

ELECTRICAL ACCUMULATOR Co. *et al.* v. BRUSH ELECTRIC Co.

(Circuit Court of Appeals, Second Circuit. October 4, 1892.)

1. PATENTS FOR INVENTIONS—NOVELTY—CONSTRUCTION OF CLAIMS—SECONDARY BATTERIES.

Claims 1, 2, and 3 of letters patent No. 337,299, issued March 2, 1886, to Charles F. Brush, for an improvement in secondary batteries consisting in a plate or element having active or absorptive material primarily and mechanically applied thereto or combined therewith, cannot be invalidated on the theory that the term "secondary battery" was used therein in its older and looser sense, and included batteries which were sometimes primary and sometimes secondary according to the method of their use, for the distinction between primary and secondary batteries is definitely marked and recognized, and the Brush invention was professedly an improvement over the Plante battery, which was of the purely secondary class.

2. SAME—DEFINITIONS—"PRIMARY" AND "SECONDARY" BATTERIES.

A "secondary battery" is one which has no original power of developing a current, and is active only when rendered so by sending a current through it from an independent source of electrical energy, while a "primary battery" is one which is active in virtue of the materials of which it is made.

3. SAME—PRIORITY OF INVENTION—FOREIGN PATENTS.

The invention described in letters patent No. 252,002, issued January 3, 1882, to C. A. Faure, a citizen of France, for an improvement in secondary batteries, having been conceived by the patentee in France, and being covered by a French patent issued October 20, 1880, he cannot claim the invention in this country prior to the latter date, as against a citizen of the United States who, being an original inventor, subsequently received an American patent.

4. SAME—LIMITATION OF CLAIM—DISCLAIMER.

The owner of the Faure patent in this country having, as the result of certain litigation, filed a disclaimer limiting his invention to an electrode coated with a mechanically applied layer of lead, or like insoluble substance, placed upon the supporting plate in the form of a paste, paint, or cement, prior to immersion in the battery fluid, any further discussion of the question of priority of invention between Faure and Brush is now useless.

5. SAME—ANTICIPATION.

Brush's patent 337,299 was not anticipated by the patent of April 3, 1866, to George G. Fercival for secondary battery electrodes consisting of cells filled with coarse conducting powder, and divided by a porous partition; or by the patent of April 23, 1867, to Georges L. Leclanche, for a "polarization apparatus or electrical accumulator," consisting of two plates of graphite or unoxidizable metal buried in two flasks of powdered graphite moistened with a liquid which is a good conductor, such as potash water.

6. SAME—TWO PATENTS FOR SAME INVENTION.

The Brush patents Nos. 337,298 and 337,299 were issued on the same date, (March 2, 1886;) the difference between them was the difference between "an absorptive substance, or an absorptive substance adapted to be transformed into active material," on the one hand, and "active material, or material adapted to become active," on the other. *Held* that, in view of the admitted fact that all distinction between the two disappears the moment a battery so constructed is charged or discharged, there was no substantial difference, and the two patents were for the same invention.

7. SAME—PRIORITY—PRESUMPTIONS FROM PATENT NUMBERS.

These patents were issued on the same day to the same person, and the evidence showed that it would be impossible ever to ascertain which first received the official signature that rendered it a valid deed. *Held*, that the mere fact that one had an earlier number was no proof of priority, for it merely signified that the patent office followed the alphabetical order of Brush's contemporaneous applications, and hence that one could not be held an anticipation of the other.

8. SAME—ELECTION BY PATENTEE.

Under these circumstances the owner of both patents was entitled to elect upon which one he would rest his monopoly; but having elected to rely upon No. 337,299, it became improper that No. 337,298 should be left in a condition in which it could be assigned and sold, and a final decree should be framed, which, in connection with its finding of the validity of No. 337,299, should declare 337,298 inoperative, and prohibit its assignment or sale.

9. SAME—ANTICIPATION.

The Brush patent No. 337,299 was not invalidated by patents 260,653 and 276,155, issued to him prior to 1886, for improvements subsidiary to the main invention, for their subsidiary character appears on the face of such patents, although, owing to delays in the patent office, they were issued before the patent for the main invention. 47 Fed. Rep. 48, affirmed.

10. SAME—FOREIGN PATENT—EFFECT OF EXPIRATION ON AMERICAN PATENT.

The Brush patents No. 337,299, and No. 266,090 did not expire with the Italian patent issued to him August 8, 1882; for division D of the Italian patent was designed to cover, not the main invention, but Brush's invention made in 1882 of plates specially prepared for the purpose of more rapidly forming active material thereon by the Plante method of electrical disintegration. 47 Fed. Rep. 43, affirmed.

