

THE STEBBINS HYDRAULIC ELEVATOR  
MANUF'G CO. AND ANOTHER *V.* STEBBINS.

*Circuit Court, S. D. New York.* —, 1880.

1. PATENT No. 132,111, issued October 8, 1872, for "improvements in hy-draulic elevators," *held*, under the circumstances of this *case*, *not infringed* by an apparatus constructed according to patent No. 172,896, issued February 1, 1876, or patent No. 181,113, issued August 15, 1876, for "improvements in hydraulic elevators."
2. PATENT No. 132,112, issued October 8, 1872, for "improvements in safety devices for hydraulic elevators," *held infringed*.
3. PATENTS Nos. 172,896 AND 181,113, *held*, not improvements in or of, or in aid of, any of the inventions or improvements patented by patents Nos. 132,111 and 132,112.

*Arthur V. Briesen*, for plaintiffs.

*George W. Wingate* and *Francis Forbes*, for defendant.

BLATCHFORD, C. J. Letters patent No. 132,111 were issued to the defendant, October 8, 1872, for "improvements in hydraulic elevators." Letters patent No. 132,112 were issued to him on the same day for "improvements in safety devices for hydraulic elevators." On the fourth of November, 1872, he and two other persons, being then the owners of said patents, assigned, by an instrument in writing, the said two patents to "The Stebbins Hydraulic Elevator Machine Manufacturing Company," a California corporation. One of the plaintiffs, "The Stebbins Hydraulic Elevator Manufacturing Company," is alleged in the bill to be a California corporation, and the said assignment is alleged in the bill to have been made to it. The answer appears to admit that such assignment was made to the plaintiff corporation, and no point is made that it was not, or that it was made to another corporation. But there is no explanation

as to the discrepancy of name by the introduction of the word “machine” into the name in the assignment. The parties, however, seem to treat the corporation assignee as being the corporation plaintiff.

The assignment, after assigning to the assignee all the 446 right, title, and interest of the assignors in and to the said two patents, proceeds thus: “Together with the right to modifications, improvements, or re-issues thereof, and all other and similar patents in the United States which may be issued to us or any one of us, directly or indirectly, in aid of the improvements above specified. \* \* \* And we do hereby covenant and agree to and with the said Stebbins Hydraulic Elevator Machine Manufacturing Company, each for himself and not one for the other, to make, execute, and deliver to it, the said Stebbins Hydraulic Elevator Machine Manufacturing Company, such other and further assurances, deeds, and transfers as may be necessary or proper for the more effectual accomplishment of the true intent and purpose of these presents.” On the first of February, 1876, letters patent No. 172,896 were issued to the defendant for “improvements in hydraulic elevators,” and on the fifteenth of August, 1876, letters patent No. 181,113 were issued to him for “improvements in hydraulic elevators.”

This suit is brought to recover for infringements of patents Nos. 132,111 and 132,112, and to compel the defendant to execute to the plaintiff corporation an assignment of patents Nos. 172,896 and 181,113. The specification of No. 132,111 says: “My invention relates to improvements in that class of hydraulic elevators which are used for elevating persons and things from one floor of a building to another. My improvement consists of an arrangement whereby the power of either one or two upright cylinders can be employed for elevating the load according to the weight which it is desired to lift. Heretofore, when

two cylinders have been used for this purpose, the arrangement has been such that the pressure in both cylinders was applied in all cases, whereas, frequently and in most cases, the power of a single cylinder is sufficient, thus causing a waste of water, which, especially in cities where water is paid for by the gallon, is a heavy and unnecessary expense. In the following description my invention is fully described, reference being had to the accompanying drawing forming a part of this specification, in which figure 1 is a 447 front elevation of my machine, and figure 2 is a side elevation. A A represents two upright cylinders, which are secured to the same bed piece, B, at a short distance apart, or any number of such cylinders can be used. Inside of these cylinders is a piston, C, and each of the piston has a bar, *d*, extending upwards from its center in the manner of a piston-rod. These bars have each a rib, *f*, extending the entire length along the middle of one side, as shown, while their opposite pieces are framed into a rack. A strong metal side piece, *e*, is secured to the outside of each of the cylinders, A, at their upper ends, so as to project above them. A shaft, *g*, extends across above the cylinders back of the piston bars, *d*, and bears in these side pieces. A spool, *h*, is secured upon this shaft opposite the rib, *f*, of each bar, in which the ribs fit, so that they form guides for the bar, *d*. A shaft, I, passes across above the cylinders on the opposite side of the bars, *d*, and also bears in the side pieces, *e*. Opposite each of the rack bars, *d*, a broad spur wheel, *j*, is secured to the shaft, I, so as to engage with the teeth on the vertical bars; and between the two broad wheels, *j*, a large spur-wheel, K, is fixed to the shaft. Thus, when the rack bars, *d*, are raised, the wheels, *j*, and K, on the shaft, I, are revolved by the engagement of the rack. Below the wheels, K, a shaft, *l*, passes across parallel with the shaft, I, and bearing in the lower end of the side pieces, *e*. This shaft has at its middle a pinion, *m*,

which engages with the wheel, K, and at its extremity a large driving pulley is secured, marked *n*, around which the belt for the elevator of car passes. By this arrangement the cylinders, A A, can be made quite short, so that they can be placed in a cellar or other small compartment, as the speed of the driving pulley can be multiplied at pleasure, and thus obtain a large amount of elevation for a short stroke of the piston bar. Either one or both of the rack bars can be used to transmit the power to the gearing. The water which lifts the pistons, C, and rack bar, *d*, is introduced into the cylinders through branch pipes, which are secured in the holes, *o*, in the bed piece. These pipes are so arranged that the water can be turned into either one or 448 both cylinders as required. By this means the ordinary work of the elevator can be accomplished by one of the cylinders, and when an extraordinary pressure is required both cylinders can be employed, thus providing an elevator that will answer in any place and do its work with great economy of water." The claims of this patent are two, as follows: "*First*, the upright cylinders, A A, with their piston, C C, each of said pistons being provided with an upright and rack bar, *d*, in combination with the shaft, I, with its spur-wheels, *j j* and K, shaft, *l*, with its pinion, *m*, and driving pulley, N, whereby I am enabled to employ the pressure in either one or both cylinders for hoisting purposes, substantially as and for the purpose above described; *second*, the upright rack bars, *d*, provided with the rib in combination with the guide spools, *h*, substantially as and for the purpose above described."

The answer of the defendant admits that he has made and sold hydraulic elevators constructed according to the description in said patent No. 172,896. According to the testimony of defendant's expert, Mr. Eliot, patent No. 172,896 describes an arrangement of two working cylinders provided with suitable pistons, one of the cylinders and pistons being

placed inside of the other in such a manner as to economize room, and at the same time allow both of the pistons to be combined with a cross-head, which carries sheaves over which the lifting ropes of the elevator work; the combination and arrangement being such that one of the pistons, with its corresponding cylinder, can be brought into immediate action to assist the lifting force of the other at the pleasure of the operator or attendant of the elevator. The same expert states that the peculiar means by which such a result is accomplished consists in making the main working piston in the form of a cylinder, and connecting its upper end immediately with the cross-head that carries the sheaves, and also in connecting with the said cross-head a piston which works in an interior cylinder placed concentric with the outer working piston, and connecting with them a valve in such a manner that when the water pressure is brought to bear upon the 449 main working piston the pressure of water will also flow into the assisting cylinder, so as to fill up the space underneath the assisting working piston, which is directly connected with the cross-head; that said assisting piston and its cylinder are provided with a second piston, and so arranged relatively to the water pressure that whenever the attendant of the machine desires an extra amount of force to lift the load, he opens a valve to admit the water pressure underneath said second piston, and its force is thereby immediately applied upon or against the assisting piston; and that these two cylinders and their pistons are combined by means of a cross-head. The same expert says that the invention set forth in patent No. 132,111 and that set forth in patent No. 172,896 resemble each other only in the fact of having two cylinders so arranged in a hydraulic elevator as to be capable of assisting each other in lifting the load, according to the pleasure of the operator or attendant of the machine; that in so far as relates to the arrangement of the cylinders

and the means of combining them together, they are, in his opinion, entirely different in their construction and mode of operation; that the arrangement of the cylinders as shown in patent No. 132,111 consists simply in placing one beside the other in a line, so that their pistons may be connected with a line of shafting, the only means of their combination being the shaft which carries the pinions which gear into the racks of the several cylinders in the combination; that in patent No. 172,896 the arrangement is such that only two pistons, with their corresponding cylinders, can be connected so as to assist each other, one of them being placed inside of the other, thereby arranging them so that the two may be connected directly with the cross-head which carries the sheaves over which the lifting ropes work, there being no racks or pinions or gearing of any kind between the two pistons which are intended to assist each other, but both of said pistons being connected directly with the same piece of mechanism; that the combination and arrangement in patent No. 172,896 could not be substituted to operate in combination with the device described 450 in patent No. 132,111, nor could the devices in patent No. 132,111, for combining the two cylinders, be substituted so as to combine the two cylinders, or pistons, as shown and described in patent No. 172,896; and that for these reasons he regards the inventions set forth in the two patents as entirely different in their construction and mode of operation in every respect, except the mere fact of their having two cylinders, and their pistons, to assist each other in lifting the load. The plaintiff's expert, Mr. McIntyre, says that the arrangement described in patent No. 172,896 is substantially like that shown in patent No. 132,111, in the main and particular features of construction and mode of operation, namely: the combination with the shaft or cross-head (or other device, as the case may be, for operating the cable) of

