

No. 650,259.

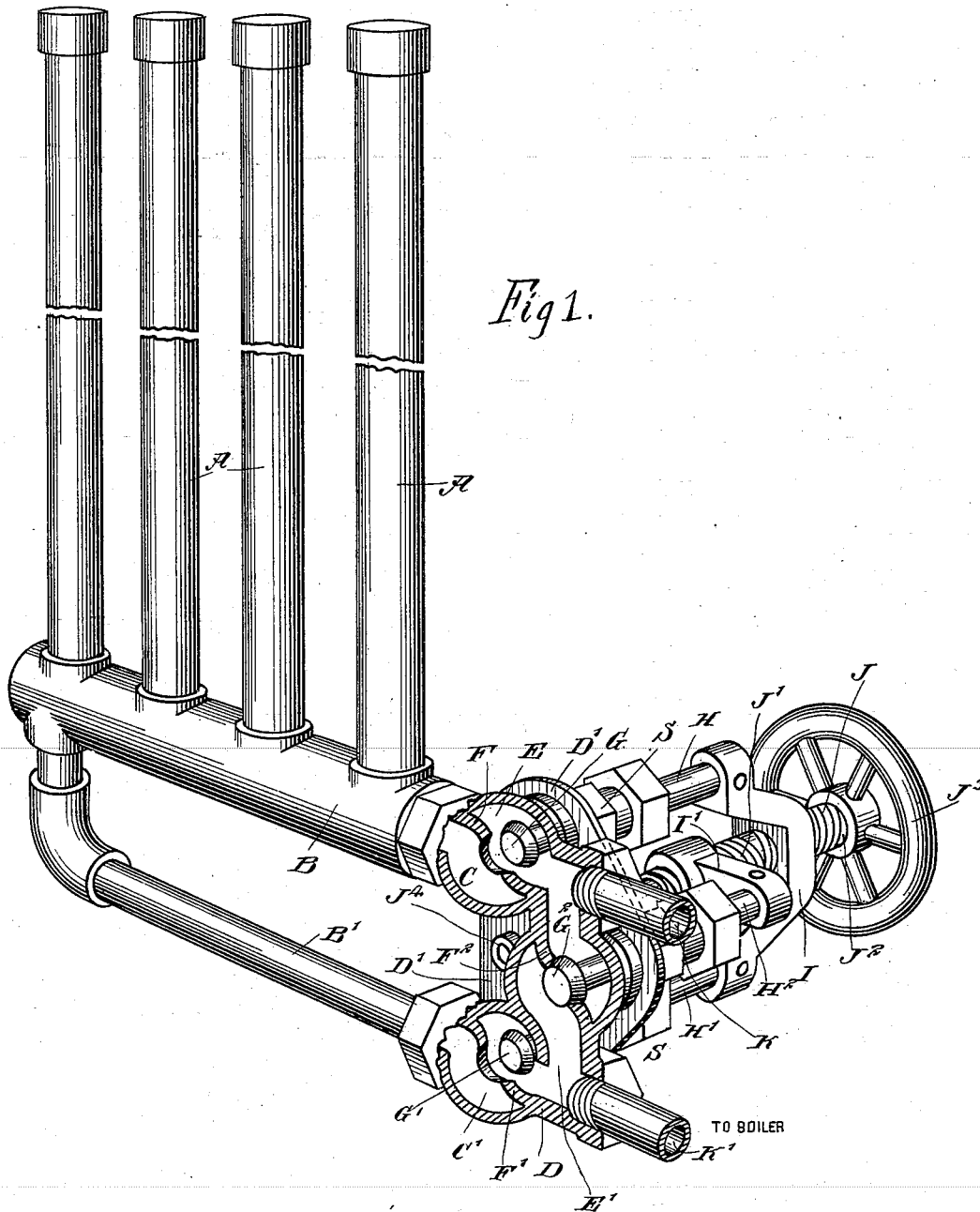
Patented May 22, 1900.

T. S. MARTIN.  
VALVE.

(Application filed Feb. 12, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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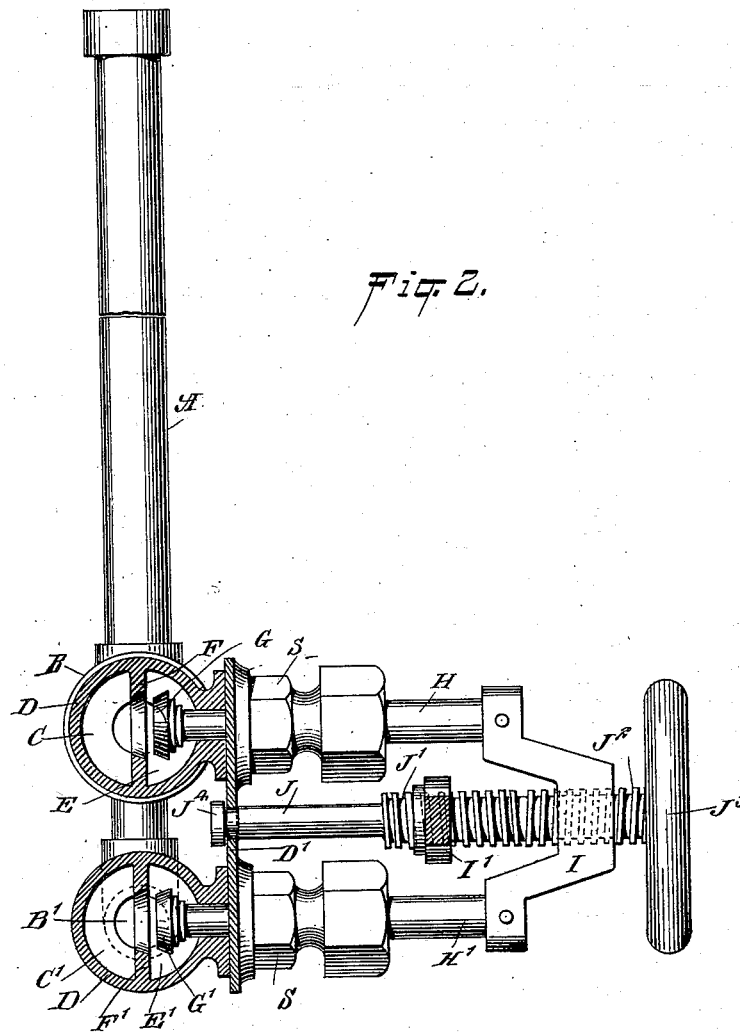
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2 Sheets—Sheet 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