11. SAME—LIMITATION OF CLAIM.

The Brush patent No. 266,090 must be limited to electrodes on which the active material is made by applying the Plante method of electrical disintegration, or other "forming" process, to plates which are ribbed, honeycombed, studded, or equivalently prepared. 47 Fed. Rep. 43, modified.

12. SAME—ENLARGEMENT OF CLAIMS—OVERLAPPING PATENTS.

Where an inventor makes a generic invention and also subordinate specific inventions, and presents the whole series in a set of contemporaneous applications, he cannot be allowed, by subsequent amendments couched in general terms, to enlarge the boundaries of each invention so as to extend each into the borders of another, and thus obtain a series of overlapping patents.

Appeal from the Circuit Court of the United States for the Southern District of New York. Modified and affirmed.

Frederick H. Betts and Edmund Wetmore, for appellants.

W. C. Witter, W. H. Kenyon, and Charles E. Mitchell, for appellees.

Before LACOMBE and SHIPMAN, Circuit Judges.

SHIPMAN, Circuit Judge. This is an appeal from a decree of the circuit court for the southern district of New York, which enjoined the defendants against the infringement of the 7th and 14th claims of letters patent No. 266,090, dated October 17, 1882, and of the 1st, 2d, 3d, 6th, 7th, and 12th claims of letters patent No. 337,299, dated March 2, 1886, each of said patents having been granted to Charles F. Brush for improvements in secondary batteries for the current storing of electrical energy. The applications were filed as follows: that of No. 266,090 on June 9, 1881, and that of No. 337,299 on June 13, 1881.

The subject-matter of this litigation has been three times examined by Judge COXE, in the cases of the present defendant against the Julien Electric Company, (38 Fed. Rep. 126,) of the present complainant against the Julien Electric Company, (41 Fed. Rep. 679,) and in this suit, (47 Fed. Rep. 48.) This repeated scrutiny has caused some of the questions which were presented in the pleadings to disappear from the case, while the vigor of other defenses, which have been successively supported and resisted, has become impaired. The questions which still remain for investigation are important, and, mainly by reason of the numerous patents which Mr. Brush has taken, are entangled; but the three opinions which have been written have freed the subject from much of its perplexity.

Patent No. 337,299 is the most important, and will be first considered. It solely relates to secondary batteries. A secondary battery was well defined by Judge COXE to be "a battery which has no original power of developing a current of electricity, and is active only when rendered so by sending a current, elsewhere generated, through it." Sir William

Thomson, in his deposition in the first *Julien Case*, had stated the distinction between a primary and a secondary battery, as follows: "A secondary battery is a battery which is active only when rendered so by sending a current through it from an independent source of electric energy. A primary battery is one which is active in virtue of the materials of which it is made." Electricity is chemically generated by virtue of these materials. The electrodes are unlike and inherently differ from each other electro-motively. The positive plate is dissolved in the battery fluid in which it is placed, and which is ordinarily dilute sulphuric acid. "The other electrode collects the electric energy from the liquid, and by this chemical union a current of electricity is developed." The two electrodes of a purely secondary battery are of the same kind, are not separated electro-motively, and are insoluble in the battery fluid, but, "by subjecting these elements to the action of an electric current, the two elements are differentiated and rendered electro-positive and electro-negative with respect to each other, depending entirely on which is connected with the positive pole of the charging generator and which with the negative pole thereof." The electrodes absorb either the hydrogen or oxygen which is set free from the liquid by the charging current, which in popular, though not in scientific, language, is called absorbing electricity; hence the significance of the name "storage battery," which suggests the idea of continuance or duration of use. The capacity of a primary battery to give a current is limited; it is soon exhausted; "while in the secondary battery the amount of current which may be obtained depends entirely upon the resistance of the conducting wires discharging it," and the battery may be charged and discharged for an indefinite number of times. The commercial importance of a secondary battery is easily recognized from this statement of its points of unlikeness to a primary battery.

Prior to the invention of the Brush and the Faure batteries, the only secondary battery in use was that of Plante, which was invented about the year 1860. The following statement of the chemical effect of the successive charges of the electric current upon the two plain plates of rolled or pressed lead, of which this battery was composed, is condensed from the more elaborate statement in the appellee's printed argument: The plates having been immersed in an electrolyte of dilute sulphuric acid, and having been respectively connected to the two poles of any suitable source of electricity, by means of which a current was passed through the plates, oxygen was developed on one plate and hydrogen on the other. The hydrogen passed off in bubbles, leaving its lead plate practically unaffected, but the oxygen combined chemically with the lead of the other plate until it had formed a film or skin of peroxide of lead, of a finely-divided, granular character, like rust. The skin of peroxide, operating to protect the underlying lead, soon stopped the action of the oxygen on the lead. A small current or discharge was produced, but too small to be of value. Plante ascertained that there must be correspondingly thick films on each plate. He therefore reversed the direction of his current, developed oxygen on the hydrogen plate and

