

Case No. 6,351. HENDERSON ET AL. V. CLEVELAND COOPERATIVE STOVE CO.

{2 Ban. & A. 604;² 12 O. G. 4.}

Circuit Court, N. D. Ohio.

May, 1817.

PATENTS—SPECIFICATIONS—SIMILARITY OF DESIGN—PRODUCTION OF RESULT—COAL—STOVES.

1. Courts will protect a patentee to the full extent of his actual invention, by giving such a construction to the patent as will uphold it, if possible, and will bear in mind that specifications and claims are frequently drawn by persons unaccustomed to the use of accurate legal phraseology.
2. Where a claim of the patent appears to be for a result, produced substantially “in the manner and for the purposes” described, the claim will be construed to be for the mechanism, set forth in the specifications, by which, the result is produced, and not for the result itself.
3. The principle, of construing a claim for a result to be a claim for the means by which the result is produced, is applied to all cases where a result is claimed, whether there is any reference to the specifications in the claim or not.
4. To constitute an infringement, there must be similarity of design, and substantial identity of purpose and result.
5. Where similarity of design exists, and a similar result is attained, in substantially the same way, by the use of a device, which, although intended to operate in a different way, did not so operate, such use will, nevertheless, be an infringement.
6. Reissued letters patent No. 3,523, dated June 29th, 1869, and extended May 28th, 1874, granted to Joseph C. Henderson, *held* valid.

{This was a suit in equity for the infringement of a patent The bill set forth that the complainants' [Joseph C. Henderson and others] were the owners of a patent improvement in coal-stoves, covered by reissued patent No. 3,523, bearing date June 29, 1869, extended seven years from May 28th, 1874² and charged that defendants had infringed the several claims of said patent, the 5th, 6th, and 7th of which are in the following language: “5. In combination with a hopper suspended over the fire and separate from the fire-pot, a circulating current of air around the lower end of the hopper, substantially in the manner and for the purposes above described. 6. In combination with the above-described hopper, a chamber, or its equivalent, in the lower end of the same, and immediately above the fire, for the purpose of preserving the mouth of the hopper, and supplying air to the surface of the fire, substantially as above described. 7. The circulation of a current of air around the lower end or mouth of a supply-cylinder, and entering the combustion-chamber, substantially in the manner and for the purpose above described.” The answer denied that Henderson was the original and first inventor of the improvements claimed in the patent; denied the novelty or utility of the invention, as well as its infringement by defendant; avers that the same device had been patented before, and described in a number of foreign publications. The case was heard upon pleadings and proofs.}]³

HENDERSON et al. v. CLEVELAND COOPERATIVE STOVE CO.

Thomas J. Sprague and Seek Cowen, for complainants’.

M. D. Leggett, for defendants.

BROWN, District Judge. Many of the defences set up in the answer were abandoned upon the argument; but it was strenuously insisted that the 5th, 6th, and 7th claims could not be supported, by reason of their inconsistency with the specifications, which describe a combination of a combustion chamber, and a circulating-air chamber surrounding the hopper, as the substance of complainants’ invention. The material portions of the specifications are as follows:

“Stoves have heretofore been constructed, in which the fuel has been placed in the hopper or reservoir over the fire and above the grate, for the purpose of supplying to the fire fresh coal as fast as consumption takes place on the grate.

“But hitherto two principal difficulties have attended this method of supplying fuel to the fire, and it is the principal object of my improvement to remedy them: First, the fuel within the hopper is liable to ignite, owing to the great heat surrounding the lower part of the same; and, second, the

