O'Reilly v. Morse, 56 U.S. 15 How. 62 62 (1853)

MR. CHIEF JUSTICE TANEY 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 continuance, 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 defense. 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, and do not confer on him the right to the exclusive use. And thirdly, if these two propositions are decided against them, they insist that the telegraph of O'Reilly is substantially different from that of Professor Morse, and the use of it, therefore, no infringement of his rights.

In determining these questions we shall, in the first instance, confine our attention to the patent which Professor Morse obtained in 1840, and which was reissued in 1848. The main dispute between the parties is upon the validity of this patent, and the decision upon it will dispose of the chief points in controversy in the other.

In relation to the first point, the originality of the invention, many witnesses have been examined on both sides.

It is obvious that, for some years before Professor Morse made his invention, scientific men in different parts of Europe were earnestly engaged in the same pursuit. Electro-magnetism itself was a recent discovery, and opened to them a new and unexplored field for their labors, and minds of a high order were engaged in developing its power and the purposes to which it might be applied.

Professor Henry, of the Smithsonian Institute, states in his testimony that prior to the winter of 1819-20, an electro-magnetic telegraph -- that is to say, a telegraph operating by the combined influence of electricity and magnetism -- was not possible; that the scientific principles on which it is founded were until then unknown; and that the first fact of electro-magnetism was discovered by Oersted, of Copenhagen, in that winter, and was widely published, and the account everywhere received with interest.

He also gives an account of the various discoveries, subsequently made from time to time, by different persons in different places, developing its properties and powers, and among them his own. He commenced his researches in 1828, and pursued them with ardor and success, from that time until the telegraph of Professor Morse was established and in actual operation. And it is due to him to say that no one has contributed more to enlarge the knowledge of electro-magnetism, and to lay the foundations of the great invention of which we are speaking, than the professor himself.

It is unnecessary, however, to give in detail the discoveries enumerated by him -- either his own or those of others. But it appears from his testimony that very soon after the discovery made by Oersted, it was believed by men of science that this newly discovered power might be used to communicate intelligence to distant places. And before the year 1823, Ampere of Paris, one of the most successful cultivators of physical science, proposed to the French Academy a plan for that purpose. But his project was never reduced to practice. And the discovery made by Barlow, of the Royal Military Academy of Woolwich, England, in 1825, that the galvanic current greatly diminished in power as the distance increased, put at rest for a time all attempts to construct an electro-magnetic telegraph. Subsequent discoveries, however, revived the hope, and in the year 1832, when Professor Morse appears to have devoted himself to the subject, the conviction was general among men of science everywhere that the object could, and sooner or later would be, accomplished.

The great difficulty in their way was the fact that the galvanic current, however strong in the beginning, became gradually weaker as it advanced on the wire, and was not strong enough to produce a mechanical effect after a certain distance had been traversed. But, encouraged by the discoveries which were made from time to time and strong in the belief that an electro-magnetic telegraph was practicable, many eminent and scientific men in Europe as well as in this country became deeply engaged in endeavoring to surmount what appeared to be the chief obstacle to its success. And in this state of things it ought not to be a matter of surprise that four different magnetic telegraphs purporting to have overcome the difficulty should be invented and made public so nearly at the same time that each has claimed a priority, and that a close and careful scrutiny of the facts in each case is necessary to decide between them. The inventions were so nearly simultaneous that neither inventor can be justly accused of having derived any aid from the discoveries of the other.

One of these inventors, Doctor Steinhiel, of Munich, in Germany, communicated his discovery to the Academy of Science in Paris on the 19th of July, 1838, and states in his communication that it had been in operation more than a year.

Another of the European inventors, Professor Wheatstone, of London, in the month of April, 1837, explained to Professors Henry and Bache, who were then in London, his plan of an electro-magnetic telegraph, and exhibited to them his method of bringing into action a second galvanic circuit, in order to provide a remedy for the diminution of force in a long circuit; but it appears by the testimony of Professor Gale that the patent to Wheatstone and Cooke was not sealed until January 21, 1840, and their specification was not filed until the 21st of July in the same year, and there is no evidence that any description of it was published before 1839.

The remaining European patent is that of Edward Davy. His patent, it appears, was sealed on the 4th of July, 1838, but his specification was not filed until January 4, 1839, and when these two English patents are brought into competition with that of Morse, they must take date from the time of filing their respective specifications. For it must be borne in mind that as the law then stood in England, the inventor was allowed six months to file the description of his invention after his patent was sealed,

while in this country the filing of the specification is simultaneous with the application for patents.

