

Case No. 4,919.

{2 Blatchf. 260.}<sup>1</sup>

FOOTE V. SILSBY ET AL.

Circuit Court, N. D. New York.

July 10, 1851.

PATENTS—PATENTABILITY—NEW AND USEFUL RESULT—HEAT REGULATOR FOR STOVES—NOVELTY—EXPANSION AND CONTRACTION OF METALLIC ROD—COMBINATION.

1. In Foote's patent for an "improvement in regulating the draft of stoves," the first claim, being a claim to "the application of the expansive and contracting power of a metallic rod by different degrees of heat, to open and close a damper which governs the admission of air into a stove in which it may be used, by which a more perfect control over the heat is obtained than can be by a damper in the flue," is a claim independent of any particular arrangement or combination of machinery or contrivance for the purpose of applying the principle to the regulation of the heat of stoves.
  2. Where a party has discovered a new application of some property in nature, never before known or in use, by which he has produced a new and useful result, the discovery is the subject of a patent, independently of any peculiar or new arrangement of machinery for the purpose of applying the new property.
  3. Hence, the inventor has a right to use any means, old or new, in the application of the new property to produce the new and useful result, to the exclusion of all other means. The case of *Neilson v. Harford*, *Webst Pat Cas.* 295, cited and approved.
- [Cited in *Bridge v. Brown*, Case No. 1,857; *Andrews v. Carman*, *Id.* 371; *Mitchell v. Tilghman*, 19 Wall. (86 U. S.) 287.]
4. A mere abstract conception cannot be the subject of a patent; but, when it is reduced to practice, by any means, old or new, resulting usefully, it is the subject of a patent, in

dependency of the machinery by which the application is made.

5. In the case of such a patent, although old means be used by the patentee for giving application to the new conception, yet the patent excludes all persons other than the patentee from the use of those means, and of all other means, in a similar application.
6. The novelty of the invention covered by said first claim, can be defeated only by showing the prior application of the principle of the expansion and contraction of the metallic rod to regulate the heat of a stove, by means of the heat produced by the stove itself. It is not defeated by showing a prior application of the expansion and contraction of a metallic rod to open and close a damper, where the metallic rod was heated indirectly by the heat of a furnace, by being immersed in hot water.
7. But the prior application, in order to defeat the novelty of the said first claim, need not have been made by the very best apparatus that could be devised. The question does not depend upon the degree of usefulness, but upon the practically useful and successful prior application of the principle.
8. Where, prior to the plaintiff's invention of the application covered by the said first claim, the principle of the expansion and contraction of a metallic rod heated by the stove itself, had been applied to regulate its heat, the rod being, however, a compound rod, composed of a slip of brass and a slip of iron, firmly fastened together, and the motion of the damper being produced through a deflection of the rod resulting from its curvature, caused by the unequal dilatation, under a given degree of heat, of the two metals composing it, that of brass being greater than that of iron, whereas, in the plaintiff's invention, the motion was produced by the direct linear expansion of a brass rod used in connection with an iron stove: *Held*, that the principle of the application of the expansion and contraction of the metallic rod to regulate the damper, by causing it to open and close according to the degrees of heat in the stove itself, as covered by the said first claim, was the same in the two applications.
9. The said first claim does not involve any mode or method of application, or any question of difference in degree—as that an apparatus having the linear expansion as distinguished from curvature, possesses greater power or can perform what the other cannot.
10. The third claim of the patent, being a claim to “the combination, above described, by which the regulation of the heat of a stove in which it may be used is effected,” *held* to be a claim for a combination, consisting of four parts, specifically defined.
11. Though the parts separately may all be old, yet, if the plaintiff was the first to combine all four of them, for the particular purpose of regulating the heat of a stove by means of its own heat, he is entitled to be protected in that improvement.
12. The novelty of the said third claim is not defeated by showing a prior combination of the same four parts, in which the expansion and contraction of the metallic rod were produced by its immersion in hot water, and not directly by the heat “of the stove itself whose heat was to be regulated.
13. The prior combination, to defeat the novelty of said third claim, must have been an apparatus of practical utility, and must have embraced all the elements embraced in the plaintiff's combination.

