knowingly presented a false affidavit in support of the claim for a pension. This affidavit, which is expressly charged to be false and fraudulent, and whose false and fraudulent character was at the time well known to the defendants, was by defendants presented at Wapello county, Iowa, on July 8, 1890, to the commissioner of pensions, in support of the pension claim of George S. Boone; and the money to be paid upon said pension by the government was the money of which the defendants conspired to defraud the United States. Or, stating the indictment in another form, defendants (1) conspired (2) to defraud the United States out of money through a fraudulent claim for pension, by them to be made to the commissioner of pensions for his allowance, and (3) knowingly presented to said commissioner a false affidavit in support of and concerning said pension claim.

Under the statutes and authorities with reference to the clearness and detail with which an indictment must charge the offense, (section 1025, Rev. St.; *U. S.* v. *Waddell*, 112 U. S. 76, 5 Sup. Ct. Rep. 35; *U. S.* v. *Britton*, 107 U. S. 655, 2 Sup. Ct. Rep. 512,) we find this indictment sufficient. If any complaint could be justly urged, such complaint would rather be that the indictment is so unnecessarily diffuse and minute as that its clearness of statement is thereby impaired. As the indictment charges a statutory offense, and as it also "clearly apprises defendants of the identical crime with which they are charged, so that they may prepare to meet the accusation," (*U. S.* v. *Fero*, 18 Fed. Rep. 905,) the demurrer must be overruled; and it is so ordered.

SHIRAS, District Judge, concurs.

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## STILWELL & BIERCE MANUF'G CO. *v.* BROWN *et al.*

(*Circuit Court, S. D. Ohio, W. D.* March 12, 1892.)

1. PATENTS FOR INVENTIONS—NOVELTY AND USEFULNESS—FEED-WATER PURIFIERS.
Letters patent No. 274,048, issued March 18, 1883, to Edwin R. Stilwell, covers a live-steam heater or feed-water purifier, connected with the boiler by steam-pipes, and having a series of pans vertically arranged above the filter, and a space or chamber above the pans, and water inlet, connected to the steam-dome by a pipe, so as to discharge the gases from the top of the purifier directly into the boiler. *Held*, that the gas-discharge pipe was both a novel and useful feature, and such an advance over letters patent No. 66,998, issued July 23, 1867, to the same inventor, as well as over all other prior inventions, as to sustain the validity of the patent.

2. SAME—INFRINGEMENT.
The patent is infringed by a heater which uses the gas-discharge pipe connected to the top of the heater, notwithstanding that at the other end it is connected with the steam-pipe of the feed-pump, instead of with the dome of the boiler.

In Equity. Suit by the Stilwell & Bierce Manufacturing Company against S. N. Brown & Co. for infringement of a patent. Decree for injunction and an accounting.

STATEMENT BY SAGE, DISTRICT JUDGE.

This suit is brought to restrain the infringement of letters patent No. 274,048, granted March 18, 1883, to Edwin R. Stilwell, for feed-water heater and purifier, and by him assigned to the complainant company. The patent relates to what is called a "live-steam purifier." The object of the invention is to heat and purify the feed-water in a vessel separate from the boiler, and so connected to it by pipes that live steam will enter the purifier from the boiler and heat the feed-water, removing its impurities, and passing it into the boilers in a pure state. The patent contains two claims, as follows:

"(1) A live-steam feed-water purifying or heating apparatus, D, connected to the boiler by means of a water-pipe, K, steam-feed pipes, L, and gas-escape pipe, M, substantially as herein set forth.

"(2) A live-steam heater or feed-water purifier, having a series of pans, vertically arranged above the filter, and a space or chamber above the pans, and water inlet, connected to the steam-dome by a pipe, so as to discharge the gases from the top of the purifier directly into the boiler, substantially as herein set forth."

The bill also charges the infringement of letters patent No. 434,324, granted August 12, 1890, to Ralph B. Day, for live-steam purifier, and assigned by him to the complainant; but this charge has been withdrawn, and the bill as to this patent dismissed.