The defendants contend that all or at least someone of these European telegraphs were invented and made public before the discovery claimed by Morse, and that the process and method by which he conveys intelligence to a distance is substantially the same, with the exception only of its capacity for impressing upon paper the marks or signs described in the alphabet he invented.

Waiving, for the present, any remarks upon the identity or similitude of these inventions, the Court is of opinion that the first branch of the objection cannot be maintained, and that Morse was the first and original inventor of the telegraph described in his specification, and preceded the three European inventions relied on by the defendants.

The evidence if full and clear that when he was returning from a visit to Europe in 1832, he was deeply engaged upon this subject during the voyage, and that the process and means were so far developed and arranged in his own mind that he was confident of ultimate success. It is in proof that he pursued these investigations with unremitting ardor and industry, interrupted occasionally by pecuniary embarrassments, and we think that it is established by the testimony of Professor Gale and others that early in the spring of 1837, Morse had invented his plan for combining two or more electric or galvanic circuits, with independent batteries for the purpose of overcoming the diminished force of electro-magnetism in long circuits, although it was not disclosed to the witness until afterwards, and that there is reasonable ground for believing that he had so far completed his invention that the whole process, combination, powers, and machinery, were arranged in his mind, and that the delay in bringing it out arose from his want of means. For it required the highest order of mechanical skill to execute and adjust the nice and delicate work necessary to put the telegraph into operation, and the slightest error or defect would have been fatal to its success. He had not the means at that time to procure the services of workmen of that character, and without their aid, no model could be prepared which would do justice to his invention. And it moreover required a large sum of money to procure proper materials for the work. He, however, filed his caveat on the 6th of October, 1837, and, on the 7th of April, 1838, applied for his patent, accompanying his application with a specification of his invention and describing the process and means used to produce the effect. It is true that O'Reilly, in his answer, alleges that the plan by which he now combines two or more galvanic or electric currents, with independent batteries, was not contained in that specification, but discovered and interpolated afterwards, but there is no evidence whatever to support this charge. And we are satisfied from the testimony that the plan, as it now appears in his specification, had then been invented and was actually intended to be described.

With this evidence before us, we think it is evident that the invention of Morse was prior to that of Steinheil, Wheatstone, or Davy. The discovery of Steinheil, taking the time which he himself gave to the French Academy of Science, cannot be understood as carrying it back beyond the months of May or June, 1837. And that of Wheatstone, as exhibited to Professors Henry and Bache, goes back only to April in that year. And there is nothing in the evidence to carry back the invention of Davy

beyond the 4th of January, 1839, when his specification was filed, except a publication said to have been made in the London Mechanics' Magazine, January 20, 1838, and the invention of Morse is justly entitled to take date from early in the spring of 1837. And in the description of Davy's invention as given in the publication of January 20, 1838, there is nothing specified which Morse could have borrowed, and we have no evidence to show that his invention ever was or could be carried into successful operation.

In relation to Wheatstone, there would seem to be some discrepancy in the testimony. According to Professor Gale's testimony, as before mentioned, the specification of Wheatstone and Cook was not filed until July 21, 1840, and his information is derived from the London Journal of Arts and Sciences. But it appears by the testimony of Edward F. Barnes that this telegraph was in actual operation in 1839. And in the case of *Electric Telegraph Company v. Brett & Little,* 10 Common Pleas Reports by Scott, his specification is said to have been filed December 12, 1837. But if the last-mentioned date is taken as the true one, it would not make his invention prior to that of Morse. And even if it would, yet this case must be decided by the testimony in the record, and we cannot go out of it and take into consideration a fact stated in a book of reports. Moreover, we have noticed this case merely because it has been pressed into the argument. The appellants do not mention it in their answer, nor put their defense on it. And if the evidence of its priority was conclusive, it would not avail them in this suit. For they cannot be allowed to surprise the patentee by evidence of a prior invention of which they gave him no notice.

But if the priority of Morse's invention was more doubtful, and it was conceded that in fact someone of the European inventors had preceded him a few months or a few weeks, it would not invalidate his patent. The act of Congress provides that when the patentee believes himself to be the first inventor, a previous discovery in a foreign country shall not render his patent void unless such discovery, or some substantial part of it, had been before patented or described in a printed publication.

Now we suppose no one will doubt that Morse believed himself to be the original inventor when he applied for his patent in April, 1838. Steinheil's discovery does not appear to have been ever patented, nor to have been described in any printed publication until July of that year. And neither of the English inventions is shown by the testimony to have been patented until after Morse's application for a patent, nor to have been so described in any previous publication as to embrace any substantial part of his invention. And if his application for a patent was made under such circumstances, the patent is good, even if in point of fact he was not the first inventor.