hydrogen on the oxygen plate, which took away the oxygen from the oxide film and left the surface granular or spongy metallic lead. These reversed charges were repeated for days and sometimes for weeks. The result was to disintegrate, through the action of electricity, the surface of the plain lead plates, and to form spongy layers of lead thereon. This granular layer is what is called the active material of the battery; that is, material which becomes practically and actively capable of receiving and discharging electricity by the passage of an electric current. The core of the original plate mechanically supported the active material and conducted the current through it. This operation of the breaking up of the surface of solid lead plates so as to create porous coatings, in other words, of the "formation" of the active material of a battery by electrical disintegration, was the distinguishing feature of the Plante secondary battery. It occupied a long and therefore expensive amount of time, and was incumbered by other mechanical difficulties, one of which was the thinness of the layers, and another, the tendency of the layer to peel off from the plate. These minor defects were partially avoided by increasing the number and diminishing the surface of the plain plates.

The improvement described in No. 337,299 was confessedly an improvement upon the Plante battery and upon no other, and, in the language of the specification, consisted "broadly in a secondary battery plate or element having active or absorptive material primarily and mechanically applied thereto or combined therewith, as contradistinguished from a plate or element having the active material produced by the disintegrating action of electricity, as in the well-known Plante process." The mechanical application of a layer of lead oxide to each one of two lead plates, before the plates are placed in the battery fluid,—these coatings being at once active material, and ready for the charging current when immersed in the battery fluid,—was, speaking in general terms, the distinguishing feature of the Brush invention. The drawings of the patent show a plain plate, and also corrugated, ribbed, slotted, honey-combed, and studded plates of various forms. The first conception of Brush was a plain plate of lead coated with lead oxide, which was retained in position by a sheet of paper or felt, which was secured to the plate by strips of wood. The more perfected method of construction consisted in changing the plate into a ribbed or corrugated or slotted plate, and in filling the ribs and corrugations with the lead oxide, which was retained in position by being rammed or pressed into the open receptacles. The patentee deemed peroxide to be the best oxide of lead to be used, but, as it is expensive, directed that red lead might be used, and suggested that protoxide of lead or litharge might also be used.

The specification says:

"When a pair of plates such as I have described are associated together to form a secondary battery, and immersed in dilute sulphuric acid, and charged by the passage of an electric current in the usual manner, one of the plates has its coating peroxidized, if a lower oxide of lead was employed for the coating and forms the oxygen element of the battery, while the other plate has

its coating of oxide reduced to the metallic state and then absorbs hydrogen, thus constituting the hydrogen element of the battery."

The claims which are to be considered upon the present appeal are as follows:

"(1) A secondary-battery element or electrode, consisting of a plate or suitable support primarily coated or combined with mechanically-applied active material, or material adapted to become active, substantially as set forth.

"(2) In a secondary battery, an electrode consisting of a plate or support provided with a coating or surface layer of an absorptive substance, such as metallic oxide, applied thereto, substantially as set forth.

"(3) A plate or suitable support primarily coated or combined with mechanically-applied oxide of lead or equivalent lead compound, substantially as set forth."

"(6) A plate or suitable support provided with grooves, perforations, or receptacles, and primarily coated, combined, or filled with mechanically-applied active material, or material adapted to become active, substantially as set forth.

"(7) A plate or suitable support provided with grooves, perforations, or receptacles, and primarily coated, combined, or filled with mechanically-applied oxide of lead or equivalent lead compound, substantially as set forth."

"(12) The method of making plates or electrodes for secondary batteries, consisting in primarily combining active material with suitable plates or supports mechanically, in contradistinction to forming the active material by an electrical disintegration of the plate or support, substantially as set forth."

These claims describe and necessarily refer to a secondary battery as heretofore defined, a plate or support which is insoluble in the liquid, mechanically supports the active material and electrically conducts the current of electricity through it, the specified active or absorptive materials being oxides of lead which are primarily mechanically applied to the plates, and in such state of minute division as to be at once capable of being charged without previous process of "formation" by electrical disintegration.

