

**Case No. 5,103.** FRENCH ET AL. V. ROGERS ET AL.

{1 Fish. Pat. Cas. 133;<sup>1</sup> 4 Am. Law J. (N. S.) 150; 8 Leg. Int. 158.}

Circuit Court, E. D. Pennsylvania.

Nov. 3, 1851.

PATENTS—DATE OF GRANT—DATE OF FOREIGN PATENT—REISSUE—EFFECT OF COMMISSIONER'S ACTION—DESCRIPTION AND CLAIM—SURRENDER AND REISSUE—ART—PROCESS.

1. The provisions of section 8 of the act of 1836 [5 Stat. 120], and of section 6 of the act of 1839 [5 Stat. 354], as to when a home patent shall bear the date of a foreign patent, relate only to such patents as are applied for here, after the issue of the foreign patent. Where, therefore, an application for a patent was made in this country in April, 1838, and acted on in that month, but a patent was not actually issued until June 20, 1840, at which time the patent was dated, and a foreign patent was obtained in August, 1838. *Held*, as the application here was before the foreign patent, that the grant of the patent here was under the general enactments of the act of 1836, and its term was properly from its date.

{Cited in *Gold & Stock Tel. Co. v. Commercial Telegram Co.*, 23 Fed. 343.}

2. In cases of reissue, the action of the commissioner has more than prima facie influence in finally deciding the question of identity of invention.

{Cited in *Hussey v. Bradley*, Case No. 6,946.}

3. The patentee need not describe and claim, in the specification of a reissue, either in words or idea just what he described and claimed in his original.
4. There may be more than one reissue of the same patent; and it is for the public interest that the surrender and reissue should be allowed to follow each other as often as the inventor is content to be more specific or more modest in his claims.
5. The surrender and reissue, no matter how often they recur, are reciprocal—each in consideration of the other—and form together but a single act. If a reissue is invalid for want of authority to make it, the surrender is ineffective for want of authority to accept it.
6. The specification of the reissued patent must describe the same invention, and the claim can not embrace a different subject-matter than that which he sought to patent originally; but, unless the correction contemplated by the statute is narrowed down to a mere disclaimer, the

corrected specification must be broader than the original one.

[Cited in *Sickles v. Evans*, Case No. 12,839; *Crompton v. Belknap Mills*, Id. 3,406.]

7. An art is entitled to protection, as well as the machinery or processes which the art teaches, employs, and makes useful.
8. The duplicate drawings, required by section 6 of the act of 1837 [5 Stat. 193], are unnecessary until the patent issues, and need not accompany the application.
9. There is no act that requires the jurat to an application for a patent to be dated.

This was a bill in equity filed [by Benjamin B. French, Adam J. Glossbrenner, and John M. Broadhead] to restrain the defendants [Henry J. Rogers, Josiah Lee, Zenas Barnum, and others] from infringing letters patent [No. 1,647] granted to Samuel F. B. Morse, June 20, 1840, reissued January 25, 1840, and again June 13, 1848 [No. 117]; also letters patent [No. 4,453] granted to him April 11, 1848, and reissued June 13, 1848 [No. 118]; and also letters patent [No. 6,420] granted to him May 1, 1840—all for inventions relating to electro-magnetic telegraphs.

Amos Kendall, George Gifford, St. George T. Campbell, and George Harding, for complainants.

Wm. M. Meredith, R. H. Gillett, Wm. Schley, and Peter McCall, for defendants.

KANE, District Judge. This case is before us on final hearing upon the pleadings and proofs. Professor Morse, under whom the complainants hold, has three patents: the first dated June 20, 1840, reissued after surrender on January 25, 1846, and again reissued after a second surrender, on June 13, 1848, which has been referred to in the argument as the “magnetic telegraph patent” the second, dated April 11, 1846, also reissued on June 13, 1848, referred to as the “local circuit patent” the third, dated May 1, 1849, referred to as the “chemical patent.” The bill charges that the respondents have infringed all three of these patents; the answer denies the infringements, and controverts the validity of the patents.