In this view of the subject, it is unnecessary to compare the telegraph of Morse with these European inventions to ascertain whether they are substantially the same or not. If they were the same in every particular, it would not impair his rights. But it is impossible to examine them and look at the process and the machinery and results of each so far as the facts are before us without perceiving at once the substantial and essential difference between them and the decided superiority of the one invented by Professor Morse.

Neither can the inquires he made, or the information or advice he received from men of science in the course of his researches impair his right to the character of an inventor. No invention can possibly be made consisting of a combination of different elements of power without a thorough knowledge of the properties of each of them and the mode in which they operate on each other. And it can make no difference in this respect whether he derives his information from books or from conversation with men skilled in the science If it were otherwise, no patent in which a combination of different elements is used could ever be obtained. For no man ever made such an invention without having first obtained this information unless it was discovered by some fortunate accident. And it is evident that such an invention as the Electro-Magnetic Telegraph could never have been brought into action without it. For a very high degree of scientific knowledge and the nicest skill in the mechanic arts are combined in it, and were both necessary to bring it into successful operation. And the fact that Morse sought and obtained the necessary information and counsel from the best sources and acted upon it neither impairs his rights as an inventor nor detracts from his merits.

Regarding Professor Morse as the first and original inventor of the Telegraph, we come to the objections which have been made to the validity of his patent.

We do not think it necessary to dwell upon the objections taken to the proceedings upon which the first patent was issued, or to the additional specifications of the reissued patent of 1848. In relation to the first, if there was any alteration at the suggestion of the Commissioner, it appears to have been a matter of form, rather than of substance; and as regards the second, there is nothing in the proof or on the face of the reissued patent to show that the invention therein described is not the same with the one intended to be secured by the original patent. It was reissued by the proper lawful authority, and it was the duty of the Commissioner of patents to see that it did not cover more than the original invention. It must be presumed, therefore, that it does not until the contrary appears. Variations from the description given in the former specification do not necessarily imply that it is for a different discovery. The right to surrender the old patent and receive another in its place was given for the purpose of enabling the patentee to give a more perfect description of his invention when any mistake or oversight was committed in his first. It necessarily, therefore, varies from it. And we see nothing in the reissued patent that may not, without proof to the contrary, be regarded as a more careful description than the former one, explaining more fully the nice and delicate manner in which the different elements of power are arranged and combined together and act upon one another in order to produce the effect described in the specification. Nor is it void because it does not bear the same date with his French patent. It is not necessary to inquire whether the application of Professor Morse to the Patent Office, in 1838, before he went to France, does or does not exempt his patent from the operation of the act of Congress upon this subject. For, if it should be decided that it does not exempt it, the only effect of that decision would be to limit the monopoly to fourteen years from the date of the foreign patent. And in either case the patent was in full force at the time the injunction was granted by the circuit court and when the present appeal stood regularly for hearing in this Court.

And this brings us to the exceptions taken to the specification and claims of the patentee in the reissued patent of 1848.

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.

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, 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 anyone 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.

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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.

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It is a well settled principle of law that the mere change in the form of the machinery, unless a particular form is specified as the means by which the effect described is produced or an alteration in some of its unessential parts, or in the use of known equivalent powers, not varying essentially the machine or its mode of operation or organization, will not make the new machine a new invention. It may be an improvement upon the former, but that will not justify its use without the consent of the first patentee.

MR. JUSTICE GRIER.

I entirely concur with the majority of the Court that the appellee and complainant below, Samuel F. B. Morse, is the true and first inventor of the recording telegraph and the first who has successfully applied the agent or element of nature called electro-magnetism to printing and recording intelligible characters at a distance, and that his patent of 1840, finally reissued in 1848, and his patent for his improvements as reissued in the same year, are good and valid, and that the appellants have infringed the rights secured to the patentee by both his patents. But as I do not concur in the views of the majority of the Court in regard to two great points of the case, I shall proceed to express my own.

I. Does the complainant's first patent come within the proviso of the 6th section of the act of 1839?, and should the term of fourteen years granted by it commence from the date of his patent here or from the date of his French patent in 1838?

If the complainant's patent is within the provisions of this section, I cannot see how we can escape from declaring it void. The proviso declares that

"In all cases, every such patent issued under the provisions of that section shall be limited to the term of fourteen years from the date or publication of such foreign letters patent."

It is true it does not say that the patent shall be void if not limited to such term on its face, but it gives no power to the officer to issue a patent for a greater term. If the patent does not show the true commencement of the term granted by it, the patentee has it in his power to deceive the public by claiming a term of fourteen years while in reality it may be not more than one.