the pistons of several cylinders, in such a manner that each of said pistons is always in direct and operative connection with the cross-head or device to be driven by the piston, and so that either one of the cylinders and pistons may be brought into use as a re-enforce to the other, after such other shall have partially raised the load to be elevated; that the machine shown in patent No. 172,896, while it involves the main feature and important principle of construction and mode of operation which is the subject of the machine in patent No. 132,111, is supplemented with the idea of such a combination and arrangement of the cylinders as that one shall be concentrically within another, and as that, whether one or the other be employed, or both at the same time, the power exerted through the connection of the piston with the shaft or other device to be driven will be transmitted centrally to the shaft to be moved, and in a more desirable manner than is accomplished by the construction shown in patent No. 132,111; and that the machine in patent No. 172,896 embraces an improvement on the machine shown in patent No. 132,111, in that the several pistons and piston-rods, which are always in operative connection with the shaft or thing to be driven by them, are always so supplied with water, in contact with the pistons, that when the water pressure is applied to either piston, 451 to re-enforce the other, the water so applied will not have to fill any empty portion of the cylinder beneath said piston before its motive power or pressure operates upon said piston.

There is no doubt that in patent No. 172,896, as well as in patent No. 132,111, the power of either one or two upright cylinders can be employed for elevating the load, according to the weight which it is desired to lift. But that is the purpose or object of the mechanical means employed in each. There is no claim in No. 132,111 to such purpose or object. If there were, such claim would be void. The first claim of patent No.

132,111 is a claim to a combination of the cylinders, pistons, rack bars, shafts, spur-wheels, another shaft, pinion, and driving pully, arranged substantially in the manner described in the patent. In patent No. 172,896 there are cylinders and pistons, but no others of the elements of the combination set forth in the first claim of patent No. 132,111; and such cylinders and pistons in patent No. 172,896 are combined and arranged, both among themselves and in reference to the other parts of the machine, in an entirely different manner, both as to construction and mode of operation, from the manner in which the cylinders and pistons in patent No. 132,111 are combined and arranged among themselves and in reference to the other parts of the machine. It is claimed for the plaintiff that the pully arrangement in patent No. 172,896 is the mechanical equivalent of the rack and pinion arrangement in patent No. 132,111. But it is quite apparent, from the evidence of Mr. McIntyre, that the mechanical equivalency consists only in the fact that in each patent each piston is always in operative connection with the device to be driven by the piston, so as to enable there-enforcing action to be effected. But the concentric arrangement in patent No. 172,896, for the central transmission of power, in connection with the mechanical arrangements which in that patent take the place of the rack and pinion arrangements in patent No. 132,111, make the arrangement of cylinders and pistons, and the attendant machinery, in patent No. 172,896, a different arrangement, mechanically, from the arrangement of 452 cylinders and pistons and the attendant machinery in patent No. 132,111, and not one embodying any invention claimed in patent No. 132,111.

The specification of patent No. 172,896 says: "In the drawings, A represents the outer casing or cylinder, provided with the inlets, *a a*.' On each side of the casing, A, is secured a suitable frame-work to sustain

the pulleys, 1 1 and 2 2. From this frame-work rise the vertical guides, B B, for the cross-head, C. Within the cylinder, A, works the hollow piston, D, the upper portion of which is connected by suitable means to the cross-head, C. Again, within the hollow piston, D, is a stationary hollow cylinder, E, secured to the bottom of cylinder A. Thus the piston, D, moves and operates between the interior of the cylinder A and the exterior of the cylinder E, for purposes hereinafter explained. Again, within the cylinder E is fixed to operate the piston, F, having a hollow piston rod, *f*, reaching nearly to the top of the cylinder E. Again, within the hollow piston-rod or cylinder, *f*, is singly fitted and operated the piston, G. This hollow rod or cylinder, *f*, is provided with a valve, *g*, at its bottom for a purpose hereinafter explained. Attached to the piston, G, is the piston-rod, I, the opposite or upper end of which is connected with the cross-head, C, by any suitable means. Through the base of the casing or cylinder, A, I arrange the inlet openings, *a a'*, for the passage of the water from the connecting pipes. The opening, *a*, enters the cylinder, A', immediately under the piston, D, and supplies the water for raising that piston. The pipes conducting the water to the openings, *a* and *a'*, may be supplied with discharge cocks of any of the well-known styles.

