

**WESTERN ELECTRIC CO. v. MILLHEIM ELECTRIC TEL. CO. et al.**

(Circuit Court, W. D. Pennsylvania. July 18, 1898.)

**1. PATENTS—NOVELTY AND PATENTABILITY—PATENT AS EVIDENCE.**

The grant of a patent is prima facie proof of novelty and patentability, and, in the absence of countervailing proof, this prima facies must prevail.

**2. SAME—ANTICIPATION—COMBINATIONS.**

To find in the prior art each element in isolation is not to anticipate the work of a patentee who, by inventive act, first evolves a new combination of these elements, which by their conjoined functions produce a new result.

**3. SAME—ANTICIPATION—PRIOR PUBLICATIONS.**

A prior publication, such as will defeat a patent, must contain a description of the complete and operative art or instrument so precise and particular that any one skilled in the art to which the invention belongs can construct and operate it without experiments or the exercise of inventive skill.

**4. SAME—TELEPHONE CIRCUIT AND APPARATUS.**

The Carty patent, No. 449,106, for telephone circuit and apparatus, held not anticipated, valid, and infringed.

Barton & Brown, for complainant.

Stanley S. Stout, for defendants.

BUFFINGTON, District Judge. This is a bill filed by the Western Electric Company against the Millheim Electric Telephone Company et al. for alleged infringement of letters patent No. 449,106, issued March 31, 1891, to John J. Carty, for telephone circuit and apparatus, and now owned by complainant. The defenses are lack of novelty and patentability. These defenses failing, infringement is conceded. The apparatus in question was designed primarily for use on a multiple line. Prior to this patent it was customary to connect the call-bell magnets at the several stations in series in the main-line circuit together with a normally shunted call-sending generator, and at each station to provide a switch, which, when at rest, maintained the continuity of the main circuit through all the call-bell magnets, and kept the circuit of the local transmitter battery open. When, however, the switch was changed,—which was done when the receiver was taken from the hook for use,—it disconnected or short-circuited the bell magnet or generator from the line, and introduced in place thereof the telephonic transmitting and receiving instruments, and closed the local battery circuit of the former. Though this switch change at the two communicating stations removed the bell magnets at such stations from the circuit, no such action took place at the other stations. Consequently, the voice current had to traverse all the other magnet helices in the line, and was much weakened, not only by the resistance of such magnets, but also by the counter electro-motive forces or inductive resistances developed in each. These were so active and energetic as to hinder conversation; yet it was necessary that all bell magnets should be connected with the circuit, otherwise the several stations cannot signal each other. It will be noted that in this system, which is called a "series circuit," the component parts are so arranged that the current must pass through all its parts, one after another. It is so styled in contradistinction to a "multiple circuit," which is one having two or

more of its parts so arranged that the current divides, portions of it passing through parallel paths afforded by the several parts. The two systems may be thus illustrated: When incandescent lights are connected in multiple circuit, the current passes to one terminal of each of the lamps which are connected to one side of a circuit, and then divides up, a portion passing through each lamp to the other side of the circuit, where all these portions are reunited. Where such lamps are connected in series, all the current must flow into the terminal of the first lamp, and out at the other, and so on through the successive lamps.