In equity. This was the trial, before Mr. Justice Nelson, of a feigned issue ordered in this case,—Foote v. Silsby [Case No. 4,918],—to try the questions, whether the plaintiff [Elisha Foote] was the original and first inventor of the first and third improvements claimed in letters patent granted to him May 26th, 1842, for an “improvement in regulating the draft of stoves.” The specification of the plaintiff's patent, and, also, descriptions

of the apparatus of Dr. Ure and of the egg hatcher of Bonnemain, put in evidence by the defendants [Horace C. Silsby and others], and referred to in the charge of the court, are set forth at length in *Id.* [Case No. 4,916]. All other facts necessary to an understanding of the case sufficiently appear in the charge of the court

Samuel Stevens and Henry B. Stanton, for plaintiff.

Alvah Worden, Charles M. Keller, and Samuel Blatchford, for defendants.

NELSON, Circuit Justice (charging jury). The patentee in this case describes particularly, and with great fulness, two modes of applying the improvement which he claims to have made. They differ, I believe, only in one respect, and that consists in the method of detaching the connecting rod, which is operated by the brass rods, from the damper, so as to prevent all difficulty in extreme heat and give to the brass rods full operation in any degree of heat that may be applied to them. After giving these two descriptions of the machinery used to carry out the improvement the patentee then specifies the several improvements which he claims to have invented, as follows: (The judge here read the four claims in the specification.)

The second claim, which is the adjusting process, and the fourth claim, which is the detaching process, are not in controversy between the parties to this suit as individual claims, and may be laid out of view; leaving the first and the third as improvements claimed by the plaintiff which are controverted by the defendants, and which present the two questions for your examination and decision. These questions are presented in the form of a feigned issue sent from a court of equity to be tried in a court of law before a jury, and it will, therefore, be necessary for you to take them up separately, and examine them, and return a special verdict on each issue, expressing either affirmatively or negatively your answer to each of the questions.

The first question arises on the first claim set forth in the patent of the plaintiff. You are to examine the evidence which has been furnished by the respective parties, subject to the rules of law which will be given to you, and to determine whether or not the plaintiff was the first and original inventor of the improvement covered by the first claim. If he was, you will respond in the affirmative. If he was not, you will respond in the negative.

There has been some difference of opinion

between the counsel for the respective parties, as regards the true construction to be given to the first claim, and it will, therefore, be necessary for the court to call your attention particularly to this branch of the case. It will be seen that the patentee, after he has set forth, in general terms, that he has made a new and useful improvement in regulating the heat of stoves, has set forth, with great particularity, two modes by which he adapts this improvement to use, through the arrangement of various machinery; and that then, in this first claim, he claims the application of the expansive and contracting power of a metallic rod by different degrees of heat, to open and close a damper which governs the admission of air into a stove in which it may be used, by which a more perfect control over the heat is obtained than can be by a damper in the flue. Now, it is the application of the expansive and contracting power of the metallic rod to regulate the heat of the stove by opening and closing the damper, the whole being self-acting in the admission or exclusion of air, that is specifically claimed in this part of the patent; and, according to the construction that I give to it and have always given to it, it is a claim independent of any particular arrangement or combination of machinery or contrivance for the purpose of applying the principle to the regulation of the heat of stoves. I have always supposed, therefore, that the peculiar arrangement or construction of the machinery used did not enter into this branch of the claim. "Where a party has discovered a new application of some property in nature, never before known or in use, by which he has produced a new and useful result, the discovery is the subject of a patent, independently of any peculiar or new arrangement of machinery for the purpose of applying the new property in nature; and, hence, the inventor has a right to use any means, old or new, in the application of the new property to produce the new and useful result, to the exclusion of all other means. Otherwise, a patent would afford no protection to an inventor in cases of this description; because, if the means used by him for applying his new idea must necessarily be new, then, in all such cases, the novelty of the arrangement used for the purpose of effecting the application would be involved in every instance of infringement, and the patentee would be bound to make out, not only the novelty in the new application, but also the novelty in the machinery employed by him in making the application.