The first question, that of novelty, brings directly into view the much discussed subject of priority of invention as between Mr. Brush and Camille A. Faure, who, in France, of which country he was a citizen, invented, in 1878, the same improvement upon the Plante battery, by the use of lead oxide, which he applied to the plates in the form of a paste or cement. His French patent was dated October 20, 1880, and, inasmuch as he was a citizen of France, he is not permitted to claim his invention before that date, as against a citizen of the United States, who, being also an original inventor, subsequently received a patent for his own invention in this country. Faure's application for a patent in this country was filed April 20, 1881, and the patent thereon, No. 252,002, was issued on January 3, 1882. Brush's application and the Faure patent were put into interference in March, 1882, in the patent office. The subject-matter involved in the interference was the fundamental principle of each invention,—that of "a plate of a secondary battery provided with a surface layer of an absorptive substance, such as metallic oxide, applied thereto." After a long delay in the office, priority was adjudged to Brush, and his patent was issued in 1886. The defend-

ant in this suit, as owner of the Faure patent, then brought suit for its infringement against the Julien Electric Company. In that suit the question of priority as between Brush and Faure was thoroughly tried. The circuit court decided that Faure was the inventor of a secondary battery electrode coated with a mechanically-applied layer of lead, or like insoluble substance, placed upon the supporting plate in the form of a paste, paint, or cement, prior to immersion in the battery fluid; that he was not the inventor of an electrode otherwise coated; and that upon filing his disclaimer, thus limiting the first claim of the patent, the accumulator company was entitled to a decree. The complainant in that case, being the defendant here, filed such a disclaimer. Faure had filed a bill in equity in the United States circuit court in one of the districts of Ohio, for the repeal of the Brush patent, upon the ground that he (Faure) was the prior inventor of the broad invention described in the first claim of 252,002. After the disclaimer, this bill was dismissed upon Faure's motion. Inasmuch as the defendant, being the owner of the Faure patent, has, as the result of a direct issue on the subject of priority, disclaimed the right of Faure in this country to the invention, except as limited, a renewal of a discussion of the question of priority is useless.

We next come to other devices which are alleged to anticipate especially the first three claims of the patent, in the event of a liberal and broad construction of those claims. This question was most extensively discussed in the record of the first *Julien Case*, with respect to the Faure patent, and has been less elaborately considered by the experts in this case, and turns upon the proper construction of the term "secondary battery." It is admitted that the definition of a secondary battery, which has been already given, is a correct one; but it is said that, at the date of the Brush and Faure inventions, the term "secondary battery" was often used by writers and scientists in a larger and looser sense, and included a battery in which electrodes of different materials are employed, and capable of yielding a current without being previously charged from an external source; that such a battery, although also a primary battery, is a secondary battery when it is used as such, and it is so used when it has become exhausted and "is regenerated or brought back to its former condition by the direct action upon itself of an independent source of electric energy." Hence it is claimed that if Brush used the term in this larger sense, and if the language of his claims is liberally construed, then, in some of the pre-existing descriptions of batteries, there are described structures which possessed the elements of a plate primarily combined with mechanically-applied active material of some sort. It is perhaps sufficient to say that such a construction of the Brush patent requires one to assume that Brush did not mean what the history of the invention and of the patent and its manifest intent make it apparent that he did mean. He is describing an improvement upon a Plante secondary battery, and upon his method of producing active material by the disintegrating action of electricity upon two lead electrodes insoluble in the battery fluid. Brush's secondary battery is Plante's sec-

ondary battery improved, and his language is to be read in the light of that fact and the fact that he was speaking only of a current-storing device. It therefore serves no useful purpose to strive to show that the Brush patent was anticipated because some pre-existing scientist had described a battery which corresponds with the general phraseology of the claims, provided their language should be so construed as to include the class of batteries which has been mentioned, a construction which is forbidden by the history of the invention and by a disinterested examination of the patent.

Passing by, therefore, batteries of the primary type, the structures of another character, which are in this case deemed by the defendant to bear adversely upon the Brush claims to novelty, are those described in the patents to George G. Percival, dated April 3, 1866, and to Georges L. Leclanche, dated April 23, 1867. Percival's invention, he says in his patent, consisted "in substituting layers of pulverized gas carbon, or some other conducting powder, (coarse lead powder,) separated by a layer or plate of some porous substance, for the metallic plates of which the electrodes of the pole are ordinarily formed." The layers constitute the electrodes, are wet by a proper solution, and, for convenience in establishing connection with these layers, there is on each end of the box a screw cup, fastened to a slip of copper. This invention, as described, resided solely in the substitution of separate layers of coarse powder for the two metallic plates of a Plante battery. The copper slips, which when exposed to dilute sulphuric acid would be dissolved, are not plates or supports, but are mere connecting devices; the layers are not coatings of plates, and probably are to be "formed" by the Plante process of electrical disintegration. Leclanche's "polarization apparatus or electrical accumulator" is composed of two flasks, in which are placed two plates of graphite, or two plates of unoxidizable metal. These two plates are buried in powdered graphite,—a good conductor of electricity, —and moistened with a liquid which is an equally good conductor, such as "potash water." There is no similarity between Leclanche's plates and his powdered graphite, which is practically unoxidizable, though it may be minutely oxidized, and the lead plates and the absorptive oxide of lead of Brush or Faure. The Leclanche device was furthermore intended to be constantly associated with the primary battery, when in use. These structures do not affect Brush's patent 337,299. Not only the invention, as described in the 1st, 2d, and 3d claims, belongs to him, but he was the first who rammed or pressed the dry powder—the form in which his absorptive substance was used—into grooves or receptacles in the plates, as described in the 6th and 7th claims.

