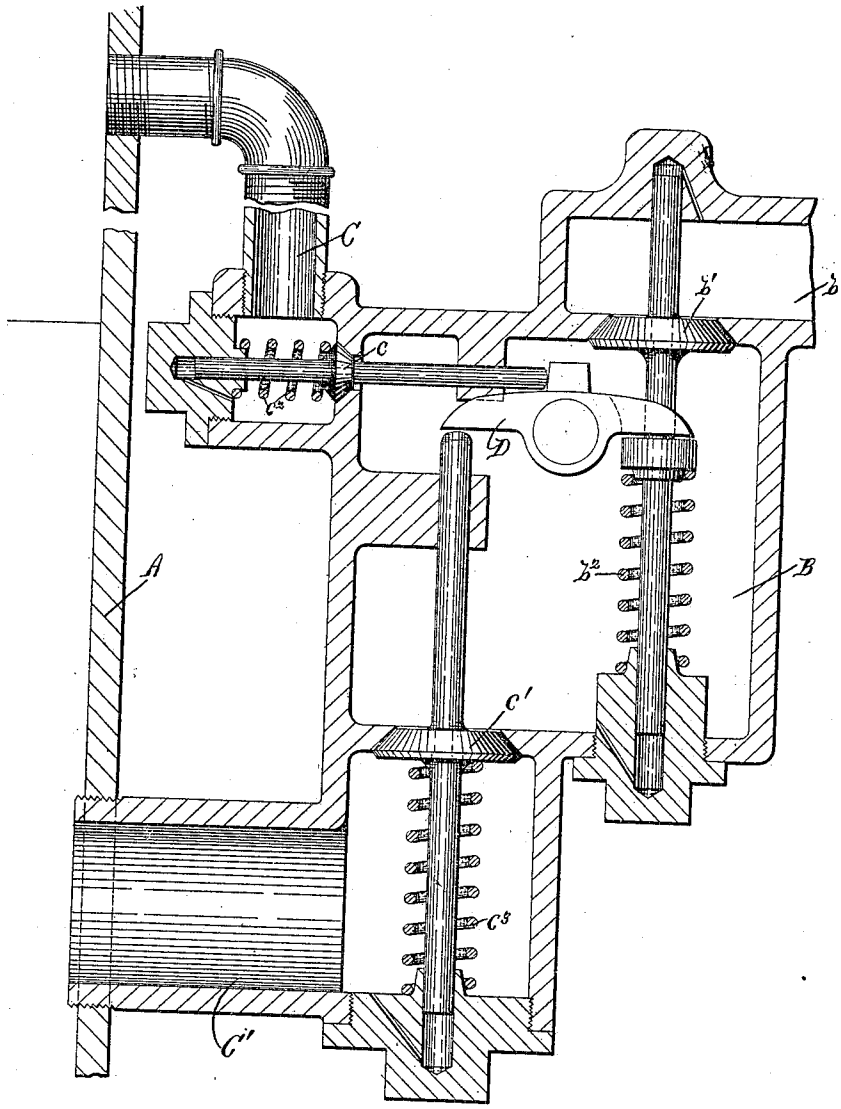
No. 839,546. PATENTED DEC. 25, 1906.

W. H. BROWN.

BOILER FEEDER.

APPLICATION FILED DEC. 23, 1901.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM H. BROWN, OF SYRACUSE, NEW YORK.

BOILER-FEEDER.

No. 839,546. Specification of Letters Patent. Patented Dec. 25, 1906.

Application filed December 23, 1901. Serial No. 86,960.

To all whom it may concern:

Be it known that I, WILLIAM H. BROWN, of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Boiler-Feeder, of which the following is a specification.

This invention has for its object the production of a feeder which is particularly applicable for supplying water or other liquids to boilers or other vessels and maintaining a practically constant level therein, is especially simple in construction, and highly durable and effective in use; and to this end it consists in the devices and combinations hereinafter described and claimed.

The drawing is a vertical sectional view of a preferable construction of this invention.