I. The objections to the validity of the first patent, that for the magnetic telegraph, are stated in the defendants’ brief as follows:

“1. That it does not run from the date of Morse’s French patent.

“2. That the commissioner of patents had no authority in law to reissue a second time.

“3. That the claims set out in the first reissue are broader than the claims in the original patent; and the claims in the second reissue are broader than those of either of its predecessors; and are not for the same invention.”

1. The first of these objections founds itself upon the fact, that Mr. Morse had obtained a patent in France for this same invention twenty-two months before his patent issued here; and it asserts that under the second proviso of the sixth section of the act of 1830, his American patent should in consequence have been limited to the term of fourteen years from the date of the French patent; and that not having been so limited, it is void.

This objection was fully met in the argument of the complainants. Mr. Morse's application for a patent in this country was made in April, 1838, and was filed and acted on in the patent office before the 10th of that month; his French patent bears date the 18th of August following. There is, therefore, no room for the questions which were argued so elaborately, of the proper interpretation of this proviso in the sixth section of the act of 1830, and the eighth section, second clause of the act of 1836, which was also invoked, in any possible bearing upon the case of Mr. Morse. The proviso of 1839 must be interpreted by reference to the enacting words of the section which it limits; and the provisions of both the sections relate only to such patents as are applied for here, after the issue of a foreign patent. But Mr. Morse's application here was before his patent abroad—in nowise after it—and his American patent was granted, therefore, under the general enactments of the act of 1836, not under any special proviso or exception whatever, and its term runs properly from its date.

We do not see the justice of the criticisms upon his application, that the jurat affixed to it is without date of day or month; and that the drawings which accompanied it were not in duplicate. There is no act that requires the jurat to be dated at all; and the supplementary provision of the sixth section of the act of 1837, that "the applicant shall be held to furnish duplicate drawings," though directory in its terms, is not a condition; and it has obvious reference, in point of time, to the issuing of the patent, and not to the filing of the petition for it. Such has heretofore been the interpretation of the patent office, announced in the official circulars for the instruction and guidance of inventors; the practice founded on it is both reasonable and convenient; and no act of congress appears to conflict with it. If Mr. Morse's patent is invalidated on this ground, more than half the modern patents for mechanical inventions must probably fall with it.

2. The second objection to the patent is that the act of congress makes no provision for a second surrender and reissue. The thirteenth section of the act of 1836, which provides, in certain cases, for the surrender of a defective patent, and its reissue in an amended form, regards the new patent as substituted for the old one, with just the "same effect and operation in law" as if the specification had been filed first in the form which it takes in the reissue. It is difficult to see why, if the original patent could be amended, its substitute, having all the legal

attributes of the original, can not be amended, also.

There is nothing in the words of the act, or in the policy which it proclaims, that limits the correction of errors to such as may have been the first discovered. On the contrary, if it be true, as we have supposed in determining the recent case of *Batten v. Taggart* [Case No. 1,107], that the patent is granted to the inventor in consideration of some benefit to be derived by the public from his disclosures, and that the reissue is in consideration of some more full or more accurate disclosure than that which he had made in his original specification, or some renunciation on his part of an apparently secured right—it is for the public interest that the surrender and reissue should be allowed to follow each other, just as often as the patentee is content to be more specific or more modest in his claims.

Besides, it might not be safe to assume too readily, that the act was intended to withdraw altogether, from the officers of the executive department, the power to accept a surrender and grant a reissue, which they had before, and which would sanction a second reissue quite as readily as a first. The act might, perhaps, be regarded more justly as affirming the propriety of the usage which had obtained under the former laws, and had been repeatedly recognized by the courts (*Morris v. Huntington* [Case No. 9,831]; *Grant v. Raymond*, 6 Pet [31 U. S.] 220; *Shaw v. Cooper*, 7 Pet. [32 U. S.] 315), and as prescribing in addition the conditions and incidents which should attach to it thereafter in certain cases. It is hardly to be supposed that the merely clerical error of an engrossing subordinate, or the accidental inadvertence of the commissioner himself, is not capable of being rectified or supplied now, just as it was before the passage of the act. And yet, the construction, which regards this section as superseding the implied power of the commissioner, might lead to this; since the act makes no provision for correcting such mistakes on the part of the patent officers.

Still further: it must as we think, be conceded, that if the commissioner's power to reissue is so restricted by the act as to be exhausted by a single exercise, his power to accept the surrender must be equally restricted, and equally transitory. And the argument then resolves itself only into another form of the question, whether the patent was for any purpose a valid one as it stood after the first reissue; because, if the second reissue was invalid for want of authority to make it the second surrender was ineffective for want of authority to accept it—and so the patent stands as if it had not been surrendered the second time. The surrender and the reissue, no matter how often they recur, are reciprocal—each in consideration of the other—and forming together but a single act between the parties. It would be unconscientious to retain the consideration, while denying the validity of the grant See *Woodworth v. Hall* [Case No. 18,017].

3. We pass to the third objection, the supposed variance in the reissues. From the course of some parts of the argument on this point it might be inferred that the objects as well as the import of the thirteenth section of the act of 1836, had been misapprehend-

ed by the learned counsel for the respondents. It is not the meaning of the law that the patentee who applies for a reissue must at his peril, describe and claim in his new specification, either in words or idea, just what was described and claimed in his old one. His new specification must be of the same invention, and his claim can not embrace a different subject-matter from that which he sought to patent originally. But, unless we narrow down the correction which the statute contemplates till it becomes a mere disclaimer, it is not possible, in any case, to frame a correct specification, which shall not be broader than the one originally filed. To supply a defect to repair an insufficiency, is to add—either directly, or by modifying or striking out a limitation; in either form, the effect is to amplify the proposition; in the case of a specification under the patent laws, it is to amplify the description and enlarge the claim.

There are few things more difficult, even for well educated and practiced lawyers, than to describe a new invention clearly, and point out the principle which distinguishes the subject of it from all things known before. And as inventors are rarely experts either in philology or law, it has long been established as a rule, that their writings are to be scanned with a good degree of charity. But it is easy to abuse this liberality to the purposes of fraud. The public has rights to be guarded also; and these exact, that the patentee's specification shall set forth his invention so fully and definitely that it can not be readily misunderstood.

It is the purpose of the statute to reconcile this seeming conflict; and it effects it by allowing the inventor to amend the mistakes he has honestly fallen into in his description and claim of title, as soon and as often as he discovers them. And there is the more reason for this indulgence, since under the act of 1836, § 7, the specification is reviewed by the commissioner before the patent issues, and is very often modified in accordance with his suggestions, or to obviate objections made by him to its original form. He may be supposed to know, therefore, better than any one else but the patentee himself, what the invention was for which the patent was sought at first; and he may also know whose inadvertence, accident or mistake it was, that made the first specification inoperative or invalid. It is not absolutely impossible that it may have been his own, as certainly it had his implied concurrence.

And this consideration furnishes a strong

argument for the rule, that the commissioner's action, in ordinary cases of reissue, shall have more than a prima facie influence in finally deciding the question of identity of invention. Whatever be the extent of the rule; whether it leaves nothing open for discussion before the court, but the issue of fraud—as appears to have been the undivided opinion of the supreme court, in the Case of Stimpson, 4 How. [45 U. S.] 404—or whether we permit ourselves to except from it as we did in *Batten v. Taggart* [supra], in cases in which the invention claimed in the reissued patent is obviously different from that claimed in the original; or whether, with Judge Story, in *Allen v. Blunt* [Case No. 216], and in *Woodworth v. Stone* [Id. 18,021], we hold the grant of the amended patent to be “conclusive as to the existence of all the facts, which by law are necessary to entitle the commissioner to issue it; at least, unless it is apparent, on the face of the instrument itself, without any auxiliary evidence, that he was guilty of an excess of authority; or that the patent was procured by a fraud “between him and the patentee.” Whatever be the rule, or its limitations, the propriety of the reissue in the case before us can hardly claim a judicial review. There is no want of jurisdiction, either apparent on the face of the proceedings, or asserted by the evidence; and there is no fraud imputed, or justly imputable.

Nor is there any flagrant diversity of claim. After a repeated and careful examination of the three specifications, with their respective claims, fully aided by the acumen of highly ingenious counsel, we have not found a material difference of import between any of them. The order in which the subjects of claim are marshalled is not the same throughout; a phrase is more concise in one, in another more popular; in one, a scientific term, or a general expression, takes the place of the descriptive or defining language, or the detailed particulars of another; in a word, they are unequal as specimens of artistic writing, and a close examination may detect defects in the two first, which are repaired in the last. But they all describe the same thing essentially; and we should find it easier to argue that neither the first nor the second specification could be rightfully regarded as “inoperative or invalid,” for want of precision and clearness, than that there was an important variance in the second from the first, or in the third from either. These observations form the answer to the third objection.

Mr. Morse's patent of 1840, in all its changes, asserts his title to two distinct patentable subjects; the first, founded on the discovery of a new art; the second, on the invention of the means of practicing it.

1. That he was the first to devise and practice the art of recorded language, at telegraphic distances, by the dynamic force of the electro-magnet, or, indeed, by any agency whatever, is to our minds plain, upon all the evidence. It is unnecessary to review the testimony for the purpose of showing this. His application for a patent in April, 1838, was preceded by a series of experiments, results, illustrations, and proofs of final success, which leave no doubt whatever, but that his great invention was consummated before the



early spring of 1837. There is no one person, whose invention has been spoken of by any witness, or referred to in any book, as involving the principle of Mr. Morse's discovery, but must yield precedence of date to this. Neither Steinheil, nor Cooke and Wheatstone, nor Davy, nor Dyer, nor Henry, had at that time made a recording telegraph of any sort. The devices of the first three were merely semaphores, that spoke to the eye for the moment—bearing about the same relation to the great discovery now before us, as the Abbe Sicard's invention of a visual alphabet for the purpose of conversation bore to the art of printing with movable types. Mr. Dyer's had no recording apparatus, as he expressly tells us; and Professor Henry had contented himself with the abundant honors of his laboratory and lecture-room.

When, therefore, Mr. Morse claimed, in his first specification, "the application of electro-magnets" "for transmitting, by signs and sounds, intelligence between distant points;" and "the mode and process of recording or marking permanently signs of intelligence transmitted between distant points;" and when in his second specification he claimed "the making use of the motive power of magnetism, when developed by the action of currents of electricity as a means of operating and giving motion to machinery, which may be used to imprint signals upon paper or other suitable material," "for the purpose of telegraphic communication;" characterizing his invention as "the first recording or printing telegraph by means of electro-magnetism;" and when in his third—after again describing his machinery and process, he once more characterized it in the same terms, and claimed "as the essence of his invention, the use of the motive power of the electric or galvanic current (electro-galvanism, as he now terms it), however developed, for making or printing intelligible characters, signs or letters, at any distance;" through these several forms of specification claiming and renewing his claim of property in the same invention, as it seems to us; and claiming in each and all of them no more, as it also seems to us, than he was justly entitled to claim; he declared the existence of a new art, asserted his right in it as its inventor and owner, and announcing fully its nature and merits, invoked in return the continued protection of the laws.

From this time his title was vested as patentee of the art, and other men became competitors with him only in the work of diversifying and perfecting its details. He himself

used the stylus, to impress paper or parchment, or wax-coated tablets, it may be: though he sometimes made a colorea record by the friction of a pencil; another substitutes a liquid pigment, or stains his paper with a chemical ink; the next perhaps stains his paper beforehand, and writes on it by decomposing the coloring matter; and another yet, more studious of originality than the rest, writes in a cyclovolute, instead of a straight line, and manufactures his ink as he goes along, by decomposing the tip of his stylus on a chemically moistened paper. They are, no doubt all of them inventors; as was the man who first cast type in a mold, or first bent metal in the practical semblance of a grey goose-quill, or first devised sympathetic ink, that the curious in letter writing might veil their secrets from the profane. All these toiled ingeniously and well, to advance or embellish a pre-existing art. But they had no share in the discovery of the art itself, and can no more claim to share the property, which its discovery may have conferred on another, than he who has devised some appropriate setting for a gem can assert an interest in the gem itself.

Yet, admitting, for the sake of argument, that Mr. Morse's leading invention is correctly designated as a new art; and that he has sought to patent it accordingly, by a compliance with all the requisitions of the statute—it is still contended, and with much of elegant research into the radical meaning of the term, that an art, as such, can not be made the subject of a patent. But interpreting language as men use it around us, and as it reflects ideas, the question can hardly be regarded as doubtful. The constitutional provision under which our patent laws are framed, looks to the promotion of "useful arts." The act of congress places "a new and useful art" among the discoveries it proposes to protect, and assigns to it the first place on the list. The statute of 21 James I, c. 3, from which the patent system of England has grown up, speaks only of "new manufactures." Yet the judges of that kingdom find a warrant, in this limited expression, for sustaining patents for an art, and even for the renewed discovery of an art that had been lost. See the Hot-Blast Case [*Househill C. & I. Co. v. Neilson*], *Webst. Pat. Cas.* 683, 717, and Mr. Webster's note at page 718, and the case *Wright's Patent*, *Id.* 736, and the cases grouped in *Hind. Pat* 77, 102.

Indeed, the author whose treatise we have cited last, asserts with much emphasis that it is the art and nothing else, which is the characteristic subject of every privilege granted by a patent under the statute, page 92. And it may be noted, as not without interest, that in just accordance with the spirit of the English law cases, the English patents of Cooke and Wheatstone, Davy and Bain, claim property in the arts, for which their mechanical devices are respectively adapted; not indeed in so many words, but in language as unequivocal as that employed by Mr. Morse.

Nor can we see that there is any reason of policy, which should deny protection to an art while extending it to the machinery, or processes, which the art teaches, employs, and makes useful. Why should the type, or the ink, or the press itself, be dignified beyond



the art, to which they minister in such humble subordination, and without which they are rubbish? Will you patent the new product, and the new elemental means, and the new process by which they act and then debate whether you may patent the art? You have patented it already.

We are aware, of course, that it has been held in some cases under the English patent law, that the art to be patented must have some reference to a manufacture. See *Hind. Pat. at supra*. But while such a deduction might be legitimate from the words of the statute of James, it would be obviously otherwise under the more liberal phraseology of our act of congress. And even in England, it must be apparent to every one who has watched the progress of their patent system, that this limitation is practically disregarded already, and that it is to be repudiated so soon as it shall interfere with the protection of an important invention.

Yet in truth, there are few discoveries of practical moment to the daily concerns of man, even in the lapse of many years, that are not more or less directly connected with some department of manufacturing industry and skill. The convex lens, the steamboat, the iron road on which cars are propelled by the friction of driving-wheels—some of these may be so indirectly connected with manufactures—or, rather, they are associated so intimately with the leading pursuits and interests and enjoyments of all of us—as to make it difficult to refer them to the category of a particular manufacture. Would it not be strange, if, on this account, they were excluded from the benefits of the patent system? If we go back to the early story of our race, and mark the stages of its long and difficult advances, from language, the first exponent of thought to letters, its first record, and from letters to printing, which first diffused letters, widely, though slowly, among men; and from printing to the telegraph, the electric register of thought, spreading its fibers of sympathy over the intelligent world, and making it throb simultaneously everywhere, as with the pulsations of one heart; who will say that the transition between these epochs, that signalize the moral and intellectual progress of mankind, should not be marked by a memorial as stately as the first clipping of a cut-nail, or the compounding of a new variety of liquid blacking; or that the men, to whom we owe them, should not be dealt with as liberally, or at least as justly by the state?

2. The second general subject of Mr. Morse's patent of 1840 includes many particulars; all of them interesting and valuable in connection with the claim we have just been considering. Taken together, they give a practical form to his leading invention, and guard it from the imputation of being a mere abstract notion—a principle resting in idea. Taken singly, some of them appear to us to be new; as his alphabet (claim 5), his combined series (claim 4), by which the electric current from one battery, before entirely expending itself in its lengthened circuit, is made to set another battery in action, from which another circuit traverses to a battery still beyond—and so onward; his adaptation of clock-work to the recording cylinder (claim 2), and others, are only new, as they are elements of a novel combination. There is no proof before us, that any of the devices, which Mr. Morse has claimed in this patent, whether as independent inventions or parts of a combination, are not really his as far as he has claimed them. It is unnecessary to discuss them in detail, for they are all substantially protected, as appliances of the art which is the great subject of his patent.

II. The second patent of Mr. Morse is for what has been termed his "local circuit." To understand the questions which arise upon this, it is necessary to refer back to the apparatus which he had patented before, and to explain in general terms its principle and modes of operation. I shall attempt to do this in popular language, without stopping to consider very carefully the varying niceties of scientific nomenclature.

It is well known that a current of galvanic electricity, while passing along a wire that has been wound spirally around a bar of soft iron, communicates to the iron a certain degree of magnetic virtue, and that the iron loses this magnetic character again as soon as the electricity ceases to pass along the wire that surrounds it is also well known that the electric fluid may be passed along a wire of great length, and yet retain, when at the farthest extremity of the wire, a sufficient degree of energy to impart this occasional magnetism to the iron, and to make it capable, for the time, of attracting any small body of iron that may be near it. If such a small body of iron be made to form the extremity of a nicely-balanced lever, it is plain that while the one extremity of the lever is attracted toward the temporary magnet, the other extremity will be moved in the opposite direction; and if to this other extremity we affix a pencil, or stylus, this will press upon whatever surface may be interposed in the way of its motion, and may either mark the surface, or, if it be of a yielding nature, indent it is plain, also, that when the bar of soft iron ceases to be magnetic, in consequence of the electric fluid ceasing to pass around it, the lever will take its original position, and the stylus cease to press upon the resisting surface.

If, now, we suppose that surface to be moved uniformly below the stylus, it is obvious that the surface will be marked with a straight line, and that this marked line will be interrupted during any intermission of" the electric current, so as to form a broken series of straight lines, or if the electric current passes and intermits, in rapid alternation, a series

of dots or points. These broken traces of the stylus, the lines and dots, constitute the alphabet of Mr. Morse—a certain succession of either or a certain combination of the two being arbitrarily Chosen to indicate a particular letter.

The galvanic battery generates the electric fluid continuously, whenever the two extremes or poles of the battery are connected with a suitable conducting medium—such as a metallic wire, water, or with the earth itself—along which conductor, as it is called, the electric fluid may pass between one pole of the battery and the other, thus performing what is termed an “electric circuit”

Let us now extend a continuous wire from one of the poles of the galvanic battery to a distant point, taking care that it shall not be intermediately in contact with the earth, or with any other good conductor of electricity; and let us, at a distant point, pass a wire in a spiral coil around a bar of soft iron, and thence lead it back again into the other pole of the battery, or avail ourselves of the earth itself as a part of the circuit It is obvious from what we have said before, that the electric fluid passing from the battery, along the wire, around the occasional magnet, and back to the battery—and then at appropriate intervals of time interrupted in its circuit—will cause the stylus to make its trace of lines or dots, or in other words, its alphabetical record, at the distant station.

It only remains then, to devise a mode of interrupting and renewing at pleasure, the flow of the electricity; “breaking and closing the circuit,” in the language of the experts. This is done by dividing the wire near the battery, and then arranging a simple finger-key, which, when struck or pressed upon by the finger, brings a short metallic conductor into intimate contact with the two ends of the divided wire, and thus restores the continuity of the circuit while the pressure continues on the key. This may serve as a rude explanation of Mr. Morse’s electro-magnetic telegraph, in its simplest form.

It was found, however, during an early period, that though the electric current was still appreciable after it had passed over a great length of wire, yet in traversing the very long circuits that were required to include distant telegraphic stations, it ceased to impart a sufficient degree of energy to the temporary magnet to work the stylus effectively. To meet this difficulty, Mr. Morse resorted to the simple device of employing a series of batteries, distributed over his line of telegraphic communications, with as many shorter circuits, each operating, by means.

of a magnet at its extremity, to control the movements of a small lever, that opened or closed the circuit of the battery beyond. The last battery gave efficiency to the recording apparatus at the distant station. This formed the combined series of Air. Morse's first patent.

