

ELECTRICAL ACCUMULATOR CO. v. NEW YORK & H. R. CO.

(Circuit Court, S. D. New York. April 9, 1893.)

1. PATENTS FOR INVENTIONS—INVENTION—ELECTRIC ACCUMULATORS.

Reissued letters patent No. 11,047, granted to the Electrical Accumulator Company, as assignee of Joseph Wilson Swan, December 17, 1889, claiming a perforated plate for secondary batteries, having the perforations extending through the plate, and the active material packed in the perforations only, cover a patentable invention.

2. SAME—UTILITY.

The fact that, before the date of this invention, Prof. Eaton had packed active material in perforations extending through the plate, at the same time covering the surfaces thereof, and that Mr. Brush had packed it into grooves in the plate without covering the surfaces, does not show a want of invention in the idea of confining it entirely to perforations extending through the plate, since this apparently slight change avoided the difficulties before encountered, and produced an electrode which has, to a great extent, superseded all others, and has become the electrode of commerce.

In Equity. Suit by the Electrical Accumulator Company against the New York & Harlem Railroad Company for infringement of a patent. Decree for complainant.

Frederic H. Betts, for complainant.

Thomas W. Osborn, for defendant.

COXE, District Judge. This is an action for infringement of reissued letters patent No. 11,047, granted to the Electrical Accumulator Company of New York, as assignee of Joseph Wilson Swan, on the 17th of December, 1889, for an improvement in secondary batteries. The invention of the reissue is intended to facilitate the construction of secondary battery plates by preparing them with perforations, cells or holes extending through the plate, in which holes the active material is packed. The original patent, No. 312,599, dated February 17, 1885, was considered by this court in the case of *Accumulator Co. v. Julien Co.*, 38 Fed. Rep. 117. The original was held invalid (pages 140-142) for the reason that it described and claimed a plate the outer surface of which might be covered by the active material. This construction, in view of the work done by Prof. Eaton, was held to be anticipated. The theory of the reissue is that the valuable feature contributed by Swan consists in confining the active material to the holes, without permitting it to extend beyond them to the surface of the plate. That portion of the original which refers to the coating of the outer surface of the plate has been omitted in the reissue. In other respects the description is unchanged.

The claim is as follows:

"A perforated or cellular plate for secondary batteries, having the perforations or cells extending through the plate and the active material or material to become active packed in the said perforations or cells only, substantially as described."

This is the claim of the original, except that the word "only" has been added. The patent cannot be criticised as a reissue. The

claim instead of being broadened is greatly restricted. The application was filed within a reasonable time after the inventor was informed of the facts which made a narrower claim necessary. The facts bring the case within the provisions of section 4916 of the Revised Statutes.

The field of invention is, concededly, a narrow one. The counsel for the defendant correctly states that Swan's improvement consists "wholly in the idea of putting on the surface of a perforated plate for secondary batteries no active material beyond the contents of the perforations; everything except this is conceded to be old." The date, *de jure*, of Swan's invention is January 18, 1882. Prior to that time Prof. Eaton had filled the perforations, but he had covered both sides of his plate as well. Mr. Brush had rammed or pressed absorptive substance, in the form of dry powder, into grooves or receptacles without covering the surface of the plate. No one had packed active material into holes extending through the plate, confining it entirely to these holes. This combination was original with Swan. Did it involve invention? In approaching this subject it is well to remember, as the court has frequently had occasion to remark before, that we are dealing with a comparatively new and abstruse art, where the most important results are said to follow from changes, apparently, of the most unimportant character. Complete success has not been attained, but if we may credit the statements of those who are entitled to speak *ex cathedra* on the subject, the rapid strides in that direction during the last decade, are due to changes of form and material which, in many other arts, would be insufficient to support invention. The substitution of one material for another in a door-knob is the work of the mechanic, the substitution of one material for another in secondary battery electrodes may solve a problem which will revolutionize the motive power of the world.

In holding that there is sufficient invention disclosed to support the reissue the court is influenced by the following considerations: The Swan electrode is to-day the electrode of commerce. It has largely taken the place of other structures and is almost universally used. The advantage of having the active material composed of small disconnected masses, packed in holes extending through the plate, is unquestioned. The electrolyte is thus permitted to reach and operate upon both sides of these small masses, instead of on one side where the active material is packed in cells or pockets. The expansion and contraction of the electrode when the battery is in use causes the active material, if packed in cells or grooves or spread upon the surface of the plate, to crack, and portions of it to be pushed out of place and to fall away. These defects which produce "buckling," "short circuiting" and other disastrous results are entirely remedied by the Swan construction. If one of the small masses in his plate becomes injured or falls out it does not affect injuriously the other parts of the electrode. As Sir William Thomson puts it: "The perforated plates have also the great advantage of extending the area of electric communication between the continuous metallic conductor and the porous or spongy material and so