“The operation of my device is as follows: The elevator being ready to ascend, water is admitted through the opening, *a*, and the pressure raises the piston, D, and with it the piston-rod, I, both being connected with the cross-head, C; the result will be the equal ascent of the pistons, D and G.

453

As the piston, G, rises in the hollow rod or cylinder, *f*, the dead-water resting in the pipe below the cock enters through the valve, *g*, and opening, *g'*, into and fills the cylinder, *f*. Let us suppose the elevator has reached the third floor of the building and some

additional weight is added to the load, and the main piston, D, is unable to rise further, water is admitted through the opening, *a'*, and under the piston, F. This piston then rises, and as the valve, *g*, closes and prevents the escape of the water from under the piston, G, the piston, F, carries with it the piston, G, and piston rod, I, and an additional power is thus added to the piston, D, to aid in raising the elevator. By this construction it is evident that I am able to bring the auxiliary piston, F, into immediate action when needed. It remains in position to receive the hydraulic pressure, while the piston, G, and rod, I, move up with the piston, D, and, practically, become an elongated rod to the piston, F, ready to catch the pressure and come to the aid of piston, D, whenever additional aid is required.”

An examination of this specification in connection with the specification in patent No. 132,111 shows that the views of the defendant's expert must prevail over those of the plaintiff's expert, and that the doctrine of mechanical equivalents cannot be successfully invoked in this case in favor of the plaintiff. The specification of patent No. 132,111 admits that two cylinders had before been used to elevate the load, and that the pressure in both cylinders was applied in all cases. Of course both cylinders were always in operative connection with the device to be driven by the pistons. The only new idea in common in patent No. 132,111 and patent No. 172,896, is the idea of employing the power of either one or two cylinders so as to economize water. One patent does it by one mode of construction and operation, and the other by another, cylinders and pistons in hydraulic elevators being old, to the extent just indicated.

It is not alleged that the defendant has infringed the second claim of patent No. 132,111, and it follows from the foregoing considerations that he has not infringed the first claim of 454 that patent. The

defendant has constructed two elevators made substantially in accordance with patent No. 181,113. The defendant's expert, Mr. Eliot, testifies that he regards a machine constructed according to patent No. 181,113 as being substantially different in its construction and mode of operation from a machine constructed according to patent No. 132,111; that the peculiarity of a machine constructed according to patent No. 181,113 consists in using the water in a cylinder, combined with the working cylinder, in such a manner that the pressure of the water in said cylinder shall serve to always equalize the constant weight of the car or cage and its attachments, whatever they may be; that under such a construction no additional power is added beyond what is required as a mere counterbalance, and said counterbalance is a constant quantity in weight, and its method of application is for precisely the same purpose as when weights are ordinarily added to said cars or cages for the purpose of counterbalancing them; and that in a machine so organized there is but one working cylinder used, in the sense in which that term is used as applied to machines; that is, furnishing a power adapted to the load to be lifted. There is nothing in the testimony of the plaintiff's expert, Mr. McIntyre, which establishes the contrary of the foregoing view, and the counsel for the plaintiff contends, in argument, that what is found in patent No. 172,896 is also found in patent No. 181,113, with the exception of the central valve which in patent No. 172,896 is found in the central piston. The considerations before stated as reasons why an apparatus constructed according to patent No. 172,896 does not infringe patent No. 132,111, go to show, in connection with the considerations set forth in the testimony of Mr. Eliot, just recited, as to patent No. 181,113, that an apparatus constructed according to patent No. 181,113 does not infringe patent No. 132,111.

The defendant testified that he put into each of the two elevators, which he made in accordance with patent No. 181,113, a safety brake like that shown in patent No. 132,112.

455

It is not shown by the defendant that he had any license or permission to do so. He has, therefore, infringed patent No. 132,112.

Conceding, for the purposes of this case, that the assignment of November 4, 1872, assigns the right to improvements to be subsequently invented or patented by the defendant, in or of, or in aid of, the inventions or improvements patented by patent No. 132,111 and patent No. 132,112, it is manifest that the reasons before set forth as showing that the inventions embraced in patent No. 172,896 and in patent No. 181,113 do not infringe patent No. 132,111, are equally cogent to show that such inventions are not improvements in, or of, or in aid of, any of the inventions or improvements patented by patent No. 132,111; and it is not contended that any of such inventions are improvements in, or of, or in aid of, any invention or improvement patented by patent No. 132,112.

A decision as to the proper interpretation and scope and effect of the assignment of November 4, 1872, is unnecessary. The plaintiff is not entitled to the relief it claims under said assignment, even under the interpretation of it contended for by the plaintiff. The plaintiff is entitled to the usual decree in respect of the infringement of patent No. 132,112. The question of costs is reserved for further hearing.

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