The patentee of No. 274,048 sets forth in the specification that the principal feature of his invention (which consists in connecting by a pipe the top of the heater with the steam-dome of the boiler and with the steam-space of the boiler) can be employed with a combined heater and purifier, or with either a heater or purifier. This connection is by means of what is termed in the claim "gas-escape pipe, M," passing from near the top of the purifier into the steam-dome of the boiler. The object of this pipe is to allow the direct escape of the gases generated in the heater. The shell of the heater, which is circular, is constructed of boiler-iron, adapted to resist the same pressure as the boiler. It is placed vertically at the side of the boiler, and contains, in its upper part, a series of shelves or pans, over which the cold water, admitted at the top through a pipe, passes, in the operation of heating and purification. The water is first admitted into an overflow pan. This pan is placed opposite the upper steam-pipe, L', which is supplied by live steam direct from the boiler, so that a current of steam will strike against the water as it passes from the overflow pan on to the series of shelves or pans immediately below. At or near the bottom of the series of shelves or pans, a branch steam-pipe, L, from the boiler, admits steam, which passes up over the pans as the water passes down. By employing steam-pipes from two to four inches in diameter, the water in the purifier is kept at or near the same temperature as that in the boiler, and the space above the overflow pan forms, in fact, a part of the steam-dome of the boiler. As a consequence, the inventor states, deleterious gases, escaping from the water as it is being freed from impurities, rise into that space, and

pass through the gas-escape pipe into the steam-dome of the boiler without passing through the boiler itself. The inventor sets forth that another very important result is that by thus highly heating the water in the purifier a much more perfect purification is obtained than in purifiers, which do not in fact form a part of the boiler, by employing live-steam pipe connections to heat and purify the feed-water. In the complainant's purifier, the water, having been heated in passing over a series of shelves or pans, where the mineral impurities are mostly removed, is passed down through a passage on one side of the filter chamber into a mud-well. This chamber and the mud-well, with a filtering chamber, constitute the lower portion of the purifier, where the heavier substance settles, and may be blown off from time to time, through a pipe at the bottom of the purifier. The water passes from the mud-well into the filtering chamber, thence up through any suitable filtering medium, and through pipe, K, into the mud-drum located immediately below the boiler; or pipe, K, may connect with the boiler direct.

The defendants' purifier was manufactured by the Hoppes Manufacturing Company of Springfield, Ohio, which manufactures and sells the Hoppes feed-water heater and purifiers under letters patent 318,112, granted May 19, 1885, to John J. Hoppes, of Springfield, Ohio. The defendants' purifier, as made and sent out by the manufacturers, was provided with but one flange for steam connection, and the usual openings for the other pipe connections. The defendants' purifier was first connected up by a single pipe to the boiler-drum. Afterwards two pipes were put in near one end of the purifier, and, these not accomplishing the desired result, as there was no deposit on the rear end of the purifier, the defendants made a second pipe connection from the rear end of the purifier to the steam-pipe, and in this instance the steam-pipe run the feed-pump. The purifier itself is placed longitudinally, instead of vertically. It is a metallic cylinder, constructed of boiler iron, and provided at each end with suitable covers or heads, which are removable. Extending longitudinally through the cylinder is a series of troughs, arranged one above another, and closed at each end by suitable end-pieces, which extend above the side of the trough, each being provided at either side with a projection adapted to rest on supporting rods or ways, which extend longitudinally along each side of the interior of the cylinder, and are secured to supporting brackets, which are in turn secured to the cylinder. The troughs are adapted to slide on these rods or ways, and, when one or both the heads of the cylinder are removed, may be readily withdrawn from or slipped into the cylinder. Immediately above the upper trough is a perforated supply pipe, provided with a perforated bottom, and extending longitudinally within the cylinder and near its top, almost the entire length of the upper trough. This pipe is connected by a suitable inlet pipe to the pump or other source of water supply. Immediately under the lower trough is a removable horizontal plate, the edges of which are turned up so as to form flanges, which rest on the lower curve of the cylinder; said plate thus forming, with