But I am of opinion that the patent in question does not come within this proviso.

The facts of the case as connected with this point are these:

On the 6th of October, 1837, Morse filed in the office of the Commissioner of Patents, a caveat accompanied by a specification setting forth his invention and praying that it may be protected till he could finish some experiments necessary to perfect its details. On the 9th of April, 1838, he filed a formal application for a patent, accompanied by a specification and drawings. On the first of May, 1838, the Commissioner informs him that his application has been granted. Morse answers on the 15th of May that he is just about to sail to Europe, and asks the Commissioner to delay the issue of his patent for the present, fearing its effect upon his plans abroad.

On the 30th of October, 1838, he obtained his useless French patent. On his return to this country in 1840, he requests his patent to be perfected and issued. In this application, filed on the 9th of April, 1838, there was an oversight in filling up the day and month. This clerical omission was wholly immaterial, but *ex majori cautela* a second affidavit was filed, and the patent issued on the 20th of June, 1840, for the term of fourteen years from its date.

The application of 1838 had a set of drawings annexed to the specification. The second set of drawings, required by the 6th section of the act of 1837, being for the purpose of annexation to the patent, they were entirely unnecessary till the patent issued, and are not required by law to accompany the application when first made, and the want of them cannot affect the validity of the application.

In many instances, owing to various causes, the patent is not issued till many months, and sometimes a year or more, after the application. The Commissioner requires time to examine the specification; he may suggest difficulties and amendments, and disputes often arise which delay the issuing of the patent. But the application does not require to be renewed, and is never considered abandoned in consequence of such delay. It still remains as of the date of its filing for every purpose beneficial to the applicant. The law does not require that the specification and its accompaniments should be in the precise form which they afterwards assume in the patent. It requires only that the application be "in writing" and that the applicant should "make oath that he is the original inventor," &c. The other requirements of the act must precede the issuing of the patent, but make no part of the application and are not conditions precedent to its validity.

In the present case we have, therefore, a regular application in due form, accompanied by a specification and drawings, filed on the 9th of April, 1838. It has not been withdrawn, discontinued, or abandoned. There is nothing in the act of Congress which requires that the patent should be issued within any given time after the application is filed or which forbids the postponement of it for a time at the suggestion either of the applicant or the officer. Nor is there anything in the general policy of the patent laws which forbids it. On the contrary, it has always been the practice, when a foreign patent is desired, to delay the issuing of the patent here, after application filed, for fear of injuring such foreign application. It forms no part of the policy of any of our patent acts to prevent our citizens from obtaining patents abroad.

By the Patent Act of 1793, the applicant must swear "that his invention was not known or used before the application." The filing of the application was the time fixed for determining the applicant's right to a patent. If a patent had issued abroad or the invention had been in use or described in some public work before that time, it was a good defense to it. The time of filing the application was therefore made by law the criterion of his right to claim as first inventor. A foreign patent subsequent to the date of his application could not be set up as a defense against the domestic patentee. The American inventor who had filed his application and specification at home was thus enabled to obtain his patent abroad without endangering his patent at home. This was a valuable privilege to American citizens, and one of which he has never been deprived by subsequent legislation. And thus the law stood till the Act of 4 July, 1836.

Before this time, the right to obtain a patent was confined to American citizens or those who had filed their intentions to become such. The policy of this act was to encourage foreign inventors to introduce their inventions to this country, but in doing so it evinces no intention of limiting our own citizens by taking away from them rights which they had hitherto enjoyed.

Accordingly it gave an inventor who had obtained a patent abroad and who was generally a foreigner a right to have one here, provided he made his application here within six months after the date of his foreign patent. Neither the letter nor the spirit of this act interferes with the right of an inventor who has filed his application here from obtaining a patent abroad or his right to a term of fourteen years from the date of his patent.

In 1838, therefore, when complainant filed his application, he was entitled to such a patent. But in March, 1839, an act was passed by the 6th section of which it is alleged the complainant's rights have been affected. That section is as follows:

"That no person shall be debarred from receiving a patent for any invention &c., as provided in the Act of 4 July, 1836, to which this is additional, by reason of the same's having been patented in a foreign country more than six months prior to his application. Provided that the same shall not have been introduced into public and common use in the United States prior to the application for such patent. And provided also that in all cases, every such patent shall be limited to the term of fourteen years from the date of publication of such foreign letters patent."

