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Case No. 10,954.

PENNSYLVANIA SALT MANUF'G CO. v. GUGENHEIM ET AL.

{3 Fish. Pat Cas. 423; Merw. Pat Inv. 265.}[1]

Circuit Court, E. D. Pennsylvania. May, 1868.

PATENTS—METHOD OF PUTTING UP CAUSTIC ALKALI.

1. A claim for caustic alkali, inclosed in an integument or casing of anti-corrosive impervious fabric, substantially describes a proper subject of letters patent.

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2. A claim for caustic alkali in cases or enveloped in a tight metallic integument or metallic casing is good, as being a proper subject of letters patent.

{Cited in Pennsylvania Salt Manuf'g Co. T. Thomas, Case No. 10,956; Milligan & Higgins Glue Co. v. Upton, Id. 9,607.}

3. The improvements patented to George Thompson, October 21, 1856, and reissued in three divisions, April 16, 1867, are new, useful, and patentable.

This was a bill in equity, filed to restrain the defendants {Gugenheim, Dreifuss & Co.} from infringing letters patent granted for an "improvement in devices for putting up caustic alkalies," granted to George Thompson, October 21, 1856, reissued to him April 16, 1867, in three divisions, Nos. 2569, 2570, and 2571, of which Nos. 2569 and 2571 were for "improvements in the manufacture of caustic alkalies," and 2570 was for an "improved process of putting up caustic alkali." The invention consisted in wrapping cakes of caustic soda in paper impregnated by a preparation of beeswax and rosin by which said paper was rendered impervious so as to protect said soda from the action of the atmosphere, or in incasing caustic soda in small metallic boxes, and in the process of putting up the alkali in such boxes by pouring in in a melted state into the same. The claim of the original patent was as follows: "The mode described or its

equivalent, of protecting small packages of caustic soda or potash from the action of the atmosphere in the manner and for the purposes described." The claims of the several reissues were as follows: Reissue 2569: "Caustic alkali inclosed in an integument, or casing, of anti-corrosive, impervious fabric, substantially as above described." Reissue 2570: "The process of putting up caustic alkali in metallic casing or integument, by pouring the molten caustic alkali into the casing, substantially as above described, and then closing the top of the case." Reissue 2571: "Caustic alkali incased or enveloped in a tight metallic integument or metallic easing, substantially as above described."

George Harding, for complainants.

J. B. Gest, for defendants.

GRIER, Circuit Justice. The patent of George Thompson (the infringement of which, and its validity, are the questions now proposed for our decision), has been amended and reissued more than once. The difficulty in the case was to describe the invention or discovery, or the improvement in the art, without claiming too much so as to make the patent inoperative and void. Caustic alkali was not a new substance, nor was it a new composition of matter, nor its manufacture a new art, yet the fact was clear that the patentee had made a very important improvement in the art, and one of great practical value. This fact is patent and can not be denied. Has he succeeded in so describing his improvement in the art by a process discovered or invented by himself?

The state of the art prior to his invention is well described by the witness Bancroft: "Prior to the invention of George Thompson, the manufacture of soap was carried on at large establishments, like my own, by purchasing the soda ash of commerce, making it caustic by boiling with lime, and then treating the solution of caustic soda with fat and making soap of it. Throughout the country the farmers used to keep

their wood ashes and leach them down and use lime to make caustic potash, and then boil with fat. This was a very troublesome and uncertain operation, and could not be applied where wood ashes were not used. The great bulk of soap was manufactured at soap works from soda ash, as above described. The manufacture of soap from soda ash was a nice chemical operation, which could not be carried on with success generally in families."

Without entering into the chemical and scientific history of the substances used in the manufacture of this valuable article of commerce, I adopt the clear statement made by the learned counsel as to the nature of complainant's claim: "Such being the state of the art, it occurred to George Thompson, in 1853, that if hydrate of soda, freed from its combination with carbolic acid, could be manufactured as an article of commerce and generally used, the troublesome and difficult operation of making soap would be simplified to the soap-maker, but more especially to families. The refuse household fat could be as easily made into soap as the simplest culinary operation could be carried on. At that time caustic soda or hydrate of soda was known to the chemist, and existed only on the shelves of the laboratory in a most expensive form, and was used mainly for illustration and surgical purposes. It was a difficult substance to keep, because of its tendency to seize carbonic acid and moisture from the air, and to pass back into a solution of the carbonate of soda, and also because it destroyed most substances with which it came into contact. He conceived the idea of forming the lye, or solution of hydrate of soda, by the use of carbonate of soda and lime, and then to syphon off the lye, and evaporate down this clear lye until the caustic soda (hydrate of soda) reached a solid state. In this condition it could be melted at a temperature near to the degree of redness, and molded or broken. But the trouble