There being no question as to infringement, the next point relates to the validity of the various claims which are solely the subject of this appeal, in view of other patents to Mr. Brush of a prior or of the same date. On July 9, 1881, Mr. Brush filed in the patent office eight divisional applications for patents, marked from "A" to "H," inclusive, and on June 13, 1881, he filed two more applications respectively marked "Case I" and "Case J." He drew the ten original specifications himself. The

first eight were designed to subdivide his improvements upon the Plante battery into as many separate patents as practicable, and to state the subdivisions in a progressive order and system. Cases I and J were intended to describe and claim the important and generic departure from Plante. In process of time some of these applications were subdivided. Cases I and J came into interference with Faure's patent, and patents thereon were not issued until March 2, 1886. Meanwhile the other applications had become patents, and in some of the cases the specifications had been amended and rewritten, with a view to cover as large a field as was attainable. The result of this subdivision of the main invention, the alteration of specifications, and the grant of divisional patents at different dates, was to make an entangled mass of patents, which are to some extent intertwined with each other,—a confusion which has caused perplexity to experts, counsel, and judges, and which has endangered the strength and the validity of the patents themselves. As Cases I and J were originally presented to the patent office, distinction between them seemed to rest upon the difference between porous or spongy lead and oxide of lead as active materials. When the patents 337,298 and 337,299 were issued, the difference between them is that between "an absorptive substance, or an absorptive substance adapted to be transformed into active material," on the one hand, and "active material, or material adapted to become active," on the other. There is a theoretical and scientific difference between the articles which may be called "absorptive" and "active." Spongy lead has no oxygen, but will absorb oxygen, and thus become active; the oxides of lead have absorbed oxygen, and are therefore active, but "it is admitted that the moment a battery constructed with plates having either coating is charged or discharged, all distinction vanishes." As the terms are used in the electrical art, they are synonymous, and it is especially certain that, as these two patents are phrased, there is no substantial difference in the character of the inventions which are described and claimed. The attempt to draw a line of demarkation between them is ineffectual. The bill of complaint in this case originally included 337,298, but upon motion of the complainants was dismissed as to that patent. This was done after Judge Cox's analysis and criticism of the two patents in the second *Julien Case*.

The defendants insist that, as 337,298 is the earlier patent, and is for the same invention as 337,299, the latter patent is void. This conclusion would be true if the premises were true. The applications were filed on the same day, the patents were issued on the same day, and are owned by the same person. The testimony shows that it can never be ascertained which patent actually first received the final signature which rendered it a complete and legal deed; the mere fact that one has an earlier number signifies merely that the patent office followed Brush's alphabetical order; so that a judicial ascertainment of the fact of priority is impossible, and there are no known presumptions which can be resorted to upon which to base a finding. The owner of both patents has elected

to regard No. 337,299 as the one upon which it will vest its title to a monopoly, and we are of opinion that it had such power of choice. What would be the condition of separate owners of two separate and contemporaneous patents for the same invention? is a question which has not yet arisen, but it is obviously improper that No. 337,298 should be left in a condition where it can be assigned or be made the subject of sale. It has been suggested that a disclaimer should be filed, but the sections of the statutes in regard to disclaimer were not intended for, and do not seem applicable to, a case of this sort, in which the patentee was the actual and first inventor of the whole of the described and patentable thing which is specified in the patent. It therefore seems proper that a final decree should be framed in accordance with the circumstances of the case, and should, in connection with the finding of the validity of the specified claims of 337,299, adjudge 337,298 to be inoperative, and prohibit its assignment for sale.

The next defense is that the Brush patents Nos. 260,653 and 276,155 cover and include everything properly claimed and described in the first seven claims of No. 337,299. No. 260,653 was a division of the application designated as Case I, was applied for June 15, 1882, and was patented July 4, 1882. The remainder of that application was patented as No. 337,298. The single claim is as follows:

"In a secondary battery, an element consisting of a structure of *etagere* like form, containing, in the spaces between its shelves, lead in a finely-divided state, substantially as set forth."