minimizing the electric resistance. The application of the oxide in the form of numerous mutually detached parts, separately held by the perforations, has also a great advantage in almost annulling the warping or fracturing effects of the expansion and contraction produced by the changes of oxidation to which the active material is exposed in the charging and discharging of the battery." It is true that the step from the structures of Eaton and Brush to the electrode of Swan seems to be very short when looking back upon the work of these men. But standing where Brush and Eaton did and looking forward to the ideal electrode which should avoid the then existing difficulties and possess the excellencies of the present Swan structure, the steps undoubtedly seemed many and long. If it had occurred to Eaton to scrape off the active material from his plate leaving the holes full, he would have hit upon the invention. But it never did. If Brush had thought of punching out the bottom of his receptacles and had then rammed them full of active material without covering the external plate he would be entitled to the credit of having made the successful structure. But he did not think of it. The experiments at that time seemed to be proceeding along different lines, the object being to keep as much material as possible upon the surface of the plate. The conviction cannot be avoided that the idea which has made these plates a commercial success was first given to the world in a practical embodiment by Mr. Swan.

Confirmation of these views is found in two recent decisions of the supreme court. In *Washburn & Moen Manuf'g Co. v. Beat'Em All Barbed-Wire Co.*, 12 Sup. Ct. Rep. 443, the court says:

"The difference between the Kelly fence and the Glidden fence is not a radical one, but slight as it may seem to be, it was apparently this which made the barbed-wire fence a practical and commercial success. The inventions of Hunt and Smith appear to be scarcely more than tentative, and never to have gone into general use. The sales of the Kelly patent never seem to have exceeded 3,000 tons per annum, while plaintiff's manufacture and sale of the Glidden device (substituting a sharp barb for a blunt one) rose rapidly from 50 tons in 1874 to 44,000 tons in 1886, while those of its licensees in 1887 reached the enormous amount of 173,000 tons. * * * Under such circumstances courts have not been reluctant to sustain a patent to the man who has taken the final step which has turned a failure into a success. In the law of patents it is the last step that wins. It may be strange that, considering the important results obtained by Kelly in his patent, it did not occur to him to substitute a coiled wire in place of the diamond-shaped prong, but evidently it did not; and to the man to whom it did ought not to be denied the quality of an inventor."

In *Magowan v. Belting, etc., Co.*, 141 U. S. 332, 12 Sup. Ct. Rep. 71, it was held that the fact that the patented improvement "went at once into such an extensive public use, as almost to supersede all packings made under other methods, * * * was pregnant evidence of its novelty, value and usefulness." These quotations seem peculiarly applicable to the present controversy. The principles which are there so clearly and pointedly reaffirmed require a decision sustaining the validity of the complainant's patent. As to defendant's infringement there can be no

doubt. The question arising upon the expiration of the Danish patent has not been argued. The casual examination which the court, in the absence of explanation, has been able to give to this patent leads to the conclusion that it is not for the same invention as the Swan reissue.

There should be a decree for the complainant.

STAUFFER *v.* SPANGLER *et al.*¹

(Circuit Court, E. D. Pennsylvania. January 29, 1892.)

1. PATENTS FOR INVENTIONS—NOVELTY—PRIOR STATE OF THE ART.

The first two claims of letters patent 345,186, for apparatus for treating unbaked bretzels, containing as elements the generator, the perforated pipe leading from near the bottom of the generator, a perforated spray-pipe, and a casing located over the carrier, all of which elements, each operating in the same way and for analogous purposes, being shown in prior patents, and no new or better results being obtained, do not cover patentable novelty.

2. SAME—EXTENT OF CLAIM—INFRINGEMENT.

The natural construction of the third claim of letters patent No. 345,186, which contained the phrase, "spraying and salting devices," and the fact that the specification described the machine as having a spraying pipe and a perforated drum, by which salt was sprinkled over the dough being treated, will cause to be included in this claim, as elements, both the drum and the spray-pipe, although an ambiguous correspondence between the patent-office and inventor, and the fact that the solution discharged by the spray-pipe was alkaline, be urged in favor of construction of claim, including only the spraying device; and defendant, not employing the salting drum, does not infringe.

Bill in equity by David F. Stauffer against Harrison Spangler, H Samuel Spangler, George H. Smith, and W. H. Soader to restrain infringement of letters patent 345,186, issued to complainant July 6, 1886, for apparatus for treating unbaked bretzels. Bill dismissed, claims 1 and 2 declared invalid, claim 3 restricted and declared not infringed.

Jos. C. Fraley, for complainant.

Strawbridge & Taylor, for respondents.

ACHESON, Circuit Judge. The bill charges the defendants with the infringement of letters patent No. 345,186, granted July 6, 1886, to the plaintiff, David F. Stauffer, for improvements in apparatus for treating unbaked bretzels and crackers and other similar articles formed of dough for baking, "so as to more conveniently give them the glazed and salted surfaces characteristic of such articles when baked." The specification states that theretofore the dough, when formed into proper shape, "has been dipped in a suitable solution, and the salt afterwards sprinkled over the same by hand, which is a slow and tedious operation, involving the loss, in addition, of considerable material, which is scattered and wasted." The declared object of the invention is "to provide an apparatus by which these operations may be conveniently and thoroughly effected with comparatively little loss of material, and in a much more thorough and ex-

¹ Reported by Mark Wilks Collet, Esq., of the Philadelphia bar.