MATTHEWS and another, Surviving Executors, etc., *v.* IRON-CLAD MANUF'G CO.

(*Circuit Court, S. D. New York.* August 21, 1884.)

PATENT LAW—IMPROVEMENT IN SODA-WATER FOUNTAINS.

Alleged infringement of patent for tin-lined steel soda fountains. After investigation of the inventions of plaintiffs and defendant, and a comparison of their several parts each with each, no infringement found.

In Equity.

A. v. Briesen and *H. L. Burnett*, for plaintiffs.

F. H. Betts and *E. C. Webb*, for defendant.

BLATCHFORD, Justice. This suit is brought on four patents: reissue No. 8,834, granted to John Matthews, August 5, 1879, for an "improvement in soda-water fountains," on an application for reissue filed June 26, 1879, the original patent, No. 128,411, having been granted to said Matthews, June 25, 1872, for 17 years from June 13, 1872; reissue No. 8,837, granted to John Matthews, August 5, 1879, for an "improvement in soda-water apparatus," on an application for reissue filed June 26, 1879, the original patent, No. 137,702, having been granted to said Matthews, April 8, 1873; letters patent No. 159,433, granted to John Matthews, February 2, 1875, for an "improvement in vessels containing gases and liquids under pressure;" and letters patent No. 179,583, granted to John Matthews, July 4, 1876, for an "improvement in fountains for containing aerated beverages."

The specification of reissue No. 8,834, referring to the drawings which accompany it, says:

"Figure 1 is an exterior longitudinal view, and figure 2 a central longitudinal section of a fountain constructed in accordance with my improvement. My invention consists in a novel construction of a tin-lined steel fountain for soda-water and other aerated or gaseous liquids, such fountain combining lightness with strength, and being of cylindrical form and uniform dimensions, or thereabout, throughout its length, thereby adding to the convenience of packing and handling; also, being exempt from expansion or permanent lateral distention by the interior pressure to which it is subjected, thus preserving its form and contributing to its durability. Fountains for the like purpose, as previously made, have been largely expansive, and retained the set given to them by extension, and being otherwise objectionable. In the accompanying drawings, A represents a block-tin interior body of cylindrical form, with hemispherical or reduced ends, the same constituting the tin lining of the fountain, and being provided at one of its ends with a neck, *b*, for the introduction of the usual or any suitable connections by which the fountain is charged and its contents drawn off, said neck receiving or having screwed into it a screw-coupling, *c*, secured by a nut and washer, *d*, *e*, on the exterior of an outer end-cap, B, for making the connection. C is the exterior shell or body proper, made of galvanized sheet steel, as may also be the end-caps, B, B[1], which are soldered to or over the extremities of the same, and constitute, as it were, parts of said body, C, that surrounds or fits over the tin lining, A. The end-caps, B, B[1], are united to the body, C, without

flanges or projections, by tin joints, as *f*, *f*, made by soldering with pure tin, which, being a ringing metal, unites closely with the steel exterior to make a firm and durable joint, as other solders having lead in them will not do. Bands, *g*, *g*, of brown paper or other non-conducting material are introduced between the tin lining, A, and steel body, C, at the ends of the latter, to prevent the tin of the lining being melted by the heat used in making the pure tin joints, *f*, *f*. The fountain is also filled with water for the same purpose prior to making said joints. The non-stretching character of the body, C, by reason of the same being of steel, insures the fountain preserving its shape, and the absence of end flanges provides for the close packing of a series of such formations when transporting or storing them."

The claims of No. 8,834, four in number, are as follows:

"(1) The combination of the inner continuous tin fountain, A, having neck, *b*, with the rigid inclosing shell, made in sections, substantially as herein shown and described. (2) The tin vessel, A, incased by a cylinder, C, and ends, B, B^1, in the manner substantially as described, as a new and improved article of manufacture, for the purpose specified. (3) The combination of the inner vessel, A, with the exterior covering, made in sections, which are united after being placed around the vessel, A, substantially as specified, the inner vessel being entirely continuous within the covering. (4) The combination of the inner vessel, A, with the surrounding covering or shell, and with intermediate bands, *g*, *g*, of paper or non-conducting material, substantially as specified."