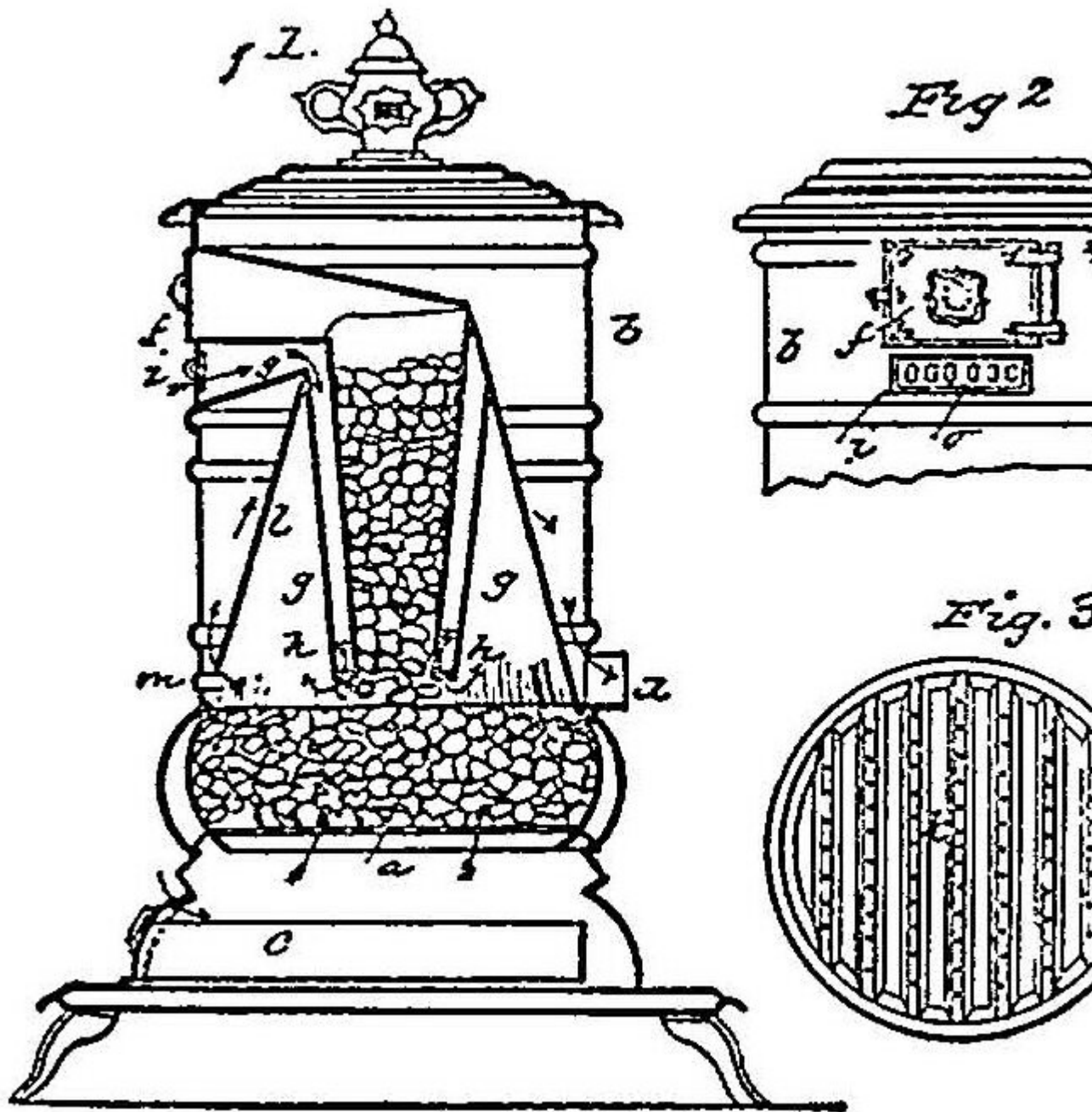
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gases generated pass off without being consumed, because not brought in contact with the surface of the burning solid fuel. The nature of my said invention consists in suspending a hopper above the fire-pot to receive and supply coal constantly to the surface of the fire, in a condition to ignite freely, and over the surface of the fire, and around the mouth or lower part of the hopper, to construct an expanded combustion-chamber for receiving the gases eliminated, and detaining them in contact with the surface of the incandescent coals until consumed.

“To prevent ignition within the hopper, I cause a current of air to circulate in a chamber formed around the lower part or mouth of the hopper, as shown in Fig. 1 of the annexed drawings. I also design this circulating current of air to protect the mouth of the hopper by keeping it cool, and also to assist in the combustion of the fuel, by supplying a blast of hot or warm air to the surface of the incandescent coal and among the unconsumed gases, by confining the gases by means of my combustion-chamber to the space at and immediately above the surface of the incandescent coals, and by supplying that surface with a current of air I am enabled to effect very perfect combustion.

“In the accompanying drawings, I have represented my hopper as round and conical, and as being directly over the centre of the grate, K, but I do not propose to confine myself to the exact shape or location of the hopper as represented in said drawing, where the shape and character of the stove to which they are applied require deviation in that respect; but, in whatever construction of stove my improvement is to be applied, the air-chamber, g, or its equivalent, and the expanded or conical combustion-chamber, 1, above the surface of the incandescent coal, and around the lower end of the hopper, must be preserved for the purpose already described.

{Drawings of reissued patent No. 3,523, published from the records of the United States patent office.}



"If, in the construction or application of my improvements to heating and other stoves, it should be thought desirable to substitute fire-brick in the place or stead of my airspace, g, that may be done by filling the lower portion of said air-chamber between the hopper and the cylinder surrounding it with fire-brick, resting upon the flanges of the lower end of the hopper and cylinder (shown in the drawings), and the operation of the stove substantially preserved, as herein represented, by admitting air within the expanded chamber, 1, above and upon the surface of the fire, by openings in suitable places, for that purpose. In such construction, the fire-brick would perform the office of my chamber, g, so far as protecting the fuel within the hopper from combustion, and preserving the mouth of the

hopper, and the admission of air to the surface of the fire, from other suitable openings in the chamber, would promote the combustion of the fuel and gases.”

In practice, however, the combustion-chamber seems to have proved useless—at least, it is not claimed to be infringed in this case; but defendants were charged with using the circular air-chamber about the hopper, and the question is presented whether—after setting forth in their specifications that “in whatever construction of stove his improvement is to be applied, the air-chamber, g, or its equivalent, and the expanded or conical combustion-chamber, I, above the surface of the incandescent coal and around the lower end of the hopper, must be preserved”—complainants’ are at liberty to claim the circular current of air about the mouth of the hopper as a feature separate and distinct from the combustion-chamber. I find great difficulty in disposing of this question, while in the case of *Vance v. Campbell*, 1 Black [66 U. S.] 427, it is said that, if a patentee declares upon a combination of elements, which he asserts constitutes the novelty of his invention, he cannot, in his proofs, abandon a part of such combination, and maintain his claim to the rest, nor prove any part of his combination immaterial and useless. It does not cover the case of one who, in his specification, sets forth a combination as the thing patented; declares that the use of his improvement requires that both elements of the combination shall be preserved; and, subsequently, claims both these elements separately. Though the specifications describe a combination, there is no doubt that the patentee would be protected in claiming each of the elements of the combination separately, if they were, in reality, new, had he not added that to make use of his improvement both elements must be preserved. His claims, however, forbid the idea that he intended to abandon the several elements, and seek protection only for his combination. A person reading the patent could scarcely be misled as to the intent of the patentee in this regard. Constrained, as the court is, to give this

patent such a construction as will uphold it, if possible, and bearing in mind that specifications and claims are frequently drawn by persons unaccustomed to the use of accurate legal phraseology, I think the court ought to protect the patentee to the full extent of his actual invention. It is true, in his specifications, he describes his entire improvement as consisting of two elements, both of which must be preserved whatever the construction of the stove to which the improvement is applied; but, in the light of subsequent claims, I think the court is not bound to infer that he intended by his specifications to abandon any portion of that which was really new.

