In this connection, reference may be made to the defense that all the elements of these combinations were old, because shown in the patents No. 129,015, granted July 16, 1872, to Messrs. Fay and Cairns, and No. 141,685, granted August 12, 1873, to said Westing-The former patent is for an apparatus for regulating the supply of water and preventing the bursting of pipes in houses. The latter patent is for a triple valve. An examination of these patents confirms the admissions made by defendants' expert, that neither of the structures is capable of performing the functions of the patent in suit, or could be substituted therefor. In view of these admissions, and of the manifest invention involved in the combination of the single elements described in said patents with other elements, and in their adaptation to manual operation for totally different purposes, I have not considered it necessary to consider the construction of said patents in detail."

Returning, now, to the invention embodied in the patent in suit, and bearing in mind the object which the inventor had in view, let us compare the claims in suit with the apparatus of defendant. piston head, the charging and escape valves, the interposed stem, and the single operating stem of said claims are all to be found in defendants' apparatus. Their combination to form a device for admitting fluid pressure to the train pipe, and automatically cutting off the supply while retaining the necessary operative fluid pressure, and by means of such a connection between said single operating stem and said valves that independent successive motions of said handle shall move them independently of each other, is also found in defendants' apparatus. In each the piston automatically closes the escape valve when the desired pressure is reached, and in each the piston is movable by operative brake pressure, or any excess there-

of, as specified in claim 2 of the patent in suit.

But the elements of defendants' device differ from those of complainants in the following particulars: The piston head of defendants, as already stated, is exposed to fluid pressure, alone, on one side, and to fluid pressure plus a spring on the other side, while in complainants' structure the piston head is exposed to fluid pressure, only, on one side, and to spring pressure on the other side. The defendants' device positively and directly opens the valves, as they claim; complainants' device pushes the spring which opens it. It is not necessary to determine whether the fluid pressure is the equivalent of the spring, because the presence or absence of the spring seems to me immaterial, it not being claimed as an element of the combination. The essential similarity seems to consist in the fact that in each contrivance fluid pressure is always practically constant on one side of the piston, and the movement of the piston is regulated by the variations of pressure on its other side, and in each case the piston automatically closes the escape valve when the desired pressure is reached. Defendants' valve is an operative device without the use of the piston. It would only be necessary for the engineer, after he had sufficiently reduced the pressure by opening the exhaust valve, to move the handle back and close it, and vice versa. The piston is essential to the operation of complainants' device. Defendants' device has also a greater capacity for automatic closing of the escape valve than that of complainants.

It follows from the above differences that in the operation of complainants' apparatus the engineer has no control over the valves, except by moving the abutment on the spring. But while, in these respects, the device of defendants may be an improvement upon that of complainants, it does not seem to me to show that defendants have not appropriated the invention of complainants. It is well settled that one has no right, in making an improvement on another's device, to appropriate his invention. 3 Rob. Pat. 894, and cases cited. Furthermore, one of the experts for defendants testifies as follows, on cross-examination:

"Cross-Int. 28. Referring you to defendants' engineer's valve, as shown in plates 2 and 3 of defendants' catalogue, is it not the fact that you find therein a shell or case marked 31, 38, 40, and 41, and containing a piston chamber closed at top by the head, 41, and a valve chamber closed at top by the cap, 38? A. Yes. Cross-Int. 29. You also find in it, do you not, a piston head, 32, adapted to work in the piston chamber, and to be moved by the operative pressure or any excess thereof? A. Yes. Cross-Int. 30. You also find therein, do you not, a charging valve, 39? A. Yes. Cross-Int. 31. You also find therein, do you not, a connection between the piston head, 32, and charging valve, 39, consisting of a bell-crank lever, 49, a pin, 48, a lever, 43, and a stem or projection on the piston head, 32? A. Yes. Cross-Int. 32. You also find, do you not, that in defendants' engineer's valve, by reason of the connection from the piston head to the charging valve, movement at the piston head under the operative pressure or any excess thereof, will result in the automatic closing of the charging valve? A. Yes. Cross-Int. 33. You also find, do you not, in defendants' engineer's valve, a piston head, 32, a charging valve, 39, and an escape valve, 42, and interposed connections, 49, 43, and 48, so arranged that the charging valve may be opened and closed without necessarily opening the escape valve? A. Yes."

The effect of this testimony seems to be to admit that substantially all the elements of complainants' claims are found combined in defendants' engineer's valve, except the "single operating stem, adapted, by independent connections with both valves, to shift both by independent successive motions." The piston of defendants' device which corresponds with this claim is the spindle of the handle, the eccentric pin, and the lever which opens the escape valve. It performs the same functions as are claimed in the patent. It accomplishes the same results. That it is a handle, spindle, and lever, instead of a single stem, is immaterial, for the patentee says in his description that these functions may be performed by a single stem, handle, lever, or crank. The essential thing about this part of the invention, as stated by the patentee, is that "the engineer need give his attention to but a single device."