Claims 1, 2, and 3 are alleged to have been infringed. The text of the specification of No. 128,411 is identical with that of No. 8,834, as above quoted, except that, in No. 128,411, the word "closely" is inserted between the words "body, C, that" and the words "surrounds or fits." No. 128,411 had only one claim, as follows:

"The tin vessel, A, incased by a steel cylinder, C, and ends, B, B^1, soldered to the latter, in the manner substantially as described, as a new and improved article of manufacture, for the purpose specified."

It is contended for the defendant that No. 8,834 is void as to the first three claims, because it was applied for and granted, with expanded and generalized claims, after a delay of seven years in applying for a reissue. The descriptive parts of the two specifications are identical, except as to the word "closely." The omission of that word is not a restriction.

The novel construction of a tin-lined steel fountain, in which the invention is stated, by the original specification, to consist, is shown, by the claim of the original, to be a structure having these features: (1) A tin vessel or lining, A; (2) incased by a steel body or cylinder, C; (3) the outer end-caps or ends, B, B^1, soldered to the steel body or cylinder, C, without flanges or projections, by tin joints made by soldering with pure tin instead of by a solder having lead in it. The text of the original specification, in its descriptive part, shows that this was the invention. The claim was adequate to secure that invention. There was nothing ambiguous or obscure or deficient in the claim, to secure that invention. There was no inadvertence, accident, or mistake, and there is no attempt, by proof, to show that there was. The fact that the descriptive parts of the two specifications are alike,

shows that the sole object was to change the claim; and, as the new claims are not restrictive, they are for a different and enlarged invention, in so far as they are different claims. The first three claims omit all limitation to the method of soldering the end-caps to the cylinder or body by tin joints, which is an indispensable element of the invention set forth as the invention in the original specification, and such omission enlarged the invention and enlarges the scope of the claims. The new claims are sought to be used to cover structures which came into existence after the original patent was granted, but before application was made for the reissue, and that application was not made until seven years after the original patent was granted. During that interval, the defendant engaged in making the structures alleged to infringe. It is apparent that the plaintiff knew this and took his reissue in order to be sure and have claims which would cover the defendant's structures. They did not infringe the claim of the original patent. The sections of their outer shell were not and are not united by tin solder, nor were nor are the structures without flanges or projections. The case must be controlled by the rulings in *Miller* v. *Brass Co.* 104 U. S. 350; *James* v. *Campbell*, Id. 356; *Mathews* v. *Machine Co.* 105 U. S. 54; *Bantz* v. *Frantz*, Id. 160; *Johnson* v. *Railroad Co.* Id. 539; *Gage* v. *Herring*, 107 U. S. 640; S. C. 2 Sup. Ct. Rep. 819; *Clements* v. *Odorless Excavating Apparatus Co.* 109 U. S. 641; S. C. 3 Sup. Ct. Rep. 525; *McMurray* v. *Mallory*, 111 U. S. 97; S. C. 4 Sup. Ct. Rep. 375; *Turner & Seymour Manuf'g. Co.* v. *Dover Stamping Co.* Id. 319; S. C. 4 Sup. Ct. Rep. 401. The first three claims of No. 8,834 are adjudged to be invalid.

The specification of reissue No. 8,837, referring to the drawing which accompanies it, says:

"The drawing represents a vertical central section of my improved soda-water apparatus. This invention relates, first, to a new manner of forming a tight joint between the body and the cock of a soda-water fountain. * * * The invention consists, first, in forming a recess in the flange of the cock, opposite the projection of the bung, for the reception of a soft metallic or other packing. I have, previous to this invention, used an annular packing in a recess in the fountain top; but that construction renders it difficult to insert and replace the packing. It is much easier to replace it on the flange of the cock. I also find that this improvement affects a great saving of gas, which is wasted if the joint is imperfect. * * * In the accompanying drawing the letter A represents a stop-cock having a flange, *a*, and a downwardly projecting extension or lower part below said flange. C is the bung, which projects from the fountain body through an aperture in the shell or body, D, of the fountain. The flange, *a*, of the cock is directly above said bung, and is recessed at its under side to receive a soft metal or other packing, *x*. The projection, *z*, of the bung of the fountain fits up into this recess, and impinges on the packing which is contained in the recess of the flange, *a*. The packing, *x*, is prevented from spreading by the sides of the recess, and thus makes a perfect joint. * * *"

There are five claims in No. 8,837. Claim 1, the only claim alleged to have been infringed, is as follows:

"(1) The combination of the cock, A, having recessed flange, *a*, and packing, *x*, in the recess, with the bung, C, and shell or body, D, of the fountain, substantially as herein shown and described."