To illustrate my view, I will call your attention to a decision upon this point. It is a principle established in the case of *Neilson v. Harford*, "Webst Pat Cas. 295, 310, 328, and is quoted in *Curtis on Patents* (section 80): "Where the invention consisted in the application of heated air as a blast for fires, forges and furnaces, but the patentee claimed no particular form of apparatus for heating the air, but described an apparatus by which it might be heated, and the defendant had employed an apparatus confessedly superior in its effects to that described in the plaintiff's specification, and such an improvement as would have supported a patent; but, as it involved the principle of the plaintiff's invention, it was held an infringement." Although the defendant in that case had got up an apparatus which

was superior to the apparatus of the patentee, yet, inasmuch as, in his apparatus, he was applying heated air as a blast for furnaces, he was an infringer, because he availed himself of the new idea of the patentee. In section SI it is further laid down: "In cases of this class, where the most important part and merit of the invention consists in the conception of the original idea, rather than in the manner in which it is to be carried out or applied in practice, it is clear that a principle carried into practice by some means constitutes the subject-matter of the patent. Inventions of this class may have a character totally independent of the particular means by which they are applied, although the patentee must have, applied the invention by some means; and, when he has done so, the imitating that character may be a piracy of that invention, although the means may be very different, and such as in themselves might constitute a distinct or substantial invention. The machinery employed is not of the essence of the invention, but incidental to it"

Now, in this case, as I understand the claim of the patentee, he claims the application of the principle of expansion and contraction in a metallic rod to the purpose of regulating the heat of a stove. That is the new conception which he claims to have struck out; and, although the mere abstract conception would not have constituted the subject-matter of a patent, yet, when it is reduced to practice by any means, old or new, resulting usefully, it is the subject of a patent, independently of the machinery by which the application is made. I think, therefore, that in examining the first question presented to you, you may lay altogether out of view the contrivance by which the application of the principle is made, and confine yourselves to the original conception of the idea carried into practice by some means; but, whether the means be old or new is immaterial, for, although old means be used for giving application to the new conception, yet the patent excludes all persons other than the patentee from the use of those means and of all other means in a similar application.

The question, then, is whether, anterior to the patent of the plaintiff, any person had discovered the application of the principle in question to regulate the heat of a stove, and applied it by some apparatus which operated usefully to effect that object. On this branch of the case you have the description of the use of this principle by Dr. Ure, for

regulating heat in a stove or furnace. Two illustrations and descriptions of Ure's apparatus are furnished by the defendants. You have also the description and model of the application of the principle by Bonnemain, called the "egg-hatcher"; also the description of the application by Ward, in his ventilator; and the description and model of Evans' contrivance to regulate the admission of cold water into a boiler, with a view to regulate the temperature of the water. You have also the Saxton stove, made in 1838, and produced in court, and the description of Dr. Arnott's stove improved, and the various models of it furnished by the respective parties. In all these cases, the principle of the contraction and expansion of a metallic rod has been adapted to the regulation of heat for what is claimed to have been a beneficial purpose.

As respects the various contrivances of Ure, Bonnemain and Evans, it does not appear that any one of those persons ever applied the principle of the expansion and contraction of the metallic rod to regulate the heat of a stove, by means of the heat produced by the stove itself, thereby producing a self-regulator; and it is, therefore, quite obvious that no one of them had reached the idea. In all these contrivances, with the exception of Ward's, the metallic rod used to produce the motion by which the damper was opened and closed, was not heated by the air of the furnace, but was heated indirectly by the heat of the furnace, by being immersed in hot water. They all, therefore, fell short of the whole idea embraced in the first claim of the patent Ward's application was applied to the ventilation of a room, and, so far as regards the conception of the idea of regulating the heat of a stove by the use of an expanding and contracting metal, was altogether different from the plaintiff's. It was a use of the principle to regulate a damper, but it was not adapted to regulate the heated air of a stove, which is the application in question here. In this respect, therefore, it was the same as Ure's, Bonnemain's and Evans'.

But, in the Saxton stove, you have the application of the principle in question directly to the regulation of the heated air of the stove, by the opening and closing of a damper to admit or exclude the air for the supply of combustion, by the use of a metallic rod heated by the heated air of the stove itself. The same remark may be made in relation to Dr. Arnott's stove improved, if the counsel for the defendants are right in their version of the description of that stove, and if the model they have produced of it be correct. It is of no great moment, however, on this branch of the case, whether they be right or wrong, as the question will turn on the Saxton stove, made in 1838.