A careful examination of the testimony, and comparison of the claims 2, 3, and 4 of the patent in suit with defendants' engineer's valve, and consideration of the close and accurate analysis of the differences between them, made by the counsel for defendants, seems to show that defendants have contrived and constructed a most ingenious device, apparently, in some respects, superior to that of complainants. They have evidently sought to avoid infringement of complainants' patent, and have succeeded, as to some of its claims. With this end in view, they have constructed an apparatus

which is, in appearance, utterly unlike that of complainants, and in which the parts are so relatively combined that they either appear to act, or do act, differently from the corresponding parts of

the patent in suit.

But it seems to me that the apparent differences of operation result either from the use of mechanical equivalents, as in the case of the handle and levers, instead of the crank and screw, or in different relative arrangement of the parts towards each other, as in the case of the screw, or the motions of the valves in opposite di-The actual differences, such as greater automatic action, direct and positive opening of valves, and operativeness of apparatus independent of the piston, as found in defendants' devices, are matters not covered by the claims in suit, not essential to the accomplishment of the results aimed at in the invention, and not necessarily involved in, or excluded from, the operation of complainants' invention. On the other hand, the elements which are common to the combination claimed by complainants and to defendants' device are the vital elements, essential to the operation of the patent, and to the achievement of the result sought to be accomplished, namely, the combination of piston head, stems, charging and escape valves, arranged so as to be independently operated by the engineer by a single contrivance, and so as to automatically close when the desired pressure is reached.

And because of these conclusions, supported by the admissions of defendants' expert that the device of defendants contains the elements combined, as claimed by complainants, I am of the opinion that defendants' device infringes claims 2, 3, and 4 of patent "Though there are differences in the form and struc-No. 222,803. ture of the intermediate mechanism, tending to simplicity, and perhaps improvement, and in the form of the casting mechanism, still each of these mechanisms, as it is embodied in the defendants' machine, performs the same function as the corresponding mechanism in the Mergenthaler machine, in substantially the same way, and they are combined to produce the same result. The combination which is covered by the claim is the same in both." combe, in National Typographic Co. v. New York Typograph Co., 46 Fed. 114.

In suit No. 4.976, let a decree be entered dismissing the bill as to patent No. 393,784, and for an injunction and an accounting as to claims 2, 3, and 4 of patent No. 222,803. In suit No. 4,977, let a decree be entered dismissing the bill as to claim 3 of patent No. 172,064, and claim 6 of patent No. 376,837, and for an injunction and an accounting as to claims 1, 2, and 3 of patent No. 376,837. In suit No. 5.315, let a decree be entered for an injunction and accounting.

MASSETH v. JOHNSTON et al.

(Circuit Court. W. D. Pennsylvania, January 15, 1894.)

No. 8, Nov. Term, 1892.

1. PATENTS-INFRINGEMENT SUITS-DEFENSES.

The use of an infringing device is not justified by the fact that defendant had previously attempted to use one made under complainant's patent, which proved to be useless.

2. SAME-ABANDONMENT.

The failure of a patentee, for some years, to manufacture his device, does not defeat the rights vested in him by the patent.

8. Same—Actions—Witnesses—Constitutional Law.

The vendor of an infringing device, who is not a party to the suit, may be compelled to testify to the purchase and use thereof by defendant, without violating the constitutional provision that no witness shall be compelled to testify against himself in any criminal case; for Rev. St. §§ 4919, 4921, do not subject an infringer to penalties or forfeitures, but merely authorize the court in its discretion, and "according to the circumstances of the case," to impose additional damages.

In Equity. Suit by Benjamin Masseth against Johnston Bros. & Stanfield for infringement of a patent. Decree for complainant.

W. Bakewell & Sons, for complainant.

T. C. Campbell, for defendants.

BUFFINGTON, District Judge. This is a bill in equity for an accounting for alleged infringement of letters patent No. 167,400, for improvement in packers for shutting off water from oil and gas wells, granted April 21, 1875, to James P. Gordon, and assigned to complainant, Benjamin Masseth. The answer admits the use at the time of filing, and for two years previous thereto, by the respondents, of what is known as the "Palm Device," but denies infringement thereby, and further denies the patentability of Gor-Since answer filed, this court has sustained the Gordon patent, (Masseth v. Palm, [No. 16, May term, 1891,] 51 Fed. 824,) and has held the Palm device, which the answer, by specific reference to the said suit, describes as the one respondents use, to infringe the Gordon patent; so that these defenses, however available when the answer was filed, cannot now avail.

The respondents further allege that they had complainant put in for them one of his packers, constructed under the Gordon patent; that it failed to shut off the water, and was useless, and they afterwards procured the Palm packer. We cannot see how this affords any defense to the present bill. The failure of the Gordon packer did not justify the respondents in replacing it with an infringing one, nor can the alleged failure of Gordon, for some years, to manufacture his device, avail to defeat his or his assignee's rights vested in them by the grant of the patent. Campbell Printing-Press & Manuf'g Co. v. Manhattan Ry. Co., 49 Fed. 930. But it is alleged the only evidence of infringement is that of Palm, the vendor of the infringing device, which was taken under protest, and subject to the opinion of the court as to competency. It is contended that