The specification of the original patent said:

"AA is a stop-cock with a projection of pure tin into the fountain; *aa* is the flange of the cock; *xx* is a packing of soft metal or other substance; *zz* is the lip of the bung fountain. * * * The improvement relates, first, to a new method of closing the joint between the fountain and the stop-cock. * * * The first improvement is this: The flange, *a*, of the cock, which beds down on the bung surrounding the fountain, is recessed so as to form a matrix to receive a soft metallic or other packing, *xx*. The lip, *zz*, of the bung of the fountain fits up into this recess, and impinges on the packing, which is prevented from spreading by the sides of the recess, and thus makes a perfect joint. I have for some years used an annular packing in a recess in the fountain top, but that construction necessitates the removal of the fountain when the packing has to be replaced. It is much more convenient to have the packing in the flange of the stop-cock, as it is more portable than the fountain; and, if alloys are used, it is more convenient to send the stop-cock, to have them replaced, than the large fountain. I find this improvement effects a great saving in the gas usually wasted, if the joint is not very perfect. * * *"

The claim of the original patent, on the above description, was this:

"(1) The combination of a soft metallic or other packing, *xx*, in a recess in the flange of the stop-cock, working against the lip, *zz*, on the bung of a soda-water fountain, as herein specified, so as to form a perfect joint between the cock and the fountain."

The description in the original patent is fully carried out in claim 1 of that patent. The packing in the recess in the flange worked against the lip, *z*, of the bung, which lip fits up in the recess so as to impinge on the packing, the sides of the recess preventing the packing from spreading. That is the description in the original. The description in the reissue is to the same effect. The projection, *z*, of the bung fits up into the recess and impinges on the packing, the sides of the recess preventing the packing from spreading. The cock, the flange, the recess, the packing, the bung, and the body of the fountain are elements alike in the two claims; but the lip, *z*, on the bung, which is named in claim 1 of the original, is not named in claim 1 of the reissue. It would seem to have been designed to make claim 1 of the reissue cover a structure in which the lip, *z*, does not fit up into the recess; but it would also seem that the combination cannot be, in the language of claim 1 of the reissue, a combination of the recess and its packing with the bung, "substantially as herein shown and described," unless the bung has a lip fitting into the recess, and in such way as to allow the sides of the recess to prevent the packing from spreading as the lip impinges on the packing. But the defense is set up that what is covered by claim 1 of the reissue was in public use and on sale in the United States for more than two years before the patentee's application for his original patent. The date of that

application was March 21, 1873. This defense is established in regard to the sale of two fountains, each containing a cock embracing the arrangement covered by claim 1, by William Gee, in the year 1870, to one Joslin; and in regard to the sale of two others, each containing a cock with the like arrangement, by Gee, in the year 1868, to one Butler. The answer sets up this defense with all the particularity necessary. It is not necessary to examine any of the other anticipations alleged.

The specification of No. 159,433, referring to the drawings accompanying it, says:

