

ROOSEVELT *v.* LAW TEL. CO. AND OTHERS.

*Circuit Court, S. D. New York.*

December 19, 1887.

1. PATENTS FOR INVENTIONS—INFRINGEMENT—GALVANIC BATTERIES.

Under letters patent No. 234,413, for an improvement in galvanic batteries, complainant's device, an electro-negative pole to a galvanic battery, consisted of two plates composed of carbon and peroxide of manganese, holding between them a conducting plate of carbon. Defendants' device consisted of two plates of carbon, holding between them a conducting plate of carbon, arranged similarly to plaintiffs. *Held*, that defendants' device was an equivalent to complainant's, and was therefore an infringement of complainant's patent.

2. SAME—EQUIVALENTS.

If two devices perform the same functions in substantially the same way they do not cease to be equivalents because one performs them in a better manner than the other.

Action for the infringement of letters patent No. 234,413, brought by Alfred Roosevelt, as executor of Hilborne L. Roosevelt, assignee of Georges Lionel Leclanché.

*E. N. Dickerson, Jr.*, for complainant.

*James A. Skilton*, for defendants.

COXE, J. This is an action of infringement, founded upon letters patent No. 234,413, granted to the complainant's testator, as assignee of Georges Lionel Leclanché on the sixteenth of November, 1880, for an improvement in galvanic batteries. The invention relates to an improvement upon the well-known Leclanché battery. The porous cup, previously used, is discarded, and in its place are substituted compressed chemical conglomerates, which form, in connection with a central carbon-conducting plate, the electro-negative pole of the battery. These conglomerates are composed of a metallic salt, in combination with the peroxide of manganese, carbon, and some adhesive material. This compound is placed in moulds, and, while being subjected to about 100 deg. centigrade, is pressed by hydraulic pressure into flat or slightly hollowed plates. These plates are, by means of India rubber bands at top and bottom, held firmly against a carbon conductor, and at the points of contact are themselves, preferably, faced with pure carbon. They are so constructed and combined that the exciting saline solution can circulate around them. The battery cell is provided with a cover adapted to hold and support the positive pole, which consists of a zinc rod, and also the carbon conductor, to which the conglomerate prisms are attached. It is asserted of a battery so constructed that it possesses very strong electro-motive force, and perfect electrical conduction. It can be easily cleansed, and, new conglomerates quickly substituted for those which may become worn out. The patent contains seven claims, The first three refer specifically to conglomerates containing a metallic salt, in combination with other constituents. The sixth and seventh are not limited to conglomerates so constructed, and relate to the particular arrangement of the prisms in connection with the conducting plate. It is not asserted that the defendants infringe any of these claims. The fourth and fifth are the only claims in controversy, and are in the following words:

"(4) The improved electro-negative element shown, which consists of two conglomerate bodies, united with and surrounding a central conducting plate, substantially as described. (5) In an electric battery, the combination of a cover adapted to close the cell containing the exciting liquid, with a zinc pole and an electro-negative pole, which consists of a central carbon plate, and two electro-negative conglomerates attached thereto, both of said positive and negative poles being supported by the cover, substantially as shown and described."

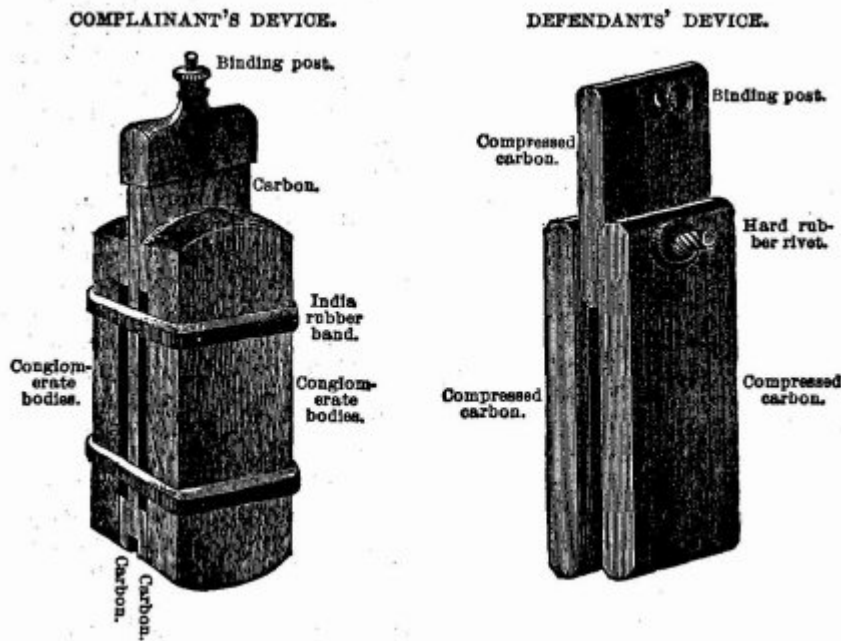
The defenses are lack of novelty and non-infringement. A number of prior patents and exhibits have been put into the record, which it is unnecessary to consider in detail, for the reason that it is not pretended that any one of them discloses the combinations covered by the fourth and fifth claims. Indeed, the expert witness for the defendants testifies that if these claims are construed to Cover a central conducting plate of carbon, when