This claim was inserted in Case I in September, 1881, at the suggestion of the patent office, and was put in interference with an application of August de Meritens, which was decided in Brush's favor on December 5, 1881. On June 15, 1882, he filed an application which contained only the claim which was the subject of this interference. No. 260,653 states on its face that it is a division of Case I in which other features of the invention were claimed, so that the public was not misled into the idea that unpatented portions of the invention had been abandoned. The specification, although the broad invention is described, and the claim show that the patent is for the *etagere* like form or series of shelves in which the finely-divided lead of Case I was held. If letters patent were to be treated by courts in the critical and hostile spirit which a plea in abatement formerly encountered, the contention of the defendant would have technical importance; but courts do not construe letters patent for the purpose of their destruction. The history of No. 260,653 entirely contradicts the theory of its breadth. The broad invention was the subject of Case I. Pending its consideration in the patent office, a subordinate claim became the subject of interference upon which a patent was issued, which proclaimed its divisional character. Subsequently the patents were issued upon the broad claims which had lingered in interference in the patent office, and it is now contended that the main invention had been in fact included in the claim for a series of shelves which held finely-divided lead. Such a construction is not demanded

by decided cases, or by known principles of law, and a limited construction, in accordance with its apparent scope, will therefore be placed upon No. 260,653.

No. 276,155 was originally Case B, and is apparently for a corrugated plate, which has an active coating electrically produced thereon, or which is provided with an active or absorbing coating. The same suggestions which have already been made apply to this patent, which was intended to include only a limited part of the improvements of Brush. Whether it anticipates the fourth and fifth claims of 337,299, which are not in issue in this litigation, is not important in this case.

The effect of Brush's Italian patent upon No. 337,299 remains to be considered. Brush applied for an Italian patent on July 28, 1882. It was sealed August 8, 1882, was issued for the term of three years from September 30, 1882, and was not prolonged. It had expired when 337,299 was issued. It was in force when No. 266,090 was issued. Under section 4887, an existing foreign patent is not a bar to a subsequent United States patent for the same invention to the same inventor, unless the invention has been in public use in this country for two years prior to the application. Existing foreign patents for a claimed invention limit the duration of subsequent United States patents for the same essential invention to the same inventor. The defendant claims that an expired foreign patent for a specified and described invention is so substantial a limitation that it is in fact a bar to a subsequent United States patent for the same invention to the same inventor, and that an expired foreign patent for a subordinate feature of a described but unclaimed invention is a bar to a subsequent United States patent to the same inventor for the generic invention, because, by not taking out his foreign patent for the generic invention, and by permitting the short-term patent to expire, he had abandoned the generic invention to the world. The interesting questions of law which are involved in these two propositions will become practically important if the facts of the case require their decision. In our opinion, the Italian patent is not the same in its essential particulars with any one of the inventions which are claimed in 337,299, and the home "patent would not be infringed by a structure made in accordance with the provisions of the foreign patent." The question in regard to No. 337,299 turns upon the character of the invention disclosed or claimed in divisions C and D of the Italian patent, particularly in division D. The alleged destructive effect of this division was the question upon which the experts most strenuously contended, the question being whether division D is the Brush battery of 1880, in which active material in the form of powder is primarily pressed into receptacles, whereby the process of electrical disintegration is superseded, or is for a different invention, made in 1882, of a secondary plate prepared by compressing partially oxidized powdered lead into a core of roughened or perforated sheet lead, so as to create a solid plate coherent and malleable, having minute seams of oxide of lead, upon which plate the active material is to be produced by electrical disintegration, the alleged improvement being to facilitate the Plante process. Another

form of the described invention was to have the solidified mass of particles constitute the entire body of the battery plate. The witnesses differed, both upon the intent and meaning of the language of this division, and also upon the result which would be attained by the process as described, the defendant insisting that, whatever pressure was brought to bear upon the partially oxidized particles of lead, the result would not be a compact plate, but a "porous mass of mingled particles of lead, and lead oxide," which would be substantially the same thing as the dry powder pressed into the receptacles of the plate of 337,299.