"Figures 1 and 3 are longitudinal sections, and figures 2 and 4 cross-sections, through lines, *x*, *x*, and *v*, *v*, of figures 1 and 3, respectively. The object of this invention is to make strong vessels for containing liquified gases, highly condensed or dissolved gases, which exert great pressure on the vessel. Such vessels, as heretofore constructed, are made of a single wall or shell, or of one or more single walls placed one within the other. In my invention I make the walls of the vessels lamellar, or of multiple shells united, so that each re-enforces the other. In the arts it is important to have very strong vessels, as the bursting of them occasions very serious consequences—sometimes the loss of life. In my invention the multiple walls, which are made of tough metal, such as steel, are united together by tin or other soldering metal, so that any imperfections in one plate are corrected by the other plate or plates. In the drawing I have shown different modes of accomplishing this object. Thus, in figures 3 and 4 the body of the vessel is made by taking a plate of steel, coating it with tin, and then coiling it in a volute, and, after that, sweating together the several plies. The caps or ends are made by placing several caps one within the other, and sweating them together. I unite the caps and the body, as in my patent of June 13, 1872, No. 128,411, or as described in another application filed of even date with this; or, instead of coiling the body, it may be made by placing one shell within another and sweating them together, and then putting on the caps, as above. This form is shown in figures 1 and 2. Around the bung I place a number of washers, as shown in figures 1 and 3, so as to re-enforce that part. * * * By giving the walls a lamellar form, a greater average strength is obtained for a given weight of metal, since the strain is equally distributed, so that the principle is applicable to vessels requiring lightness as well as strength. The following description will enable those skilled in the art to make and use my invention: In the drawing, A, is the body of the vessel, which is composed of two, three, or more plies, as shown at *a*, *a*, *a*, and is made by inserting one closely-fitting vessel into another, as shown in figures 1 and 2, or by coiling to form a volute, as shown in figures 3 and 4. The caps, B, B, are made of deep caps, two, three, or more in number, as shown at *b*, *b*, *b*. C is the bung-piece, with a broad flange on the inside. Between the cap and this flange are interposed a number of washers, *d*, *d*, *d*, so as to re-enforce the wall where it is weakened by openings. * * * If openings are required in the side or other part of the vessel they should be strengthened by washers, such as shown at *d*, *d*, *d*. Instead of a single coiled plate, the body may be made of several plates spirally coiled, so that one breaks joint with the other. The plates are first turned, and then put together, and afterwards sweated together, and also the seams and spaces between the plates, so as to unite all in one solid piece. The vessels formed in this manner are not only very strong, but resist the passage of gases much better than those made in the ordinary way. * * * The method of forming the cup-shaped caps, the kinds of metal to be used for the plates, and the process of preparing

them for use, being already known, and forming no part of this invention, need not be described. The following is the method of joining the seams which I use, and which is applicable to all kinds of vessels of iron and steel: I first galvanize or coat with zinc the whole of the sheet-steel intended for the jacket or shell or shells, and then, by means of a blow-pipe, melt tin upon the surface intended to form the joints. This tin alloys itself with the zinc, forming a very fusible alloy, which is carefully wiped off clean. The process is then repeated until little or no zinc is left upon those portions intended to form the joints. These parts are afterwards united by means of tin solder, and a very firm joint is formed. This process constitutes a part of my invention."

There are five claims, as follows:

"(1) The method herein described for forming strong vessels to contain gases and liquids under high pressure, consisting in coating a sheet of steel or other tough metal with tin or other soldering metal, coiling into a volute or spiral, and then sweating the parts together, substantially as set forth. (2) The method of forming caps or ends for strong vessels, consisting in sweating together a number of steel or other tough metal caps coated with a soldering metal, as set forth. (3) A lamellar vessel for containing liquids and gases under great pressure, having the several plies united by tin or soldering metal, as described. (4) A lamellar cap or end for strong vessels, composed of a number of caps united by soldering metal, as set forth. (5) The combination of the re-enforcing washers, *d*, with the end or body of the vessel, so as to re-enforce the parts weakened by apertures, as set forth."

It is very plain that the defendant's structure does not infringe any one of the first four claims of this patent. It is not a lamellar vessel, nor has it a lamellar cap or end, in the sense of this patent. Its cap or end is not made by sweating together a number of caps coated with a soldering metal. It has re-enforcing washers at the end where there is an aperture, but if claim 5 of the patent is not to be confined to re-enforcing washers applied to the end of such a lamellar vessel as the specification describes, the state of the art is shown to have been such that there was no invention in applying a re-enforcing washer to an aperture in a structure such as the defendant's, at the time Matthews made his invention. Such a washer as the defendant uses existed, substantially, before Matthews' invention, in the Gee structure, of 1870, and in analogous metal structures, such as generators, for holding liquids under pressure. Aside from this, the patent was not applied for till August 7, 1874, and the extensive use which Matthews made, from February, 1871, to February, 1872, in his regular business, of fountains with the aperture head re-enforced by washers, the washers being numbered by thousands, cannot be regarded as a use for experiment. The experiment might as well have continued till now, to see if some one washer would not give way.

The specification of No. 179,583, referring to the drawing accompanying it, says:

"Figure 1 shows a longitudinal section of my invention. The improvement consists in forming the bung for the cock or plug of the fountain in such a manner that the recess for the soft metal or other washer is obtained.

