

BROWN MANUF'G CO. v. DEERE et al.  
 SAME v. DAVID BRADLEY MANUF'G CO.

(Circuit Court of Appeals, Seventh Circuit. May 1, 1894.)

Nos. 88 and 89.

PATENTS—LIMITATION OF CLAIM.

In the Brown patent, No. 190,816, for an improved coupling for cultivators, consisting of a tube or pipe box turning loosely on the horizontal ends of the crank axle, connected with a head to which the forward ends of the plow beams are bolted, and provided with means for turning it against the gravity of the cultivator in the rear, the first claim, for "the pipe box, provided with a projection adapted to co-operate with a spring, weight, or the draft, to rock the said pipe box against or with the weight of the rear cultivators or plows," cannot be construed as for a combination of the pipe box described with other parts of a cultivator named in the claim or specification, and must be limited to the particular forms of construction of the pipe box described. 51 Fed. 226, affirmed.

Appeals from the Circuit Court of the United States for the Northern District of Illinois.

These were two suits by the Brown Manufacturing Company—one against Deere & Co., and the other against the David Bradley Manufacturing Company—for infringement of a patent. The circuit court decided in favor of complainant (21 Fed. 709), but, upon a rehearing on its own motion, rendered decrees in both cases for defendants. 51 Fed. 226; Id. 229. Complainant appealed.

These suits were each brought to obtain an accounting and an injunction against infringement of the first claim of letters patent No. 190,816, which read as follows:

"Be it known that I, William P. Brown, of Zanesville, in the county of Muskingum, and state of Ohio, have invented a new and improved coupling for cultivator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which Fig. 1 is a perspective view of the particular form of cultivator to which my coupling is to be applied; Fig. 2 is a side view of one of the couplings, looking in a line with the axle; Fig. 3 is a front view of one of the couplings, looking at right angles to the axle; Fig. 4, an enlarged transverse section through line, x, x, Fig. 3.

"My invention relates to an improved form of coupling for fastening the forward ends of the beams of plows or gangs to the axle of a wheeled cultivator. The improvement consists in the particular construction and arrangement of a tube or pipe box turning loosely upon the horizontal ends of the crank axle, and connected, through an adjustable stirrup or sleeve and bracket, with a head having a long bearing at right angles to the pipe box, to which head the forward ends of the plow beams are bolted, while the pipe box is provided with means for turning it against the gravity of the attached cultivator in the rear, whereby the said cultivators are manipulated with greater ease, as hereinafter more fully described.

"In the drawing, A represents the longitudinal bars, extending forward to form the tongue, and constituting the main frame of a wheeled cultivator, to which my invention is applied, which bars are arranged upon the elevated crank axle, B, supported upon wheels, C. Upon the horizontal parts of said crank axle, between the upright portions and the wheels, are arranged my couplings, which secure the beams of the plows or gangs, D. These couplings are constructed as follows: E are tubes or pipe boxes, which embrace the axle, B, and turn freely thereon. G is a stirrup, which is held to the pipe box, E, by means of a loop, s, and is made to rigidly connect with said pipe box by means of longitudinal ribs upon the stirrup, which engage with corresponding ribs upon the pipe box. The stirrup, however, instead of having a loop, s, may be constructed in form of a sleeve, and made to embrace pipe box,

E, in which case it will be adjusted thereon by a screw bolt, a, whose inner end may bear upon a roughened steel jib, which bites the pipe box, and prevents the sleeve from slipping. Said stirrup is formed with projecting lugs or brackets, H, which are perforated to receive a pivot bolt, b, arranged vertically and at right angles to the pipe box. Around this bolt, b, is arranged the head, I, which is made with a long bearing, to which head the forward ends of the beam are bolted. Referring to the feature of the pipe box and adjustable sleeve, I would have it understood that I do not claim such broadly, as the same idea is shown in patent No. 108,945. J is a cap fastened to the crank axle between the hub of the wheel and the pipe box, by means of a staple, c, which binds around the axle, and is fastened to the cap by nuts, d. This cap serves as a stop to the hub of the wheel, to separate the same from the pipe box; and its curved and flanged end, e, acts as a guard to keep dirt and other obstructions from the bearings of the wheel. K is a brace designed to stay the axle to the tongue; and L is a link arranged in the staple of the cap, J, to which the draft attachment is secured to properly distribute the strain upon the implement.

