

No. 620,231.

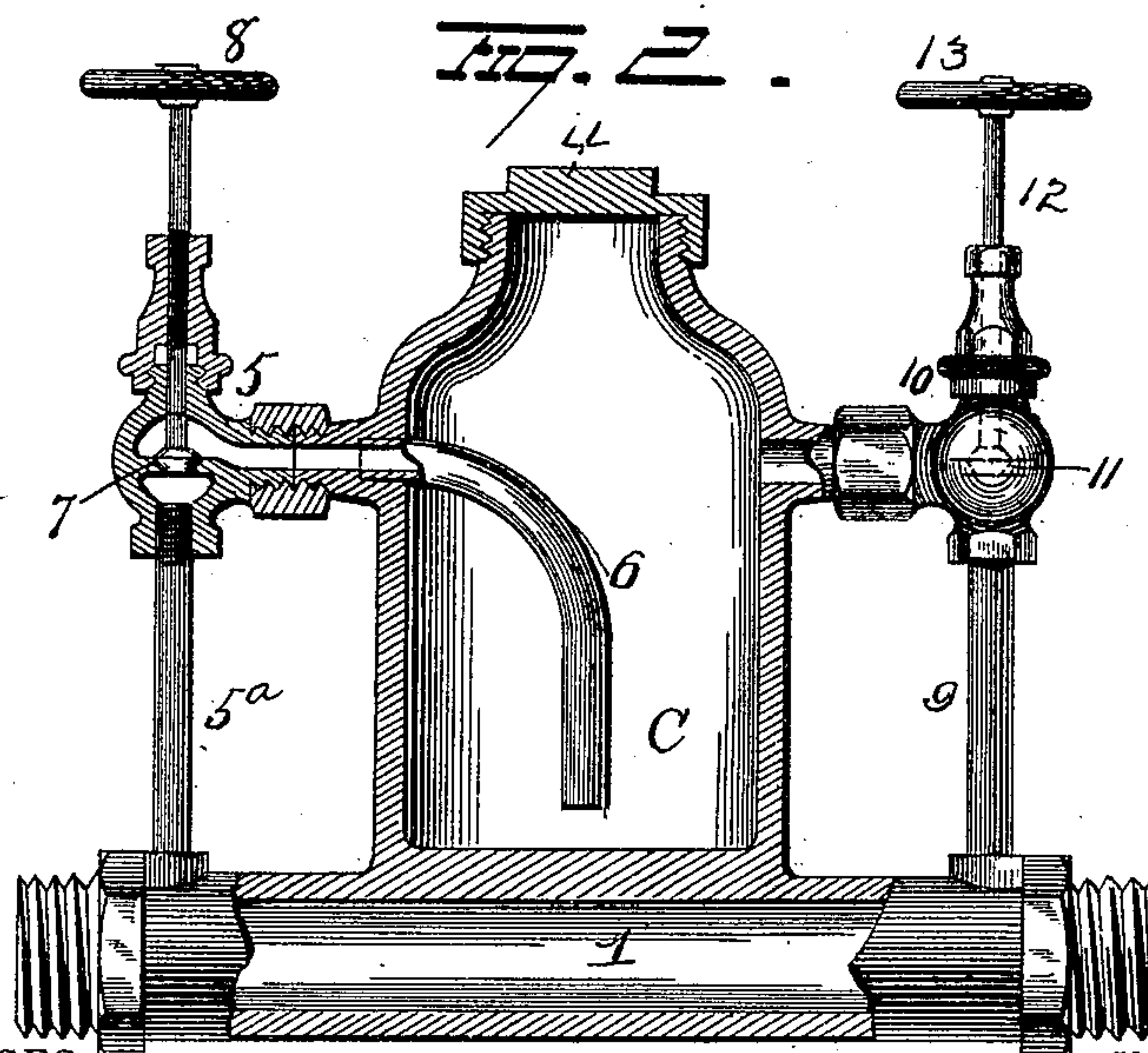