Now the act of 1836, as we have shown, had given a privilege to foreign patentees to have a patent within six months after date of such foreign patent. It had not affected in any manner the right previously enjoyed by American citizens to take out a foreign patent after filing their applications here. This section gives additional rights to those who had first taken out patents abroad, and holding out an additional encouragement to foreign inventors to introduce their inventions here, subject to certain conditions contained in the proviso. Neither the letter, spirit, nor policy of this act has any reference to or bearing upon the case of persons who had just made their applications here. To construe a proviso as applicable to a class of cases not within its enacting clause would violate all settled rules of construction. The office of a proviso is either to except something from the enacting clause, or to exclude some possible ground of misinterpretation, or to state a condition to which the privilege granted by the section shall be subjected.

Here the proviso is inserted to restrain the general words of the section and impose a condition on those who accept the privileges granted by the section. It enlarged the privileges of foreign patentees, which had before been confined to six months, on two conditions: 1st, provided the invention patented abroad had not been introduced into public use here, and 2d on condition that every such patent should be limited in its terms. The general words, "in all cases," especially when restrained to every such patent, cannot extend the conditions of the proviso beyond such cases as are the subject matter of legislation in the section. The policy and spirit of the act are to grant privileges to a certain class of persons which they did not enjoy before; to encourage the introduction of foreign inventions and discoveries, and not to deprive our own

citizens of a right heretofore enjoyed or to affect an entirely different class of cases when the applications had been filed here before a patent obtained abroad.

It is supposed that certain evils might arise by allowing an applicant for a patent here to delay its issue till he can obtain a foreign patent. To which it is a sufficient answer to say that if such evil consequences should be found to exist, it is for Congress to remedy them by legislation.

It is no part of the duty of this Court, by a forced construction of existing statutes, to attempt the remedy of possible evils by anticipation.

I am therefore of opinion that the complainant's patent, as renewed, contained a valid grant of the full term of fourteen years from its original date.

II. The other point in which I cannot concur with the opinion of the majority arises in the construction of the eighth claim of complainant's first patent as finally amended. The first claim, as explanatory of all that follow, should be read in connection with the eighth. They are as follows:

"1st. Having thus fully described my invention, I wish it to be understood, that I do not claim the use of the galvanic current or currents of electricity for the purpose of telegraphic communications generally, but what I specially claim as my invention and improvement is making use of the motive power of magnetism, when developed by the action of such current or currents substantially as set forth in the foregoing description of the first principal part of my invention, as means of operating or giving motion to machinery which may be used to imprint signals upon paper or other suitable material or to produce sounds in any desired manner for the purpose of telegraphic communication at any distances. The only ways in which the galvanic current had been proposed to be used prior to my invention and improvement were by bubbles resulting from decomposition and the action or exercise of electrical power upon a magnetized bar or needle, and the bubbles and the deflections of the needles thus produced were the subjects of inspection, and had no power or were not applied to record the communication. I therefore characterize my invention as the first recording or printing telegraph by means of electro-magnetism."

"There are various known modes of producing motions by electro-magnetism, but none of these had been applied prior to my invention and improvement to actuate or give motion to printing or recording machinery, which is the chief point of my invention and improvement."

"8th. 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."

The objection to this claim is that it is too broad, because the inventor does not confine himself to specific machinery or parts of machinery, as described in his patent, but claims that the essence of his invention consists in the application of

electro-magnetism as a motive power, however developed, for printing characters at a distance. This being a new application of that element or power, of which the patentee claims to be the first inventor or discoverer.

In order to test the value of this objection as applied to the present case and escape any confusion of ideas too often arising from the use of ill-defined terms and propositions, let us examine

1st, what may be patented or what forms a proper subject of protection under the Constitution and acts of Congress relative to this subject?

2d, what is the nature of the invention now under consideration? Is it a mere machine, and subject to the rules which affect a combination of mechanical devices to effect a particular purpose?

3d, is the claim true, in fact? And if true, how can it be too broad, in any legal sense of the term, as heretofore used, either in the acts of Congress, or in judicial decisions?

4th, assuming the hypothesis that it is too broad, how should that affect the judgment for costs in this case?

1st. The Constitution of the United States declares that

"Congress shall have the power to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

The act of Congress of 1836 confers this exclusive right for a limited time, on

"any person who has discovered or invented any new and useful art, machine, manufacture, or composition of matter or any new and useful improvements on any 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,"

&c.

A new and useful art or a new and useful improvement on any known art is as much entitled to the protection of the law as a machine or manufacture. The English patent acts are confined to "manufactures" in terms, but the courts have construed them to cover and protect arts as well as machines, yet without using the term art. Here we are not required to make any latitudinous construction of our statute for the sake of equity or policy, and surely we have no right, even if we had the disposition, to curtail or narrow its liberal policy by astute or fanciful construction.