From the above description, it will be seen that the gangs of cultivators have free and easy motion laterally, from right to left, on the long bearing of the vertical pivot bolt, and also a free movement vertically upon the axle (by reason of the pipe box), when it is desired to lift the cultivators, either to hang them upon the hooks of the frame, out of contact with the earth, or to raise them for any other purpose. To render the manipulation of the plows or cultivators easy, I provide an arrangement whereby either springs, weights, or the draft power may be utilized for sustaining a part of the weight of the said cultivators when they are lifted from the ground, to be hung up, or shifted laterally. In accomplishing this, I construct the pipe box, with a hooked arm, M, and arrange a stiff spring, N, of metal or rubber, upon the main frame above, so as to engage, by means of a loop, with the end of the arm, M, to rock the pipe box; and as the cultivator beam in the rear is rigidly attached to the pipe box by the stirrup or the sleeve, and its screw bolt, the spring has the tendency to rock the pipe box, and assist the driver in lifting the cultivators.

I do not claim, broadly, the application of springs to sustain a part of the weight of the cultivator, as this is shown in my patent No. 128,701, of 1872, but I do claim a pipe box provided with an arm or projection adapted to rock the same; and, referring to this same feature, I do not limit myself to the use of a spring operating in connection with such projection, as the pipe box may be provided with a perforated flanged projection, M', to which the draft attachment may be directly fastened, and so arranged as to utilize a part of the draft to produce the same lifting effect upon the cultivators when attached above the center of the pipe, and, when below the center, assists to make the plows run deeper, and when the plows are raised out of the soil or dirt the draft on projecting flange ceases, allowing the spring to assist in lifting the plows. In the place of the flange mentioned, a counter weight may be employed for the same purpose, or a sheave or pulley may be arranged on the pipe box with a chain, to produce the same effect.

In making use of my invention, the sleeve or stirrup and brackets can be adjusted to regulate the width between the duplicate cultivators by slackening the set screw (if a sleeve be used) that binds the same to the pipe box, or by disengaging the ribs and grooves of the pipe box and stirrup, and moving said sleeve or stirrup as desired. These ribs or the set screw, it will be seen, hold the arm, M, in an upright position to allow the spring its proper tension, and, by moving the set screw and stirrup or sleeve, the tension of the spring may be regulated as desired. The set screw, or its equivalent adjustment, also serves to hold the sleeve or stirrup and brackets rigidly in place, to give the plows or cultivators a firm and steady upright position. The length of the tube of the pipe box gives a long bearing for raising and lowering the plows, and, while causing the latter to be held steady, affords also an easy motion, and one that cannot get cramped. The length of the pivot bolt, and distance between the brackets, also permit the coupling head, I, to be sufficiently deep to prevent the rocking or swaying motion of the plows when guided by the driver; and, among other advantages, may be mentioned the small degree

of friction which is secured by the long bearings of the pipe box and the head, and also the fact that its construction is such that its bolts cannot be made too tight, and hence there is no liability of its parts being wrongly adjusted by the unskilled. With respect to counteracting the gravity of the cultivators or plows by means of the projecting flange or arm and spring, or its equivalent, it will be seen that it not only assists the plowman in operating the plows, and also in hanging them when not in use, but it also acts as a counterbalance to the tongue, and thus relieves the neck of the team from the weight of the same. It also prevents the shovels from getting dull so rapidly, for, as the under sides of said shovels do not press so hard upon the earth, the force of the earth is more nearly equalized above and below the point, and the shovel is easily worn above and below. It also assists the shovels in scouring, as they are held more uniformly and with a more elastic pressure against the face of the soil, especially when the flange, M', is used, which, when the draft is from the bottom of the same, causes the increased resistance to the shovels (which the hard places afford) to compel the draft to force the shovels deeper into said hard places, instead of skimming over the same.