It also consists in protecting the inner face of the metal bung. In the drawing, *a* is the metallic bung; F, the fountain-case, or shell; *b*, nut to hold the bung in position; *c*, recess for washer; *e*, body of faucet; *d*, screw-thread stem of faucet; and *g*, the lining of the fountain. Recesses in the top of the fountain case have been long used, but may be more easily constructed by placing them in the bung, as shown, the bung being made of a separate piece of metal. The washers may also be more readily turned or tinned. The first part of the invention, therefore, consists in forming a recess, *c*, in the top of the bung, so as to hold a washer between the bung and the screw faucet stem. The second part of the invention consists in carrying the lining of the fountain over the flange of the bung, so as to protect the inner end of the bung. It is usual to carry the lining between the bung and the fountain case. This leaves the bung, which is usually of brass, exposed to the action of the beverage, which thereby becomes contaminated. By carrying the lining, *g*, over the internal face of the bung, and soldering it thereon, the bung is protected against all action from the aerated water, or other beverage, and these are not liable to become contaminated. This invention is applicable to all kinds of fountains or reservoirs in which a metallic bung is inserted with a draught faucet."

There are two claims, as follows:

"(1) A metallic bung, provided with a recess, *c*, in combination with faucet, *e*, *d*, substantially as described. (2) In a fountain, a lining carried over the inner face of a metallic bung, and soldered thereto, substantially as shown, so as to protect the bung against corrosion, as set forth."

Two experts for the defendant testify that the defendant's structure, E, has no washer in the bung casting, nor any recess that would receive and support such a washer, and does not contain the combination covered by claim 1, even when the cock or faucet is screwed into the bung of E. Nor does any expert for the plaintiffs testify that the defendant has any such washer in a recess, or any such recess for a washer. Moreover, a washer so confined in a recess in a cock, that it operated, when squeezed, to pack a joint, existed before, and it hardly amounted to a patentable invention to change the position of the recess from the cock to the bung, there being no other result than convenience.

As to claim 2 of No. 179,583, the specification is for "improvements in fountains for containing aerated beverages," and states that the invention covered by the two claims is "applicable to all kinds of fountains or reservoirs in which a metallic bung is inserted with a draught faucet." Claim 2 is for a lining carried over the inner face of a metallic bung, and soldered to it, instead of being carried outside of the bung, so as to protect such inner face against corrosion. This claim is broadly for protecting a metallic bung by a lining of any material, soldered to the inner face of such bung, so as to prevent access of the contents of the vessel to such inner face. In view of the state of the art, as proved, there was nothing new or patentable in such a claim. The arrangement was an old one in generators, to protect the bung by carrying the lead lining over the inner face of the bung, to keep the acid of the liquid from the brass of the bung. Whether the lining was soldered to the bung or not, there was no invention in mak-

ing it permanent by soldering, or by any other effective mode of attachment, in view of the state of the art of soldering.

It results, from these considerations, that, as to all the patents, the bill must be dismissed, with costs.

ADAMS & WESTLAKE MANUF'G CO. *v.* WILSON PACKING CO. and others.

(*Circuit Court, N. D. Illinois.* August 9, 1884.)

1. PATENTS FOR INVENTIONS—SOLDERING PROCESS—NOVELTY.
Patent 191,405, granted to George M. Clark and Arthur Harris, May 19, 1877, for an "improvement in soldering process," *held* void for want of novelty.
2. SAME—INFRINGEMENT—SOLDERING TOOL.
Patent No. 194,519, granted to Clark and Harris, as assignee of Arthur Harris, August 27, 1877, for an "improvement in soldering tools," *held* infringed by soldering tool used by defendant.

In Equity.

Coburn & Thacher, for complainant.

Munday, Evarts & Adcock, for defendants.

BLODGETT, J. This suit is brought to restrain the infringement of letters patent No. 191,405, granted to George M. Clark and Arthur Harris, May 19, 1877, for an "improvement in soldering processes," and letters patent No. 194,519, granted to said Harris and to said Clark, as assignee of said Harris, August 27, 1877, for an "improvement in soldering tools," both of which patents are assigned to complainant, and no question is raised as to complainant's title.

