

Case No. 3,233. CORLISS V. WHEELER & WILSON MANUF'G CO.
[2 Fish. Pat. Cas. 199;¹ 9 Pittsb. Leg. J. 89.]

District Court, D. Connecticut.

Oct. Term, 1861.

PATENTS—"VALVES OF STEAM ENGINES"—CONSTRUCTION OF CLAIM.

A claim for "the method, substantially as described, of regulating the velocity of steam engines by combining a regulator with a liberating valve gear," covers not only the specific arrangement and combination described in the specifications, but any arrangement and combination, for the purposes mentioned, which embody the ideas, principle, and mode of operation of the patentee.

This was a bill in equity filed to restrain the infringement of letters patent for "improvement in cut-off and working the valves of steam engines," granted to the complainant [George H. Corliss] March 10, 1849, and reissued May 13, 1851, and again, in six divisions, July 12, 1859; and, also, of letters patent for "improved cut-off gear," granted to him July 29, 1851, and reissued July 26, 1859. The claims of the original patents are given below; those of the reissues will be found in the opinion of the court.

Patent of March 10, 1849: "What I claim as my invention, and desire to secure by letters patent, is, First The method, substantially as described, of operating the slide valves of steam engines, by connecting the valves, that govern the ports at opposite ends of the cylinder, with separate arms of the rock shaft, or the mechanical equivalents thereof, so that; from the motion thereof, the valve that keeps its port or ports closed shall move over a less space, while its port or ports are closed, than the one that is opening or closing its port or ports, and vice versa, while, at the same time, the two arms by which they are operated have the same range of motion, as described, whereby I am enabled to save much of the power heretofore required to work the slide valves of steam engines, and by which, also, I am enabled to give a greater range of motion to the valves at the periods of opening and closing the ports to facilitate the induction and education of steam, as specified. And lastly, I claim the method of regulating the motion of steam engines by means of the centrifugal regulator,

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by combining the said regulator with the catches that liberate the steam valves, by means of movable cams or stops, substantially as described.”

Patent of July 29, 1851: “I claim the arrangement of the lifting rods, and the method of operating them by the disc plate, as represented in the accompanying drawings, is peculiarly suited to this method of effecting the disengagement of the valves from the mechanism by which they are opened, for the disc plate imparts a transverse motion to the connecting rods, which causes them to rock upon the stops, and thus slide off their respective toes on the rock-shaft arms. But while I prefer this arrangement of eccentric gear, I wish it to be understood that I do not restrict myself to its employment, as my improvement may be applied to many other systems of mechanism by which valves are opened. As such systems may not possess the peculiar rocking motion. I have mentioned, it will be necessary, in some cases, to disengage the lifting rods by some moving member of the engine, through the combination of any convenient and suitable mechanical device. In combination with the reciprocating motions communicated to the lifting rods by the eccentric gear, I claim imparting a lateral movement to the free extremities of said lifting rods, to disconnect them from the valves and permit the latter to close, to cut off the steam or other expansible fluid by which the engine may be driven, whereby these rods are made to perform their usual duty of opening the valves, and, in addition, that of catches or latches in alternately connecting the valves with, and disconnecting them from, the mechanism by which they are opened, thus greatly simplifying the construction of the valve gear, rendering the same more durable and less liable to get out of order.”

R. S. Baldwin, E. W. Stoughton, and B. B. Curtis, for complainant.

B. F. Thurston, R. J. Ingersoll, E. M. Dickerson, and C. M. Keller, for defendants.

NELSON, Circuit Justice. 1. The patent issued to Corliss, dated July 12, 1859, numbered 763, and which is a reissue, in part, of the original patent [No. 6,162], dated March 10, 1849, claims as follows: “The method, substantially as described, of regulating the velocity of steam engines, by combining a regulator with a liberating valve gear.” We are of opinion that the claim covers, not only the specific arrangement and combination described in the specification, but any arrangement and combination, for the purposes mentioned, which embody the ideas, principle, and mode of operation of the patentee; and that, within this interpretation of the claim, in connection with the specification, the defendants’ machine complained of, infringes the complainant’s patent. We are also of opinion that the arrangement and combination were new and patentable.

2. The patent issued to Corliss, dated July 12, 1859, numbered 759, and which is also a reissue, in part, of the original patent of March 10, 1849, claims as follows: “The combination of liberating valve gear with valves which are moved parallel to their seats, and continue their closing motion after their ports are closed, and commence their opening motion before their ports open.” Another patent issued to Corliss, dated at the same time,

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numbered 760, and which was also a reissue, in part, of the patent of March 10, 1849, claims as follows: "The combination, substantially as described, of an air cushion with the liberating valve gear of steam engines." We are of opinion that both the above improvements are new and patentable, and that the defendants' machine infringes the patents.

3. The patent issued to Corliss, July 26, 1859, numbered 780, and which is a reissue of the original patent [No. 8,253] of July 29, 1851, claims as follows: "(1) Combining with the rocking levers or their equivalents, for operating the valves, the shoulders on the spring bars or their equivalents, substantially as described and for the purpose specified. (2) And I also claim, in combination with the shoulders on the spring bars that operate the rocking levers, substantially as described, the employment of the gauge bars or an equivalent therefor, to regulate the periods of closing the valves, whether the said gauge bars be regulated by a governor, or by other means as set forth."

We are of opinion the above improvement is new and patentable, and that the defendants' machine infringes the patent.

¹ [Reported by Samuel S. Fisher, Esq., and here reprinted by permission.]