAMUEL F. B. MORSE, ALFRED VAIL, and FRANCIS
O. J. SMITH.

15 H. 62.

Morse was the original and first inventor of a magnetic telegraph, capable of recording signs at a distance.

If he had been preceded by one of the European inventions, not patented, or described in a printed publication, his patent would still be valid.

Inquiries made, or information or advice received, by a patentee from men of science, do not impair his claim to an invention actually made by him.

It is to be presumed, that the reissued patent is for the same invention as the original patent. Differences in the description, or specification of claims, are consistent with the identity of the thing designed to be patented in both patents; it being one object of allowing a surrender, to correct, by changing, the description, or the claim, or both.

One claim, construed to include every improvement — in which 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 — was held to be broader than the patent laws allow, and invalid.

Though a patentee has not disclaimed what the court holds to be invalid, if his claim to it had been sanctioned by the patent office and by a circuit court, his neglect is not unreasonable.

Though a separate invention was covered by one of the claims in a surrendered patent, if that claim was void as there made, the patentee may take a distinct patent therefor.

An American patent is not invalid because, on its face, it does not run for the same time as a previous foreign patent, taken by the patentee for the same invention.

* TANEY, C. J., delivered the opinion of the court.

In proceeding to pronounce judgment in this case, the court is sensible, not only of its importance, but of the difficulties in some of the questions which it presents for decision. The case was argued at the last term, and continued over by the court for the purpose of giving it a more deliberate examination. And since the con-

tinuance, we have received from the counsel on both sides printed arguments, in which all of the questions raised on the trial have been fully and elaborately discussed.

The appellants take three grounds of defence. In the first place, they deny that Professor Morse was the first and original inventor of the Electro-Magnetic Telegraphs described in his two reissued patents of 1848. Secondly, they insist that if he was the original inventor, the patents under which he claims have not been issued conformably to the acts of congress. * * *

We perceive no well-founded objection to the description which is given of the whole invention and its separate parts, nor to his right to a patent for the first seven inventions set forth in the specification of his claims. The difficulty arises on the eighth.

It is in the following words:—

"Eighth. 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."

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.

[* 113] * If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means 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 this patentee.

Nor is this all; while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of electro-magnetism which scientific men might bring to light. For he says he does not confine his claim to the machinery or parts of machinery, which he specifies; but claims for himself a monopoly in its use, however developed, for

the purpose of printing at a distance. New discoveries in physical science may enable him to combine it with new agents and new elements, and by that means attain the object in a manner superior to the present process and altogether different from it. And if he can secure the exclusive use by his present patent, he may vary it with every new discovery and development of the science, and need place no description of the new manner, process, or machinery, upon the records of the patent-office. And when his patent expires, the public must apply to him to learn what it is. In fine, he claims an exclusive right to use a manner and process which he has not described, and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law.

No one, we suppose will maintain, that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to use the motive power of steam, however developed, for the purpose of propelling vessels. It can hardly be supposed that under such a patent he could have prevented the use of the improved machinery which science has since introduced; although the motive power is steam, and the result is the propulsion of vessels. Neither could the man who first discovered that steam might, by a proper arrangement of machinery, be used as a motive power to grind corn or spin cotton, claim the right to the exclusive use of steam as a motive power for the purpose of producing such effects.

Again, the use of steam as a motive power in printing-presses is comparatively a modern discovery. Was the first inventor

* of a machine or process of this kind entitled to a patent, [* 114] giving him the exclusive right to use steam as a motive power, however developed, for the purpose of marking or printing intelligible characters? Could he have prevented the use of any other press subsequently invented where steam was used? Yet so far as patentable rights are concerned both improvements must stand on the same principles. Both use a known motive power to print intelligible marks or letters; and it can make no difference in their legal rights under the patent laws, whether the printing is done near at hand or at a distance. Both depend for success not merely upon the motive power, but upon the machinery with which it is combined. And it has never, we believe, been supposed by any one, that the first inventor of a steam printing-press, was entitled to the exclusive use of steam, as a motive power, however developed, for marking or printing intelligible characters.

Indeed, the acts of the patentee himself are inconsistent with the

claim made in his behalf. For, in 1846, he took out a patent for his new improvement of local circuits, by means of which intelligence could be printed at intermediate places along the main line of the telegraph; and he obtained a reissued patent for this invention in 1848. Yet in this new invention the electric or galvanic current was the motive power, and writing at a distance the effect. The power was undoubtedly developed, by new machinery and new combinations. But if his eighth claim could be sustained, this improvement would be embraced by his first patent. And if it was so embraced, his patent for the local circuits would be illegal and void. For he could not take out a subsequent patent for a portion of his first invention, and thereby extend his monopoly beyond the period limited by law.

Many cases have been referred to in the argument, which have been decided upon this subject, in the English and American courts. We shall speak of those only which seem to be considered as leading ones. And those most relied on, and pressed upon the court, in behalf of the patentee, are the cases which arose in England, upon Neilson's patent for the introduction of heated air between the blowing apparatus and the furnace in the manufacture of iron.