It also appeared impossible to obtain a perfect inductive balance in a metallic telephone circuit when the bell magnets and telephone were connected in series, and such inductive disturbances manifested themselves generally in annoyances, and sometimes were so intense as to prevent conversation. Now, it would seem that if, instead of the series circuit connection for both call magnets and telephones, a multiple circuit or bridging connection after the manner of the simplest form of incandescent lighting was substituted, these difficulties would be avoided; but the conditions were different, since in a telephone circuit each station is both a generating and a utilizing one at the same time. Therefore the generating currents are likely to be short-circuited by the nearest bridge connection, and thus fail to reach the more distant station which it is desired to signal. The additional fact that two diverse uses are to be made of the current at the same station, viz. signaling and transmission of sound, and that they are to be used interchangeably between all the stations, renders necessary the addition of other means and factors to simple mere parallel arrangements. To overcome these difficulties, the patentee suggested a simple and efficient remedy. He adopted the multiple circuit plan, and at each station placed a permanent bridge, in which he seated a bell magnet, with a high co-efficient of self-induction and of marked impedance. He also provided two other bridges, which were normally open, and closed only when the station was in use. The generator bridge circuit was adapted to be closed while a call was being sent. The third or telephone bridge circuit was open when not in use, but closed in multiple arc with its own bell magnet, and, of course, with all others in the line, when in use. When the call generator is used at a station, it forms a second bridge or cross connection between the wires in parallel circuit with the permanently closed bridge circuit of its own bell and all other bells on the line. Now, the natural tendency of the ringing current would be to short-circuit through its home call-bell bridge, and possibly through the nearest other call-bell bridges. This, of course, is highly undesirable, as it is necessary that all of the call bells of the system should be operated by the call generator of each station. The tendency of the current to thus short-circuit is counteracted in Carty's system by the high self-induction and impedance of the bell magnet which opposes the passage of the call current, and effects a more even distribution of it through the bell magnets of the system. By virtue of numerous windings of the wire in the bell magnets, the small portion of the call current passing exerts a marked magnify-

ing effect on the cores, and thus secures a more spirited working of the call signal. The means employed in the device and the mode of operation are clearly stated by respondents' witness, Mr. Miller, who says:

"I am acquainted with this patent. It shows and describes a method of attaching telephone instruments in multiple between the two sides of a line, whether this line be a metallic circuit or a grounded line. The call bells are each permanently bridged between the two sides of the line, and are made of high resistance and retardation. The generator at each instrument is in a separate bridge circuit, which is normally open, but closed when the generator is operated. The telephonic apparatus proper is in a third bridge circuit, which, like the generator circuit, is normally open. The telephone circuit of each instrument is automatically closed when the receiver is removed from its hook for use; and this operation also closes a local circuit containing the primary of the induction coil, the local battery, and the transmitter. In order that there shall not be an undue leakage of the voice currents through the permanently bridged call-bell circuits, the magnets of these call bells are wound to a high resistance (usually 1,000 ohms), and are also constructed in such manner that they will have a high co-efficient of self-induction. When a generator at any one station is operated, it is connected across the two sides of the line in parallel with all of the call-bell magnets on the line. Part of the currents in this generator will therefore pass through each of the call-bell magnets on the line, thus causing them all to operate if the amount of the current generated is sufficient to accomplish this result. The successful operation of this system depends on the fact that a coil possessing a high co-efficient of self-induction will transmit with comparative ease alternating or pulsating currents of low frequency, while it will form a practical barrier to similar currents having a very high frequency. The currents generated by the calling generator at any station are of sufficiently low frequency to pass with comparative ease through the call-bell magnets arranged along the line, while the rapidly alternating voice currents impressed upon the line by the telephonic apparatus at any station will be compelled to pass over the main line to the receiving station without being materially weakened by leakage through the call-bell magnets. At the receiving station, these voice currents will pass through the telephone receiver and secondary coil of the induction coil, these being connected across the line at that station by virtue of the receiver being off its hook. This path through the receiving instrument is of comparatively low resistance and retardation, and thus practically takes all of the current from the distant station."

As we have stated, the patent is assailed as lacking novelty and patentability. The grant of this patent is prima facie proof of the novelty and patentability of the invention therein disclosed (see Seymour v. Osborne, 11 Wall. 516, and cases cited in note to 3 Rob. Pat. § 1016), and, in absence of contervailing proof to the contrary, its prima facies must prevail. An examination of the many alleged anticipations does not disclose the particular combination here shown, or overcome such prima facies. If any or all of them might have suggested a combination of means and the placing of them in the relation shown in the device, it is not proven that any one so placed them. None of the elements composing the combination are in themselves claimed to be new. It is the combination of them in new relations, and the securing a new and useful result thereby, that constitutes the basis on which the patent rests. It goes without saying that if each element of the combination can be found in the old art,—if all of them, abstractly and separately considered, perform the same function they did in the old art,—this will not tend to defeat the patent if the old individual elements are here

brought into novel combination with each other, and their conjoined functions produce a new result. Such novelty, if the change involves patentability, constitutes ground for a valid patent. It follows, therefore, that to find in the prior art each element in isolation is not to anticipate the work of a patentee who, by the inventive act, first evolves combination out of isolation. In discussing the prior art, Mr. Miller, after describing the working of Carty's device as we have quoted, says:

"I find the principles governing the effects of coils having a high co-efficient of self-induction upon currents of high and low frequencies to be very clearly stated in various text-books and patents prior to the filing of Mr. Carty's application."

The critical and intelligent analysis of the prior art by Mr. Miller warrants that conclusion, but it by no means follows that knowledge of those principles is an anticipation of a combination wherein those abstract principles are used in new concrete relations, and thus made to produce new results.

Now, none of these alleged anticipations show the device of Carty. Varley's English patent, No. 1,044, of 1870, simply states a principle made use of by Carty, but concededly old; and it is clear that Varley's application of that principle would not suggest to a mere improver the device of Carty. The German publication, "Das Telephon," of 1886, shows, without reference to detail of construction, two sets of telephones,—one connected in series, the other in multiple. Without reference to other matters, it is sufficient to say that no use of high impedance bells is shown, and, beyond the principle of multiple connection, it has no inherently necessary feature in common with Carty.

Attention is next called to the publication, "The Telephone," by Pierce & Maier, London, 1889. Among other essential requirements to constitute such a prior publication as will defeat a patent, it is essential that it contain a description of the complete and operative art or instrument so precise and particular that any person skilled in the art to which the invention belongs can construct and operate it without experiments, and without the exercise of inventive skill. Unless a publication possesses all these characteristics, it does not place the invention in the possession of the public, nor defeat the claim of the inventor to a patent. *Cohn v. Corset Co.*, 12 Blatchf. 225, Fed. Cas. No. 2,969; *Seymour v. Osborne*, 11 Wall. 516. And the descriptions must be read in the light of the then knowledge. *Betts v. Neilson*, 3 Ch. App. 429.

Tested by these standards, it is quite clear that this publication will not and should not avail to defeat this patent. It does not disclose the device of Carty. While it speaks of the electrical difficulties as "very easily overcome by means of properly proportioned fixed resistance coils placed in the different sections of the circuit"; that "the electro-magnet inertia of the apparatus itself is here utilized"; and that "it operates the receiver; it chokes the current across the bridge, and so makes the working currents pass along the line."—yet, when we come to examine, we find these "properly proportioned fixed resistance coils" to be a very different thing from Carty's call-

bell magnets. The former are only determined by tedious calculations made by technical men, and must be adjusted to each individual line, while the high impedance bell of Carty can be installed on any suitable line without reference to its length, or to the number or location of stations. Moreover, the book or its drawings do not disclose how the telephone transmitting and receiving devices or the call-current generator or the signal-receiving apparatus are used or adjusted with relation to each other, or to the entire system. It is quite manifest from a detailed examination of the work that Carty's device was not given to the world by this publication, and it is equally clear from the statements of the authors themselves in a subsequent edition that they did not regard their system as anticipating or disclosing Carty's, if such statements were to be regarded as competent.

The other devices which are stated by respondent's witness to most nearly approach the Carty device are the divided circuit for clearing out annunciators, No. 300,144, of Scribner, and the Van Ryersburghe devices, for combined telegraphic and telephonic service, patents Nos. 306,665 and 323,239. Using the method pointed out in the Scribner patent, we are unable to find any anticipation of Carty's device. Scribner's device was for effecting a connection in series between two subscribers through an exchange station, and affording means for signaling such exchange when the conversation was finished, that the connection might be broken. This connection was through a clearing-out drop, and this was of as low impedance as possible. Nowhere is the use of a high impedance bell suggested, and the proof is, if it were substituted for the magnet of Scribner's device, it would render talking impracticable. The bridging system of the Carty patent involved a definite and peculiar arrangement of different apparatus, operating in an original combination, to effect one specific result; while the Scribner device showed normally and designedly a different arrangement of apparatus in a wholly different mode of operation, to secure a result wholly different. Scribner's device was not intended for bridging a party-line system. To be forced to use the elements Scribner used in such reformed, variant, and abnormal relations as are not fairly disclosed by his patent, in order to approach to anything akin to likeness of Carty, tends to prove absence rather than presence of anticipation in the earlier patent. The Van Ryersburghe patents refer to a joint telephonic and telegraphic system. We do not find the Carty combination there employed. The system shows no call-signaling apparatus whatever. On this point complainant's expert says:

"The telephone instrument, 20, here shown, is represented by a receiver only, but there can be no question whatever but that a battery transmitter is also used, and very probably additional signaling instruments for those telephone instruments also."

But to show anticipation, and strike down a patent, we should have something more certain than probabilities. The call-signaling apparatus of the Carty system is so vital to its use that either it or its substantial equivalent should be found in the alleged anticipation, to constitute it a real anticipation. It would seem that the two sys-

tems were for different purposes, and their methods were diverse in detail. Moreover, the Van Ryersburghe system was for the simultaneous transmission of telephone voice currents and telegraphic signaling currents. The Carty system of sending call signals could not be used in connection with Van Ryersburghe's systems. It is therefore apparent that in no fair sense can it be said that Carty's device was anticipated and given to the world by Van Ryersburghe's. Being therefore of opinion that the defenses alleged have not been made good, a decree should be prepared in favor of the complainant.

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EVERETT PIANO CO. v. GOEPEL.

(Circuit Court, S. D. New York. July 7, 1898.)

PATENTS—CONSTRUCTION OF CLAIM—INFRINGEMENT—PIANOS.

The French and Nalence patent, No. 515,426, for a piano attachment, whereby a nonresonant flexible strip, carrying a metallic striker, is interposed between the hammer and the string, so that the hammer strikes the strip on one side of the striker, for the purpose of modifying the tone to resemble that of a guitar, mandolin, zither, etc., by means of a secondary or double stroke on the string, *held* not anticipated, valid, and infringed.

This cause comes here on final hearing upon pleadings and proofs. The suit is brought for infringement by defendant of the three claims of letters patent No. 515,426, granted February 27, 1894, to French and Nalence, for improvements in piano attachments.

Charles E. Pickard and M. B. Philipp, for complainant.

W. C. Hauff, for defendant.

LACOMBE, Circuit Judge. The specification thus describes the invention:

"Our invention relates to piano attachments for changing the tone of a piano, causing it to resemble a guitar, mandolin, zither, etc. To this end we arrange on the piano a series of strips of flexible material, each having on it a metallic striker. These strips are connected to a bar operated by a pedal, by which they can be moved so that the ordinary hammer of the piano will strike the flexible strip. The strip thus kills the tone which would otherwise be produced by the string, but the metallic striker on the strip striking the string produces the modified tone which we desire. A reverse movement of the pedal withdraws the strips, leaving the hammers free to strike the strings in the ordinary manner, and produce the ordinary tone of the piano."

Then follows a description of the drawings and of the mode of operation of the parts, in which it is stated that:

"The hammers strike the material of the strips above the striker [i. e. between the striker and the point of attachment of the strip], and press it against the strings. The soft strip kills the effect of the blow of the hammer on the string, but the hard striker is thrown against the string and produces a tone. By the use of a metallic striker, we secure a characteristic tone produced by the metal striking the metal strings."

The claims are:

- (1) In a piano, in combination with the strings, a series of nonresonant, soft, flexible strips having hard strikers or buttons on that face next to the strings, and hammers to act upon the strips to one side of the said buttons.
- (2) In a piano, the combination with the strings of a series of nonresonant,