It is easy to see that the intermediate magnets of the combined series, besides opening and closing the circuits, might be also made to act as recording magnets, by merely adapting to them the stylus with its appendages; and that there would thus be as many stations of telegraphic communication as there were batteries and minor circuits. But there still remained this objection to the combined series, that it could only be worked in one direction, and that it was necessary, therefore, to have two complete lines of wires, with their batteries and magnets, in order to establish a reciprocating communication.

To dispense with this duplication of machinery and expense was the object of Mr. Morse in the invention which is the subject of his second patent. It had been found that the magnetism excited by the electric coil was capable, at the end of an almost indefinitely extended circuit, of giving motion to a delicately adjusted lever, but that this was the apparent limit of its dynamic power. A single wire might be employed then, without intervening magnets, by connecting it at the extremities with electromagnets, of great sensibility of mechanism, and employing the force of those magnets merely to open short local circuits, from which local circuits the degree of magnetic energy adequate to the purposes of the recording apparatus could be derived.

But the electric current, after passing over a long wire, does not exert a uniform dynamic energy. However carefully insulated at first, the wire becomes, after a time, more or less exposed to atmospheric action, and the fluid is more or less dissipated in consequence. The posts on which it is supported become conductors during storms of rain, and carry off the fluid to the earth. Under other circumstances the electro-magnetic phenomena are exaggerated at the receiving station by atmospheric electricity from the regions through which the conducting wire has passed. The batteries, too, do not always generate the fluid with the same rapidity. In a word, the current at the extremity of the circuit is irregular.

And besides all this, it is found that the magnetism induced in soft iron by the electric current, though truly occasional, does not absolutely cease at the instant of breaking the circuit; but seems to linger in the iron for an appreciable interval of time afterward, with an intensity which, though slight, bears an apparent relation to the intensity of the current that produced it. This of itself would interfere greatly with the very rapid operation of the telegraph, if the lever were left to withdraw itself from the magnet, to which it serves as an armature, by the force of gravity alone. A small spring is therefore connected with the machine, of sufficient strength to overcome the attraction of this lingering or continuous

magnetic force, but not sufficient to resist the attraction of the magnet when the circuit is closed.

Now it is apparent that under the varying circumstances that influence the magnetic energy at the further extremity of the circuit the adjustment of this spring must not be uniform. If its tension were just that which would neutralize or barely overcome the continuous magnetism induced by an electric current of small intensity, it would not draw back the armature when the inducing current had been in greater force; and on the other hand, a stronger spring, adapted to the case of a powerful current, would oppose a controlling resistance to the magnetism induced by a feeble one. The “adjustable receiving magnet,” described in Mr. Morse’s second patent, meets perfectly the conditions of this difficulty, and enables the operator, by the mere touch of a finger on an adjusting screw, to regulate the tension of the spring, and adapt his apparatus to the circumstances of the moment.

The main line, thus arranged, with its delicate receiving magnet, and its short recording circuit at each extremity, made no provision for intermediate or collateral stations. But as it had been found desirable in practice to distribute the batteries, in which the electric fluid was generated, over different parts of the line, so as to reinforce the energies of the current in its progress, it was almost an obvious suggestion to connect at these several points a receiving magnet of adjustable character, either with the main line or with the battery, forming part of it, and to attach to this receiving magnet a local registering circuit, or a branch circuit, leading to one or more collateral stations.

Such I understand to be Mr. Morse’s local or independent circuit His patent of 1840, as reissued in 1848, claims it in these words: “The employment” in a certain telegraphic circuit, of a device or contrivance called the ‘receiving magnet, in combination with a short local independent circuit or circuits, each having a register and registering magnet or other magnetic contrivances for registering, and sustaining such relation to the registering magnet, or other contrivances for registering, and to the length of circuit of telegraphic line, as will enable me to obtain, with the aid of a main galvanic battery and circuit, and the intervention of a local battery and circuit, such motion or power for registering as could not be obtained otherwise without the use of a much larger galvanic battery, if at all.”