It is not easy to give a precise definition of what is meant by the term "art," as used in the acts of Congress -- some if not all the traits which distinguish an art from the other legitimate subjects of a patent are stated with clearness and accuracy by Mr. Curtis in his Treatise on Patents. "The term art, applies," says he,

"to all those cases where the application of a principle is the most important part of the invention, and where the machinery, apparatus, or other means by which the principle is applied are incidental only, and not of the essence of his invention. It applies also to all those cases where the result, effect, or manufactured article is old, but the invention consists in a new process or method of producing such result, effect, or manufacture."

Curt. on Pat. 80.

A machine, though it may be composed of many parts, instruments, or devices combined together, still conveys the idea of unity. It may be said to be invented, but the term "discovery" could not well be predicated of it. An art may employ many different machines, devices, processes, and manipulations to produce some useful result. In a previously known art a man may discover some new process, or new application of a known principle, element, or power of nature, to the advancement of the art, and will be entitled to a patent for the same as "an improvement in the art," or he may invent a machine to perform a given function, and then he will be entitled to a patent only for his machine.

That improvements in the arts, which consist in the new application of some known element, power, or physical law and not in any particular machine or combination of machinery, have been frequently the subject of patents both in England and in this country the cases in our books most amply demonstrate. I have not time to examine them at length. but would refer to James Watt's patent for a method of saving fuel in steam engines by condensing the steam in separate vessels and applying nonconducting substances to his steam pipes; Clegg's patent for measuring gas in water; *Juhr v. Pratt,* Webster's Pat.Cas. 103; and the celebrated case of Neilson's patent for the application of hot blast, being an important improvement in the art of smelting iron.

In England, where their statute does not protect an art in direct terms, they have made no clear distinction between an art or an improvement in an art, and a process, machine, or manufacture. They were hampered and confined by the narrowness of the phraseology of their patent acts. In this country, the statute is as broad as language can make it. And yet if we look at the titles of patents as given at the patent office and the language of our courts, we might suppose that our statute was confined entirely to machines. Notwithstanding, in *Kneiss v. Bank,* 4 Wash.C.C. 19, Mr. Justice Washington supported a patent which consisted in nothing else but a new application of copperplates to both sides of a bank-bill as a security against counterfeiting. The new application was held to be an art, and, therefore, patentable. So the patent in *McClurg v. Kingsland,* 1 How. 204, was in fact for an improvement in the art of casting chilled rollers by conveying the metal to the mould in a direction approaching to the tangent of the cylinder, yet the patentee was protected in the principle of his discovery, which was but the application of a known law of nature to a new purpose, against all forms of machinery embodying the same principle.

The great art of printing, which has changed the face of human society and civilization, consisted in nothing but a new application of principles known to the world for thousands of years. No one could say it consisted in the type or the press, or in any other machine or device used in performing some particular function more

than in the hands which picked the types or worked the press. Yet if the inventor of printing had, under this narrow construction of our patent law, claimed his art as something distinct from his machinery, the doctrine now advanced would have declared it unpatentable to its full extent as an art, and that the inventor could be protected in nothing but his first rough types and ill-contrived press.

I do not intend to review the English cases which adopt the principle for which I now contend, notwithstanding their narrow statute, but would refer to the opinion of my brother NELSON in 55 U. S. 14 How. 177, and will add, that MR. JUSTICE McLEAN in delivering the opinion of the Court in that case, quotes with approbation the language of Lord Justice Clerke, in the *Neilson Case,* which is precisely applicable to the question before us. He says:

"The specification does not claim anything as to form, nature, shape, materials, numbers, or mathematical character of the vessel or vessels in which the air is to be heated, or as to the mode of heating such vessels."

Yet this patent was sustained as for a new application of a known element, or, to use correct language, as an improvement in the art of smelting iron, without any regard to the machinery or parts of machinery used in the application. Such I believe to be the established doctrine of the English courts.

He who first discovers that an element or law of nature can be made operative for the production of some valuable result, some new art, or the improvement of some known art; who has devised the machinery or process to make it operative and introduced it in a practical form to the knowledge of mankind, is a discoverer and inventor of the highest class. The discovery of a new application of a known element or agent may require more labor, expense, persevering industry, and ingenuity than the inventor of any machine. Sometimes, it is true, it may be the result of a happy thought or conception, without the labor of an experiment, as in the case of the improvement in the art of casting chilled rollers already alluded to. In many cases it is the result of numerous experiments -- not the consequence of any reasoning *a priori,* but wholly empirical -- as the discovery that a certain degree of heat, when applied to the usual processes for curing India rubber produced a substance with new and valuable qualities.