Now, it is insisted by the counsel for the plaintiff, that although there is in the Saxton stove an application of the principle of the expansion and contraction of a metallic rod heated by the stove itself, to regulate its heat, yet the rod is a compound rod, composed of a slip of brass and a slip of iron, firmly fastened together, and the motion of the damper is produced through a deflection of the rod resulting from its curvature, caused by the unequal dilatation, under a given degree of heat, of the two metals composing it, that of

brass being greater than that of iron; that such an application is distinguishable from an application of the principle made by the direct linear expansion of a brass rod used in connection with an iron stove; and that, in that respect, the improvement of the plaintiff is distinguishable from the principle or conception applied in the Saxton stove. I lay entirely out of view the machinery, and speak only of the idea of applying the principle to regulate the heat of stoves. Such is the distinction relied on to take the plaintiff's improvement specified in his first claim out of the new conception found in the application of the metallic rod in the Saxton stove.

It must be remembered, however, that in the patent the broad claim is made to "the application of the expansive and contracting power of a metallic rod by different degrees, of heat, to open and close a damper which governs the admission of air into a stove in which it may be used, by which a more perfect control over the heat is obtained than can be by a damper in the flue." And one thing must be admitted, that in the Saxton stove the principle of the expansion and contraction of the metallic rod was applied in the regulation of the damper, by causing it to open and close according to the degrees of heat in the stove itself. The means by which Saxton produced this adaptation were indeed different from the means used by the plaintiff, but the principle was the same. This is obvious from the testimony, and so say all the witnesses who have been examined on the question. Saxton's conception of the idea was anterior to that of the plaintiff. He applied the principle by means of a double bar, which produced a curvature. Still, that curvature was produced by the expansion and contraction of the brass rod, which, being greater under the same temperature than the expansion and contraction of the iron rod, resulted in the curvature, giving a motion which was applied to the regulation of the damper.

The plaintiff is presumed, in judgment of law, although I suppose the fact was otherwise, to have had a knowledge of the Saxton stove, and of the application of the metallic rod to regulate its heat, when he applied the rod to the regulation of the stove described in his patent, and he there saw the principle applied by means of the deflection produced by the two compound bars, and of the motion resulting from the curvature.

The difficulty in this branch of the case, on the part of the plaintiff, lies in his claim to

the original conception of the adaptation of the principle to the purpose. Saxton's stove having been anterior in time to the plaintiff's, the principle existed there, and was only applied by the plaintiff in a different mode to the same object. The plaintiff used the direct action of expansion and contraction to regulate the stove, whereas the combination of the iron rod with the brass rod had been before used. That would seem to be a different mode of applying the principle, rather than an original conception of the idea of adapting the expansion and contraction of the rod to the regulation of a stove. The idea had been before conceived and applied in the Saxton stove.

I have very little more to say on this branch of the case. All that I desire is, to impress your minds distinctly with the thing that is claimed by the patentee, so that you may not confound with something else the actual claim that is made in the first clause of the patent. That claim is not for any mode or method of applying the expansion and contraction of the metallic rod to regulate the heat of the stove, but it is for the conception of the idea itself. It is for you, bearing that in mind, and weighing the evidence in the case, to say, whether the plaintiff was the original discoverer of this conception or not. If he was not, you will answer the first question in the negative. If he was, you will answer it in the affirmative.

I will now call your attention very briefly to the second question. It arises on the third claim, which is in these words: "I also claim the combination, above described, by which the regulation of the heat of a stove in which it may be used is effected." This claim applies to the apparatus used by the patentee in applying the principle. He has given two descriptions of his mode of application. He claims that he is the inventor of the apparatus thus described, and the claim embraces the whole of the apparatus he has set forth in his first description, and also the whole of the apparatus in his second description, the latter differing from the former only in including the detaching process as a part of the combination. This combination consists of—First, the brass rod, which is used, as it expands and contracts from the action of the heat of the stove, to give the power to open and close the valve; second, the apparatus by which the motion obtained by the expansion of the rod is increased, in order to operate more effectually, which is a combination of levers; third, the adjusting screw, which is used to set the brass rod, with the combination of levers and the connecting rod attached to the damper, at a given degree of temperature, by which different degrees of heat are obtained in the operation of the stove; thus, if, when the stove is cold, you were to set the brass rod with its connections so that the damper should be but just open, a very slight degree of heat would close it; consequently, the stove and the room it was designed to heat would be kept at a low temperature; but, if the apparatus was set with the damper wide open, it would require an extreme degree of heat to produce a sufficient expansion of the metallic rod to close it; fourth, the detaching process, by which the connecting rod is made to act or cease acting on the damper. In the