In the illustrated preferable construction of my invention, A represents a boiler, B a liquid-receiving chamber, and C C′ liquid-conducting means, as conduits, for respectively connecting upper and lower parts of the chamber B with the steam and water containing portions of the boiler A. Said chamber B is arranged with its top substantially coincident with the liquid-level of the boiler A, is provided with any desirable inlet *b*, and contains reciprocating valves *b′ c c′*, which normally close the inlet *b* and the passages of the liquid-conducting means or conduits C C′, the valves *b′ c* being arranged in the upper part of the chamber B and the valve *c′* in the lower part of said chamber. Suitable springs b^2 c^2 c^3 are provided for forcing the valves *b′ c c′* to their normal or operative position, and a rocking member D, common to all the valves *b′ c c′*, operated by any desirable means, as a lever (not shown) on the outside of the chamber B, serves to force the valves *b′ c c′* from their operative or closed position against the action of the springs b^2 c^2 c^3. Said member D is provided with arms for engaging faces or shoulders upon the converging rods or stems of the valves *b′ c c′*, and these arms and faces or shoulders are so arranged that the member D forces the valve *b′* from its operative position and at the same time permits the valves *c c′* to remain in their normal or closed position and subsequently permits the valve *b′* to assume its normal or closed position and then successively forces the valves *c c′* from their operative position and temporarily holds said valves *c c′* open. When the valve *b′* is open, the chamber B is filled through the inlet *b* by gravity or other means, and when said valve is closed and the valves *c c′* are opened the liquid in the chamber B feeds into the boiler, providing the level of the liquid in said boiler is below the top of the chamber B. If, however, the level of the liquid in the boiler is substantially coincident with or above the top of the chamber B, the body of liquid in the boiler prevents the entrance of any additional water to said boiler.

The construction and operation of my feeder will now be readily understood upon reference to the foregoing description and the accompanying drawing, and it will be particularly noted that the same is not limited for use in filling liquids into boilers nor to the illustrated construction and arrangement of its component parts.

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

1. A boiler-feeder comprising a liquid-receiving chamber communicating with the boiler, a valve for controlling the flow of liquids into the chamber, a valve for controlling the flow of liquid from the chamber into the boiler and means in the chamber for moving said valves alternately from their closed positions, substantially as and for the purpose specified.

2. A boiler-feeder comprising a liquid-receiving chamber communicating with the boiler, a valve in the upper part of the chamber for controlling the flow of liquid into the chamber, a valve in the lower part of said chamber for controlling the flow of liquid from the chamber into the boiler, rods associated with said valves and located in the chamber, and a member in the chamber cooperating with said rods for moving said valves alternately from their closed positions, substantially as and for the purpose described.

3. A boiler-feeder comprising a liquid-receiving chamber communicating with the boiler, a valve for controlling the flow of liquid into the chamber, a valve for controlling the flow of liquid from the chamber into the boiler and a rocking member common to both of said valves for moving said valves alternately from their closed positions, substantially as and for the purpose set forth.

4. A boiler-feeder comprising a liquid-receiving chamber, a pair of conduits connect-

ing upper and lower parts of the chamber with the steam and water containing portions of the boiler, respectively, a valve for controlling the flow of liquid into the chamber, valves for normally closing the conduits and controlling the flow of liquid from the chamber into the boiler, and a member common to all of said valves for moving the first-mentioned valve and the latter valves alternately, substantially as and for the purpose specified.

5. A boiler-feeder comprising a liquid-receiving chamber, a pair of conduits, respectively, connecting upper and lower parts of the chamber with the steam and water containing portions of the boiler, a valve for controlling the flow of liquid into the chamber, valves for normally closing the conduits and controlling the flow of liquid from the chamber into the boiler, rods associated with the valves and disposed in said chamber, said rods converging toward each other, and a member located in the chamber for engaging the adjacent ends of said rods for moving the first-mentioned valve and the latter valves alternately, substantially as and for the purpose described.

6. A boiler-feeder comprising a liquid-receiving chamber, a pair of conduits connecting upper and lower parts of the chamber with steam and water containing portions of the boiler, respectively, a reciprocating valve for controlling the flow of liquid into the chamber, reciprocating valves for normally closing the conduits and controlling the flow of liquid from the chamber into the boiler, and a member common to all of said valves for moving the first-mentioned valve and the latter valves alternately, substantially as and for the purpose specified.

7. A boiler-feeder comprising a liquid-receiving chamber, a pair of conduits respectively connecting upper and lower parts of the chamber with the steam and water containing portions of the boiler, a reciprocating valve for controlling the flow of liquid into the chamber, reciprocating valves for normally closing the conduits and controlling the flow of liquid from the chamber into the boiler, and a rocking member for moving the first-mentioned valve and the latter valves alternately, substantially as and for the purpose specified.

8. A boiler-feeder comprising a liquid-receiving chamber, valve-chambers extending outwardly from the liquid-receiving chamber and communicating respectively with the steam and water containing portions of the boiler, a valve for controlling the flow of liquid into the chamber, valves in said valve-chambers movable outwardly from the liquid-receiving chamber for controlling the flow of liquid from said receiving-chamber, and means for actuating the first valve and the latter valves alternately, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 18th day of December, 1901.

WILLIAM H. BROWN.

Witnesses:
D. LAVINE,
S. DAVIS.