The language of the Italian patent, its history, and that of the United States patents Nos. 275,986, 266,762, 266,089, 262,533, which were applied for May 27, 1882, being Cases K, M, N, and O, and which are hereafter referred to as the general characteristics of division D, as distinguished from Cases I or J, cause us to believe that there is a clearly-marked separation between Cases I or J and division D, and satisfy us of the weakness of this part of the defense. The electrodes of the respective patents are different things, and one does not interfere with the other. The discussion of this question, and of the reasons which lead to our conclusion, could be greatly prolonged, but we prefer to summarize the important considerations, and as the principal reasons which led Judge Coxe to adopt the same view have also controlled us, we restate them in substantially his language:

(1) The language of the Italian patent is entirely different from that of the patent in suit. The drawings are different. (2) The inventor's statement of his intent and purpose in taking the foreign patent and his reasons for not attempting to patent the invention of No. 337,299 abroad is corroborated by his notes made at the time he was perfecting the inventions patented abroad. When these notes are placed side by side with corresponding portions of the Italian patent it will be seen that they are substantially similar. (3) The fact that a sharp distinction is drawn in No. 337,299 between the inventor's and Plante's method. There is nothing of this in the Italian patent. On the other hand, the inventor clearly intimates that the plates of division D are to be formed by the Plante process. (4) The Italian patent is capable of a narrow construction which differentiates it from the patents in suit. (5) The fact that the element of the Italian patent is produced by heavy pressure, hydraulic or otherwise, whereby the particles of lead and lead oxide are compacted into a firmly coherent mass having minute veins of oxide of lead everywhere ramifying through it, unlike the plate of the United States patents in suit. (6) The "mass" described in the Italian patent is malleable, and capable of being made into strips or wires, and manipulated so as to form any style of element. Neither the active material of No. 337,299 nor the completed plate of that patent is capable of such treatment. (7) No. 337,299 is designed to cover Mr. Brush's inventions made in the summer of 1879 and in the summer and autumn of 1880. The Italian patent is designed to cover the inventions of 1882.

Division C was for the same invention which is described in United States patent No. 261,512, originally Case F. It describes a method of providing a coating of porous metal upon the plate of a secondary battery, which metal is reduced from the oxide "through the agency of a hot atmosphere of any suitable reducing gas, and at a temperature insufficient to fuse the reduced metal." Plain or corrugated or perforated

plates may be used. Knowledge in regard to this invention must be derived from the patent alone, for apparently it has never been subjected to a crucial test by practice. It is a particular process for coating lead plates, and the coating possesses properties differing from, but intermediate between, those of spongy lead and electrically deposited coherent lead. The patent also says that these properties are similar to those of the electrically deposited metal described in division B, which are also described in United States patent No. 274,082, originally known as Case D. The peculiarities of this coating can be easily understood, for it is deposited by electrical action in the manner customary in any process of electro plating, and before the process of "forming" the plate. The coating, though porous in an electrical sense, is firmly attached to the plate, and is firm in its structure. The active layer is formed by the Plante process. The coating of division C is between this solid coating and the spongy lead, and batteries made according to this process demand a "forming" process analogous to that required by the Plante battery, for the coating must require disintegration. We do not perceive that either the principle or a subordinate feature of 337,299 is contained in division C, and it is quite manifest that any one who should make batteries in accordance with it would never be asked to defend himself against infringement of 337,299.

The question respecting 266,090 remains to be considered. The first form of Brush's broad invention of the primary mechanical application of active material to the lead core or plate was a plain plate covered with lead oxide, which was retained in position by blotting paper, which was secured to the plate by strings or strips of wood. This was obviously a clumsy and insufficient method of combining or coating the plate with active material, and the ribbed or corrugated plate was substituted, in which the oxide was easily retained in position. This more perfect form of the invention is described in the sixth and seventh claims of 337,299. The battery of these claims is the one distinctly known as the storage battery of Brush, and is the one with which the battery of the defendants, which is filled with the paste or cement of Faure, corresponds. But it is also obvious that the ribbed or grooved plate possessed advantages in a secondary battery in which the Plante process of electrical disintegration or some kindred process of "forming" was used. A larger surface of metal was exposed, the expansion or contraction of the active coating was confined to many small areas, and the peeling, which was unavoidable upon a large plain surface, was diminished, if not prevented. Accordingly, Mr. Brush applied in Case C, which subsequently became No. 266,090, for a patent upon a secondary-battery plate, ribbed, honeycombed, studded, "or equivalently prepared." The descriptive part of this specification manifestly referred only to the method of producing active material by formation from the substance of the plate and ribs, whether by the Plante process of electrical disintegration, or by the improved forming process of division A. The scratched, perforated, thin platina foiled plates of Kirchoff were no anticipation of the plate as described in the specification. The distinction between Cases I or J and

C were in the mind of the draughtsman, who meant that I and J should refer to the generic invention and that Case C should be limited to a narrow improvement upon Plante. But the desire for enlargement of territory grew, and by an amendment of June 20, 1882, wherein the specification was rewritten, the draughtsman said: "This form of element is also well adapted to receive and retain any active coating which may be applied thereto." This sentence the patent office promptly required should be omitted, upon the ground that it was "new matter," and it was thereafter canceled. The following sentence had, however, been permitted to remain: "Figures 8 and 9 are * * * plates arranged ready for charging, after having been 'formed,' or in any manner provided with active coating." The corresponding part of the sentence in the original application was, "after having been previously 'formed' according to the process described in Case A, or otherwise." The new specification also made cast lead instead of rolled or pressed lead a patentable improvement, but Judge COXE directed a disclaimer of the purely cast lead claims, upon the ground that they contained nothing patentable; and they were disclaimed accordingly.