apparatus of the plaintiff, the connecting rod operates directly and positively both to open and close the damper. The damper is not closed by its own gravity, by being released at the extreme of expansion.

This is the combination. There are four elements in it, which I have named. The claim is for the combination of all of them, not for any one of them. It is immaterial whether or not the plaintiff was the inventor of any one or two of them, or of any less than the combination of the whole. They may all be old; and yet, if the plaintiff was the first to combine all four of them, for the particular purpose of regulating the heat of a stove by means of its own heat, he is entitled to be protected in that improvement.

Now, I am inclined to think, although the question has embarrassed me, and I may possibly after all have fallen into an error in regard to it, that the combinations of Dr. Ure in the two instances before alluded to, and the models of which have been produced on the trial, the egg-hatcher of Bonnemain and the contrivances of Evans and of Ward, do not come up to the idea of the combination described and claimed by the patentee and embraced in this second question. I mean, aside from the parts composing the apparatus used by these different persons. As I have before said, when speaking of the first question submitted to you, the contrivances devised by those persons were not constructed to regulate the damper of a stove to be operated on by the heat of the stove. In all the cases mentioned, except that of Ward, the metallic rod was heated, so as to produce the contraction and expansion, by immersion in hot water. The apparatus was made with a view to the heating of the metallic rods in hot water, and not by the heat of the stove, except through the medium of the water which was heated by the stove or furnace. It is quite obvious, that an apparatus to be operated on by the application of hot water, is necessarily different from an apparatus to be acted on by the heat of the stove itself, which is often an extreme heat. This is a view altogether independent of the peculiar arrangement of the apparatus.

It is your duty, however, to look into the arrangement of the machinery used by Ure, Bonnemain, Evans and Ward, to see whether all the elements composing the combination of the plaintiff are found in either of those contrivances—that is, whether you find, in either of them, the brass rod operated on by the heated air of the stove, with

a system of leverage to increase motion, the adjusting screw to set the apparatus at a given degree of temperature, and the detaching apparatus constructed in the mode described by the patentee. It is necessary that you should find all these; not only the parts in their peculiar arrangement, but the combination of all the parts of the same peculiar arrangement in one or another of these prior contrivances, in order to make out, in judgment of law, the identity essential to overthrow the claim of novelty involved in the second question.

In addition to those other contrivances, you have again the apparatus used in Saxton's stove. There, there is a direct application of the principle to the regulation of the heat of a stove, and so there is, also, in the case of Dr. Arnott's stove improved, provided you are satisfied with the description of it, and with the accuracy of the model furnished by the defendants. You will, therefore, examine the machinery used in Saxton's stove, which was made in 1838, and see whether the arrangement and combination are or are not substantially the same with those described in the plaintiff's patent

There is one consideration which it is proper you should take into view, because it may have some weight on this branch of the case, as respects the comparison of the apparatus in Saxton's stove with the apparatus described by the plaintiff. It is this: In the Saxton stove, the compoundbar is used, and the motion is obtained from the curvature which results from the difference of expansion between the brass rod and the iron rod. In the plaintiff's stove, the motion is produced by the direct linear expansion of the rod. It is, therefore, proper for you to keep this in view, when you are examining the means used by each for the purpose of giving application to this expansive and contracting principle of metals, to see whether the means are the same or not and whether the principle can be adapted and used by the same apparatus when the metal is acting by curvature and when it is acting longitudinally. This is a question of fact, and it has been so long before you and so frequently referred to and explained by the witnesses and by the learned counsel, in the course of the trial and in summing up, that it is unnecessary for me to call your attention more particularly to this branch of the subject. All that I desire is, to present the point so that you may comprehend it. The question is, whether the combination of the different parts of the machinery used by the patentee for regulating the heat of a stove by means of this principle of the expansion and contraction of a metallic rod was new and not before known, or whether the whole of it is to be found in any of the models, stoves or descriptions which have been given in evidence on the trial. If the combination was new with the patentee, then, so far as regards the second question, your response ought to be in the affirmative. If it was not new but was known before, either in a full description or in any of the models or stoves which have been produced, your response should be in the negative.