That the local or independent circuit as we have described it, and as it is more accurately

curately and, perhaps, more intelligibly set out by Mr. Morse, in his specification, was original with him, can not be seriously questioned. The devices referred to in the patents of Cooke and Wheatstone, and Davy, are at best imperfect modifications of the combined series of Mr. Morse's first patent; one of them not improbably borrowed from it. The adjustable receiving magnet, the indispensable and characteristic element of the local circuit patent, no one has claimed but himself.

It is only, to make the first approach to a controversy on this point, to prove to us that Professor Henry had, as early as 1828, made the "intensity magnet," with which the scientific world is now familiar—or that he afterward, and before Mr. Morse's first application for a patent, had illustrated, before his class at Princeton, the manner in which one circuit could operate to hold another closed or to break it at pleasure—or that" he had foreseen the applicability of his discoveries to the purposes of a telegraph. The question is not one of scientific precedence; and if it were, this is not a forum that could add to or detract from the eminent fame of Mr. Henry. It is purely a question of invention applied in a practical form to a specific use; and so regarded, it admits of but a single answer.

In passing from the questions of originality and identity of invention that have been raised in the cause, without a more detailed review of all the testimony, there is occasion, perhaps, for an explanatory remark. It is this: the decree of a judge finds its appropriate and only justification in the facts proved before him, not in theories, however ingenious, or the less speculative inferences of other minds; and where the essential facts of a case are as clearly established as they are here, it would be unprofitable as well as painful to discuss the particulars of variance between the witnesses. There is no place in which the evidence of scientific men, upon topics within their own departments of knowledge, is more to be desired than in this court, when sitting for the trial of patent causes; and the opinions also of such men, when duly supported by reasonings founded on ascertained fact, must of course be valued highly. But it is a mistake to suppose that, even on a question of science, opinion can be dignified here or elsewhere with the mantle of authority. Still less can we allow it to avail us here, when it assumes contested facts, or volunteers to aid us in determining the most important written instruments.

These remarks are not dictated by a spirit of unkind or uncourteous commentary on the depositions before us. We know that when opinion is active, it is not always easy to limit its range. There is, besides, very much of accurate scientific history, and of just and well-guarded deduction from it, in these two volumes of exhibit. But it must be confessed also, that there is to be found here and there not a little of imperfectly considered dogma, as well as something of doubtfully regulated memory—and it has seemed to us, in this case, as well as in some others, that the toil and expense and excitement of litigation might have been moderated perhaps, if the appropriate tone and province of testimony had been more exactly understood by some of the witnesses.



The objections which have been taken to the terms of the reissue of Mr. Morse's patent of 1846, may be answered by a simple reference to that part of our opinion in which we have considered the arguments of the same character that were urged under the patent of 1840.

It is beyond controversy, that the local circuit patent has been infringed upon at., some of the stations of the responder line; and it is the opinion of the court, that it is also violated whenever the branch circuit of Mr. Rogers is employed. We have not been able to see the asserted difference in principle between the two devices. Both are equally well described as branch or as local circuits. They have the same purpose; they effect it by the same instrumentality, even in appearance to a great degree, and they seem to vary only in this: that the one derives its electric fluid from a battery placed within the line of the main circuit; the other from a battery placed without it. The change may be for the better; or it may not—if it be, it is patentable as an improvement; but it can not be used without Mr. Morse's license, until after his patent has expired.

III. The third patent is for the chemical telegraph. We do not propose to enter on the discussion of this. The subject of it is clearly within the original patent of Mr. Morse, if we have correctly apprehended the legal interpretation and effect of that instrument. We will only say, that we do not hold it to have been invalidated by the decision of the learned chief justice of the District of Columbia, on the question of interference. The form of the two machines before him was not the same; and the leading principle of both having been already appropriated and secured by the magnetic telegraph patent of 1840, nothing remained but form to be the subject of interference.

The counsel for the complainants will be pleased to prepare for the consideration of the court, the draught of a decree in accordance with the prayer of their bill.

Decree accordingly.

[NOTE. For other cases involving this patent, see note to [Smith v. Ely, Case No. 13,043.](#)]

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