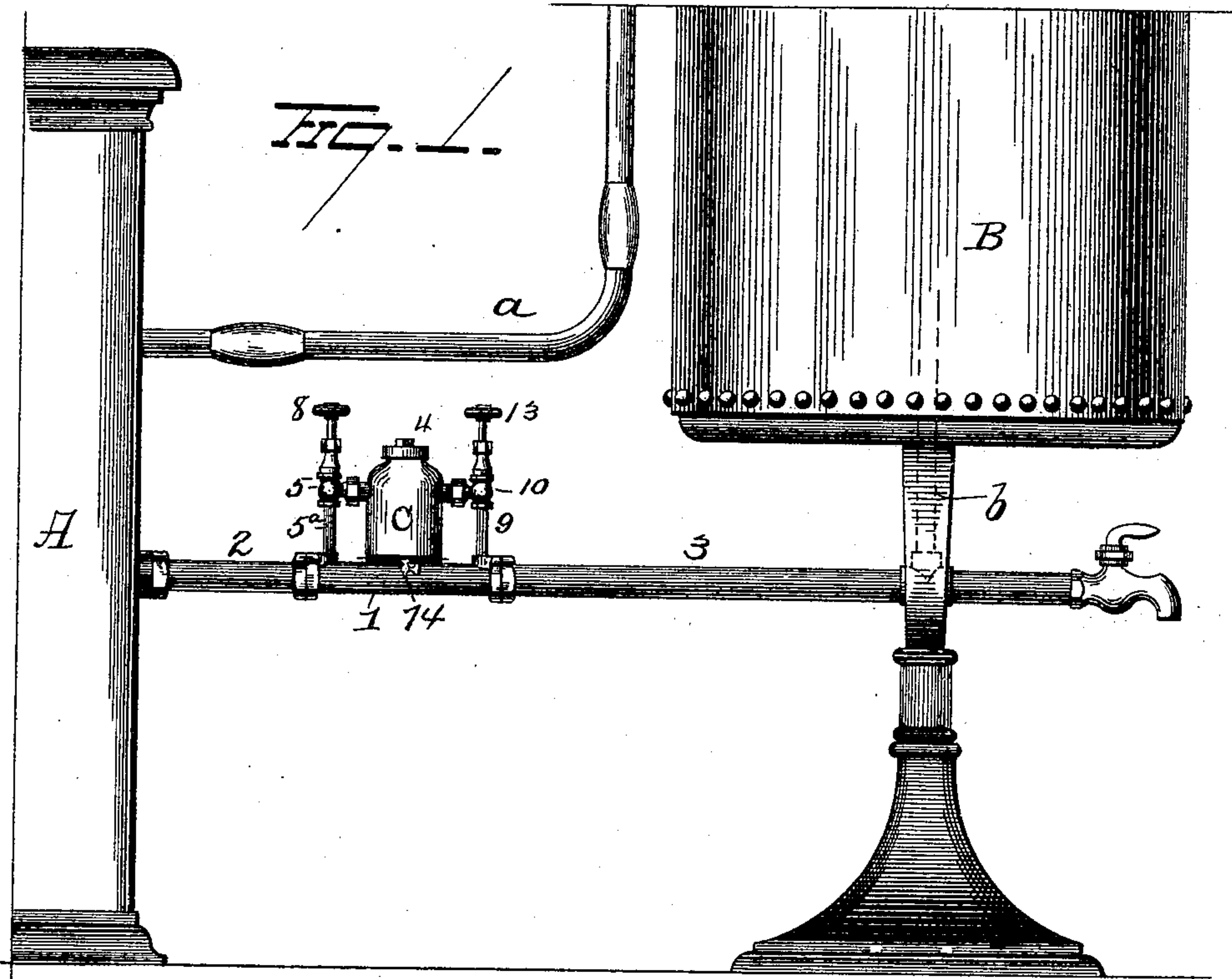
Patented Feb. 28, 1899.