Coal-stoves fed by a hopper, or base-burning stoves as they are commonly known, have been used for anthracite coal many years prior to complainants' invention; but a difficulty had attended this method of supplying soft coal, owing to its liability to ignite within the hopper. To obviate this, complainants' constructed their hopper with a double circular wall, introducing air from above, between these walls, which, naturally following the draft, descended toward the fire, keeping the hopper itself comparatively cool, and at the same time feeding the fire with fresh air, descending directly upon its surface. The three claims in question were intended to secure protection for this device, and, properly considered, are substantially identical. The fifth is for a combination of the hopper with a circulating current of air around the lower end of the hopper, substantially in the manner, and for the purposes above described. The circulating current of air, being a result, cannot be patented; but, as it is said to be produced substantially in the manner described in the specifications, the chamber g, with the inlet i, set forth in the specifications, by which this result is produced, must be regarded as the thing patented. *Seymour v. Osborne*, 11 Wall. [78 U. S.] 516; *Fuller v. Yester* [94 U. S. 288]; *Perham v. American Button-Hole, etc., Co.* [Case No. 10,713]; *Hitchcock v. Tremaine* [Id. 6,538]; *Curt. Pat § 242a*.

The seventh is, in its terms, for a result, but a result produced in the manner, and for the purposes above described, and, therefore, for the means by which this result is produced; for this claim must also be interpreted by the rule laid down in *Seymour v. Osborne*. [supra]. In the case of *Mitchell v. Tilghman*, 19 Wall. [86 U. S.] 287, this principle is still further expanded, and the rule laid down, that in all cases where the claim is for the result, it must be construed to mean the means by which the result is produced, whether there is any reference to the specifications in the claim or not. Therefore, the claim must be construed as being one for a combination of the supply cylinder or magazine, and the means for producing a circulation of the air around the lower end of the supply cylinder or magazine, which is the exterior cylinder, with the inlet, i, in the complainants' drawing of the patent.

Thus, it will be seen, that these claims are for the same device, in effect, although clothed in different language, and the device is a combination of the supply cylinder or magazine with the air-chamber, and the register or inlet, i.

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I do not find complainants' invention to have been anticipated by any of the various devices for which priority was claimed. The English patent to Robertson and the French patent to Ten Brinck were chiefly relied upon to establish such anticipation. While resembling this, so far as introducing a current of air to the surface of the burning coal constitutes similarity, they are lacking in an essential feature of the combination, viz., the hopper, suspended over the fire, and separate from the fire-pot. I do not overlook the fact, in this connection, that in his specifications Henderson declares he does not propose to confine himself to the precise shape or location of the hopper as represented in his drawings, where the shape and character of the stove to which they are applied require deviation in this respect; but I think these words must be construed as limited to a hopper separate from the fire-pot, suspended over it, and surrounded by an air-chamber, though it may not be conical or exactly round, or over the centre of the fire. The two devices claimed as anticipations are similar to each other in design, but consist simply of an inclined coal shute or scuttle, with a double top, between the two partitions of which a current of air is drawn down toward the surface of the fire. The scuttle or hopper does not project into the furnace, nor does the circulating current of air surround it. These devices scarcely contain suggestion, to an ordinary mechanic, of complainants' invention. The other devices alleged to be anticipations are still further removed from the Henderson patent and consist merely of different designs for introducing fresh air to the surface of the fire. Nowhere do the defendants produce, in their list of older patents, the combinations named. Nowhere does Henderson broadly claim the use of air; and where they have shown it applied, in no case does it enter the fire through the walls of a surrounding chamber, and where it protects the mouth of the hopper thus exposed from the additional heat produced by the ignition of the gases escaping from the fuel. I do not regard the suggestion in the specifications that fire-brick, resting upon the flanges at the bottom of the hopper, may be substituted for the air-chamber, the air being admitted into the combustion-chamber upon the surface of the fire by openings to suitable places, as impairing the validity of the three claims in question. While the various devices for admitting air to the surface of the fire might have been anticipations of the 8th and 9th claims, it does not follow that they would anticipate the 7th.