the bottom of the cylinder, a compartment which closes at each end by vertical perforated plates. The removable horizontal plate is extended at its rear end beyond the troughs, and is provided with a head or flange projecting upward beyond the bottom of the lower trough, the flange being considerably shorter than the trough. Its forward end does not extend out to the end of the troughs, but rests on the perforated vertical plate, thus forming a pocket or chamber in the forward part of the bottom of the cylinder. The vertical perforated plate which closes the rear end of the compartment in which the filtering material is placed extends back some distance, so as to form a chamber to the rear of the filtering chamber, and under the plate. From this chamber leads the water-exit pipe, which extends downward and out from some distance above the bottom of the chamber. When this heater is used as a live-steam heater, a connection from the steam reservoir of the boiler is established by a pipe which leads into the top of the cylinder of the heater, the exit pipe above described being connected to the water inlet of the boiler. There is also a blow-off or discharge pipe, which leads from the chamber above described, which is in front of the filtering compartment. The plates above described are made removable for the purpose of removing or replacing the filtering substance, and that they may be easily cleaned. When used as a live-steam heater, the bottom of the casing or cylinder is so placed as to be above the water-line of the boiler. The operation is as follows: The water is pumped or otherwise forced into the supply pipe, and falls into the top trough. When that trough is filled, the water falls over the sides thereof, and, following the outer surface of the bottom, which is curved, flows in a uniform sheet thereunder until it reaches the center, when it drops into the trough below, and so on through each successive trough, until it falls on the horizontal plate, and flows along the same into chamber, C, below. From that chamber it passes through the filtering chamber into the exit chamber, and thence through the exit pipe into the boiler. As the water passes through the troughs, it is brought into direct contact with the steam, and becomes throughly heated. As each trough remains filled with water, the sediment or impurities fall to the bottom, and are retained. The water, flowing in a uniform sheet under the bottom of the troughs, and subjected to the direct action of the steam, parts with the lime or other incrustating substances which it contains, and these are deposited on the under side of the troughs. There are some other details of construction to which it is not necessary to refer. It is obvious from this description that the change from the vertical position of the purifier to the longitudinal is not material, and it is conceded that the purifier as it came from the manufacturers, and as it was first set up for use by the defendants, was not an infringement of the complainant's.

*Wood & Boyd*, for complainant.

*Paul A. Staley*, for respondents.

SAGE, District Judge, (*after stating the case.*) It is conceded that the only real difference between the complainant's purifier and that patented

to Edwin R. Stilwell, July 23, 1867, (No. 66,998,) is by the addition of the gas-escape pipe, M, as shown in the complainant's purifier. The purifier patented July 23, 1867, had but one pipe, connecting with the boiler, and supplying steam; and one pipe, connecting the water-well of the purifier to the boiler, for supplying the boiler. That purifier was designed to do its work, so it is stated in the specification, by the action of live steam direct from the boiler. Prior to that is shown patent No. 41,374, January 26, 1864, to A. M. Granger, wherein the steam-supply pipe connects with the main steam-pipe, which supplies the engine, or, it is stated, may be connected to receive steam directly from the boiler. On September 18, 1866, patent No. 58,099 was issued to Hasecoster and Stephens, for a feed-water heater with an inlet and outlet steam-pipe, corresponding to steam-pipes, L' and L," in complainant's purifier. Steam was introduced into that heater from the exhaust pipe of the engine, through the lower steam-pipe, and the upper pipe was provided for its escape at or near the upper end of the vertical sheet-iron cylinder or shell of the heater, which was intended to be also a purifier. Patent No. 169,362, to Tellier, November 2, 1875, for water filter and purifier, shows at the top of the cover a gas-escape pipe, provided with an automatic valve. A common instance of the use of valves or pipes to permit the escape of air or gas in order that the live steam may enter is in steam radiators for heating purposes. In Hayes, Jeffrey & Schlachs' heater and purifier, — patent No. 226,068, March 30, 1880, — the feed-water enters at the top of the dome of a steam boiler, and passes down through filtering material, and thence directly to the boiler. Two tubes, each two inches or more in diameter, and extending from the boiler into the upper part of the dome, constitute the passage-way for live steam to heat the water and assist in the purification. French's purifier, patented December 6, 1881, (No. 250,519,) upon an application filed August 23, 1880, has an outer drum or jacket surrounding the purifier, and supplied with live steam from the boiler above the water-line, the object being to keep the inner drum—which is the purifier—hot. The bottom of this outer drum is connected by a pipe with the boiler, so that the steam which, by condensation in the space between the two drums becomes water, will run into the water by gravity. French subsequently made an improvement on this purifier, for which he obtained patent No. 250,520, applied for September 5, 1881, and granted December 6, 1881. This improvement shows a pump in the dome of the boiler, which, by pipe connection, forces steam from the boiler through the purifier also, and, as an alternative device, a pump for exhausting the steam through the connecting pipe from the purifier to the boiler. For this last pump, it is stated in the specification, an injector or syphon may be substituted. By changing the connection, the operation of the first pump may be reversed; that is to say, it will exhaust the steam through the apparatus, instead of forcing it into the apparatus, either way causing the desired circulation.