"Having thus described my invention, what I claim as new is:

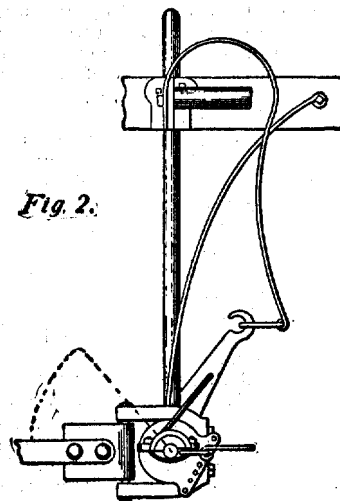
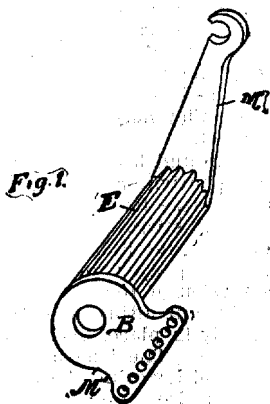
"(1) The pipe box provided with a projection adapted to co-operate with a spring, weight, or the draft, to rock the said pipe box against or with the weight of the rear cultivators or plows, substantially as and for the purpose described.

"(2) The combination, with the crank axle, and the gangs or plows, of the pipe box, having arm, M, the spring, N, attached to the main frame, the head, I, and the stirrup, G, or its equivalent, having brackets, H, and pivot bolt, b, and fastened to the pipe box, substantially as and for the purpose described.

"(3) The pipe box, E, having longitudinal ribs, combined with the stirrup, G, having corresponding grooves and a clamping device, substantially as described."

Of the annexed drawings the first is taken from one of the briefs in the case, and shows the coupling alone; the second is figure 2 of the patent, and shows the coupling in combination or connection with other parts of the cultivator.

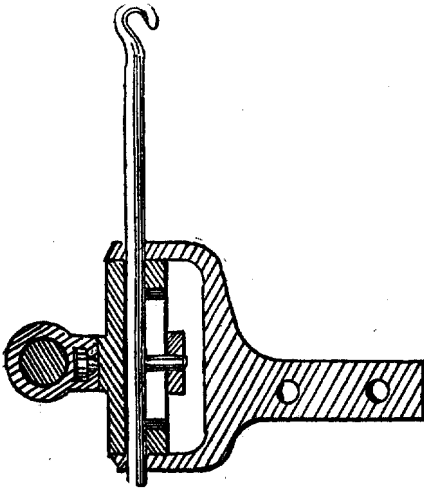
Among the defenses pleaded were denials of infringement and of invention, with references to the following prior patents: No. 9,086, granted to A. H.



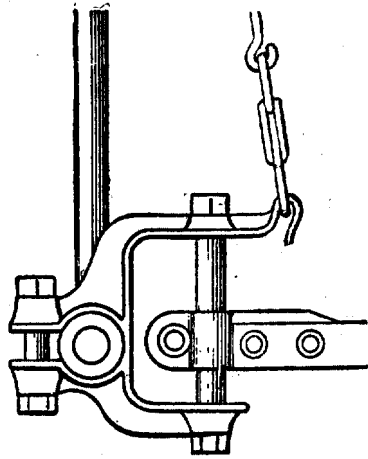
Allison; No. 26,606, to P. Monaghan; No. 45,721, to H. Jordan; No. 61,649, to A. H. Allison; No. 65,573, to J. Hollingsworth; No. 70,643, to H. K. Stoner; No. 72,456, to Philip Coonrod; No. 73,972, to Martin Heyden; No. 82,938, to B. F. and J. V. Guy; No. 96,379, to W. S. Baker; No. 108,276, to L. Luppen; No. 108,945, to D. C. Stover; No. 127,878, to William Haslup; No. 128,701, to W. P. Brown; No. 134,540, to G. A. Grove; No. 140,513, to L. Litchfield and H. S. Corbin; No. 154,666, to M. L. Gorham; No. 164,180, to A. J. Judson; and British letters patent No. 1,582, dated July 5, 1856, to Thomas Smith.