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combined with two other plates composed wholly or partly of granulated carbon, united together by a binding material, so

that a constant contact is maintained between the center plate and the side plates, he finds no combination in the prior art which anticipates it. As no broader construction of the claims than this is demanded, as the conclusion is concurred in by the expert witness for the complainant, and as nothing is disclosed by the record which casts a doubt upon its accuracy, it is thought that this branch of the case may with propriety be rested at this point. One exception, however, should be noted. In giving the answer referred to, the witness excluded from consideration all reference to the Rodgers exhibit, and the proof relating thereto. It is probable, if the testimony of Rodgers could be accepted in its entirety, that the invention of the patent would be fatally limited, if not, indeed, completely anticipated. But prior use by Rodgers is not established by testimony which commends itself to the court. Neither orally nor upon the brief does the learned counsel for the defendants argue that the Rodgers battery was made prior to the Leclanché invention, or that the story of Rodgers is entitled to credit. The evidence is without satisfactory corroboration. The principal witness upon the subject is impeached generally, and contradicted specifically; and it is sufficient to say that the court would not be warranted, in defiance of the rule which requires anticipation to be established beyond a reasonable doubt, to accept as truth testimony from such an equivocal and tainted source. It is thought, therefore, that there can be no doubt that Leclanché was the first to conceive the combinations in question, and that they disclose sufficient of the inventive faculty to support a patent.

The question of infringement which remains to be considered is a difficult and perplexing one; depending largely for its solution upon the construction given to the claims in question. The Law battery sold by the defendants is made under letters patent No. 255,597, granted to Childs and Shaw, March 28, 1882. The negative electrode is formed of two plates of carbon, having the planes of their faces parallel. They are securely connected near their upper ends by means of a hard rubber rivet to a smaller central carbon plate, which passes through a flanged aperture in the glass cover of the battery jar. A binding post is attached to the upper exterior portion of the central plate. The points of difference and similarity between the complainant's and the defendants' apparatus, when considered mechanically, can best be seen by placing diagrams of the two in juxtaposition:



The defendants' plates are all made of retort carbon and coal tar. These are the only ingredients; no metallic salt or peroxide of manganese is found in their composition. The pieces of carbon obtained from gas-retorts are ground into powder. With these is mixed coal tar or other adhesive material. The mixture is then pressed into moulds, and baked, being subjected to a cherry-red heat, which, it is asserted, decomposes the coal tar, and converts it into carbon, leaving simply pure carbon. The small central plate is made precisely like the other plates, except that, unlike them, it is afterwards boiled in a bath of paraffine, which fills the pores, creates greater density, and prevents it from performing the functions of an electrode except as a conductor.

Considering the claims in view of the light shed upon them by the file wrapper and contents, and by the French patent, there is manifest force in the contention that they should be construed narrowly; the conglomerates being, in each case, limited to "composite bodies" made, according to the formula of the patent, of a metallic salt, peroxide of manganese, carbon, and some adhesive material. This would be "the improved electro-negative element shown" in the specifications and drawings. But there is little support for such a construction to be found in the testimony. The cause seems to have been tried by both sides upon the theory that the invention may properly be divided into a chemical and a structural improvement,—the former relating to the elements of which the prisms, forming the negative electrode, are composed; the latter, to the