I do not understand that defendants seriously deny that they have used substantially the same process described in the first-mentioned patent, but they deny the infringement of patent No. 194,519. Patent No. 191,405 purports, as I understand and construe it, to be for a process. The inventors say in their specifications:

"Our invention relates to a new and useful process or soldering tin cans without the use of soldering irons; and consists in heating the joint to be soldered to a high temperature, as high as the tin will bear without burning or becoming discolored, and then, after applying resin, either in the powdered or liquid form, pouring into the joint molten solder. The solder flows and fills the joint on account of its being heated to a high temperature. The necessary requisite to our invention is to have the parts of the can which constitute or form the joints to be soldered, heated, so that the solder, which must also be in a liquid state, will flow in the joint and fill it. * * * We are aware that joints have been heated preparatory to soldering, and the solder laid on cold; but the purpose was to heat sufficiently to melt the solder when applied. This requires a very high temperature, which is very liable to scorch the tin, and there is great inconvenience in applying the solder cold, and relying upon its contact with the tin to melt it and heat it sufficiently, so that it will flow readily. We melt the solder separately, and only heat the joint to a sufficiently high temperature, so that the melted solder, when poured upon the joint, will at once flow and fill the joint. We avoid the great dan-

ger of scorching the tin, and, by using melted solder, are enabled to solder tin cans with great facility."

The proof in this case shows, if it were not already admitted in the specifications themselves, that devices for soldering had been patented, and perhaps otherwise publicly described, in which a wire, strip, or drop of cold solder had been laid upon the joint, and then the joint sufficiently heated, by contact with a hot table or metallic plate, to melt the solder; and it also appears that other devices had been patented—where the joint, after being heated sufficiently to secure the adhesion of the solder, was dipped into molten solder, or turned in a groove fitted to receive the flange-joint of the can, into which the melted solder had been poured—long before the invention claimed by complainant's patent. In the patent of Robert J. Hollingsworth, dated September 12, 1865, he describes a hollow metallic plate, G, with grooves fitted to the form of the can to be soldered, with a provision for heating this plate, and then describes his process, as follows:

"When the plate is sufficiently hot for use, a can previously supplied with a coil of solder wire is placed on it, so that the groove of one of its joints, B, will fit in one of the grooves, G, of the plate. So soon as the solder begins to flow, the can is to be shifted and shook a little, so as to distribute it more perfectly around the joints. It is then taken off. Each of the grooves, G, is to receive a can at the same time; and, since the operation takes very little time, a large number of cans can be soldered in a given time. The top and bottom joints are soldered in the same way. This mode of soldering the bottom and top joints preserves the side joint or seam, which is soldered on the outside, in good order, without impairing it at the joint, B, of the top and bottom of the can, as is liable to be done in the common mode of soldering the joints, B, only on the outside."

In the specifications of the patent issued June 6, 1871, to Isaac Kaylar, it is said:

"The soldering of the top and bottom of the can is effected by placing the can on the heated plate or soldering bed, G, with a small lump of drop solder inserted in the can, as represented in figure 3, when the solder will adjust itself and be caused to melt immediately over the lowest point of the grooved end of the can, so that by turning the latter once, twice, or more frequently if necessary around the plate, G, the solder will flow or be distributed all around the joint of the can, and the same thus be made tight. The general heated surface of the plate, G, prepares or warms the ends of the can before or as its edge approaches the hottest point in the plate over which the solder lies, thus expediting the soldering of the joint; and, to further expedite the process, the cans to be soldered may be preliminarily heated by arranging them on heated shelves connected with the furnace."

This inventor further says that he uses drop solder in place of ring solder arranged around a groove, because it can be done more rapidly, and save labor and trouble. In the patent issued to Jacob Gulden, dated July 16, 1872, the process shown is that of heating a metallic table having a recess or groove fitted to receive the end of the can into which melted solder is poured, the end of the can being turned thereon to take up the solder so as to close the joint. It is

unnecessary to select further illustrations from the large number of prior patents introduced in evidence to show that heating the ends of the can or joints, in order to prepare them for receiving solder, was not new with this inventor; indeed, the testimony in this case, as to the art of soldering, shows that tin, to make it unite with or take solder, must be heated to quite a high degree of temperature; and this, in the old way of doing the work, was accomplished by the soldering-iron, which, in the hands of a skillful workman, was made to heat the joint in advance of laying on the melted solder with the point of the iron.