The mere discovery of a new element or law or principle of nature, without any valuable application of it to the arts, is not the subject of a patent. But he who takes this new element or power, as yet useless, from the laboratory of the philosopher and makes it the servant of man; who applies it to the perfecting of a new and useful art or to the improvement of one already

known, is the benefactor to whom the patent law tenders its protection. The devices and machines used in the exercise of it may or may not be new, yet, by the doctrine against which I contend, he cannot patent them, because they were known and used before. Or if he can, it is only in their new application and combination in perfecting the new art. In order words, he may patent the new application of the mechanical devices, but not the new application of the operative elements which is the essential

agent in the invention. He may patent his combination of the machinery, but not his art.

When a new and hitherto unknown product or result, beneficial to mankind, is effected by a new application of any element of nature and by means of machines and devices, whether new or old, it cannot be denied that such invention or discovery is entitled to the denomination of a "new and useful art." The statute gives the inventor of an art a monopoly in the exercise of it as fully as it does to the inventor of a mere machine. And any person who exercise such new art without the license of the inventor is an infringer of his patent and of the franchise granted to him by the law as a reward for his labor and ingenuity in perfecting it. A construction of the law which protects such an inventor in nothing but the new invented machines or parts of machinery used in the exercise of his art and refuses it to the exercise of the art itself annuls the patent law. If the law gives a franchise or monopoly to the inventor of an art as fully as to the inventor of a machine, why shall its protection not be coextensive with the invention in one case as well as in the other? To look at an art as nothing but a combination of machinery, and give it protection only as such against the use of the same or similar devices or mechanical equivalents, is to refuse it protection as an art. It ignores the distinction between an art and a machine; it overlooks the clear letter and spirit of the statute, and leads to inextricable difficulties. It is viewing a statute or a monument through a microscope.

The reason given for thus confining the franchise of the inventor of an art to his machines and parts of machinery is that it would retard the progress of improvement if those who can devise better machines or devices, differing in mechanical principle from those of the first inventor of the art, or in other words who can devise an improvement in it, should not be allowed to pirate it.

To say that a patentee, who claims the art of writing at a distance by means of elector-magnetism necessarily claims all future improvements in the art is to misconstrue it, or draws a consequence from it not fairly to be inferred from its language. An improvement in a known art is as much the subject of a patent as the art itself; so also is an improvement on a known machine. Yet if the original machine be patented, the patentee of an improvement will not have a right to use the original. This doctrine has not been found to retard the progress of invention in the case of machines, and I can see no reason why a contrary one should be applied to an art.

The claim of the patentee is that he may be protected in the exercise of his art as against persons who may improve or change some of the processes or machines necessary in its exercise. The court, by deciding that this claim is too broad, virtually decides that such an inventor of an improvement may pirate the art he improves, because it is contrary to public policy to restrain the progress of invention. Or in other words it may be said that it is the policy of the courts to refuse that protection to an art which it affords to a machine, which it is the policy of the Constitution and the laws to grant.

2d. Let us now consider what is the nature of the invention now under consideration.

It is not a composition of matter, or a manufacture, or a machine. It is the application of a known element or power of nature to a new and useful purpose by means of

various processes, instruments and devices, and if patentable at all, it must come within the category of "a new and useful art." It is as much entitled to this denomination as the original art of printing itself. The name given to it in the patent is generally the act of the Commissioner, and in this, as in many other cases, a wrong one. The true nature of the invention must be sought in the specification.

The word "telegraph" is derived from the Greek, and signifies "to write afar off or at a distance." It has heretofore been applied to various contrivances or devices to communicate intelligence by means of signals or semaphores which speak to the eye for a moment. But in its primary and literal signification of writing, printing, or recording at a distance, it never was invented, perfected, or put into practical operation till it was done by Morse. He preceded Steinheil, Cook, Wheatstone, and Davy in the successful application of this mysterious power or element of electro-magnetism to this purpose, and his invention has entirely superseded their inefficient contrivances. It is not only "a new and useful art," if that term means anything, but a most wonderful and astonishing invention, requiring tenfold more ingenuity and patient experiment to perfect it than the art of printing with types and press as originally invented.