The question of infringement was argued at great length and with much elaboration of detail. To constitute an infringement there must be (1) similarity of design; (2) substantial identity of purpose or result.

It is clear that defendants' stove, known as the Baldwin patent, full fills the first condition, and, in design, is an infringement of the three claims in question. It is true the air-chamber, g, does not encircle the whole length of the hopper, but it encloses the lower end, so as to be capable of admitting a current of air to the surface of the fire, and of keeping the mouth of the hopper cool, if the general construction of the stove will admit of it. It differs from the complainants' device chiefly in having the upper part of the magazine or hopper perforated with holes through which air passes into or out of the hopper. These holes play an important part in determining the question of infringement

Whether this device effects the same result is open to very considerable doubt That the encircling air-chamber was originally intended for the same purpose, and was supposed to accomplish, practically, the same result, is evident from the language of the original patent, issued May 8th, 1875. The material portions of the specifications are as follows: F is a diminished orifice through which the gases that may collect in the chamber, F, are discharged into the combustion-chamber, B. The operation of the device is as follows: Fuel contained in the fuel-reservoir, E, will, when the stove is well heated, emit gases, which said gases will escape into the room and become obnoxious, unless means are provided for their escape or combustion. This is effected by permitting them to escape into the chamber, E; thence carried by the draft downward through the diminutive orifice, f, where they are consumed in the combustion-chamber; and to assist this combustion, and at the same time furnish more oxygen to the flame in the combustion-chamber, a register, H, is provided, whereby external air can be admitted. When it is desired to diminish the heat of the stove, and for that purpose quell the combustion in the combustion-chamber, B, the damper, i, in the flue, I, is opened, and the gases in the chamber, F, permitted to escape directly in the smoke-flue, D, instead of permitting them to descend into the combustion-chamber, B."

It is claimed, however, by the defendants, that Baldwin the patentee, was mistaken in his theory, and described erroneously the real operation of his device. This mistake he corrected in three subsequent reissues of his patent, in which he describes its operation as follows: "The operation of the device is as follows: Fuel contained in the fuel-reservoir, E, will, when the stove is well heated, emit gases in the process of coking the fuel in the magazine. These gases will escape into the room, and not only become obnoxious, but will be wasted until means are provided for their escape or consumption. This, desideratum is accomplished by the provisions of the perforations, e, made through the magazine, whereby the draft, as shown by the arrows in the drawing, is directed from the air-space, F, into the magazine, E, whence it passes down through the fuel, assisting in coking the

same before it reaches the fire-pot, A. The opening or orifice, f, at the bottom of the air-chamber, F, is not intended at all to facilitate the draft, the only practical function of the opening, f, being to permit the escape of dirt, or the like, that might collect in the chamber, F.”

The substance of defendants’ claim is that the operation’ of the two stoves is radically different; that the effect of the perforations in their hopper is to create a draft of air from the outer chamber, F, into the hopper, and down through the coal to the combustion-chamber, and that this is done for the purpose of coking the coal in the hopper and delivering it at the mouth of the hopper free from the gases, the presence of which, unconsumed, in the combustion-chamber, has hitherto proved such an obstacle to the use of soft-coal in base-burning stoves. It is further claimed in this connection that the double wall around the mouth of the hopper serves neither to keep the mouth of the hopper cool nor to supply air to the surface of the fire, but merely to permit the escape of the ashes and of particles of coal falling from the perforations, when fresh coal is thrown into the hopper.

