

TUCKER *v.* SARGENT & CO.

Circuit Court, D. Connecticut. September 2, 1881.

1. LETTERS PATENT—TUCKER BRONZE.

Tucker bronze is made by cleaning a piece of cast-iron, of the desired pattern, from the sand and scale which adheres to it when it comes from the mould, then coating it with a very thin film of oil, and, finally, subjecting it to a high degree of heat one or more times, whereby various colors may be produced upon the surface of the iron and rendered permanent. *Held*, that bright cast iron oxidized, and covered with a coat of oxidized oil, varnish, or size, may be, but is not necessarily, Tucker bronze; and that, in the present case, there is no infringement.

Elihu G. Loomis and *James E. Maynadier*, for plaintiff.

Charles E. Mitchell and *John S. Beach*, for defendant.

SHIPMAN, D. J. This is a bill in equity based upon the alleged infringement of reissued letters patent Nos. 2,355 and 2,356, dated September 11, 1866, and granted to the Tucker Manufacturing Company as assignee of Hiram Tucker, and now owned by the plaintiff,

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—one patent being for an improved process in bronzing or coloring iron, and the other being for the iron thus bronzed. The original patent was issued December 15, 1863.

These reissued patents were the subject of litigation before Mr. Justice Clifford in *Tucker v. Tucker Manuf'g Co.* 10 O. G. 464; and before Judge Lowell in *Tucker v. Burditt*, 5 FED. REP. 808; and in *Tucker v. Dana*, 7 FED. REP. 213. They have heretofore, to a certain extent, been the subject of discussion in this court. Judge Lowell, in *Tucker v. Burditt*, describes the patented process, and construes the patent as follows:

“The process consists of cleaning a piece of case iron of the desired pattern from the sand and scale which adhere to it when it comes from the mould, and then coating it with a very thin film of oil, and subjecting it to a high degree of heat, one or more times, whereby various colors may be produced upon the surface of the iron, and rendered permanent, which, before this invention, were not produced in cast iron, or, if approximated, were not permanent. A film of varnish containing oil may be used instead of oil, and may infringe the patent; and so, if the iron is first heated, and then varnished and heated again, the process may be infringed.”

With this general definition of the patented process the parties do not now find fault.

The patentee describes the process more at length in the specification of reissue No. 2,355, and says:

“Metals have heretofore been lacquered or bronzed by the application of a solution of resin and metallic powders or salts, and dried by exposure to air or heat. Iron has been japanned by covering its surface with oily solutions of asphaltum and pigments, and subsequent application of heat sufficient to produce hardness. These are well-known operations. My invention consists in a process of convering iron with a very thin coating of oil, and then subjecting it to heat, the effect of which is to leave upon the iron a firm film, which is very durable, and gives the iron a highly ornamental appearance, like that of bronze. In practice I proceed as follows: The surface of the iron is cleansed from sand, scale, or other foreign matter; and, where fine effects are desired, the surface is best made smooth or polished. Under given conditions of heating and oiling, the finer the polish the lighter is the bronze tint produced. In cases where ornamentation is obtained by relief, the salient parts should be most highly polished or most smoothly surfaced, in order that the colors produced upon them shall not be so

deep as it is on those parts which are in the rear, so as to imitate thereby more nearly the effects of genuine bronze, in which the natural oxidation is apt to be worn somewhat away from its salient parts, and therefore lighter in color. When the iron is thus prepared I cover it with a very thin coating of linseed oil, or any oil which is the equivalent therefor, for the purpose here specified, (such a coating as I find best attained by applying the oil with a brush, and then rubbing off the oiled surface thoroughly with a rag, sponge, or other suitable implement,) 301 and then place it in an oven, where it is submitted to a degree of heat which may be measured by an intensity sufficient to change a brightened surface of clean, unoiled iron to a color varying from a light straw color to a deep blue; the lowest degree of heat producing the lightest colored changes and the lightest bronze, and the highest degree of heat producing the darkest colored changes and the darkest bronze. It is important that the coating of oil be made extremely thin, as a coating of any material thickness will leave a rough and varied surface after the heat is applied. As the oiled iron becomes heated the color obtained will be bronze, of an intensity corresponding to the degree of heat employed; but it should be observed that the heat may be made so intense and so long continued as to destroy the oil, in which case the iron will lose the bronze tint acquired and will assume the dark-blue shade.”