manner in which these prisms are united to a carbon conducting plate, irrespective of the ingredients of which they are made, so, only, that they may fairly be regarded as conglomerate bodies, or the equivalents therefor. Dr. Morton, the chemist employed by the complainant to elucidate the scientific branch of the controversy, repeatedly states, in the course of his argument, that he finds nothing in the prior art or in the patent to restrict the claims, except to a combination of conglomerate bodies, having electro-negative properties, electrically united with a central conducting plate of carbon, in such manner that they may be readily removed and replaced by others. Mr. Keith, who has presented the argument for the defendants upon the chemical issues involved, agrees with the foregoing view to this extent, at least: he does not regard a metallic salt as a necessary ingredient of the conglomerates of the fourth and fifth claims. Both of these gentlemen have shown great familiarity with the subject, and the court is indebted to them for a very clear and able exposition of their views. Mr. Keith says: "The invention consists in forming the conglomerate consisting of a mass of particles of peroxide of manganese, \* \* \* and of particles of carbon cemented together by resin, or like cementing material, into plates which are held against a central plate of carbon." A battery whose negative electrode was without a metallic salt was shown him, and he expressed the opinion that it contained the invention of the fourth and fifth claims; and that "a prism which consists of crushed carbon and peroxide of manganese, or equivalent materials, united together by resin, tar, or gum-lac, and then heated under pressure, so as to form a compact coherent body, would be one of the conglomerate bodies referred to" in those claims. And again, when comparing the complainant's with the defendants' combination, he says of the former: "This plate [the center carbon] is old and well known. The other materials, as a whole, consist of a mixture of ground carbon, and *one or more* materials which are decomposed by the hydrogen set free by the action of the battery." Is it not quite clear that, if one of the ingredients of the Leclanché combination may thus be omitted without departing from the invention, that another may also be omitted? In other words, so far as the claims in question are concerned, the invention is not confined to the precise formula of the patent,—the essence of the invention being not a chemical, but a mechanical construction; not the ingredients which unite to form the prisms, but the manner in which the prisms are arranged, in connection with the conducting plate and the cover. It would seem a harsh and illiberal construction to limit the invention by requiring the presence of the specifically formed conglomerates in each claim. The only question, therefore, is, can the defendants' plates be properly denominated conglomerates, or equivalents therefor?

An accurate definition of the word "conglomerate" would at the outset of this inquiry, be of great value; but insufficient light is thrown upon the point at issue by an appeal to the lexicographers. It is thus defined by some of them: "Gathered together into a mass;

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collected; closely crowded together; that which is composed of stone, pebbles, or fragments of rock cemented together; a sort of pudding-stone.” It is undisputed

that the particles of pulverized carbon obtained by grinding gas-retort carbon will not of themselves, any more than particles of sand, unite without the presence of some adhesive material. It is insisted for the defendants that if this material is identical in chemical composition with the fragments cemented, that the mass, when formed, is not a conglomerate mass, that, in order to make it such, the adhesive substance must be practically of another kind or constituent. And it is argued that it is not material whether the defendants' plates, when put into the moulds, are conglomerates, for, during the baking process, the tar is converted into carbon, so that, when the plates are placed in the battery, they are pure carbon, and nothing else. It is thought, however, that there is nothing in the derivation, or in the ordinary or scientific definition, of the word, which requires that the limitation urged by the defendants should be placed upon it. An apt illustration is found in the record: A number of diamonds cemented together by carbon left by the decomposition of tar would be a conglomerate, although wholly composed of carbon. Why is not the same true of the defendants' plates, especially when it is remembered that the carbon of the gas-retort is an entirely different material from the carbon left by the cementing tar?

But, even though the foregoing position be incorrect, the complainant, under the construction given the claims in question, is in a position to invoke the aid of the doctrine of equivalents. Being convinced that Leclanché has made a valuable invention in the arrangement of the parts composing the negative electrode of his battery, the court should not permit one who has appropriated the fundamental principle, and all that is valuable of that arrangement, to escape upon merely technical grounds, or by means of a rigorously nice construction. It is true that the stipulation entered into by counsel may be construed into an admission that, prior to the patent in suit, graphite conducting plates, similar to those used by the defendants, were known equivalents for composite plates, identical in their chemical construction and functions with the conglomerates of the patent. But as the counsel for the defendants denied, upon the argument, that he intended to make such a concession, and was evidently surprised at the interpretation placed upon the language used, the court would feel disposed to relieve him from the stipulation, unless it appears that it is in exact accordance with the truth. But the record fully establishes the fact that, prior to the patent, carbon plates had been used interchangeably with a compound of carbon and peroxide of manganese in the negative electrodes of galvanic batteries. It may be true that the conglomerates of the patent, by reason of their greater porosity, possess stronger depolarizing functions than the defendants' plates; but it is not plain how this fact, assuming it to exist, can affect the questions involved. If two devices perform the same functions in substantially the same way, they do not cease to be equivalents because one performs them in a better manner than the other.



The other differences are of minor importance. If the central plate of the complainant's electrode were cut off just below the upper carbon lugs, and the prisms fastened to it by a hard rubber rivet, it would not

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cease to be the Leclanché combination, and its identity with the negative electrode of the defendants' battery could hardly be disputed.

The complainant is entitled to the usual decree.