The couplings used by the appellees were made under the patents of Moore, No. 217,811, and Bradley, No. 270,629, which the appellees, respectively, own, and are illustrated by the following drawings:

Moore coupling.



Bradley coupling.



By the first decision below, reported in 21 Fed. 709, the patent was upheld; but the court—having, of its own motion, granted a rehearing—declared its final conclusion that the claim in question was not, as contended by the complainant, for a combination, but for the device, “a pipe box with a projection adapted to co-operate with a spring.”

The following extracts from the brief of counsel show the chief points of the argument made here in the appellant's behalf:

“Omitting, for the present, the elements of ‘weight or the draft,’ the devices which are specifically named in the claim are, (1) the pipe box; (2) a projection; (3) a spring; (4) the rear cultivators or plows. Implying, as we must, a main frame, which is an element in all such machines, it is perfectly plain that, adding this, we have all the elements required to construct a working combination, and that all of them are absolutely essential. It is also true that, by the phraseology of the claim, these elements are all united together into a working combination. As to that there can be no dispute. Hence, nothing is wanting to make a technical combination of it, except the word ‘combination’ itself, or the word ‘combined,’ or the word ‘arranged.’ If any of these three words were in the claim, there would be no room for dispute. The word ‘adapted’ is the one which is used. It would seem to require no great stretch of language to construe this word ‘adapted’ as meaning ‘arranged’ or ‘combined.’ That, obviously, is its force, and obviously was the intent of the party who used it. How adapted? The adaptation is made by putting the things together in the way which is shown and described in the patent, and until that is done there is no adaptation made, within the meaning of the patent law. A mechanical device is ‘adapted’ to do its work by being actually put into co-operative relationship with such

other devices as will enable it to perform its function. This is the highest and most perfect adaptation known to the law, and when it is done a combination is made. Hence, it is submitted that the devices being named which make the combination, their co-operative relationship being described and set forth fully and specifically, and a co-operative relationship in the machine being clearly called for by the word 'adapted,' it clearly follows that the claim in question should be construed as a combination claim; the more so, because, by such construction, the invention, as actually made, will receive the proper protection.

"Let us turn now to the question of function. I have said that, as a matter of fact, the use of a weight in the Brown combination in lieu of a spring (assuming it to be usable at all) would introduce into the Brown cultivator a function previously unknown in the art. This function may be thus stated: Making a weight or spring coact or co-operate with a hand lever or handle in the manually directed movements of the cultivator shovel in such a way that the spring or weight should always be an auxiliary device, and should never be an opposing device. That thing or function was absolutely new with Mr. Brown. The co-operation of those two elements—the spring or weight, on the one hand (or include, if you please, the draft of the team), coacting with the hand lever or handle through which the cultivator shovel was manually guided in doing its work, and so as always to be a help, and never a hindrance—was unknown in the art until Mr. Brown did it. This is the final and material fact in the case; and, this fact being true, it is submitted that the validity of the Brown patent cannot be called in question. A new combination which involves a new function is always patentable.