I have no doubt this theory is true to a certain extent, and that the operation of the two stoves is considerably different This was shown to my satisfaction by the exhibition of two stoves, one with a solid, and the other with a perforated magazine. Kindlings were placed in the two magazines, both of which had been emptied of their contents, and a fire applied. When the covers were placed on the fire in the solid hopper, it was at once extinguished, while that in the perforated hopper continued to burn with a down ward draft, created by a flow of air through the perforations. Indeed, so far as empty hoppers are concerned, this was practically admitted by complainants’ counsel to be the fact. It was claimed, however, that when the hopper was full of coal, the air would naturally seek an unobstructed descent through the air-chamber surrounding the hopper, rather than attempt to force its way through the interstices of the coal in the hopper. Indeed, it was insisted that as the coal approached the fire it became viscid, and would operate as an almost total obstruction to the passage of air from above. One important fact, however, seems to be well established in the operation of defendants’ stove, viz.: that the coal becomes partly, at least, coked, and deprived of its gases, before it reaches the mouth of the hopper, and that the hottest part of the stove is in that portion of the hopper just below the perforations,

and where the double wall commences. To sustain the fierce combustion at this point, the coal must derive its oxygen from above, since the air ascending from below, instead of finding its way up through the coal in the* hopper, would naturally seek the surface of the fire, and be carried off into the chimney by the draft

The theory of defendants, however, presupposes that all of the air entering his register, H, from above, passes into the perforations in the hopper, and down through the hopper, and that the space between the double walls, around the mouth of the hopper, is substantially a dead-air chamber, and useless either for preserving the mouth of the hopper or supplying air to the surface of the fire, and solely for the purpose of permitting the escape of particles of dust and ashes falling out of the perforations. I cannot understand, however, why the air, which takes a downward draft so freely through the mass of coal in the hopper, would not take the same draft through the unobstructed passage around it. In one experiment I witnessed with defendants' stove, a-lighted swab, saturated with alcohol, was applied inside the chamber, P, and near the bottom of the perforations. The flame descended and came out of certain large holes left at the top of the outer wall, and although I could not see the peculiar flame coming out of the opening, f, at the bottom of the double wall, I was satisfied that it must have taken that direction. I also examined, with as much care; as a red-hot coal-stove can be examined, whether, in the ordinary operation of the stove, air appeared to descend between the rings through the opening, f, into the combustion-chamber of defendants' stove. The mouth of the hopper was surrounded with a thin sheet of descending flame, apparently not coming from the opening, f, but inside of it, and directly below the inner ring of the hopper. If fresh air came down through the circular air-chamber, this would be the effect produced, since the air itself would not burn, but would communicate its oxygen to the gases coming out of the mouth of the hopper, which would-ignite. This was the general result of the experiments conducted with stoves having the circular air-chamber about the mouth of the hopper. Defendants' stove, constructed without the circular air-chamber, and with a hopper having a single solid bottom, showed the same result, though a difference was detected in the fact of the flame coming out of the mouth of the hopper in jets or spurts, instead of surrounding it with a thin sheet of flame, as was observed about hoppers with the double bottom. These spurts of flame were still more plainly observed in a stove constructed with a hopper corrugated at the bottom, showing that the air passed more readily down through the corrugations. These experiments, and a careful criticism of the arguments and the testimony in this case, have satisfied me—1. That there is a downward draft through the hopper in defendants' stove, by which the coal to some extent, is coked, and the gases expelled, before the coal reaches the mouth of the hopper. 2. That the air also descends through the unobstructed air-chamber surrounding the mouth of the hopper, supplying a current of fresh air to the surface of the fire.

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Now, while the theory of defendants' stove does not require that the lower part of the hopper should be kept cool, this current of air must tend to have that effect and also to supply fresh air to the surface of the coal in the fire-pot As these are the results accomplished by complainants' invention, I feel constrained to hold that complainants' have made out a case of infringement, notwithstanding the difference in the practical operation of the two stoves.

But, in view of the fact that defendants stove, constructed without the circular air-chamber, and with a single solid wall, appears to operate as, perfectly as those constructed with complainants' device, I am inclined to the opinion that the use of this device has been of little or no value to the defendants. These questions, however, with regard to damages will be reserved for the further opinion of the court The usual de cree will be entered for an injunction, and referring it to a master to assess and report the damages.

² [Reported by Hubert A. Banning, EST., and Henry Arden, EST., and here reprinted by permission.]

² [The original patent No. 28,482 was granted May 29, 1860.]

³ [From 12 O. G. 4.]