3d. Is it not true, as set forth in this eighth claim of the specification, that the patentee was the first inventor or discoverer of the use or application of electro-magnetism to print and record intelligible characters or letters? It is the very ground on which the Court agrees in confirming his patent. Now the patent law requires an inventor, as a condition precedent to obtaining a patent, to deliver a written description of his invention or discovery and to particularly specify what he claims to be his own invention or discovery. If he has truly stated the principle, nature, and extent of his art or invention, how can the Court say it is too broad, and impugn the validity of his patent for doing what the law requires as a condition for obtaining it? And if it is only in case of a machine that the law requires the inventor to specify what he claims as his own invention and discovery and to distinguish what is new from what is old, then this eighth claim is superfluous, and cannot affect the validity of his patent, provided his art is new and useful and the machines and devices claimed separately are of his own invention. If it be in the use of the words "however developed" that the claim is to be adjudged too broad, then it follows that a person using any other process for the purpose of developing the agent or element of elector-magnetism than the common one now in use and described in the patent may pirate the whole art patented.

But if it be adjudged that the claim is too broad because the inventor claims the application of this element to his new art, then his patent is to be invalidated for claiming his whole invention, and nothing more. If the result of this application be a new and useful art, and if the essence of his invention consists in compelling this hitherto useless element to record letters and words at any distance and in many places at the same moment, how can it be said that the claim is for a principle or an abstraction? What is meant by a claim being to broad? The patent law and judicial decisions may be searched in vain for a provision or decision that a patent may be impugned for claiming no more than the patentee invented or discovered. It is only when he claims something before known and used, something as new which is not new, either by mistake or intentionally, that his patent is affected.

The act of Congress requires the applicant for a patent to swear that "he is the original and first inventor of the art, machine &c." It requires the Commissioner to make an examination of the alleged invention,

"and if it shall appear that the same has not been invented prior to the alleged invention, he shall grant a patent &c., but if it shall appear that the applicant is not the original and first inventor or discoverer thereof or that any part of that which is claimed as new had before been invented,"

then the applicant to have leave to withdraw his application.

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The 13th section treats of defective specifications and their remedy where the applicant, through mistake or inadvertency, had claimed "more than he had a right to claim as new."

The 15th section, in enumerating the defenses which a defendant may be allowed to make to a patent, states that, *inter alia,* he may show,

"that the patentee was not the original and first inventor or discoverer of the thing patented, or of a substantial and material part thereof claimed as new."

And the proviso to the same section allows the court to refuse costs

"when the plaintiff shall fail to sustain his action on the ground that in his specification or claim is embraced more than that of which he was the first inventor."

The 7th section of the Act of March 3, 1837, specially defines the meaning of the phrase "too broad" to be "when the patent claims more than that of which the patentee was the original and first inventor." And the 9th section of the same act, again providing for cases where by accident or mistake the patentee claims more than he is justly entitled to, describes it to be

"where the patentee shall have in his specification claimed to be the original inventor or discoverer of any material or substantial part, of which he is not the first and original inventor, and shall have no legal and just right to the same."

Thus we see that it is only where, through inadvertence or mistake, the patentee has claimed something of which he was not the first inventor that the court are directed to refuse costs.

The books of reports may be searched in vain for a case where a patent has been declared void for being too broad in any other sense.

Assuming it to be true, then, for the purpose of the argument that the new application of the power of electro-magnetism to the art of telegraphing or printing characters at a distance is not the subject of a patent because it is patenting a principle, yet as it is also true that Morse was the first who made this application successfully, as set forth in this eighth claim, I am unable to comprehend how, in the words of the statute, we

can adjudge "that he has failed to sustain his action on the ground that his specification or claim embraces more than that of which he was the first inventor." It is for this alone that the statute authorizes us to refuse costs.

4th. Assuming this eighth claim to be too broad, it may well be said that the patentee has not unreasonably delayed a disclaimer when we consider that it is not till this moment he had reason to believe it was too broad. But the bill claims, and it is sustained by proof, that the defendant had infringed the complainant's second patent for his improvement.

The Court sustains the validity of this patent. Why, then,

is the complainant not entitled to his costs? At law, a recovery on one good count is sufficient to entitle the plaintiff to recover costs, and I can see no particular equity which the defendants can claim who are adjudged to have pirated two inventions at once.

I am of opinion, therefore, that the decree of the circuit court should be affirmed, with costs.

Order

This cause same on to be heard on the transcript of the record from the Circuit Court of the United States for the District of Kentucky, and was argued by counsel. On consideration whereof, it is now here ordered, adjudged, and decreed by this Court that the decree of the said circuit court in this cause be and the same is hereby affirmed except so much thereof as decrees that the complainants shall recover their costs, in the prosecution of this suit of and from the defendants and that that part of the said decree giving costs to the complainants be and the same is hereby reversed, and annulled.

And it is further ordered and decreed by this Court that the parties respectively pay their own costs in this Court and in the said circuit court.