TIMOTHY S. MARTIN, OF BUTTE, MONTANA.

## VALVE.

SPECIFICATION forming part of Letters Patent No. 650,259, dated May 22, 1900.

Application filed February 12, 1900. Serial No. 4,939. (No model.)

### *To all whom it may concern:*

Be it known that I, TIMOTHY S. MARTIN, a citizen of the United States, and a resident of Butte, in the county of Silver Bow and State of Montana, have invented new and useful Improvements in Valves, of which the following is a full, clear, and exact description.

My invention relates to valves, and has for its object to provide a simple and efficient mechanism for simultaneously operating a plurality of valves, closing one or more of them while the other valves are opened, and vice versa.

The invention is applicable to valves controlling the admission of steam or water to radiators, and when used on a steam-radiator has the advantage of reducing the resistance to the boiler-pressure.

The invention will be fully described, and the features of novelty pointed out in the appended claim.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a perspective view of my invention as applied to a radiator with parts shown in section; and Fig. 2 is a central sectional elevation, with parts broken away, looking toward the radiator.

The radiator may be of any usual or approved construction, and, as shown, comprises upright tubes A, connected with an upper circulating-tube B and with a lower circulating-tube B' in the usual manner. At the ends of the said tubes B B' is located the valve-casing D, provided with chambers C C', communicating with said tubes B B', respectively. The casing also contains chambers E E', of which the chamber E is separated from the chamber C by a partition F, having an aperture adapted to be closed by the valve G, while the chamber C' is similarly separated from the chamber E' by an apertured partition F', controlled by the valve G'. The chambers E E' are separated by the partition F<sup>2</sup>, having an aperture adapted to be closed by the valve G<sup>2</sup>.

The valves G G' have rods H H', passing through the stuffing-boxes S and connected with each other at their outer ends by a head I. The valve G<sup>2</sup> is secured to the rod H<sup>2</sup>, attached at its outer end to a cross arm or head I'. The heads I I' are provided with axially-

aligning apertures screw-threaded in opposite directions and adapted to receive correspondingly-threaded sections J J' of the operating-shaft J<sup>2</sup>, provided with a hand-wheel J<sup>3</sup>. The other end of the shaft J<sup>2</sup> is held to turn, as at J<sup>4</sup>, in a plate D', which is rigidly connected with the valve-casing D, the shaft being capable of turning in the said plate, but held against longitudinal movement therein. The chambers E E' have connections, such as pipes K K', leading to the boiler or other source of supply of the heating medium.

The valves are so attached to the heads I I' that when the valve G<sup>2</sup> is closed, as shown in the drawings, the valves G G' are opened. In this case the steam may enter through one of the pipes—as, for instance, the pipe K—and will then flow through the chamber E, the partition F, the chamber C, the tubes B A B', the chamber C', through the partition F', the chamber E', and back to the boiler through the tube K'. If then the hand-wheel J<sup>3</sup> is turned, the opposite screw-threads J J' will cause the head I' to move outward and the head I to move inward. Thus the valve G<sup>2</sup> will be opened, while the valves G G' will be closed. The radiator-tubes A B B' and the chambers C C' will therefore be cut off and steam will pass from the tube K into the chamber E, through the partition F<sup>2</sup> into the chamber E', and out through the tube K' to the boiler. It will be seen that when steam is cut off from the radiator the steam will not encounter a solid closed valve at the radiator, as in the customary construction, but will be able to pass through the valve-casing and back to the boiler, thereby obviating any resistance against boiler-pressure, which would be caused if the steam were cut short at the radiator. This feature is believed to be particularly valuable and economical where exhaust-steam is used, in that the resistance against the engine is materially diminished.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the valve-casing comprising two chambers each adapted for connection with a fluid-supply, the casing having a central apertured partition between said chambers, and having further two outer cham-

bers and two outer apertured partitions, one between each outer chamber and the adjacent chamber which is connected with the fluid-supply, a central valve arranged to open 5 and close the aperture in the central partition, two lateral valves arranged to close the apertures in the outer partitions, a cross-head connecting said outer valves and provided with a screw-threaded aperture, a head connected with the central valve and having an 10 aperture with a screw-thread of a direction opposite to that of said cross-head, the two threaded apertures being alined axially, and

a valve-operating shaft mounted to turn in the casing but held against lengthwise movement and provided with screw-threads of opposite directions engaging the threaded apertures in the valve-heads. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 20

TIMOTHY S. MARTIN.

Witnesses:

JAMES W. FORBIS,  
J. A. POORE.