The defendant is said to have infringed the two reissues by the manufacture and sale of cast-iron butts, samples of which were produced and marked Exhibits A D and D D. These butts were colored in this way: The sunken parts are first covered with a black japan, and this coat of blacking is baked in an oven at a temperature not exceeding 320 deg. Fahrenheit. This japanning of the sunken parts is immaterial. It is not really claimed to be a Tucker bronzing; the object, probably, is to make a marked contrast between

the sunken and salient parts of the butt. All but the sunken parts are then ground and subjected to a heat of 480 deg. Fahrenheit, which colors the iron a dark straw color. The ground parts of one of the exhibits are nearly or quite blue. A coat of copal varnish of substantial thickness is then put on and baked in a heat of not over 300 deg. Fahrenheit. This produces a material coating of oxidized varnish upon the surface of the iron which can be scraped up by a rapidly-drawn knife-blade, as a shaving rolls up before the knife of a plane. It was not claimed by the defendant that the varnish was not oxidized by the heat. No proof was offered by the plaintiff in regard to the oxidation of the iron during the second heating, and I do not think it of importance. The plaintiff relies upon the uncontradicted fact that by successive applications of heat the iron and varnish were oxidized; and if an iron surface oxidized by heat with a coating of varnish oxidized by heat necessarily makes Tucker bronze, then the defendant infringes the plaintiff's patents. This precise question has not apparently been the subject of discussion, either before Judge Clifford or Judge Lowell, and therefore it becomes necessary to ascertain the exact extent of the invention by the aid of the evidence which was introduced in regard to novelty, and which the defendant insisted proved that the Tucker process was practiced in its factory prior to 1859.

F. W. Brocksieper was in the employment of Peck & Walter, the Peck & Walter Manufacturing Company, and J. B. Sargent & Co., the predecessors of the defendant in New Britain, between 1849 and 1859, as the foreman in the ornamental department of their work, and is now a contractor in the defendant's factory in New Haven. He did the class of work hereafter described between 1856 and 1859, in New Britain, but the work of which I speak particularly

was done after 1857, in a new kiln made under the superintendence of Mr. Gebhard, the head painter of the establishment, for the purpose of furnishing a very high heat. Brocksieper treated hat-hooks, coat-hooks, jamb-hooks, sash-fasteners, match-boxes, looking-glass frames, and cast-iron horses for saddler's windows in the following way:

“We had the castings cast with a facing, so as to come out of the sand very nearly entirely free of sand; then those castings rolled, drilled, and countersunk, the highest parts or the prominent parts of the ornaments brightened with sand-paper or emery-paper, brushed clean from dust, then sized and baked. In order to handle them easy, those hooks, we had them fastened on a block with a spring, and sized them in quantities as they were ordered, let them stand long enough so that the size would not stick to the fingers, then we put them in pans, or on hooks, and put them in the kiln to bake.”

The size was a mixture of equal parts of turpentine, copal varnish, and linseed oil, and was applied in a very thin coat, put on with a stiff, fine brush as lightly as he could. The kiln was heated to 420 degrees Fahrenheit. Several batches of hooks of from 12 dozen to 24 dozen each, between 100 dozen and 200 dozen sash-fasteners, about 100 looking-glass frames, and horses in “considerable quantities,” were made and sold. The match-boxes were probably made in larger quantities.

It is manifest that this style of ornamentation did not become a marked feature of the defendant's business. It was not caught up as an attractive style by their customers, though Brocksieper was much pleased with it, and did what he could to press it upon the attention of his employers. While there is no doubt that the reproductions of this method of coloring, which were made by Mr. Ruff under the eye of the examiner, are Tucker bronze, I do not think that the

articles which were made in 1857 were precisely of the same character, for if they had been they would have received the prompt attention of the public.

The plaintiff says that they were not made by his process for two reasons: *First*, that there is no evidence that the iron was oxidized by the heat, which is an essential part of his process. All the testimony in regard to the manner of manufacture shows that the iron 303 must have been heated so as to be oxidized. The kiln was sufficiently hot; the coating of size was sufficiently thin. That there was no oxidation rests in theory alone. The *second* reason is that the coating was too thick to make genuine Tucker bronze, and the plaintiff's counsel quote the language of the specification to show the stress which the patentee placed upon the thinness of the oil coating. Upon this point I think the plaintiff is right. There was oxidation, but there was a coating of baked size over the oxidized iron, which was a different thing from the result produced by the plaintiff's process. The articles which were manufactured did not have the beauty of Tucker bronze, but presented the appearance of a varnished or painted article. It follows that bright cast iron oxidized, and covered with a coat of oxidized oil, varnish, or size, may be, but is not necessarily, Tucker bronze.

Tucker bronze is a new surface of the iron produced by the joint oxidation, or by the successive oxidations, of the iron and a film of oil or varnish thereon, by means of high heat, and is not a new coating of oxidized oil or varnish upon the iron. The oil must be applied in such a way that after oxidation there is no substantial covering of baked oil upon the surface of the iron. The surface of the iron is a bronzed surface, because the film of the oil is so thin and is so closely united with the pores of the iron as to be almost a part of it, and does not form a substantial covering like a coat of varnish over the surface of the

iron. In Tucker bronze, which has been subjected to one heat, the film of oil can with difficulty be scraped off with a knife. When the iron has had two or three successive applications of oil, and has been heated two or three times, the oil comes off by scraping, in the form of little flakes or of powder.

Tucker's discovery was that bright cast iron, covered with a thin film of oil, would take on, by the action of high heat, a new surface resembling bronze. The defendant covers the oxidized surface of the iron with an oxidized coat of varnish. It does what Brocksieper did in 1857, except that it takes two steps instead of one to accomplish the result.

Let the bill be dismissed.

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