Mr. Stevens, for the plaintiff, requested the court to charge as follows: 1st In regard to the first branch of the case, that if an apparatus having the linear expansion, as distin-

guished from curvature, possessed greater power, and if Saxton's stove was incapable of performing what could be performed by the plaintiff's, then the application of the principle in the plaintiff's stove was a new application.

In reply to this request the court remarked: The objection to that proposition is, that it involves a method or mode of application and the question of a difference in degree, which is not an ingredient in and does not belong to the first question.

Mr. Stevens, for the plaintiff, further requested the court to charge as follows: 2d. That if the apparatus by which Saxton applied the principle contained within itself the elements of its own destruction, it could not interfere with the plaintiff's rights under his third claim.

In reply to this request the court remarked: Although the person who 'first conceived the idea of applying the principle to the regulation of the heat of a stove by the action of its own heat is entitled to the merit, yet, if that application was made in a way that was useless, and if it was a failure, it is no impediment in the way of the claim of the patentee; because, as I before stated, a person, in order to entitle himself to a patent for a new application of a property of nature to a useful purpose in the business affairs of life, must not only have conceived the idea, but must by some means have successfully given application to the new property. In other words, the person who first conceived of the application of the expansion and contraction of a metallic rod acted on by the heat of a stove, to regulate the heat of that stove, must in order to have entitled himself to a patent have applied the principle usefully by some apparatus or machinery. But then it is not necessary, in any improvement, that the application to the new and useful purpose should be made by the very best apparatus that can be devised. The question does not depend on the degree of usefulness. If the application that was made of the principle operated successfully, so as to be practically useful, although it might not have been the very best yet it was not a failure.

The jury went out at 12 m. At 6 P. M. the jury came into court, and put to the court the following question in writing: "Shall the jury consider the greater utility of either apparatus, in making up their verdict?"

In reply to this question, the court remarked: The degree of utility is not involved in the issues. There must have been some practical utility in the apparatus set up by the defendants as previously known, to show a want of novelty in the plaintiff's apparatus, but the degree of utility is not in question. One may be better than the other, but that fact is not to be taken into account. The one that is alleged to be prior must, however, have been an apparatus of some practical utility; but, whether it was better or inferior in degree is not a question.

The jury then retired again. But the court immediately sent for them again, and, on their coming into court, the court remarked: I have sent for you, again, gentlemen, for fear that the answer I gave to the question you propounded might lead to confusion as respects the two issues. I want to inquire if the question you put was put with reference to the first issue or the second issue. Foreman: The second issue. We have agreed as to the first issue.

The court then remarked: The second issue turns on the combination and apparatus of the plaintiff to regulate the heat of the stove, that is, the claim of the plaintiff for a combination of four elements. He alleges that that combination was new with him. In order to overthrow the claim involved in the second issue, you must be satisfied that the arrangement set up by the defendants, tending to disprove the novelty of the plaintiff's combination, was an apparatus of practical utility. No matter whether it was superior or inferior to the plaintiff's. It must have been an apparatus of practical utility, and must have embraced in its combination all the elements embraced in the plaintiff's combination; in other words, you must find that it contained an identity of combination.

At 12 m. the next day, the jury rendered a verdict in the negative on both issues.

NOTE. Afterwards, on a final hearing on pleadings and proofs, the court entered an interlocutory decree for the plaintiff, notwithstanding the verdict on the feigned issues. The case went to a master, who took an account. On exceptions, his report was modified, and a final decree was entered for the plaintiff. [Case No. 4,920.] The defendants appealed to the supreme court, where the case is reported as *Silsby v. Foote*, 20 How. [61 U. S.] 378. That court modified the decree below in some particulars.

<sup>1</sup> [Reported by Samuel Blatchford, Esq., and here reprinted by permission.]