"Weights vs. Springs. In machines which travel about from place to place, a weight is not, as a general rule, the mechanical equivalent of a spring. While Mr. Brown, when he applied for his patent, undoubtedly thought that, for the purposes of the invention in question, a weight was practically, as well as theoretically, the equivalent of a spring, the simple fact is that, in so thinking and so saying, he was mistaken. It was an error on his part,—nothing more and nothing less,—but an error which ought not to prove fatal to his patent, in view of the fact, first, that the actual invention which he made was incontestably novel, and has proven to be of great value, and in view of the still other fact that the defendants have undoubtedly used it. In many kinds of stationary machinery, weights can obviously be substituted for springs without invention, and with beneficially the same results. Where they can be so substituted, they are equivalents, and otherwise not. In most kinds of movable or portable machinery, they are not equivalents. Thus, in watches they are not equivalents, though they may be in stationary clocks, they are not equivalents in eye glasses, and a weight would be a sorry equivalent for a spring in a carriage or in a bed. Whether they are equivalents depends upon the environments. It is also submitted that the whole question of weights as mechanical equivalents was practically disposed of in the first decision in the Deere Case, and on the principle there enunciated and applied, 'Utile per inutile non vitatur;' and to this the court very properly added: 'Whatever part of this claim may be deemed to have reference to the projection, M', it seems to me, is of no moment, for the purposes of this case at least, for it is not claimed that defendants use this part of this claim, or anything equivalent to it.' Manufacturing Co. v. Deere, 21 Fed. 709, 711. So of the weight. Neither party uses it, or ever has. For the purposes of this case, all reference to it may properly be disregarded, or it may be rejected as surplusage." \* \* \*

"In the invention now in question, the place of hitch—that is, the place where the connection was made through which the spring acted on the cultivator beam—was changed from the cultivator beam itself, and was shifted forward to a radial arm or projection, which was made for the purpose on the pipe box. It will be remembered that the forward end of the beam is pivoted to a pipe box on the axle by a vertical joint. This vertical joint permits sidewise motion, and through the pipe box itself, turning on the axle, we get vertical motion. The problem was to hitch the spring so that it would aid the operator in the vertical movement of the beam, without interfering with the sidewise movement. In order to do this, Brown made on

his pipe box an arm, M, which extended radially out from the pipe box. To this he hitched the free end of the spring, which in his patent is marked 'N,' the other end of the spring being fixedly secured to the main frame. Hence, the Brown invention, stated in a general way, consists in hitching the spring to an arm or projection which extends radially out from the pipe box in any desired direction. \* \* \* The invention, properly construed, takes in any place of hitch at or forward of the vertical pivot bolt by which the cultivator beam has sidewise motion. This is the only part of the invention which is now properly in controversy."

George H. Christy, for appellant.

Bond, Adams, Pickard & Jackson (John R. Bennett, of counsel), for appellees.

Before WOODS and JENKINS, Circuit Judges, and BAKER, District Judge.

WOODS, Circuit Judge (after stating the facts). We quite agree with the court below that the first claim of the patent in suit is not for a combination of the pipe box described with other parts of a cultivator named in the claim or specification, but for the pipe box itself, as a single device, designed and adapted for use in the several ways specified. The contrary contention requires that the word "adapted," as used in the claim, be given a strained and unwarranted significance. It is not even approximately synonymous with "combined;" and a substitution of the latter word would be inadmissible, unless the words "to co-operate" were omitted. If the word "arranged" were substituted, it would have the same meaning as "adapted," unless, again, "to co-operate" were omitted. We think it clear that the first claim of the patent is for "the pipe box with a projection," which projection may be adapted to co-operate with a spring, or with a weight or with the draft, for the purpose of rocking the box either against or with the weight of the plows,—one or both; and while, by the claim, the box has one projection, two illustrations, M and M', are given of projections which may be employed, and it is suggested in the specification that instead of the flange, M', a counterweight may be employed, or a sleeve or pulley may be arranged on the pipe box with a chain to produce the same effect. It is easy to see, too, that weights, instead of the spring, might be connected with the arm, M, so as to rock the box in either direction. Indeed, that arm might be lengthened, its upper end enlarged so as to constitute a weight, and a joint introduced near the box, whereby the weight could be turned forward or backward to move the box one way or the other, as desired. The specification of the patent was drawn, of course, to describe the elements and functions of the elements of all of the claims; and, when they are considered together, it is clear enough that the first claim was designed to be broadest, covering simply the pipe box with a projection, which might be in any of the forms illustrated or suggested; the third to be less broad, covering the same pipe box, except that it should have "longitudinal ribs, combined with the stirrup, G, having corresponding grooves," etc.; and the second to be yet more narrow, covering "the combination, with the crank-axle and the gangs or plows, of the pipe box having