was, how to keep this article in its caustic state, and how to overcome its tendency to pass back to the condition of a carbonate, and also how to avoid trouble from its destructive action upon other substances. The idea then occurred to him to divide the solid caustic soda into such small portions as would answer for a single ordinary operation, and seal up, hermetically, each portion by itself, as soon as produced. His first experiments were tried by molding the solid fused caustic soda into one pound pieces, 191 and inclosing each in an air-tight envelope composed of paper or muslin, saturated with rosin, and dipped in tar or varnish. He also then adopted the plan of at once sealing up the caustic soda in tin, soldering it in small hermetical one-pound inclosures, as soon as produced. Finally, Thompson adopted the plan of preparing an iron case or mold, made tight at the joints by infusible cement, and at once pouring the hot fused soda into it, and immediately sealing it up. By these several means he produced an article of uniform strength that could be safely transported, which could be certainly used in the manufacture of soap in families, by merely adding a fixed quantity of water and fat, and which material could not pass back to the state of a carbonate. That this was a new and useful invention appears clearly from a review of testimony. Prior to Thompson's invention the alkalies, soda and potash, had existed in commerce only as carbonates, and it was necessary that the carbonic acid should be removed before soap could be made of them; it was thus a difficult and troublesome process." The amended patent of 16th April, 1867, in which, ex majore cautela, the improvement has been unnecessarily split into three distinct patents, may be treated as one patent with three distinct claims.

He describes his invention as "a new and useful improvement in the manufacture of caustic alkalies," which is thus set forth in his specification: "My

invention consists in a new article of manufacture, viz: caustic alkalies (soda and potassa) inclosed in an integument of impervious anti-corrosive fabric, thus forming a new article of commerce and manufacture, which may be preserved and transported, and thus introduced into general use for domestic and other purposes, where those concentrated alkalies, owing to their peculiar chemical properties, were not, prior to my invention, susceptible of such preservation, transportation, and use. Hydrate of soda and potassa, commonly known as caustic soda and potash, would prove very useful for domestic and other purposes, but owing to the fact that they speedily deliquesce after being exposed even for a short time to the action of the atmospheric air, and that by their caustic property they attack and destroy almost everything with which they are allowed to come in contact in their deliquescent state, it has been found practically impossible to manufacture these articles in a condition fit for preservation and transportation for family and other uses. I have discovered that an integument can be prepared of muslin, paper, or other similar fabric, by immersing it in a preparation of beeswax and rosin, or other similar substance, which will be alike incorrodible by the alkali, and will, by its imperviousness to moisture, prevent its deliquescence and destruction; and that if caustic alkali be incased or united with such a prepared fabric as an integument, a new and valuable article of manufacture and commerce will be produced. The cakes of caustic soda or potash, so soon as they are sufficiently solid to bear handling, are immediately folded up carefully in the wrapping thus prepared, the sticky nature of the substance with which the wrapping is impregnated causing it to adhere together where the edges fold over each other, and thus serving to exclude entirely the air and moisture from obtaining access to the cakes of caustic alkali within. The package thus wrapped may then, for

further protection, be immersed in the same preparation used for preparing the wrapping fabric, which gives it a uniform coating all over, and covers up any opening which may exist in the folds of the wrapping. When thus wrapped and prepared, an exterior coating of common paper is added for cleanliness and convenience of handling and packing, and the packages are then ready for sale, and may be kept, without injury to the alkali, for almost any length of time. When used for making soap, the inner covering of prepared paper need not be removed, as the small quantity of rosin and beeswax will not injuriously affect the soap. It may be readily removed, however, if preferred. Having thus described my invention, what I claim as new, and desire to secure by letters patent as a new article of manufacture, is: caustic alkali inclosed in an integument, or casing of anti-corrosive, impervious fabric, substantially as above described."

(The court then quoted from the other specifications of George Thompson, and concluded as follows:)

In the third reissued patent his claim is caustic alkali incased or enveloped in a tight metallic integument or metallic casing, substantially as above described. The testimony in the case clearly establishes the fact of the novelty and practical utility of Thompson's invention or discovery and his improvement in the art. It is, therefore, the proper subject of a patent. The defendants have infringed the patent, as is clearly proved by the things themselves, "oculis subjecta fidelibus." The complainants are therefore entitled to a decree, as prayed for in the bill.

{For other cases involving this patent, see Pennsylvania Salt Manuf'g Co. v. Thompson, Case No. 10,956; Thompson v. Barry, Id. 13,942; Thompson v. Mendelsohn, Id. 13,968; Pennsylvania Salt Co. v. Myers, Id. 10,955.}

[1] [Reported by Samuel S. Fisher, Esq., and here reprinted by permission. Merw. Pat. Inv. 265, contains only a partial report.]