

v.34F, no.10-51 AMERICAN BELL TEL. CO. *ET AL.* V. SOUTHERN TEL. CO. *ET AL.*

Circuit Court, E. D. Arkansas.

April 21, 1888.

1. PATENTS FOR INVENTIONS—TELEPHONES—INFRINGEMENT.

The Bell telephone patent, having been held by the supreme court to extend the idea of, and not the mere device for, the transmission of vocal sounds by means of electrical undulations which are similar in form to the air vibrations that constitute the sounds to be transmitted, defendants' instruments, which, although in some respects different from the Bell patent, produce electrical changes corresponding to the vibrations of sound waves caused by articulate speech, must be held to be an infringement of the Bell patent.

2. SAME—LACHES.

Defendants resisted an application for a preliminary injunction on the ground that complainants were guilty of laches. Defendants engaged in their enterprise in the summer of 1885, and this suit was brought in the fall of 1887. For

two years before suit defendants had been in operation, and had built up a business of 400 telephones. The fact that they were establishing the business was well known to complainants, who took no steps to restrain them. But, before and at the time defendants began their business, complainants and their patentee were carrying on litigation in several courts of the United States, and in many ways were vigorously asserting and enforcing their claims, and a case involving the validity of that patent was then pending in the supreme court, all which facts were well and publicly known. *Held* that, as defendants chose to rely upon their belief that the supreme court would hold the Bell patent invalid, they could not complain of the consequences of a different decision, nor urge laches on the part of the complainants, and the injunction should issue.

In Equity. Bill to restrain infringement of patent.

James J. Storrow, John McClure, and Eben W. Kimball, for complainants.

U. M. Rose, Casey Young, and Jefferson Chandler, for defendants.

BREWER, J. When I came here I did not expect the burden of this case to fall on me, but thought I had only come to assist my Brother CALDWELL, and advise with him. But the circumstances were such that it seemed necessary that I should take the sole responsibility, and that he should look after other matters pending, aside from this case. I did not want to take the Case. I avoid patent cases when I can. And yet this happened to be one involving questions to which my attention has been directed as a matter of intellectual interest for the last two or three years; and from time to time, as the opinions of the various courts have been announced, I have examined each opinion, and studied with interest and curiosity the various questions presented and passed upon. When this bill was filed, no decision had been announced by the supreme court of the United States, although several opinions had been promulgated by circuit courts, and hence much of the testimony taken in this cause was with reference to matters which it was apparently thought might be presented for examination here. But on the 19th of last month the supreme court decided the *Telephone Cases*,¹ and that decision puts out of consideration many matters that would otherwise be fair subjects for discussion. Of course, the decision in that cause is not a final adjudication as between these parties. The proceeding there was *res inter alios acta*, and not conclusive upon this litigation. Many questions of fact which, as between the parties thereto, were settled,—such as the question as to the priority of discovery,—are not settled as between these parties by that decision. That question is still so far open that when that court has a new case before it, if brought between other parties, and upon different testimony, it may declare that Mr. Bell was not the first discoverer and inventor. Thus the supreme court, about two years ago, after a careful investigation, sustained what is known as the “Drive-Well Patent,” but in the next year the same court declared that patent void, because the testimony showed the entirely new fact of a prior public use. Some years ago I sustained the Glidden patent for barbed-wire fence. Afterwards Judge SHIRAS held it invalid, because of a prior use and invention not shown in the case before me. But it unquestionably appears from.

the decision of the supreme court, not only that it upheld Mr. Bell's patents, but that after carefully considering its construction it gave it a very broad scope. In cases, even, between other parties—certainly on motions for preliminary injunctions—that decision must be accepted as conclusive, unless perhaps there should be developed unexpectedly a clear showing of new matter. If, for instance, in this case there was presented something which was absolutely new in this litigation, something that was very clear and conclusive, this court might refuse an injunction, notwithstanding the decision of the supreme court affirming the validity and determining the scope of that patent. But in all ordinary cases on an application for a preliminary injunction the decision of the supreme court must be accepted as conclusive, both as to the validity of the patent and as to its scope and extent. That relieves me of much labor.