the arm, M, the spring, N, attached to the main frame, the head, I, and the stirrup, G, or its equivalent," etc. The interpretation which we are asked to put upon the first claim would make it essentially the same as the second. The proposition of the brief is "that, for the purpose of the present case, the claim is to be construed under the law as a claim for a combination in a corn cultivator of a pipe box, a projection thereon, a spring hitched to such projection at its free end, and one or more 'rear cultivators or plows' also pivoted to the pipe box; these being so connected and combined that the spring, acting through such projection, shall co-operate with the operator in the manipulation of the beams by hand." It is only under the emergencies and "for the purpose of the present case" that such a combination could be read into the claim; but, if so interpreted, we should still be compelled to regard the claim as void of invention, or at most subject to a construction which would be too narrow to support the charge of infringement. It is not contented that the supposed combination contains any new element, or is made up of parts which had not been employed together in earlier cultivators to perform the same or similar individual functions. A new combined result is insisted upon, and one novel feature of construction is asserted, which, it is said, consists simply in changing "the place of hitch" for the spring from the plow beam, where it had theretofore been, to a projection made for the purpose on the pipe box; thereby accomplishing the alleged new result of avoiding the tendency of the spring, when attached in the old way, to resist lateral movements of the plow. "The problem," we are told, "was to hitch the spring so that it would aid the operator in the vertical movement of the beam without interfering with the sidewise movement;" and it is asserted that Brown's invention consisted in the discovery that the resistance to sidewise movements could be avoided by hitching the spring in front of the vertical bolt upon which the plow beam turns horizontally. But in the cultivators made by the appellees the spring was hitched to an extension, either of the bolt itself, or of the upper arm of the stirrup through which the bolt passed; and it became necessary, in order to maintain a semblance of infringement, to enlarge still further the scope of the claim. Accordingly, it is insisted that, properly construed, the invention includes any place of hitching at or forward of the vertical pivot bolt. But this proposition, manifestly, is not completely applicable when a weight is used in lieu of a spring; and hence it became important, if not imperative, to say, as it has been said, that while Brown thought that for the purposes of the invention "a weight was practically, as well as theoretically, the equivalent of a spring," he was mistaken in that particular. But that this assertion was unwarranted is shown by the suggestion already made, that, instead of the spring, a weight might be attached to the arm, M, without change in its construction, so as to perform the exact function of the spring, or, to accomplish the same effect, the arm itself might be lengthened, enlarged at its outer end to produce the requisite weight, and jointed near the pipe box. This last