It will be seen that the patentees in this case provide no special method for heating the joints or ends of their cans to be soldered. They do, however, as a mode of showing how their *process* can be applied, say that "they place the cans to be operated upon, upon a hot metal plate, so that the joint may become heated uniformly, and to as high a temperature as it will bear without scorching or discoloring the tin;" that they then put some resin about the joint in the ordinary manner of preparing it for solder, and then, with a ladle or similar article, pour the melted solder into the groove, and it immediately flows around and fills the heated joint, soldering the same more perfectly than it can be done with the soldering iron. It appearing sufficiently from the proof that it was old at the time these inventors entered the field to heat the joints for the purpose of making them receptive of the solder, the only element left in the complainant's patent, wherein it differs from the older devices for producing the same result, is that, instead of heating the joint to such an extent as to cause it to melt cold solder or drop solder, or solder wire placed in or around the joint, and instead of turning the heated joints in a groove filled with melted solder, these patentees pour hot solder around the heated joint; and the question arises, is this a patentable difference? My conclusion is that when the advantage of heating the joint for the purpose of making it take solder more readily, and of heating upon a metallic table, or in a gas jet, or by any of the other methods shown in the proof in this case, was once devised, there is no invention, and no calling into action of the inventive faculty in changing the process from that of turning the heated can in molten solder to that of pouring melted solder into the joint from a cup, ladle, or other article capable of holding it. It therefore seems to me that this patent must be held void for want of novelty.

As to the patent No. 194,519, for an "improvement in soldering tools," the evidence in the record shows very little use by the defendant of this device; in fact, I did not understand that the infringement of this patent was seriously insisted upon. The proof does show some slight use by the defendant of the device of a soldering tool covered by this patent, or another instrument so similar in construction and operation as to be clearly an infringement of this.

I conclude, therefore, there must be a finding under the proof that the defendants have infringed No. 194,519; and, if the matter is of consequence enough for counsel to demand a reference on the question of damages, such reference will be ordered.

THE LEPANTO.

NEDERLANDSCH AMERICAANSCHE STOOMVART MAATSCHAPPY *v.* THE LEPANTO and another.

(*District Court, S. D. New York.* August 23, 1884.)

1. COLLISION—FOG SIGNALS—ERRONEOUS LOCATION OF WHISTLE NOT A FAULT.
An error of five points in locating a vessel's position by the sound of her whistle in a fog is not necessarily a fault, under the proved aberrations in the course of sound.
2. SAME—DUTY OF VESSEL.
If the sound comes apparently from a definite direction, a steamer is justified in steering away from it; but if it seem *near*, she is also bound, at her peril, to stop and reverse at once. If she does not do so, she must, *prima facie*, answer according to the event.
3. SAME—MODERATE SPEED.
Where a steamer is properly officered and manned, and her officers and lookout are attentive and alert, and locate a whistle according to the best judgment attainable at the time, if her previous speed was moderate, and on first hearing the whistle in a definite direction, apparently near, she at once steers away from its apparent direction, and immediately stops and reverses her engines at full speed, she does all that is possible on her part to avoid collision, and is not liable; and if both vessels do the same, and a collision ensue on account of an erroneous location of the whistle by one or the other, it must be set down to inevitable accident, and the loss remains where it fell; but if either fail in these duties, and a collision ensue that would have been avoided by observing them, the fault is hers that neglected these obligations.
4. SAME—CASE STATED.
The steamer E. was going E. ½ S., in a dense fog, near George's bank, under reduced speed of seven to seven and one-half knots; the steamer L. was going west under half speed, four and one-half knots; they heard each other's whistles about the same time, and about four minutes before collision; the E. located the L.'s whistle three to four points on her starboard bow, *i. e.*, about S. E., and at once starboarded, to go to the northward, and (probably) slowed, but did not reverse; the L. located the E.'s whistle about two points on her port bow, *i. e.*, about W. S. W., and at once ported, to go to the northward, also, and at the same time reversed full speed; when the E. had got heading N. E., and the L., W. N. W., the L. struck the E. amidships, and the E. soon sunk. *Held*, on conflicting evidence, that both were in error as to the bearing of each other's whistles; that they were about 3,100 feet apart when the whistles were first heard; that the L. was in fact about one and one-half points on the E.'s port bow, instead of three to four points on her starboard bow, and that this error was material; that the E. was about two-thirds of a point, instead of two points, on the L.'s port bow, but that this error was immaterial as respects the L.'s navigation. *Held*, that neither was in fault for mere error in locating the other, or for steering to the northward; but that the E. was in fault, both for excessive speed (seven and one-half knots) when the whistle was first heard, and also for not reversing at once, the L.'s whistle seeming *near*. *Held, also*, that the L. was nearly stopped at the collision, and would