G. J. DEHN.

APPARATUS FOR CLEANING WATER HEATERS.

(Application filed Apr. 16, 1898.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE JOHN DEHN, OF IRON MOUNTAIN, MICHIGAN.

APPARATUS FOR CLEANING WATER-HEATERS.

SPECIFICATION forming part of Letters Patent No. 620,231, dated February 28, 1899.

Application filed April 16, 1898. Serial No. 677,863. (No model.)

To all whom it may concern:

Be it known that I, GEORGE JOHN DEHN, of Iron Mountain, in the county of Dickinson and State of Michigan, have invented certain
5 new and useful Improvements in Apparatus for Cleaning Water-Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which
10 it appertains to make and use the same.

My invention relates to an improvement in apparatus for cleaning water-heaters, and more particularly to means for preventing the accumulation of lime and other foreign
15 matter in boilers, water back or front ranges, and connecting-pipes, the object of the invention being to improve the construction upon which Letters Patent of the United States were granted to me on the 7th day of Decem-
20 ber, 1897, and designated by No. 595,120.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in
25 the claims.

In the accompanying drawings, Figure 1 is a view illustrating the application of my invention. Fig. 2 is a detail sectional view.

A represents the tank portion of a water-
30 back stove or range, and B a boiler having the usual pipe connection *a* with the water-back. Leading from the bottom of the boiler B is the usual supply-pipe *b*, and pipe-sections 1 2 3 connect the said supply-pipe *b*
35 with the water-back. The central pipe-section 1 forms an integral part of a vessel C, and the pipe-sections 2 3 are adapted to screw onto the ends of the section 1. The upper end of the vessel C is preferably contracted
40 in size and screw-threaded externally for the reception of similar threads in the flange of a cover 4. A vertical pipe 5^a (smaller in diameter than the feed or supply pipe) communicates at its lower end with the pipe-section 1, and to its upper end a union-coupling
45 5 is secured, said union-coupling also communicating with the interior of the vessel C, near the bottom of the latter, by means of a removable pipe 6, which extends within said
50 vessel. A valve 7 is located within the union-coupling 5, and the stem of this valve projects a suitable distance above the union-

coupling and is provided at its upper end with a hand-wheel 8. A vertical pipe 9 (similar in all respects to the pipe 5^a) communicates
55 at its lower end with the pipe-section 1, being thus disposed at the opposite side of the vessel C from the pipe 5^a. A union-coupling 10 is secured to the upper end of the vertical pipe 9 and communicates therewith and also
60 with the vessel C near the upper end of the latter. A valve 11 is located within the union-coupling, and to the stem 12 of this valve a hand-wheel 13 is secured. The vessel C is provided at its lower end with a drain-cock
65 14, by means of which the contents of the vessel can be discharged therefrom when desired.

In using the apparatus the valves 7 and 11 must first be closed, and then a suitable com-
70 pound will be placed in the vessel C and the cover 4 screwed on. Then upon opening the valves 7 and 11 a certain portion of water will discharge from the pipe-sections into the upper end of the vessel, where the compound
75 will mingle with it, and this water and compound will discharge through the pipes 6 and 5^a into the water-back and also into the boiler, this operation only taking place when the water is in circulation.
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While I have described my invention in connection with a water-back range and boiler, it is apparent that it can be used in connection with the feed-pipe of any water-heater.

My improvements are simple in construction and are effectual in all respects in the performance of their functions.
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Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting
90 its scope, and hence I do not wish to limit myself to the precise details herein set forth.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—
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1. In an apparatus for preventing the accumulation of foreign matter in water-heaters, the combination with a pipe-section adapted to be connected in the feed-pipe of a water-heater and a receptacle on said pipe-section and provided with a removable cover, of
100 vertical pipes removably secured to said pipe-section and communicating therewith at respective sides of said receptacle, nipples at

respective sides of the receptacle and communicating with the interior thereof, couplings connecting said nipples with the vertical pipes, a valve-seat in each coupling, a
5 valve-stem passing upwardly through each coupling, valves at the lower ends of said stems and adapted to bear on the seats in the couplings and hand-wheels secured to the upper ends of said stems, substantially as set
10 forth.

2. The combination with a pipe-section, a receptacle located thereon and a drain-cock at the lower end of said receptacle, of couplings removably secured to said receptacle
15 and communicating therewith, a valve in each

coupling, a removable pipe in said receptacle and communicating at one end with one of said couplings and terminating at its other end near the bottom of the receptacle and pipes communicating with said couplings and
20 with the first-mentioned pipe-section at respective sides of the receptacle, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 25

GEORGE JOHN DEHN.

Witnesses:

R. S. HAMMOND,

R. T. MILLER.