construction would be substantially identical with the weight and lever shown in the English patent to Smith, No. 1,582, for improvement in horse rakes. Brown therefore made no mechanical mistake in treating a weight, for his purpose, as an equivalent for a spring; and, if there was mistake at all, it was because thereby the fact of anticipation by the English patent was made more evident. The attempt to distinguish between the pipe box of this patent, when moved by a lever and weight, and the pipe box of the Smith patent, with its lever and weight, because one is used in a cultivator, and the other in a horse rake, is necessarily unsuccessful. A more complete analogy in construction and function between things not identical it would be difficult readily to conceive. But following the line of the appellant's argument, and leaving out of view, for the purposes of the case, the weights and draft mentioned in the claim, and the sleeves and pulleys suggested in the specification, and considering the spring only as a fit means for performing its allotted function, our conclusion cannot be different. While it is plainly true that the spring, when hitched to the plow beam, will tend to resist a lateral movement of the plow, the extent of the resistance, it is equally clear, will be proportionate to the distance of the point of attachment from the bolt upon which the beam is pivoted. To reduce the resistance, it would be only necessary, in a given case, as any intelligent person could see, to reduce that distance; and what the appellees did was to attach the spring to the bolt itself, lengthened out in order to prevent loss of power, and not, in the manner of Brown's patent, to a projection on the pipe box provided for the purpose. Once springs had been introduced into cultivators for the purpose of aiding the operator to move the plows vertically, if it can be said to have ever been a question, outside of the minds of solicitors and expert theorists, how the resistance of the springs to lateral movements could be avoided, it was a problem whose solution was always too manifestly easy to be called invention or discovery. It was a matter of the simplest reasoning and observation. It was admitted at the argument that, so long as the process consisted in diminishing the resistance by moving the place of the spring's attachment on the plow beam towards the bolt, it involved no invention; but it is claimed that Brown made an original discovery when he perceived that by passing the bolt, and making the attachment in front, the resistance was entirely eliminated. The fact is evident, but no more so to men of ordinary intelligence now than it was before Brown applied for his patent; and consequently there could be nothing patentable to Brown in the discovery, if his intelligence is to be discredited by the assumption that the perception then first dawned upon him. Practically, the supposed problem would be solved just as well by connecting the spring with the beam at a point immediately behind the pivot bolt, within a distance of three, six, or perhaps even twelve, inches. In his patent of 1872, Brown had shown another mode of accomplishing the result by pivoting the fixed end of the spring like the pivoted part of a swinging bracket.



If the claim in question can be regarded as containing invention at all, it must be limited to the particular forms of construction of the pipe box described; and, that done, infringement is not proved.

The decree below, in each case, should be affirmed, and it is so ordered.

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STIRRAT et al. v. EXCELSIOR MANUF'G CO.  
(Circuit Court of Appeals, Eighth Circuit. May 7, 1894.)

No. 341.

PATENTS—LIMITATION OF CLAIMS—WATER-HEATING DEVICE FOR STOVES.

The Stirrat patent, No. 357,874, for a water-heating device for stoves, in view of the prior state of the art and the modification of the claims in the patent office, must be strictly limited to the construction described, which includes, as an essential element of the combination claimed, a hollow, long center plate or a top plate of a stove having a chamber therein, through which the water to be heated is caused to pass; and hence does not cover a device containing a solid, long center plate with a water box bolted thereto. 60 Fed. 607, affirmed.

Appeal from the Circuit Court of the United States for the Eastern District of Missouri.

A. C. Fowler, for appellants.  
Paul Bakewell, for appellee.

Before CALDWELL and SANBORN, Circuit Judges.

SANBORN, Circuit Judge, delivered the opinion of the court.

This was a suit for the infringement of letters patent No. 357,874, for a water-heating device for stoves and ranges, issued to the appellants Robert J. Stirrat and Robert G. Stirrat, February 15, 1887. The defense was that there was no patentable novelty in complainants' device, and that the appellee, the Excelsior Manufacturing Company, a corporation, did not infringe. The circuit court dismissed the bill on the latter ground. 60 Fed. 607.

The device of the appellants consists of the combination of the hollow, long center plate of a stove or range, with a supply pipe, which leads from the lower part of a water tank, through the wall of a stove or range, thence in front of the fire back, and is then inserted in the under side of the long center plate, near the end furthest from the source of supply, and an eduction pipe which leads to the hot-water tank and is screwed into the long center plate at the end opposite to that at which the supply pipe is inserted. The device of the appellee consists of the combination, with the solid, long center plate of a stove, of a water box, slotted lugs and bolts or screws by which it may be fastened to the long center, and a supply pipe and an eduction pipe arranged and inserted in the water box in substantially the same way in which the appellants arrange and insert the like pipes in their hollow, long