The above are the anticipating devices offered on behalf of the defendant. Without entering upon a detailed examination of them, it will be

sufficient to say that, if the earlier patent to Stilwell (No. 66,998, July 23, 1867) does not anticipate the complainant's patent, none of the others do. The radical difference between that and the complainant's purifier is that the complainant's is provided with the gas-escape pipe, M. The supply pipes being of large capacity, the temperature of the water in the purifier and in the boiler is nearly the same. As a consequence, deleterious gases and air are set free. These rise to the top of the purifier, where, but for the escape pipe, M, they would accumulate and prevent the contact of the steam with the cold water as it is introduced into the heater, and retard the condensation of the steam, and thereby the heating of the water to be purified. The escape pipe, M, connecting the purifier with the dome of the boiler, causes a constant discharge of the gas, and also a free and constant circulation, greatly facilitating the heating of the water in the purifier, and increasing the deposit of impurities. This very desirable result had not been so well accomplished by any one of the previous devices. There is a conflict of views and theories, as disclosed by the testimony, with reference to the method by which the result is accomplished. I shall not stop to consider them. I do not care to go into the discussion of the philosophy of the operation of the complainant's device. It is urged on behalf of the defendants that the escape pipe is not necessary for the production of the desired result of circulation, and that the steam-pipes connecting with the boiler will, if made large enough, accomplish the same result by passing the steam in through the under pipe, and the gases out through the upper part of the pipe. That may be true, and that method was and is free to the defendants. If it would effect the purpose, they were and are at liberty to use it. The difficulty with theories is that they can be used to support either side of a case, and that is peculiarly true of this case. But what we have to deal with is facts; and, whatever may be said in support of this or that or the other theory, the record shows that the complainant's device is the result of a long-continued course of experiments, and that in fact it has proven to be more effective than any which preceded it. Even the defendants' record establishes that the escape pipe which was attached to their purifier, and connected it with the steam-pipe, was applied because without it the operation of their purifier was not satisfactory, and that it remedied the defects. It is contended for the defendants that the defect resulted from the faulty construction of the boiler, and was not in the purifier or its connections; but the fact remains that the only thing that was found that would remedy it was the escape pipe, and that did completely remedy it, and did at the same time conclusively prove the practical utility and value of the complainant's device. The testimony for the complainant proves that its purifier does its work successfully, and keeps the boilers in good condition. The evidence satisfactorily establishes not only its utility, but its superiority. That it is novel is, I think, equally clear; and I am satisfied that it is an invention. Perhaps it might also be termed a "discovery," because it was the result of experiments which finally led to the construction that

was patented. That the defendants infringe is, I think, also clear. It is true that the escape pipe of their purifier is connected to the steam-pipe which supplies the steam to run the feed-pump, and is not connected to the dome of the boiler; but the variation is not material, and does not make the defendants any less infringers. The decree will be for the complainant, for an injunction, with costs.

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## VULCANIZED FIBER CO. *v.* TAYLOR.

(*Circuit Court, D. Delaware.* July 27, 1891.)

PATENTS FOR INVENTIONS — INVENTION — SUBSTITUTION OF MATERIALS — CHAIR BACKS, ETC.

Letters patent No. 185,576, issued December 19, 1876, to Reuben H. Plass, for an improvement in seats and backs for chairs, and claiming simply the substitution of vulcanized fiber for veneers, coated paper, metal, etc., are void for want of invention, as the application of an old material to a new use, as a mere substitute, is in no sense an invention or discovery. *Smith* v. *Vulcanite Co.*, 93 U. S. 486, distinguished.

In Equity. Suit by the Vulcanized Fiber Company against Edward M. Taylor for infringement of a patent. On motion for preliminary injunction. Denied.

*Bradford & Vandegrift*, for complainants.

*Wm. S. Hilles*, for defendant.

WALES, District Judge. Letters patent No. 185,576, dated December 19, 1876, for an improvement in seats and backs for chairs, were issued to Reuben H. Plass, and subsequently, by sundry mesne assignments, became the property of the complainant corporation, which now sues the defendant for an infringement. The defense is want of novelty and the consequent unpatentability of the alleged improvement. The specification states the object of the improvement to be—

"A seat or back for chairs, lounges, etc., of greater strength, durability, and rigidity, and less liable to be affected by the atmosphere than those of the ordinary character. Heretofore veneers, coated paper, metal, and other materials have been employed as substitutes for cane and leather in the manufacture of seats and backs for chairs, etc., but to a greater or less degree have failed to meet the requirements of a practical article."

After detailing the objections to other materials, and in the making of chair seats and backs, the specification continues:

"My improved seat, which is liable to none of these objections, consists of vegetable fiber formed into a sheet which is tough, elastic, light in weight, flexible, yet possessing the requisite stiffness, extremely durable, and of any required color."

The specification next describes the process of making the vegetable fiber, and concludes: