

10FED.CAS.—54

Case No. 5,633.

GOTTFRIED ET AL. V. PHILLIP BEST BREWING CO. SAME V. BLATZ.
SAME V. JOSEPH SCHLITZ BREWING CO. SAME V. OBERMANN ET AL.
SAME V. FORTUNE ET AL. SAME V. BAR-THOLOMAE ET AL. SAME V.
SCHOEN-HOPEN.

[5 Ban. & A. 4;¹ 17 O. G. 675.]

Circuit Court, E. D. Wisconsin.

Dec. 1, 1879.

PATENTS—JOINT INVENTION—CHANGES IN ORIGINAL
INVENTION—SPECIFICATION—“IMPROVED MODE OF PITCHING BARRELS”

1. To overthrow the presumption of joint invention raised by the filing of a joint application upon a joint oath, the evidence must be clear and unequivocal.

[Approved in Consolidated Bunting Apparatus Co. v. Woerle, 29 Fed. 451. Cited in Edison Electric Light Co. v. Beacon Vacuum Pump & Electrical Co., 54 Fed. 693.]

2. Joint invention is the result of mutual contributions of the parties; and, if one suggests an idea in a general way and the other falls in with it, and, by his aid, develops and gives definite practical embodiment to it, the two may be considered joint inventors.
3. If a patented machine is torn down and afterwards rebuilt, and, in the rebuilding, changed so as to lose its identity and become substantially a new construction, its owner will not be authorized to use it under a license limited to the original machine.
4. Features of construction indispensable to the operation of a machine for the purpose for which it is intended, cannot be disregarded in determining whether such machine anticipates a subsequent patent.
5. The description in a prior patent or publication, to anticipate a subsequent patent, must embody substantially the same organized mechanism, operating substantially in the same manner as that described in the patent claimed to have been anticipated.
6. Old instruments placed in new and different organizations, producing in such situation different results, or the same results by a new and different mode of operation, do not prevent such newly organized mechanism from being patentable.
7. To justify a court in overthrowing a patent granted for what appears to be a new and useful invention or improvement, on the ground that the device has been anticipated by another and earlier invention, the court should be well satisfied by clear and credible testimony, that the alleged earlier invention actually existed; that it was a perfected device, capable of practical use, and that it was embodied in distinct form, and carried into operation as a complete thing, and was not merely an unperfected or abandoned experiment.

[Cited in Gottfried v. Crescent Brewing Co., 9 Fed. 763; Crescent Brewing Co. v. Gottfried, 128 U. S. 165, 9 Sup. Ct, 85.]

8. A rude machine constructed for the purpose of experiment, and subsequently broken up, deserted, and abandoned, cannot be regarded as such a perfected invention as will defeat a patent.
9. Particular changes may be made in the construction and operation of an old machine, so as to adapt it to a new and valuable use not

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known before, and to which the old machine had not been, and could not be applied without those changes; and, under these circumstances and conditions, if the machine, as changed and modified, produces a new and useful result, it may be patentable and upheld under existing laws.

10. Claims containing words referring back to the specification, must be construed in the light of the explanations contained in the specification.
11. A claim to “the application of heated air, under blast, to the interior of casks, by means substantially as described and for the purposes set forth,” embraces the particular means and mode of operation described in the specification.
12. The validity of letters patent No. 42,580 granted to Matthew Gottfried and J. F. T. Holbeck. May 3d, 1864, for an improved mode of pitching barrels, reaffirmed.

[Cited in *Gottfried v. Miller*, 10 Fed. 472.]

[These were bills in equity brought by Matthew Gottfried and others against the Phillip Best Brewing Company, and against Valentine Blatz, the Joseph Schlitz Brewing Company, Jacob Obermann and others, Peter Fortune and others, Frank Bartholomae and others, and Peter Schoenhofen.]

Banning & Banning, for complainants.

Finches, Lynde & Miller and Jussen & Anderson, for defendants.

DYER, District Judge. The Issues and History of Cases.—These are cases involving the validity of a patent issued to complainants, as the alleged inventors of an improvement in pitching barrels. The four first entitled cases were commenced and are pending in this court. The three other cases are pending in the circuit court of the United States for the Northern district of Illinois, and, as all involve the validity of the same patent, it was stipulated that all should be heard together and decided by the court in this district, and that the same decrees might be entered in the cases in Illinois that should be entered in the cases pending in this court. The bills in all the cases are similar, alleging that complainants Gottfried and Holbeck were the original and first inventors of a new and useful improvement in pitching barrels; that letters patent were issued to them, dated May 3, 1864 [No. 42,580], and that the defendants are infringers; and the prayers of the bills are for injunctions and accounts.

The answers of the defendants in the cases pending in this court deny that Gottfried and Holbeck were the original inventors of the alleged improvement or device, and present issues as to the validity of complainants' patent. As further defences, it is alleged that complainants' invention is anticipated, first, by a mechanism used by one Samuel Pierce, at Greenfield, Massachusetts, in the soldering business; second, by what is known as the Beck machine; third, by the Davison and Symington patent, granted in England in 1843; fourth, by a patent granted in England to Charles Pierre De Vaux in 1835; fifth, by the Neilson patent, granted in England in 1828; sixth, by a patent granted in England to George Hinton Boville in 1846; seventh, by the Cochrane and Galloway patent, granted in England in 1818. Further defences are interposed to the effect that the description of complainants' invention, as set forth in the specifications annexed to the letters patent,

is incomplete and ambiguous; that complainant Holbeck was not a joint inventor with complainant Gottfried; that complainants' apparatus is an old invention applied to a new use and object, and that this new use and object are analogous to the use and object to effect which such invention had been previously notoriously used; and infringement by the defendants is denied.

The original answers in the Illinois cases also deny that Gottfried and Holbeck are the original and first inventors of their device. They further set up the Neilson patent and the Davison and Symington patent as anticipating complainants' invention, and infringement is denied. The cases in Illinois were brought to final hearing, and, in June, 1878, a decree was entered in favor of complainants. Afterwards, and at the December term, 1878, on motion, the decree was opened and the defendants allowed to make further defences. On the 4th day of March, 1879, the defendants in those cases filed amendments to their answers, in which it was averred that complainant Holbeck was not a joint inventor with Gottfried of the device which they alleged was their invention, and in which the defendants set up anew the Davison and Symington patent, and also the patent issued to De Vaux, as anticipating complainants' patent. The defendant Schoenhofen, in his amended answer, also alleged that about the 12th day of April, 1877, complainant Holbeck gave him full license to use and operate the pitching machine which was then in use in his brewery.

From the issues made by the bins and original answers in the Illinois cases, and from the opinion of Judge Blodgett—*Gottfried v. Bartholomae* [Case No. 5,632],—it is evident that the contest in those cases was upon the questions as to whether complainants' patent was anticipated by the Davison and Symington, and the Neilson patents, and as to whether the devices employed by the defendants in those cases were infringements of complainants' patent. The court held that complainants' patent was not anticipated by the two patents mentioned, and that the devices used by the defendants in those cases, including what are known as the Vogt machine and the Shlaudeman machine, infringed complainants' patent.

The application for a rehearing in the Illinois cases was based upon affidavits to the effect that complainant Holbeck was not a joint inventor with complainant Gottfried of the invention covered by their letters patent, and that complainants' patent was anticipated

by the patent to De Vaux, issued in 1835, all of which was claimed to be newly discovered evidence which came to the knowledge of the defendants in those cases subsequent to the entering of the decree sustaining complainants' patent. And, from the opinion of Judge Blodgett opening the decrees and granting a rehearing, it appears that such action was taken to enable the defendants in the Illinois cases to interpose, as new defences, the claims that Holbeek was not a joint inventor with Gottfried, and that their patent was anticipated by the De Vaux patent, and these, together with the claim by the defendant Shoenhofen, that he obtained from the complainant Holbeek a license to use and operate the pitching machine in use in his brewery, constitute the additional defences set up by the defendants in the Illinois cases in their amendments to their original answers, which were filed after the decree was opened and the re-hearing granted.

Complainants' Invention.—Complainants' alleged invention consists of an improvement in pitching barrels, or, more; accurately speaking, in heating barrels preparatory to the operation of pitching them; the object of the invention being the preparation of casks or barrels for receiving pitch to render them impervious to the air, by subjecting them to blasts of highly heated air by means of an apparatus which is described as consisting of a furnace which has a vertical central opening through it. Near the base of the furnace is a grate, beneath which is an ash pit, and above which is a fire-chamber covered by a lid. An opening is made through the side of the furnace, which forms an external communication with the internal chamber, either below or above the grate. This opening communicates with a fan case, arranged outside "the furnace, and which is furnished with a series of rotary fans which may be rotated by any convenient motive power. The movement of the fans creates a blast of air which is carried into the furnace chamber through the opening which communicates with the chamber, and through the fire on the grate, and which is allowed to escape through a passage near the top of the furnace. Between this passage and the cask which it is desired to heat, a communication is formed by means of a detachable pipe. This pipe enters a short tube which passes through and is affixed to a covering plate, which is employed to close or partially close the opening in the head of the cask by adjusting it on the inner side of the cask head. By this apparatus, the heated products of combustion are forced into the cask, and, when the interior of the cask is thus subjected to heat, it is claimed that, as melted resin or other substance is applied, it will thoroughly permeate the pores and interstices of the inner surface.

The patentees claim as new: First, the application of heated air under blast to the interior of casks by means substantially as described, and for the purposes set forth; second, the use of a removable conductor, in combination with a furnace and blowing apparatus, arranged and operating substantially as described; and third, the tube-holding plate in combination with* the removable pipe and blast furnace, substantially as and for the purposes described.

Taking up the questions involved in suitable order:

1. Joint Invention.—Were Gottfried and Holbeck joint inventors of the device covered by their patent? The application for the patent, and the oath accompanying the same, affirm that these parties jointly invented the device for which they sought to secure letters patent, and the patent was issued to them jointly. To overthrow the presumption of joint invention, created by the filing of a joint application upon a joint oath, the evidence should be clear and unequivocal. It is true, that, where a device or combination is claimed to have been the joint invention of two or more parties, and the question arises for determination upon evidence, it must appear that it was the product of their mutual suggestions and joint efforts, for joint invention is the result of the mutual contributions of the parties. And, if one suggests an idea in a general way and the other falls in with it, and by his aid develops it and gives it definite practical embodiment, the two may be considered joint inventors. *Chase v. Chase*, Com. Dec. 1873, p. 99.

Upon the whole testimony bearing on the question, and without entering upon an analysis of it in detail, I am of opinion that both the mechanism and application of the principle involved in its operation are shown to have been the product of the mutual suggestions and experiments of these parties, and that they took an equal interest in perfecting and patenting the invention, so that in a just sense it may be said to be the product of their joint ideas, suggestions, and experiments.

2. Claim of License by Defendant Schoenhofen.—As to the defendant Schoenhofen's claim that he has a license to use the invention covered by complainants' patent The evidence shows, that a stationary pitching machine was built in 1863, at the brewery of Gottfried and Schoenhofen. Subsequently, Gottfried sold his interest in the brewery and business, including the pitching machine, to Schoenhofen, and it is claimed by the latter that he is now using that machine, and has the right so to do by virtue of his purchase from Gottfried, and under the implied, if not express permission of Gottfried and Holbeck. The determination, therefore, of the question as to whether Schoenhofen has the right of a licensee, would seem to depend upon the identity of the machine which he is now using, with that which he thus purchased from Gottfried, and upon this question, in the light of the evidence, I think there can be no doubt. Schoenhofen testifies that the machine built in the brewery in 1863, was there after the

dissolution of the partnership; that he bought it with the remainder of Gottfried's interest in the brewery, and used it for three or four years thereafter; that he erected a building at the place where the old machine stood, and that he was obliged to tear down the machine to secure necessary room; that this was done in 1871; that he moved such parts of the original machine as could be used, to another place, and that he put up another machine consisting of parts of the original machine.

Without going into the evidence in detail, it is enough to say that it tends clearly to establish the fact that the machine which the defendant Schoenhofen is using, and which he claims he has a right as licensee to use, is substantially a new construction; that the identity of the original machine built at the brewery in 1863, has been destroyed, and that the evidence does not disclose such facts as satisfy my mind that Gottfried and Holbeek have expressly or impliedly given to Schoenhofen license or permission to use the machine which it is understood he has now in operation.

3. Cochrane and Galloway Patent.—In contesting the novelty of complainants' device, defendants have introduced an English patent issued to Cochrane and Galloway in 1863, in which is described an invention for "working or making a manufacture, being a machine for removing the inconvenience of smoke or gases generated in furnaces or fire places by the ignition or combustion of coals or other inflammable substances, and in certain cases for directing the heat and applying such smoke or gases to various useful purposes."

The mechanism described in the specifications and drawings accompanying this patent is very complicated, and bears no resemblance to that of complainants. The invention consists of an improved air-tight stove, furnace or fire place, in which combustible substances may be used to generate and convey heat by the ignition and combustion of such substances, and with appliances for permitting the entrance, and preventing the escape of, atmospheric air or gas into or from the same, except by the means formed for the introduction and exit of such air or gas by means of pumps, valves or other suitable machinery, capable of supplying the machine with atmospheric air to keep up ignition and combustion, and at the same time to force out any smoke or gas so generated against any required resistance or pressure.

The inventors describe their invention as of a three-fold character. The first part of it is for removing the inconvenience of smoke or gases by the ignition or combustion of inflammable substances; the second part is, in certain cases, for directing the heat so generated, and the third is for applying such smoke or gas to various useful purposes. And the inventors, in their specifications, say that their mechanism has in view the condensing and dissipating of smoke and gas generated in air-tight stoves, furnaces or fire places.

Upon a careful examination of the Cochrane and Galloway invention, as it is described in the patent, I am unable to discover that it involves what may be properly called a hot blast. One of its objects is the heating of boilers containing water, with which there are

cold and hot water pipe connections; and so essentially different is this mechanism from complainants', and, so far as I can judge, so widely dissimilar are the objects of the different inventions and the uses for which they are designed, that I do not think complainants' device should be regarded as anticipated by the Cochrane and Galloway invention.

4. Boville Patent.—The same must be said of Boville's invention, a patent for which, granted in 1846, has been put in evidence, and which invention relates, first, to an arrangement of apparatus for heating the blast from the flames passing off from the top or tunnel head of blast furnaces; second, to an improved mode of heating the air or blast by blowing the same partly through and partly over the fire in a closed retort or fire-proof chamber. This invention was intended to be employed in the manufacture of iron, and is described as an improved method of puddling iron and calcining the iron ore. Two claims are made by the inventor. Under the first claim, cold air is carried in thin currents through air cells, absorbing heat in its passage through such cells from the flame of the furnace. By this arrangement, the air is brought into contact with a heated surface, and absorbs heat therefrom. Under the second claim, the heating apparatus is so arranged that part of the air "may pass through the fire and part over it, and with a furnace having fire bars working with water, in order that the character of the heated air, and its effects in the furnace may be varied. Cold air mixes with the products of combustion and vapor of water supplied from the water troughs of the fire bars.

It is evident from this description of Boville's invention, that it does not involve the production of the same character of heated air or gases as are produced by the operation of complainants' device. To produce the results intended by the first claim of the Boville patent, it is evident that the mechanism and its methods of generating heat are wholly unlike that of complainants', for, by the Boville invention, the cold air passes in thin currents through air cells; and is heated by absorption in its passage through such cells; and, looking to the second claim, although the air may in part pass through and in part over the fire, it mixes not only with the products of combustion, but with the vapor of water which is produced by certain apparatus connected with the fire bars. And it seems apparent

that neither the construction nor purpose of this invention is to such a degree analogous to that of complainants' device, as to sustain the conclusion that the latter is anticipated by the former.

5. Pewterer's Hot Blast—As to the so-called pewterer's hot blast, the only testimony offered in support of the claim that Gottfried and Holbeck's invention was anticipated by the use of a hot blast for soldering purposes, is that of James D. Pierce, who says that he has seen or known in use a hot air blast, where the cold air was blown in upon the fuel or flame and out through a hot air pipe; that it was used in Greenfield, Massachusetts, for the purpose of soldering pewter of Brittarua ware, by his grandfather, Samuel Pierce, forty or forty-five years ago, and that, he, the witness, worked the bellows for the hot blast. And he says he has not seen such blast used at any place since that time. The witness must have been, according to his present age, only eleven or twelve years old at the time referred to. He gives no description of the mechanism by which the hot air blast was produced or used, and I do not deem the testimony adequate to establish the claim that complainants' invention was anticipated by the use of a hot blast by Pierce.

6. Davison and Symington Patent—In contending that complainants' device does not possess the merit of novelty, defendants strongly rely upon an English patent, granted in 1843, to Robert Davison and William Symington, which was a device designed and arranged for cleansing barrels.

So far as the defendants in the Illinois cases invoke this device as anticipating that of Gottfried and Holbeck, it might be well held that the point is adjudicated by the decision of the circuit court in the Northern district of Illinois, rendered in those cases, in which the Davison and Symington patent is considered, and is distinctly held as not anticipating complainants' patent. The question is, however, an original one in the cases pending in this court, and the defendants in those cases are, therefore, entitled to have it considered as an original question here.

The invention is described in the specifications as "as method of cleansing, purifying and sweetening casks, vats and other vessels;" and the object of the invention is to free the wood of which casks and other like vessels are constructed, while in course of manufacture and in an unfinished state, from any injurious coloring or flavoring matter with which it may be impregnated, and to remove from casks and barrels, after they have been in use, any mould, must or other injurious substances which may collect on the inner surface, by exposing the same to the action of rapid currents of hot air. And where a very high temperature is found necessary to purify the casks, steam may be introduced with and in addition to the hot air. This device is well described in the opinion delivered by Judge Blodgett in the Illinois cases, in which he says: "That device combined several applications; one was the use of hot air, which was driven into the cask by a blast, in the same manner as in this case, except that the air was heated by being driven through heat-

ed tubes—that is, a nest or group of iron pipes was arranged in a furnace, and the pipes becoming hot, the air was driven through them into the cask, whereby the inner side of the cask became heated. By that it was claimed the must and various impurities were expelled. The same device, also, combined a mechanism for introducing a rough chain into the inner side of the barrel, and shaking or rolling the barrel with the chain inside, whereby the barrel was cleansed of impurities-which stuck to the inside. Sometimes instead of using the chain, they used gravel or any other substance by which attrition upon the inside of the cask could be obtained. A further device was connected with the same mechanism for driving steam at a high temperature into the cask for the purpose of still further cleansing.”

The mechanism described in the Davison and Symington patent, and a model of which has been put in evidence, is a furnace with horizontal pipes extending along its side, and “pipes of a horse-shoe form which rise vertically from the horizontal pipes and communicate therewith.” There are two passages, One “for the inlet of atmospheric air from the fan blower or other impelling apparatus;” and another “for the outlet of the heated air from the pipes,” and “nozzles through which the heated air rushes into the casks or other like vessels.”

The Davison and Symington device is much more complicated than complainants’, and the two were designed for different purposes. As before stated, the apparatus for heating the air described in the English patent, consists of a series or group of pipes, bent in the form of a horseshoe, which are heated by the external application of heat, and through which the air passes and thus becomes heated before its escape into the cask. By this means, the air is not brought into immediate contact with the fire. If the Davison and Symington device could be employed to heat barrels for the purpose of pitching them, it is evident that such result would be produced by a wholly different mechanism and different process from those which are employed by complainants. The peculiarity of the Gottfried and Holbeek invention is that, by the use of their mechanism, the air is carried directly through the fire, by means of which the element of oxygen is eliminated; whereas the Davison and Symington device provides for a blast of “pure air, which is driven through heated tubes, and then forced into the barrel. Another of the peculiarities of complainants’ device, as stated by Judge Blodgett in his opinion, is, “that by the very process of

blowing or driving the air through the fire you increase the intensity of the fire, and, therefore, the intensity of the heat of the air which escapes into the cask.”

The mechanism of the two devices being radically different in construction, and the methods of heating the air being also dissimilar, I think it is plain that the blasts produced by the Davison and Symington device, and by the Gottfried and Holbeck device, must be chemically different. The chemical constituents of complainants’ blast, as stated by some of the witnesses, are nitrogen, carbonic acid gas, highly heated steam, and perhaps a little unconsumed oxygen, the presence of the latter depending upon the regulation of the current of entering air; and a great merit of complainants’ process would seem to be, that the removal of the oxygen removes the danger of burning the cask or barrel in heating it, for oxygen being essential to combustion, injurious burning could not take place in its absence. The pure air blast of the Davison and Symington patent, it would appear, would contain the original constituents of air, for the reason that it had not come in direct contact with the fire, but was heated by external heat applied to tubes through which it passed, and, therefore, the blast would tend to injure the cask, although the introduction of steam would undoubtedly diminish the injurious effects of the oxygen of the air upon the cask.

Now, the question is, does the Davison and Symington device, which confessedly is much older than complainants’, produce, by substantially the same mechanism, the same or substantially the same character of heated air, or heated gases, which are injected into the cask for the purpose of heating it, that are produced by the Gottfried and Holbeck device? The evident object of the latter device is to generate and apply to the interior surface of a cask or barrel, heat of such a character and so intense in degree that the pitching of the barrel may be speedily and effectually done, without burning the barrel or impairing the properties or fibre of the wood; and, to do this, it would seem that the element of the air which tends to produce combustion must be eliminated. And it is claimed that this is done by the peculiar but simple mechanism of Gottfried and Holbeck for heating the air, and transmitting it into the cask or barrel. In my examination of these two devices and their methods of operation, I have become convinced that it must be true, as stated by one of the witnesses, that there is greater economy in passing the air directly through the fire than through pipes, since it thereby becomes a powerful means of increasing the heat, and also a more direct and efficient means of introducing it into the cask; further, that the amount of heat required simply to cleanse the interior of the cask might be much less than to thoroughly dry it and open the pores, as is contemplated by the Gottfried and Holbeck invention, and that the idea of assisting the process by the introduction of steam, renders it more clear that no such degree of heat was considered necessary, in the operation of merely cleansing the cask, as is required in heating it for the process of pitching.

The expert witness, Ruschaupt, states that there is this difference between the two devices, namely, that, in the Davison and Symington mechanism, the atmospheric air be-

ing heated to a suitable degree for cleansing or pitching barrels, is, in a chemical respect, not materially changed, whilst the gases or products of combustion in Gottfried and Holbeck's invention differ most essentially from atmospheric air; and that, in the Davison and Symington blast, if the pipes through which the air is carried are airtight, there cannot be any more carbonic acid in the blast than is present in the outer atmospheric air. It may be, and such is the opinion of some of the witnesses, that, by the Davison and Symington process casks or barrels could be heated for pitching purposes, but it is evident, not only that the construction of the two mechanisms is widely different, but that the character of the hot blast produced by each is essentially dissimilar; the one, in its ordinary operation, involving the use of pure air, heated only to such a degree as will effect the cleansing of the barrel or cask, and sometimes in connection with steam, and the other contemplating the use of heated gases, the products of combustion, from which the oxidizing element of the air has been abstracted, and absolutely requiring an intensity of heat sufficient to reduce pitch to a watery consistency, so that it may flow over the interior surface of the cask or barrel, and at the same time of a character not to produce combustion.

We have, then, two mechanisms producing their respective results by essentially different processes, the one, it may be added, being much more simple, and capable of being operated with greater economy than the other. This point has been made very clear in the opinion of the learned judge, before referred to, in which he says of the Davison and Symington device: "You would have to produce heat enough in your furnace around your pipes to make the air sufficiently hot, and then keep up that heat by an additional blast of air into your furnace in addition to the blast which drives the air into your cask." And, as the court says in *King v. Hammond* [Case No. 7,797], the patent law protects simplicity and economy of construction, as against prior complex and expensive combinations. In view of the foregoing considerations, I am of opinion that the Gottfried and Holbeck invention is not anticipated by the Davison and Symington device.

7. Neilson Patent—What has been said

with reference to the claim that the Gottfried and Holbeck device is anticipated by the Davison and Symington mechanism, may be remarked of the Neilson patent His invention was for the improved application of air to produce heat in fires, forges, and furnaces. And it was to be applied as follows: The blast or current of air produced by the blowing apparatus was to be passed from it into an air vessel or receptacle, and from that vessel or receptacle, by means of a tube or pipe, into the fire, the receptacle being kept artificially heated by heat externally applied. By this apparatus, therefore, the atmospheric air did not pass into or through the burning fuel contained in a closed furnace or fire place, but it was heated by being forced through pipes or vessels heated from without, from which it is apparent that the method of heating was similar to that employed in the Davison and Symington device.

8. De Vaux Patent—As anticipating the alleged invention of Gottfried and Holbeck, defendants strongly rely upon an invention covered by an English patent, issued in 1835. to Charles Pierre De Vaux, which letter.” patent, with accompanying drawings, and also a model of the De Vaux device have been put in evidence. This invention consists of “certain improvements in smelting iron-stone, or iron ore,” and, although the mechanism devised by De Vaux, and that employed by complainants, are essentially dissimilar, they are alike in their operation to this extent; that, in both, the hot blast is produced by the passage of atmospheric air through fire. The De Vaux invention is described as relating to the arrangement of apparatus between an ordinary blowing machine and the furnace which contains the iron ore to be smelted, whereby the blast of atmospheric air is forced through the fuel in the fire enclosed in such apparatus thereby supporting combustion in the fire, becomes heated, and in some degree decomposed, and is then constantly forced forward by the pressure of condensed air in the apparatus, carrying with it the gas and vapors evolved by the fuel in the fire, and becomes a heated and gaseous blast in the furnace containing the ore to be smelted. The apparatus consists of three chambers, A, B, and C, which are formed of plates of iron connected by screw bolts or otherwise, and the joints being perfectly seamed with iron cement in order not to leave any opening for the escape of the condensed air which they are to contain. The chamber A is of sufficient size to admit a person who may feed the fire. B is another chamber into which the person first enters; and C is the chamber which contains the furnace. Pipes convey the heated air from the furnace containing the fire to the furnace containing the iron ore. The lower part of Chamber C forms an ash-pit which is open to the chamber A, so as to admit the free passage of air. Chambers A and B communicate with each other by an opening sufficiently large to allow a person to pass from one to the other. Chamber B communicates with the atmosphere by a similar opening. These openings are covered by doors which consist of plates of iron, and the edges of which are so faced with some material as to make them, when closed, air-tight. In these doors are openings which are covered with a

disk of metal which can be turned outside or inside, by means of which, passages may be left for the air in A to pass into B, or the air in B to pass into the outer atmosphere and to equalize the pressure on the two sides of the doors. On the upper part of the chamber A is a valve opening inwards. In the chamber C are placed the fire-bars. The chamber A communicates with a blowing machine by a pipe extending upward from the top of the chamber. There are some other details of construction mentioned in the specifications essential to the operation of the mechanism, but enough has been stated to show the character of the device.

Now the question is, whether this device, which is intended to produce a hot blast for a smelting furnace, and which contemplates as an essential part of its arrangement the forcing of atmospheric air through the burning fuel, anticipates the device covered by the Gottfried and Holbeck patent And, in considering this question, it is first to be observed, that all the parts of the De Vaux mechanism, precisely as arranged by the inventor, are essential to its operation for the purposes for which it was designed, and that the omission of any part would affect its efficiency. It is next to be observed, that, as preparatory to heating the air, by forcing it through the fire, it is condensed in the chambers A and B, and this must have been regarded as indispensable to the successful operation of the apparatus. It is next evident that the object of the De Vaux invention, is to increase combustion, and thereby raise the temperature of the smelting furnace.

Experts called by the defendants have testified that the furnace and the mode of creating the hot blast in the De Vaux invention is precisely similar to that used in the Gottfried and Holbeck device, and that they could be used interchangeably for heating barrels or stacks of smelting furnaces; that the functions of the two machines are identical; that the hot blast in the De Vaux invention is produced in the same way and will produce the same effect as that of the Gottfried and Holbeck apparatus, and that the chemical constituents of the two blasts are the same.

I cannot agree with these conclusions for several reasons. First, it is evident that the objects of the two inventions are not the same, but, on the contrary, are quite opposed. Clearly, the object of the De Vaux invention is, as before stated, by the increase of combustion

to intensify the temperature of the smelting furnace; and, in the language of one of the witnesses, in whose opinion I concur, "to accomplish this purpose, as much free oxygen as possible should be present in the hot blast" In the Gottfried and Holbeck device, the purpose, is not to produce combustion at all, but simply to melt pitch, and heat the barrel, and were combustion to be produced by the blast the object of the invention would be defeated; hence, as little free oxygen as possible should be present in the blast The object of the one blast is, then, to promote burning, in the other, this is to be avoided; in the one, free oxygen must be present, in the other, it is better absent. The feature of the De Vaux apparatus which provides for condensation of air in the chambers A and B, is not to be regarded as of minor importance in connection with the operation of the device, for the evident purpose of the accumulation of compressed air in the chambers is to constantly force through the fire a great quantity of air, and in its rapid passage through the fire, it seems reasonable that a considerable quantity of oxygen would be unconsumed and be present in the hot blast; and, as one of the witnesses states, "since the intensity of combustion depends largely on the amount of oxygen supplied, the compressed air will produce more burning and therefore a higher temperature than air which is not compressed."

Furthermore, I am convinced that the accumulation of compressed air in the chambers A and B of the De Vaux apparatus, must have been regarded by the inventor, and is an essential part of the device, for the purpose of securing uniformity in the blast, which scientific authorities appear to regard as essential to the best results in the production of a good quality of iron. Greenwood, in his Manual of Metallurgy, says: "To avoid the fluctuations, irregularities and intermittent action of the blast that would occur from an injection of the blast direct from the engine to the furnace, a regulator is inserted in the course of the main, between the engine and the furnaces. This is merely a reservoir of iron or occasionally of masonry lined with cement, of a capacity equal to from twenty to fifty times the volume of the blast delivered per second, and provided with a manhole and safety-valve. In this manner the blast is delivered in a continuous stream." Another writer says: "The oscillations of the pressure ought to be as slight as possible. It is almost impossible to make a uniform blast without a receiver; for this reason, it is advisable to employ a regulator at every blast machine." In the De Vaux apparatus, it is evident that the chamber which is made the receptacle of compressed air operates, and was intended to operate, as a receiver or regulator regarded as essential to secure uniformity in the blast.

We find then that the two mechanisms in their entirety, and in every part are unlike; that they also differ in the purposes for which they were designed; that, in the one, atmospheric air is driven directly into the fire, and the products of combustion are thence carried to the point of their practical application; that in the other, the air is not driven directly from the blowing apparatus into the fire, but is first driven into a condensing chamber, and is thence conducted into the fire, the evident object of this feature of the

apparatus being to make an equable blast; therefore, that there is a difference in the mode of operation of the two machines; and that by the De Vaux process, it is only intended that the air which is forced into the fire, shall become in some degree decomposed, and that the value of the one consists in its ability to increase combustion, while the value of the other is to prevent it, in the blast.

In the case of *Clark Patent Steam & Fire Regulator Co. v. Copeland* [Case No. 2,866], it was held that in order to find an invention anticipated in a prior printed publication, it must be found from the evidence that the description embodied substantially the same organized mechanism, operating substantially in the same manner as that described in the patent claimed to have been anticipated, and that old instruments placed in a new and different organization, producing, in such new organization, different results, or the same results by a new and different mode of operation, do not prevent such newly organized mechanism from being patentable. Looking at the De Vaux and the Gottfried and Holbeck devices with reference to their construction, mode of operation, and uses for which they were designed, and the effects which, as they are constructed and operated, they must necessarily accomplish, and, in the light of the principles before stated, I have come to the conclusion, though not without some doubt, that the Gottfried and Holbeck device ought not to be held anticipated by the De Vaux invention. And I cannot help thinking in this connection that as was said by the court in the case last cited, it is a pertinent question, if the mechanism described in the prior patent was substantially the same as complainants', organized and capable of operating substantially in the same way, why, during the period that the former was known to the world, it has not been applied to the same use as complainants'.

9. The Beck Machine.—In addition to the inventions which have been already considered, the contrivance known as the “Beck Machine” is also relied upon, as showing that the use of a hot blast in pitching barrels, was not new with Gottfried and Holbeck. A model of the Beck machine has been put in evidence, which, in construction, shows a complete mechanism, consisting of a revolving fan connected with a furnace, from the upper part of which a pipe leads to the cask to be pitched. From another opening in the cask, a pipe leads to the revolving

fan. "When the machine is put in operation, the products of combustion pass into the cask, and then back again through the return pipe to the fan, and are again driven through the furnace.

The alleged inventor, Beck, testifying as to its practical operation, says that "the heat coming from the barrel to the blower, is carried back to the furnace under the grate; the hot air goes from the furnace into the cask, and escapes from the cask through the pipe at the bottom into the fan, and then back into the furnace from the grate; the pipe and blower are tight"

Much testimony has been taken on the part of defendants to prove, and on the part of complainants to disprove, the original existence of this machine; and we have also expert testimony on the question as to whether a machine constructed according to the model can be made to operate successfully. It seems, from the testimony, that in 1860, and from that time until 1863, inclusive, Beck was operating breweries in Bockland county, state of New York. And there is testimony tending to show that in 1860, when he was operating what is mentioned in the testimony as the old brewery, he made and used some kind of apparatus for pitching barrels. He testifies that it consisted of a stove and blower, and connections between the blower and stove and the blower and the cask; that the pipe from the blower entered the stove below the grate, and that the pipe conducting hot air from the stove to the cask was inserted in the upper part of the stove, and that, by means of the blower, air was forced through the burning fuel in the stove and thence into the cask. There is testimony, also, tending to show that he built a second machine, the first one being merely temporary. Witnesses have been examined who testify that they saw the machine or machines in use at the breweries; and other witnesses testify that they worked at the breweries, and were familiar with the premises, and the business carried on by Beck, and that they never saw any such machines used by Beck for pitching purposes, and some are positive in their statements that no such machines were used.

Upon the whole testimony, it is claimed by defendants, that a machine was invented and used by Beck as early as 1860, by means of which a hot blast, substantially like that produced by complainants' invention, was employed in the process of pitching barrels; that it was a complete machine, such as is represented by the model in evidence, and that it was susceptible of practical and successful operation. On the other hand, it is claimed by complainants, that the testimony does not satisfactorily establish the existence of a machine such as is represented by the model; that if its existence were to be admitted as claimed, its construction as represented by the model would prevent its successful operation, and that, in any event, it amounted to nothing more than an abandoned experiment, and should not, therefore, be regarded as a perfected invention, anticipating complainants' patent. The model of the Beck machine shows a contrivance entirely different in construction and in adaptation of parts from that described in the Gottfried and Holbeck patent.

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The Beck machine was never patented, and it does not appear that the alleged inventor ever applied for a patent. Upon a careful examination of the whole testimony, I have had a good deal of doubt whether the model in evidence is a correct representation of any machine actually used by Beck in pitching barrels.

It will be admitted, that, to justify the court in overthrowing a patent granted for what appears to be a new and useful invention or improvement, on the ground that the device has been anticipated by another and earlier invention, the court should be well satisfied by clear and credible testimony, that the alleged earlier invention actually existed; that it was a perfected device, capable of practical use; that it was embodied in distinct form, and carried into operation as a complete thing, and was not of such character as to entitle it only to be regarded as an unperfected or abandoned experiment.

It is so easy, after a new and useful invention has come into existence and been brought into public use, especially if a characteristic of such invention is simplicity, for persons to come forward with claims that they invented the same thing many years before, and should, therefore, be esteemed the real and original inventors, that the court should require convincing proof of the merit of such claims before overturning the patent. Especially so, when it appears that the alleged earlier inventor has not apparently regarded his supposed invention of sufficient importance to push it upon public notice, or to apply for a patent which would protect him in its exclusive use.

In passing upon the question which I regard important in connection with the Beck machine, some notice of the salient points in the testimony seems essential. The witness Beck testifies that in 1860 he invented a machine consisting of the parts which have been mentioned; that in December, 1863, he presented to the brewers' association, in New York, a paper referring to his machine, and inviting the attention of brewers to it. And it appears that there was really no further recognition of his supposed invention by the association, than an acknowledgement that his paper had come to their notice and would be considered. He says that he used his machine in pitching barrels at his breweries; that he confined its use to the pitching of puncheons or large casks; that the machine worked successfully; that the model in evidence is a good representation of it; that, before submitting his

paper to the brewers' association, he told nobody of his invention except his own people, because, as he says, "I wanted first to work it out myself; it was not my interest to tell others about it; something which is not fully finished is not in the interest to be told to anybody else;" that he kept it secret from everybody except his own workmen and family; that he pitched small kegs and barrels by hand in the old way, and never tried to pitch them with his machine; that it took about fifteen minutes to heat a cask which he pitched with his machine, and that he never made any essential changes in it; that his first machine was only a temporary one, and that he made a second machine immediately after; that he did not obtain a patent for his machine because he wanted it to come into public use for the benefit of brewers, and that his machines, when not in use, were taken to pieces, and the parts laid aside, except the furnace or stove.

The witness Kreuder says that he saw Beck pitch barrels in the usual way at the old brewery, "also by the use of a pipe or tube on the kettle, leading to the keg or barrel;" that "Beck got the hot air into the keg or barrel by pipes or tubes, or something like them;" that, in pitching in the old way, they took the ends of the barrels out, and that, in pitching in the new way, "they had a sort of globe stove with a fire in it, and on top there was a tube or pipe leading to the barrel, and he used a small bellows; the nozzle of the bellows was in the fire below." He says further: "I remember that the pipe leading from the keg was attached to the stove at the top, but how it was attached is more than I can tell. I did not see any pipe leading back from the keg to the bellows; I never saw in either of the breweries a furnace built of brick for the purpose of pitching barrels provided with pipes; never saw anything used in connection with the stove at the new brewery to blow the fire, except the bellows which I have mentioned." He says that he never saw at either of the breweries, in connection with the stove, any revolving or circular fan or blower. Upon being shown a drawing like the model of the Beck machine, he testifies that he does not know that the mechanism represented by the drawing is the same as the stove which he saw at the breweries; that the theory is the same, but the mechanism is not the same.

The witness Roemmelt testifies that about 1863, Beck used a furnace, and applied a tin or copper pipe connecting it with the furnace, and conducting hot air into the cask, and used a bellows to increase the heat. He states that that was the "whole secret of the machine. He testifies further: "Beck told me about making improvements on his pitching machine; he wanted his machine in a more correct and economical shape. He had not got money enough to do it. He explained what he needed to make it perfect. It wanted a separate stove or separate furnace; it wanted a set of pipes. The furnace was not a perfect one for the purpose he wanted to use it; he said he tried it at that time to find out if hot air would answer the purpose of pitching casks, but he had not got the machine perfect; it is very hard to tell what he said about the blower; he spoke about using a blacksmith's bellows or something similar to that; he said that it could be made more perfect; he said

that his machine was not a perfect one, but it could be made so with a small amount of money.”

The witness Becher was a partner of Beck's in the brewing business, and testifies that the machine in question was a furnace or an oven with a blower and a pipe connecting it with the cask, and, from the other end of the cask, was a pipe leading to the blower again; that the blower was an ordinary blacksmith's bellows. He further testifies that “there was a pipe leading from the blower to the furnace under the grate; the second pipe was leading from the top of the furnace to the hogsheads, and afterwards he put a third one in what he had not in the first experiment, as you might call it leading from the hogshead to the blower again;” that the machine was only used in pitching large kegs, because it was thought better to pitch the small kegs in the old way; that he would not call the machine a perfect one; that it took half an hour to heat a cask containing ten, fifteen or twenty barrels, sufficiently for pitching; and upon being shown the drawing of which the model in evidence is a representation, he says that when he saw the machine they did not use the kind of blower represented in the drawing.

The witness Emma Stelcener, who is a daughter of Beck, says, that the kind of pitching machine her father used in 1860, was an old kettle with some pipes and a blower; that the hot air was forced into barrels by the blower, and that there was a pipe connecting the blower with the stove. On cross-examination, she is unable to give any satisfactory description in detail of the machine, except that the blower which was used, was an old fashioned hand bellows. She says she never saw but one machine in either or both of the breweries, and that she does not recollect that there was a pipe running from the barrel to the blower or belows.

Magdalena Beck, wife of Joseph Beck, testifies that in pitching barrels, Beck made a fire and put a pipe into the cask and admitted the heat; that she cannot remember what the fire was built in, but there was a fire and a blower attached, which she says was a bellows. She states further that the first machine which her husband used, he destroyed, and that the second machine was used in the new brewery; that the furnace in the second machine consisted of an old stove; that the blower was a blacksmith's

bellows; that she does not know to what part of the store the pipe extending to the barrel was attached, but only knows that the pipe went into the cask.

Numerous witnesses have been examined on the part of the complainants, some of whom testify that they were frequently at the breweries operated by Beck, and some of whom were workmen in his employment, and all of whom testify that they never saw at either brewery, in operation or otherwise, any machine for pitching barrels by means of which hot air was transmitted from the furnace or stove into the cask or barrel; that they oftentimes saw barrels pitched at the breweries, but always by the old process. One of the witnesses was a purchaser of one of the breweries, and was the successor of Beck in its operation. He says that there was no pitching machine at the brewery or on the premises at the time he purchased, and that there were no parts of such a machine on the premises when he took possession. Some of these witnesses testify that they assisted in pitching casks; that it was always done by taking out the heads, heating them with hot irons and applying the pitch in the old way, and that they never saw any machine or contrivance, or any parts of a machine, for pitching barrels by the application to them of hot air or of the products of combustion, as represented by the Beck model. Much of the testimony of these witnesses, notwithstanding it is of a negative character, certainly tends strongly, to disprove the existence and use at the breweries operated by Beck of any machine for pitching purposes by means of which hot air was applied to barrels for the purpose of heating them; and in the light of the testimony, it is certainly a peculiar feature of this case, if such a machine or apparatus as Beck claims he invented for the purpose of pitching barrels was used by him for that purpose at his breweries, that so many persons familiar with the premises, accustomed often to visit them and some of whom were for a long time in his employment, should so positively testify that no such machine was used, or was ever seen in use, at the breweries.

Some of the witnesses, it should in" fairness be said, testify that they never saw any barrels pitched at the breweries, but the witness Pfeiffer testifies that he worked for Beck from 1858 to 1862, and that during that period he and the witness Jacob Gross pitched all the barrels that were pitched at the breweries; that the barrels were heated with hot irons; that, after the pitch was heated, it was poured into the casks, and that he never saw any casks heated or pitched in any other way; and he testifies that Beck never had or used a machine or apparatus of any sort by which hot air was forced into the casks for the purpose of heating them, and in this testimony he is corroborated by the witness Gross.

Upon being further examined on the part of complainants. Beck testifies that the pitching machine which he had described as the second one he made, "went to dust and ashes;" that it was remaining at the brewery when he left it, and that "it was an old stove with the pipes to it and the blower; it was in pieces; as a whole it was no good; it was no

longer useful; the pieces were separate, but were all there, so that it could have been put up by any one that knew it; when I went away no one knew it; I could have put it together again." And he admits that there was not a fan attached to his first machine, like the one represented in the drawing in evidence; he says that he first used a fan in connection with his second machine; that he never used that machine in the old brewery, and that it was in course of construction, from time to time, from 1860 to 1863; and finally he thinks that he first applied a blower in forcing the air through the furnace in 1863, but does not know exactly.

Whatever doubt this testimony casts upon the question of the existence and identity of the device spoken of as the Beck machine, be it little or great, the testimony on the part of defendants fails to convince me that there was such an embodiment of the idea of heating barrels or casks for pitching purposes, by the application of a hot blast, in a perfected machine applied to practical use as gives to Beck the right to assert that he was the original inventor of the device covered by complainants' patent, or its equivalent in mechanical construction and application. The law upon this subject is very well settled. "A machine, therefore, in order to anticipate any subsequent discovery, must be perfected; that is, made so as to be of practical utility, and not to be merely experimental, and end in experiment. * * * Until of practical utility, the public attention is not called to the invention; it does not give to the public that which the public lays hold of as beneficial. If it is an experiment only, and ends in experiment and is laid aside as unsuccessful; however far it may have been advanced, however many ideas may have been combined in it, which, subsequently taken up, might, when perfected, make a" good machine, still, not being perfected, it has not come before the public as a useful thing, and is therefore entirely inoperative as affecting the rights of those coming afterward." *Howe v. Underwood* [Case No. 6,775]. In *Seymour v. Osborne*, 11 Wall. [78 U. S.] 552, Mr. Justice Clifford says: "Original and first inventors are entitled to the benefit of their inventions if they reduce the same to practice, and seasonably comply with the requirements of the patent law in procuring letters patent for the protection of their exclusive rights. Crude and imperfect experiments are not sufficient to confer the right to a patent; but in order to constitute an invention, the party must have proceeded so far as to have reduced his idea to practice,

and embodied it in some distinct form. Desertion of an invention consisting of a machine, never patented, may be proved by showing that the inventor, after he had constructed it, and before he had reduced it to practice, broke it up as something requiring more thought and experiment, and laid the parts aside as incomplete, provided it appears that those acts were done without any definite intention of resuming his experiments, and of restoring the machine with a view to apply for letters patent He is the first inventor in the sense of the patent law, and entitled to a patent for his invention, who first perfected and adapted the same to use, and it is well settled that until the invention is so perfected and adapted to use it is not patentable under the patent laws.”

Now, admitting that Beck had in mind the idea of heating barrels for pitching purposes, by application to them of heated air and of a mechanism for that purpose, the whole testimony leaves upon my mind a strong belief that whatever may have been the stage to which his machine was advanced, it was never perfected in the sense of the patent law; that it was in fact an experiment never actually completed, and, so far as it existed, when Beck left his second brewery, was broken up, deserted and abandoned. Of all the witnesses examined, no one, except Beck himself, has testified that he constructed and attached to his machine such a revolving fan as is shown in his model. All are agreed, even the members of his family, that the instrument used for creating a draft of air through the fire was an ordinary blacksmith bellows, and it seems difficult to understand, if this be so, how there could exist in his machine such connections as are represented in his model. It seems, from the testimony, that he never used his machine for any other purpose than pitching large casks or puncheons, that, at the very time he was so using it, he heated and pitched kegs and ordinary barrels in the old way. The various parts which, it is said, comprised his apparatus, were evidently of a rude and imperfect character, and he says that, when they were not in use, they were disconnected and laid aside in separate parts, and that no one but himself would understand how to put them together so as to make a machine for practical use. Beck himself speaks of it as a thing not fully finished. Witnesses called to prove its existence and character are uncertain as to its mode of construction and operation. It appears, I think, quite clearly that it was not a perfect device, that this was at the time admitted by Beck; and Becher, who was a partner of Beck, says that he would not have called the machine a perfect one, and that “he does not know what improvements he would have put on at that time, but does know what he would do in that regard today;” which well illustrates how easy it is, after an invention has been brought by improvement to a state of at least comparative perfection, for persons enlightened and aided by subsequent discoveries to say that they now know what improvements they would make upon the invention, which originally they were unable to embody in distinct form. The testimony clearly shows that Beck destroyed the machine which he first used in the

old brewery, and, as we have seen, he himself testifies that his second machine “went to dust and ashes.”

The brewers’ association seems to have regarded his supposed invention as not worthy of serious consideration. As before stated, he never obtained a patent, nor applied for a patent, and so far as appears in this case, nothing was ever heard of his invention, after he left the breweries in Rockland county, until this litigation arose, when he comes forward with the claim that he was the first inventor of the device of which complainants are now the patentees.

In conclusion, upon this branch of the case, I must say that the testimony is much too inconclusive and unsatisfactory to justify the court in holding that Beck should be regarded as the first inventor of the device in question. The principle asserted in *Parkhurst v. Kinsman* [Case No. 10,757], is applicable here, namely, that “crude and imperfect experiments, equivocal in their results, and then given up for years, cannot be permitted to prevail against an original inventor, who has perfected his improvement and obtained his patent.” Much also that is said by the court upon this subject in *White v. Allen* [Id. 17,535], might be pertinently repeated as bearing upon the question here presented.

10. Generally, as to Validity of Complainants’ Patent—It is claimed, generally, by defendants, that the Gottfried and Holbeck device was not patentable, because it discloses only old means which produce old and well known results; that the employment of a hot blast is old, and that a furnace is old, that conducting pipes are old, and that a fan-blower is old; that the case is, therefore, only the combination of old appliances applied to a new use; that the complainants were not entitled to a patent for a mechanical apparatus, because it had been in use long before; nor to a patent for a process because the process consisted merely of the application of a well known machine to a well known use. And upon the argument there was considerable discussion as to whether complainants’ patent is for a mechanical device or for a process.

It is an elementary principle, that the mere application of an old thing to a new use is not patentable, or, as the court says in *Smith v. Nichols*, 21 Wall. [88 U. S.] 110, “a mere-carrying forward or new or more extended application of the original thought, a change only in form, proportions, or degree, the substitution of equivalents, doing substantially the same thing in the same way by substantially the same means with better results, is not such invention as will sustain a patent.”

And again, in *Roberts v. Ryer*, 91 U. S. 157, it is said: “It is no new invention to use an old machine for a new purpose. The inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not”. It is not understood, however, that these principles are to be so applied as to deny patentability to improvements which disclose inventive skill, and produce new and useful results. It is true, it may be said, that the several parts which make up complainants’ mechanism are old, but, as is stated by the court in *Strong v. Noble* [Case No. 13,543], “there is scarcely a patent granted that does not involve the application of an old thing to a new use, and that does not, in one sense, fail to involve anything more. But the merit consists in being the first to make the application, and the first to show how it can be made, and the first to show that there is utility in making it.”

Now, complainants’ device is claimed to be, and, if anything, it is, a new and useful improvement in heating barrels or casks for the purpose of pitching them. And the actual invention of the patentees I consider to be a mechanism consisting of several parts, which are so arranged and connected as to produce a hot blast, composed of such elements or chemical constituents as will heat the cask or barrel sufficiently to allow it to be quickly and thoroughly pitched, and yet not subject it to such a degree and quality of heat as will produce combustion and destroy or injure the barrel. This is the essence of the patentees’ invention, and it is embodied in the mechanism which they have devised; and, though the various elements or parts of the mechanism, when separately considered, may be regarded as old, yet we are to view them in the light in which they have been combined, in connection with the new and useful results which the combination accomplishes. Its value does not consist simply in throwing heat into a barrel, because undoubtedly this could be done by the Davison and Symington device, or by the De Vaux mechanism, but, the one might not sufficiently heat the barrel, and the other might burn it up.

The merit of complainants’ device consists in pouring into the barrel a blast or volume of heat of such quality and temperature as will put the interior surface in the peculiar condition required for the rapid and successful application of pitch, while the integrity of the receptacle is fully preserved. This I consider to be the precise merit of the Gottfried and Holbeck invention, and I think it is patentable. And, again, with reference to the application of old means to a new use, as is stated in one case cited on the argument, “particular changes may be made in the construction and operation of an old machine so as to adapt it to a new and valuable use not known before, and to which the old machine had not and could not be applied without those changes; and, under these circumstances and conditions, if the machine as changed and modified produces a new and useful result, it may be patentable and upheld under existing laws.” In *Rice v. Heald* [Id. 11,752], the court said that no machine can be an anticipation of the patented invention, which could not be made to produce, without altering its construction, substantially the same results as

were produced by the patented machine. Any prior machine which would not produce substantially the same results as the one patented, could not be substantially the same machine, no matter how strongly the prior machine may resemble the patented machine in its construction. To make one mechanical device the equivalent of another, it must appear not only that it produces the same effect, but that such effect is produced by substantially the same mode of operation. *Conover v. Roach* [Id. 3,125].

11. Sufficiency of Claim and Specifications in Application for Patent—Objection is made that the patentees do not, in their application, particularly specify and point out the part, improvement or combination, which they claim as their own invention or discovery, but I do not think the objection is maintainable. The specifications, in connection with drawings, describe the mechanism and every part of it, and its mode of operation. Then, the first claim is: “The application of heated air, under blast, to the interior of casks, by means substantially as described and for the purposes set forth.”

The act of congress requires of the applicant for a patent a distinct and specific statement of what he claims to be his invention. “The patentee ought to state distinctly what it is for which he claims a patent, and describe the limits of the monopoly.” *Hastings v. Brown*, 1 Ell. & Bl. 453. “It is for the purpose of warning an innocent purchaser, or other person, using the machine, of his infringement, and at the same time, of taking from the inventor the means of practising upon the credulity or fears of other persons, by pretending that his invention was different from its ostensible objects. The claim, or summing up, however, is not to be taken alone, but in connection with the specification and drawings; the whole instrument is to be construed together. But we are to look at the others only for the purpose of enabling us correctly to interpret the claim.” *Brooks v. Fiske*, 15 How. [56 U. S.] 215.

Do the specifications and claim in this case meet the requirements of these established rules? I think they do. It is true, that each of the parts of complainants’ mechanism, when taken separately, is old. But it is the combination of these parts in a mechanism by which the distinctive character of hot blast, capable of successful use in heating barrels for pitching purposes is produced, which constitutes the invention; and the claim must, in my opinion, be regarded as a claim to the particular means and mode of operation described

in the specifications. *Burden v. Corning* [Case No. 2,143]. And these means and, this mode of operation are described in detail in the specifications, and both claim and specifications are to be construed together. If the words “by means substantially as described” were omitted, the question would be a very different one. But as the claim contains words referring back to the specifications, it must be construed in the light of the explanations contained in the specifications. *Seymour v. Osborne*, 11 Wall. [78 U. S.] 547.

It is objected that the patentees did not, in their specifications and claim, distinguish old parts from new. But they describe each and all the parts, and it is the mechanism as a whole so constructed and operated as to produce a certain character of blast, to be applied to certain purposes, which they claim as their invention. *Phillips v. Page*, 24 How. [65 U. S.] 164, is distinguishable from this. There the patentee invented certain improvements in constructing the portable circular saw-mill, and they were designed to adapt it to the sawings of logs in a saw-mill, a use to which it had not before been applied. But In his claim he did not set up the improvements or additions, which he had invented, to the old machine, which he had not invented, so as to enable him to adapt it to the new use, but his claim was merely for the precise organization of the old machine enlarged, and it was held that the mere enlargement did not afford ground for a patent. As I read the case, it did not appear that the patentee had even contrived the means of adapting the enlarged old organization to the new use. In *Merrill v. Yeomans*, 94 U. S. 568, the claim was for the new manufacture of the deodorized heavy hydro-carbon oils, suitable for certain purposes, and the only question was whether the word “manufacture,” as thus used, covered a process or the product of a process. It was held that it should be construed to mean the new mode of manufacturing hydro-carbon oils, and not the product. It was a claim for the process of manufacture. It may be said of this case that the claim of the patentee was subjected to a rather limited construction, but, accepting the case, as of course we do, as authoritative upon the question involved, I do not regard it as sustaining the position that the specifications and claim of the patentees in the ease at bar are so indefinite and insufficient as to render the patent void.

12. Infringement.—As to infringement by the defendants in the Illinois cases, I think there can be no doubt that they are infringers. I understand the defendant Schoenhofen to be using complainants’ device under a claim of license, the validity of which has been heretofore considered. The defendants Bartholomae and Roelsing are using what is known as the Vogt machine, and the defendants Fortune Bros, are using what is known as the Shlaudemman machine. Both of these are portable devices—the Vogt machine, according to the specifications contained in the letters-patent, issued to the patentee July 11, 1871, showing a fan or blower attached by a pipe at the bottom of the machine and the air being forced through the fire. The Shlaudemman machine is so adjusted that a number of casks may be heated at the same time. In his opinion, delivered in these cases, in 1878,

Judge Blodgett held that these devices embodied applications of the same principle, and were like the complainants' in mode of operation and in effect; that they accomplished the same end by substantially the same means—that is, a blast of air driven through the fire and escaping into the cask. The conclusion of the learned judge in this respect, as announced by him in the Illinois cases, should be held *res adjudicata* in those cases.

Respecting the devices employed by the other defendants, I think it must be said that they also infringe the mechanism covered by complainants' patent. The conclusion is sustained by the evidence on the part of the defendants. The witness Haskins testifies that the principle involved in all the machines used by the defendants is the same as that described in the Gottfried and Holbeck patent and says that if it should be held that complainants' patent is valid as to its first claim, it would be his opinion, as an expert, that the defendants are infringers. The defendants Obermann and Fueger, and the Joseph Schlitz Brewing Company, are using a machine covered by letters patent issued to J. P. Benoit October 26th, 1869, and the defendant Valentine Blatz is using a device covered by letters patent issued to Henry Lehmann, January 4th, 1876. Complainants' witness Haines testifies that these two patents embrace the invention covered by complainants' patent, so far as its first and second claims are concerned, and that the alleged inventions of Benoit and Lehmann produce the same kind of a blast, and that such blast produces the same effects as are produced by complainants' invention; and I think this is evident from an examination of the descriptions and specifications of the inventions contained respectively in the Benoit and Lehmann patents.

Although there are some differences between the mechanism described in these patents and that of which complainants claim to be the inventors, it is evident that all embrace the application of the same principle, and are alike in the result which they accomplish. The court did not understand it to be seriously contended on the argument that the defendants are not infringers if complainants' patent can be sustained as against other inventions which, it was claimed, anticipate that patent.

[The cases at bar involve many and important questions. Their determination is certainly not free from difficulty, and the conclusions arrived at are stated not without some diffidence on the part of the court; but, on the whole, after a somewhat painstaking consideration of the questions involved, no other conclusion is satisfactory to my mind than

GOTTFRIED et al. v. PHILLIP BEST BREWING CO. SAME v. BLATZ. SAME v. JOSEPH SCHLITZ BREWING CO. SAME v. OBERMANN et al. SAME v. FORTUNE et al. SAME v. BAR-THOLOMAE et al. SAME v. SCHOEN-HOPEN.

that complainants are entitled to the decrees which they ask.]²

Decree for complainants.

{For other cases involving this patent, see note to *Gottfried v. Bartholomae*, Case No. 5,632.}

¹ {Reported by Hubert A. Banning, Esq., and Henry Arden, Esq., and here reprinted by permission.}

² {From 17 O. G. 675.}