The leading case upon this patent, is that of Neilson and others v. Harford and others, 8 M. & W. 806, in the English court of exchequer. It was elaborately argued, and appears to have been carefully considered by the court. The case was this:—

Neilson, in his specification, described his invention as one for the improved application of air to produce heat in fires, forges, and furnaces, where a blowing apparatus is required. And it was to be applied as follows: The blast or current of air produced [* 115] * by the blowing apparatus was to be passed from it into an air-vessel or receptacle, made sufficiently strong to endure the blast; and through or from that vessel or receptacle, by means of a tube, pipe, or aperture into the fire, the receptacle be kept artificially heated to a considerable temperature by heat externally applied. He then described, in rather general terms, the manner in which the receptacle might be constructed and heated, and the air conducted through it to the fire: stating that the form of the receptacle was not material, nor the manner of applying heat to it. In the action above mentioned for the infringement of this patent, the defendant among other defences insisted, that the machinery for heating the air and throwing it hot into the furnace was not sufficiently described in the specification, and the patent void on that account; and also, that a patent for throwing hot air into the furnace, instead of cold, and thereby increasing the intensity of the heat, was a patent for a principle, and that a principle was not patentable.

Upon the first of these defences, the jury found that a man of ordinary skill and knowledge of the subject, looking at the specification alone, could construct such an apparatus as would be productive of a beneficial result, sufficient to make it worth while to adapt it to the machinery in all cases of forges, cupolas, and furnaces, where the blast is used.

And upon the second ground of defence, Baron Parke, who delivered the opinion of the court, said:—

“ It is very difficult to distinguish it from the specification of a patent for a principle, and this at first created in the minds of the court much difficulty; but after full consideration, we think that the plaintiff does not merely claim a principle, but a machine, embodying a principle, and a very valuable one. We think the case must be considered as if the principle being well known, the plaintiff had first invented a mode of applying it by a mechanical apparatus to furnaces, and his invention then consists in this: by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle, he directs the air to be heated by the application of heat externally to the receptacle, and thus he accomplishes the object of applying the blast, which was before cold air, in a heated state to the furnace.”

We see nothing in this opinion differing in any degree from the familiar principles of law applicable to patent cases. Neilson claimed no particular mode of constructing the receptacle, or of heating it. He pointed out the manner in which it might be done; but admitted that it might also be done in a variety of ways; and at a higher or lower temperature; and that all of them would produce the effect in a greater or less * degree, provided the air was [* 116] heated by passing through a heated receptacle. And hence it seems that the court at first doubted, whether it was a patent for any thing more than the discovery that hot air would promote the ignition of fuel better than cold. And if this had been the construction, the court, it appears, would have held his patent to be void; because the discovery of a principle in natural philosophy or physical science, is not patentable.

But after much consideration, it was finally decided that this principle must be regarded as well known, and that the plaintiff had invented a mechanical mode of applying it to furnaces; and that his invention consisted in interposing a heated receptacle, between the blower and the furnace, and by this means heating the air after it left the blower, and before it was thrown into the fire. Whoever, therefore, used this method of throwing hot air into the furnace, used the process he had invented, and thereby infringed his patent, although

the form of the receptacle or the mechanical arrangements for heating it, might be different from those described by the patentee. For whatever form was adopted for the receptacle, or whatever mechanical arrangements were made for heating it, the effect would be produced in a greater or less degree, if the heated receptacle was placed between the blower and the furnace, and the current of air passed through it.

Undoubtedly, the principle that hot air will promote the ignition of fuel better than cold, was embodied in this machine. But the patent was not supported because this principle was embodied in it. He would have been equally entitled to a patent, if he had invented an improvement in the mechanical arrangements of the blowing apparatus, or in the furnace, while a cold current of air was still used. But his patent was supported, because he had invented a mechanical apparatus, by which a current of hot air, instead of cold, could be thrown in. And this new method was protected by his patent. The interposition of a heated receptacle, in any form, was the novelty he invented.

We do not perceive how the claim in the case before us can derive any countenance from this decision. If the court of exchequer had said that Neilson's patent was for the discovery, that hot air would promote ignition better than cold, and that he had an exclusive right to use it for that purpose, there might, perhaps, have been some reason to rely upon it. But the court emphatically denied his right to such a patent. And his claim, as the patent was construed and supported by the court, is altogether unlike that of the patentee before us.

For Neilson discovered, that by interposing a heated [* 117] receptacle * between the blower and the furnace, and conducting the current of air through it, the heat in the furnace was increased. And this effect was always produced, whatever might be the form of the receptacle, or the mechanical contrivances for heating it, or for passing the current of air through it, and into the furnace.

But Professor Morse has not discovered, that the electric or galvanic current will always print at a distance, no matter what may be the form of the machinery or mechanical contrivances through which it passes. You may use electro-magnetism as a motive power, and yet not produce the described effect, that is, print at a distance intelligible marks or signs. To produce that effect, it must be combined with, and passed through, and operate upon, certain complicated and delicate machinery, adjusted and arranged upon philosophical principles, and prepared by the highest mechanical skill. And it is the

high praise of Professor Morse, that he has been able, by a new combination of known powers, of which electro-magnetism is one, to discover a method by which intelligible marks or signs may be printed at a distance. And for the method or process thus discovered, he is entitled to a patent. But he has not discovered that the electro-magnetic current, used as motive power, in any other method, and with any other combination, will do as well.

We have commented on the case in the court of exchequer more fully, because it has attracted much attention in the courts of this country, as well as in the English courts, and has been differently understood. And perhaps a mistaken construction of that decision has led to the broad claim in the patent now under consideration.

We do not deem it necessary to remark upon the other decisions, in relation to Nielson's patent, nor upon the other cases referred to, which stand upon similar principles. The observations we have made on the case in the court of exchequer, will equally apply to all of them.

We proceed to the American decisions. And the principles herein stated, were fully recognized by this court in the case of *Leroy et al. v. Tatham et al.* decided at the last term, 14 How. 166.

It appeared that, in that case, the patentee had discovered that lead, recently set, would, under heat and pressure in a close vessel, reunite perfectly, after a separation of its parts, so as to make wrought instead of cast pipe. And the court held that he was not entitled to a patent for this newly-discovered principle or quality in lead; and that such a discovery was not patentable. But that he was entitled to a patent for the new process or method in the art of making lead pipe, which this *discovery enabled him to in- [* 118] vent and employ; and was bound to describe such process or method, fully, in his specification.

Many cases have also been referred to, which were decided in the circuit courts. It will be found, we think, upon careful examination, that all of them, previous to the decision on Neilson's patent, maintain the principles on which this decision is made. Since that case was reported, it is admitted, that decisions have been made, which would seem to extend patentable rights beyond the limits here marked out. As we have already said, we see nothing in that opinion which would sanction the introduction of any new principle in the law of patents. But if it were otherwise, it would not justify this court in departing from what we consider as established principles in the American courts. And to show what was heretofore the doctrine upon this subject, we refer to the annexed cases. We do not stop to comment on them, because such an examination would extend this

opinion beyond all reasonable bounds. *Wyeth v. Stone*, 1 Story, 273, 285; *Blanchard v. Sprague*, 3 Sumn. 540. The first-mentioned case is directly in point.

Indeed, independently of judicial authority, we do not think that the language used in the act of congress, can justly be expounded otherwise.

The 5th section of the act of 1836,¹ declares that a patent shall convey to the inventor, for a term not exceeding fourteen years, the exclusive right of making, using, and vending to others to be used, his invention or discovery; referring to the specification for the particulars thereof.

The 6th section directs who shall be entitled to a patent, and the terms and conditions on which it may be obtained. It provides that any person shall be entitled to a patent who has discovered or invented a new and useful art, machine, manufacture, or composition of matter; or a new and useful improvement on any previous discovery in either of them. But before he receives a patent, 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 exact terms 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.

This court has decided, that the specification required by this law is a part of the patent; and that the patent issues for the invention described in the specification.

Now, whether the telegraph is regarded as an art or machine, the manner and process of making or using it must be set forth in exact terms. The act of congress makes no difference in this respect between an art and a machine. An improvement * in the art of making bar iron or spinning cotton must be so described; and so must the art of printing by the motive power of steam. And in all of these cases it has always been held that the patent embraces nothing more than the improvement described and claimed as new, and that any one who afterwards discovered a method of accomplishing the same object, substantially and essentially differing from the one described, had a right to use it. Can there be any good reason why the art of printing at a distance, by means of the motive power of the electric or galvanic current, should stand on different principles? Is there any reason why the inventor's patent should cover broader ground? It would be difficult to discover any thing in the act of congress which would justify this distinction. The specification of this patentee describes his invention

or discovery, and the manner and process of constructing and using it; and his patent, like inventions in the other arts above mentioned, covers nothing more.

The provisions of the acts of congress in relation to patents may be summed up in a few words.

Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a manner so full and exact, that any one skilled in the science to which it appertains, can, by using the means he specifies, without any addition to, or subtraction from them, produce precisely the result he describes. And if this cannot be done by the means he describes, the patent is void. And if it can be done, then the patent confers on him the exclusive right to use the means he specifies to produce the result or effect he describes, and nothing more. And it makes no difference, in this respect, whether the effect is produced by chemical agency or combination; or by the application of discoveries or principles in natural philosophy known or unknown before his invention; or by machinery acting altogether upon mechanical principles. In either case, he must describe the manner and process as above mentioned, and the end it accomplishes. And any one may lawfully accomplish the same end without infringing the patent, if he uses means substantially different from those described.

Indeed, if the eighth claim of the patentee can be maintained, there was no necessity for any specification, further than to say that 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 [* 120] 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 entitled him to a patent in terms equally broad. In our judgment the act of congress cannot be so construed.

¹ 5 Stats. at Large, 118.