Upon the strength of the clause "in any manner provided with active coating," which slipped by the scrutiny of the patent office, it is now insisted that the general language of the various claims covers a plate in a secondary battery provided with any kind of active coating either electrically formed or mechanically applied. The literal language of the claims is broad enough for such a construction, but it would be obtained by an undue enlargement of the meaning of an amendment, the effect of which was not appreciated by the examiner. Mr. Brush has obtained all to which he was entitled by construing his patents for improved form of plates in the order and system in which they were originally presented to the patent office. What the construction ought to be had different inventors taken the progressive steps, it is not necessary to inquire, but when one inventor makes a generic invention and also subordinate specific inventions, and presents the whole series in a set of contemporaneous applications, the patentee must not be enabled, by an ingenious use of general terms, to enlarge the boundaries of each invention, to extend each into the borders of another, and obtain a series of overlapping patents. This construction is narrower than that permitted by Judge COXE, who found an infringement by the defendants of two claims only. As construed by this court there is no infringement of No. 266,090. The decree of the circuit court will be modified in accordance with the directions herein contained, with costs of this court to the appellant. In other respects the decree will be affirmed.

IRONCLAD MANUF'G CO. v. JACOB J. VOLLRATH MANUF'G CO., Limited,
et al.

(Circuit Court, E. D. Wisconsin. June 27, 1892.)

1. PATENTS FOR INVENTIONS—PRELIMINARY INJUNCTION—WHEN ISSUED.

In a suit for infringement, when the case is not free from doubt, and the experts are at variance, and there are no prior adjudications, a preliminary injunction will be denied, especially if defendants are amply able to respond to any damages that may be adjudged against them on final hearing.

2. SAME—PROVINCE OF PATENT OFFICE—INTERFERENCES.

Upon an interference in the patent office the question is as to priority of invention, and anything said by the patent officials as to the construction of the claims is not binding upon the courts in a suit for infringement.

In Equity. Bill by the Ironclad Manufacturing Company against the Jacob J. Vollrath Manufacturing Company, Limited, and others, for infringement of a patent. On motion for a preliminary injunction. Denied.

L. L. Bond, Marcellus Bailey, and Ernest C. Webb, for complainant.
Dyrenforth & Dyrenforth, for defendants.

JENKINS, District Judge, (*orally.*) The bill is filed for an infringement of a patent for peppered enameled ironware, issued to Chester Comstock, the letters patent being numbered 415,161, dated November 12, 1889, and a motion is made for a preliminary injunction to restrain the defendants from the alleged infringement pending this litigation. The specification, after stating the process for obtaining the "foundation coating," as it may be called, of the vessel that is to be enameled, proceeds:

"When the metallic surface to be enameled has been properly pickled and cleansed in the usual way, and a paste of suitable material has been prepared in any one of the usual ways for the production of either the 'mottled' ware, 'white' ware, or 'plain' ware, I incorporate in such paste, preferably, comminuted or granular oxide of iron, and, after coating the surface of the iron with such paste, having so commingled with it the comminuted oxide of iron, it is subjected in the muffle to the usual fusing process, which produces the glazed appearance, but which also leaves the comminuted or granular oxide, in its natural or substantially natural condition, in practically mechanical suspension within the body of the glaze, and producing an appearance in the finished article which I here denominate as 'peppered' enameled ironware, in contradistinction to the æsthetic appearance of the severally and previously described well-known articles in the trade. While, as I have said, I prefer to use granular or comminuted oxide of iron to produce this effect, it will be understood that I may employ any other suitable contrasting body which will not fuse at the ordinary temperature employed for fusing the paste which subsequently constitutes the coating, and I therefore do not wish to be limited in any degree to the character or quality of the material employed for this purpose, so long as it results in the production of what I have termed 'peppered' enameled ironware, by which term I intend and mean enameled ironware having mechanically suspended or held in and throughout the glaze a granular or comminuted material in color contrasting with that of the body of the enameled coating, and comparatively infusible as compared with the glaze, so that when the latter is fused on the ware the granular or comminuted