I understood the counsel in their argument to state that from previous decisions it must have been expected, and that it was expected, by the profession generally, that the supreme court, if it found against the validity and priority of Mr. Drawbaugh's claim, would sustain the Bell patents as broadly as they have been sustained. This may have been the expectation and belief of the bar in the east, but I am inclined to think, from conversations with members of the bar who have given this matter investigation, that that was not the expectation here, and that the belief was that even if the patent was sustained, and Mr. Bell decided to be the first who made the invention, the patent would be so limited as to make it a patent for the particular apparatus described, or for the particular and limited mode which was embraced and developed in the precise apparatus shown. But I think no man can read this opinion of the supreme court and compare it with other deliverances of that court upon patent cases without perceiving that, in language as clear and potent as it is possible for language to be, it has affirmed the validity of the patent, and has decided its scope, without limiting it to the mere apparatus, and has held that it extends to his whole method of transmitting and reproducing vocal sounds. His method, as he states it in his patent, and as the supreme court construes it, covers the whole matter of the telephonic transmission of speech, because the essential part of it consists in the transfer to the electric current, and the transfer by that current, of the vibrating motions caused by the human voice in the utterance of speech. Let me turn now to the opinion. The chief justice says:

“The important question which meets us at the outset in each of these cases is as to the scope of the fifth claim of the patent of March 7, 1876, which is as follows: ‘The method of an apparatus for transmitting vocal or other sounds telegraphically, as herein described, by causing electric undulations, similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth.’”

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That is the idea of the transmission of these sounds by means of electrical undulations which are “similar in form” to the air vibrations that constitute the sounds to be transmitted. The court continue:

“The question is not whether ‘vocal sounds’ and ‘articulate speech’ are used synonymously as scientific terms, but whether the sound of articulate

speech is one of the 'vocal or other sounds' referred to in this claim of the patent. We have no hesitation in saying that it is, and that, if the patent can be sustained to the full extent of what is now contended for, it gives to Bell, and those who claim under him, the exclusive use of his art for that purpose, until the expiration of the statutory term of his patented rights. In this art—or, what is the same thing under the patent law, this process, this way of transmitting speech—electricity, one of the forces of nature, is employed, but electricity, left to itself, will not do what is wanted. The art consists in so controlling the force as to make it accomplish the purpose. It had long been believed that if the vibrations of air caused by the voice in speaking could be reproduced at a distance by means of electricity, the speech itself would be reproduced and understood. How to do it was the question. Bell discovered that it could be done by gradually changing the intensity of a continuous electric current so as to make it correspond exactly to the changes in the density of the air caused by the sound of the voice. This was his art. He then devised a way in which these changes of intensity could be made, and speech actually transmitted. Thus his art was put in a condition for practical use. In doing this, both discovery and invention, in the popular sense of those terms, were involved; discovery in finding the art, and invention in devising the means of making it useful. For such discoveries and such inventions the law has given the discoverer and inventor the right to a patent—as discoverer, for the useful art, process, method of doing a thing he has found; and as inventor, for the means he has devised to make his discovery one of actual value. Other inventors may compete with him for the ways of, giving effect to the discovery, but the new art he has found will belong to him, and those claiming under him, during the life of his patent.”

That is, the intensity of the current was changed in accordance with the form or character of each vibration. And then, again, the language of the court implies, what seems to me from my study of the telephone to be a necessary physical fact, that in no other way can electricity be actually made operative to convey those peculiar vibrations. That is the main idea of the patent. There must, of course, be something more than the bare idea; there must be some machine to make it practically useful. But the patent is not limited to the employment of it by that particular apparatus. The court further says:

“An effort was made in argument to confine the patent to the magneto instrument, and such modes of creating electrical undulations as could be produced by that form of apparatus; the position being that such an apparatus necessarily implied a closed circuit, incapable of being intermittent. But this argument ignores the fact that the claim is—*First*, for the process; and, *second*, for the apparatus. It is again said that the claim, if given this broad construction, is virtually 'a claim for speech transmission by transmitting it; or, in other words, for all such doing of a thing as is provable by doing it.' It is true that Bell transmits speech by transmitting it, and that, long before he did so, it was believed by scientists that it could be done by means of electricity, if the requisite, electrical effect

could be produced. Precisely how that subtle force operates under Bell's treatment, or what form it takes, no one can tell. All we know is that he found out that by changing the intensity of a continuous current, so as to make it correspond exactly with the changes in the density of air caused by sonorous vibrations, vocal and other sounds could be transmitted and heard at a distance. This was the thing to be done, and Bell discovered the way of doing it. He uses electricity as a medium for that purpose, just as air is used within speaking distance. In effect, he prolongs the air vibrations by the use of electricity. No one before him had

found out how to use electricity with the same effect. To use it with success it must be put in a certain condition. What that condition was he was the first to discover, and with his discovery he astonished the scientific world.”

Then the court quotes from some of the scientific commendations, and adds: “Surely a patent for such a discovery is not to be confined to the mere means he improvised to prove the reality of his conception.” It follows, and this, to my mind, is supreme as to the scope of the patent, that by its terms, and by the decision of the court, it covers the idea of the transmission of the vibrations of articulate sounds by undulatory currents of electricity. These undulations are the means of reproducing human speech at a distant point, because they repeat electrically the same vibrations. The sound vibrations are, so to speak, converted into corresponding and similar vibrations of electricity, as though these forces of nature, though different, were convertible, and what was done by the one could be, and in the telephone was, copied by the other. The idea was that when the vibrations created by the organs of speech acted on the electrical current they set up in the electrical force the same variations or vibrations, transferred these vibrations to the electricity, which in turn transferred them to the distant point. That is the idea on which Mr. Bell’s instrument is based. The difference between putting into the current of electricity undulations which are copies of the vibrations caused by the human voice, and using a regular and uniform current of electricity, merely broken up by intermissions, or what is called a “make and break,” is very clear. Take the old Morse instrument. In that the currents of electricity are uniform; they are merely made and broken, and there is nothing like any change in form or strength. Suppose we load each barrel of a revolver with a bullet of the same size, density, and shape, and shoot one after the other, they impact upon the object on which they strike with successive blows which are uniform, systematic and regular. When a current of water flows through a pipe, if we suddenly turn a stop-cock we simply break the current; as soon as it is opened, and the water moves again, it flows with a uniform motion, and makes only a similar impression upon a far-off object. But Bell’s idea of the transmission of sound is that the vibrations are irregular and different for each word; somewhat as if you put a paddle in the water and wave it backward and forward irregularly. Then the wave-like motion of the water is like that of the paddle. That is Mr. Bell’s idea. The wave-like changes in his current are irregular, just like the irregular to and fro movement in the air which produces his electrical waves. That is what the supreme court says his patent is for. He takes a current of electricity which is uniform and regular, and continuous in its flow, and changes that current by the vocal impulses, such as are made by articulate speech; so that the current, instead of being simply continuous and uniform, corresponds exactly with the variations of the vibrations in the air. Looking at it from that stand-point, it seems to me impossible to transmit human speech by electrical currents

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otherwise than by giving to those currents variations harmonious with and corresponding to the various vibrations of the air. It would be impossible to do it by sending

regular and uniform currents merely broken up. If you should merely break up a uniform current, preserving in successive volumes its uniformity of flow, it would be a physical impossibility ever to transmit speech by means of it; for it seems a physical impossibility ever to transfer human speech otherwise than by getting the current itself to correspond to the peculiarities of the vibrations which constitute that speech, and which the current must transfer. That there is in all articulate speech something that may be called a "pause" between one vibration and another, and that that infinitesimal pause will cause a corresponding instant of no motion or no change in the electrical current which transmits that speech, is obvious. When I speak there is not, in one sense, an unbroken and continuous flow of sound. In every vibration of the air there is an instant when, having moved in one direction, it ceases to do that, and begins to move in the other; and so, in an electric current which copies that vibration, there would be the same corresponding infinitesimal break and flow again. And besides that, between each sound, or between each word or each syllable, there is a pause in the air vibrations, and so there would be in the electric undulations which copy them. But that is not a broken current, like the current of the Morse telegraph. When we speak of a continuous current in the telephone we mean a current which has such continuity as the air vibrations and motions have in speech. It was argued at the hearing that the defendant's instrument had breaks of current which accompanied the various changes in the motion of the instrument acted on by the voice. It was said that the use of the induction coil showed that there were breaks in the currents, and also that there were two separate circuits, the primary and the secondary, and that the current did not flow, and was not continuous, from one into the other. Neither of these considerations are new in this litigation. Both were presented to the supreme court. Suppose all that to be true, just as stated. If the supreme court had decided that there must be only one current, and that the current must be absolutely continuous, there might perhaps be force in that contention. But the idea which the supreme court rested on was that of a current continuous and undulating in the sense in which I have described it, like the vibrations of the air, corresponding to its motion, and not "merely" intermittent. It would not make any difference, in my opinion, if there were half a dozen currents co-operating with each other, so that at the last the transmitting current took up the undulations corresponding to the air vibrations, and carried them to the distant point. The idea expressed by the supreme court is that stated by the language of the specification: Causing and employing electrical undulations "similar in form" to the air vibrations accompanying the vocal or other sounds to be transmitted. That is the idea. That is the art or method which is patented; the same variations in the electricity as in the air,—similar to the changes in the air vibrations, and co-extensive with them. To one who has read this opinion of the supreme court with that view of the operation by which speech is transmitted, there can

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be but one conclusion as to the fact that the various instruments which are used by these defendants infringe. Whatever

else they do or do not produce, they produce electrical changes which correspond to the vibrations of sound waves caused by articulate speech, and those are the “undulations similar in form to the air vibrations” described in the patent. Thus far I have very little trouble in reaching a view which disposes of this part of the case.

The other question is more embarrassing, and that is whether a preliminary injunction under the circumstances of this case would be proper. These defendants engaged in this enterprise in the summer or fall of 1885. This suit was brought in the fall of 1887. For two years before this suit was instituted the defendants had been in operation, and had built up a business of some 400 telephones. The fact that it had established or was establishing its business was well known to the Bell Company, and still no suit was instituted for a period of two years. Generally, a doubtful question of fact ought not to be settled on *ex parte* affidavits. In this application for an injunction the case is presented on both sides by affidavits, and affidavits are not very reliable testimony. The case, it is urged, ought to wait until the witnesses could be examined and cross-examined”, and only after that full investigation, which is more certain of eliciting the truth, ought an injunction to be issued. At the hearing the important question which the counsel relied upon as doubtful was whether the process by which their instruments transmitted speech consisted in the use of undulatory waves, or of the absolute make and break of a current which was uniform between the breaks; and they urged that that question ought not to be settled on a preliminary investigation, or by any means short of a full hearing upon the examination and cross-examination of witnesses. Where there is a doubtful question of fact the court will generally wait until witnesses have been produced and been examined and cross-examined. And if this case was a case which turned upon the weight to be given to the testimony of witnesses on such a subject, the argument would be forcible. Suppose that I entered into, or claim to have entered into, possession of a tract of real estate, and, having left it, come back 20 years after, and upon the question of an injunction the defendant claims a continuous occupation, and I produce affidavits and he produces affidavits as to whether there was actual entry and possession by me at that distant time,—that presents a question that in the very nature of things may be doubtful, and affidavits on such a matter may control the courts very little. It is a question that particularly presents a subject for cross-examination of the witnesses. But I have had enough experience in patent cases to know there never was a patent of any intricacy in which experts could not be produced on either side, men of intelligence and scientific acquirements, ability, and integrity, who would file their affidavits on one side or the other. But no amount of that kind of evidence, as a rule, will overcome what the court can clearly learn from an intelligent examination of the instruments themselves. The examination of those instruments, with the explanations given by Mr. Young and Mr. Storrow, on one side and the other, in regard to the respective apparatus, is testimony that is full and satisfactory. You see the instruments, and

you examine them to ascertain the process, with the explanations of these gentlemen, who are fully competent to explain. This is not a case where the investigation is surrounded with doubtful questions of fact, which could be cleared up by cross-examination of the witnesses.

Another argument urged against this motion is that of laches, and rests upon the delay of complainant. A man who stands by and sees his neighbor go onto his land and dig a cellar and put in a foundation and build a house, and waits from day to-day and month to month and year to year, and says nothing to restrain him from the use and waste of his money, and afterwards wants to turn round and take his money and the products of his labor and time, does that which shocks any man's sense of right. If he knew this man was using his time, labor; and money to improve his property, he should have tried to restrain him; then, if the trespasser still persists, it is the trespasser's own fault. The defendants claim that the plaintiffs did not bring their suit until two years after the defendants built their exchange, and that is the fact. But no definite length of time constitutes laches. This defense always depends upon the circumstances of the case. If these defendants had proceeded to make their investment, believing that they had a right to use their telephones, and believing that no claim was made to the contrary, and had been led into this condition by inaction and silence on the part of the plaintiffs, with full knowledge of what the defendants were doing, of course it would be unfair to stop them now, before the case is tried in the usual way. But in this case the fact that Mr. Bell had these patents, and that he was insisting upon his claims in the broadest extent, as broadly as he does now, and was carrying on litigation in several courts of the United States, and that several courts in the various circuits had confirmed their validity and their scope as he contended for it, and that a number of these cases were pending in the supreme court of the United States, and that most earnest and vigorous proceedings were being carried on by the Bell Company to enforce its claims, and that one department of the government was affirming fraud in the patents, and was about to institute proceedings for the purpose of canceling them,—these matters were of common knowledge. The defendants, in the face of those universally known facts, and, it is proved, with actual knowledge of the existence of the litigation and the decisions, and of the fact that litigation was pending in the supreme court of the United States, which would sooner or later be determined, entered into this business. They say they believed that the patent would be decided to be void, and that they believed that the government suit would be a protection; and I have no doubt they believed this. If the patent had been defeated in the supreme court, there would be no injunction; and they would be free. But this was one of the matters to be determined by that court. Under those circumstances, can it be said, when these suits were finally determined and Mr. Bell sustained to the fullest extent claimed by him, that he should be answered here by the claim that, as he had waited until his rights were determined,

he was too late to enforce them; and, because the defendants had infringed for two years during the litigation they

were watching, they should not be interfered with for six months, or nine months, or some other time afterwards. It is a case where, to use a common phrase, a man buys into a lawsuit, and must take his chances of the result; for here the defendants knew all about the litigation, and what the consequence of a decision by the supreme court must be, and based their expectations on the belief that the litigation would terminate adversely to Mr. Bell. But it has ended in his favor.

This case is of much importance, and I have heard several days' argument on the motion, and given it all the consideration possible during the week. It is evident from what has been said that the complainants are entitled to the preliminary injunction asked for, and it is granted.

¹ 8 Sup. Ct. Rep. 779.