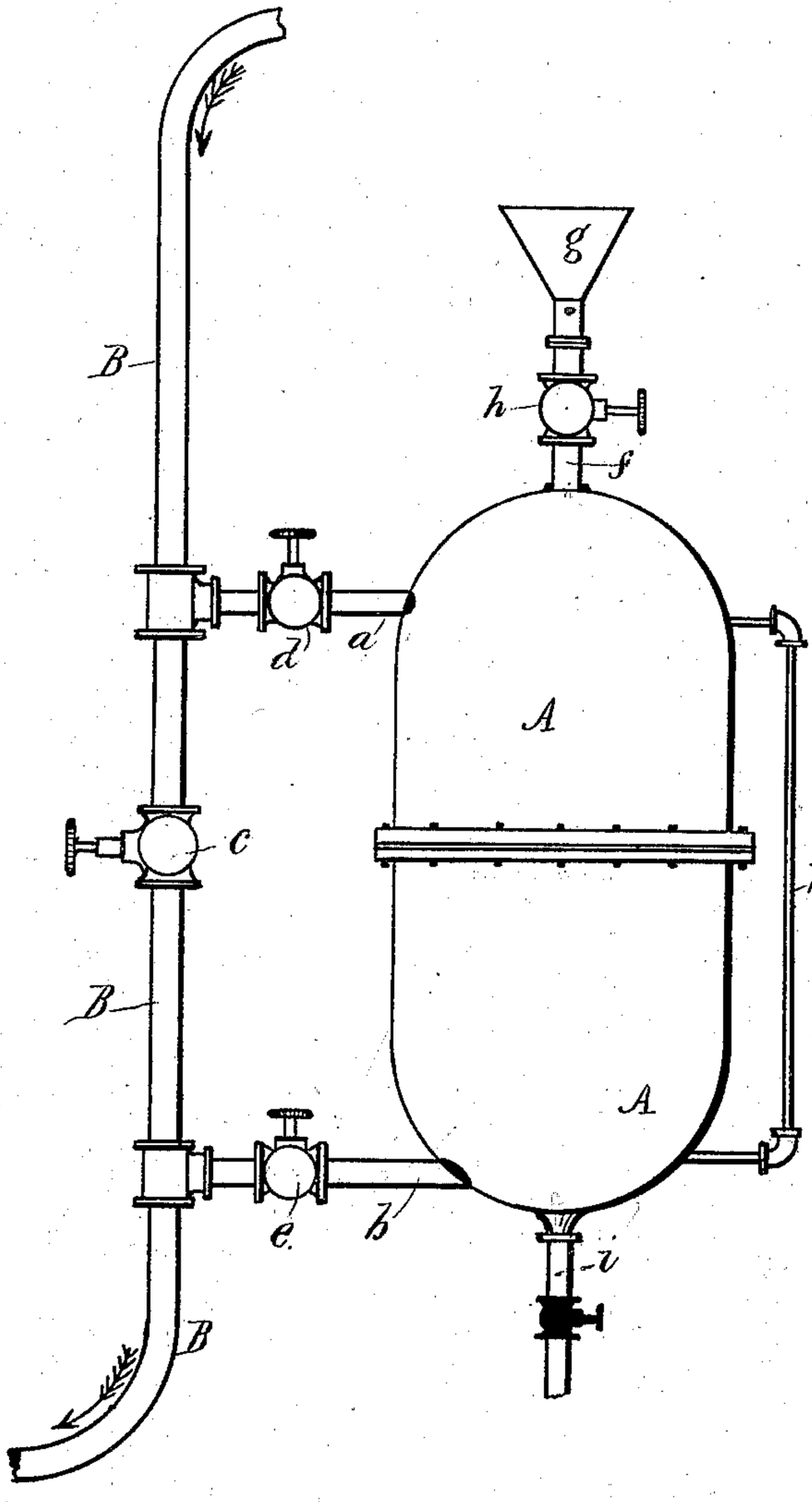
(No Model.)

H. PINDAR & G. W. CLARK.

APPARATUS FOR FEEDING SCALING COMPOUNDS TO STEAM BOILERS.

No. 255,532. Patented Mar. 28, 1882.



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UNITED STATES PATENT OFFICE.

HENRY PINDAR AND GEORGE W. CLARK, OF NEW YORK, N. Y.

APPARATUS FOR FEEDING SCALING COMPOUNDS TO STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 255,532, dated March 28, 1882.

Application filed January 16, 1882. (No model.)

To all whom it may concern:

Be it known that we, HENRY PINDAR and GEORGE W. CLARK, citizens of the United States, residing at New York city, in the county of New York and State of New York, have invented a new and useful Improvement in Apparatus for Feeding Scaling Compounds to Steam-Boilers, of which the following is a specification.

This invention relates to that class of devices employed to inject chemical compounds into steam-boilers for the purpose of preventing scaling and incrustation; and it consists in the use of a chambered cylinder and devices by means of which the water-feeding device acts as the forcing medium for injecting the compound into the boiler, all of which, together with the details of construction and operation, will be hereinafter fully set forth and described.

The drawing, which forms an essential part of this specification, represents an elevation of an apparatus in which our invention is fully embodied.

B represents the usual boiler-feeding pipe, leading from the main water-supply to the boiler, and through which the water is forced to the boiler by any of the well-known devices, and our invention calls for no change therein.

A represents a chambered cylinder, which may be formed from sheet metal in any approved manner, or by casting, as may be preferred, its size and desired capacity being determined according to circumstances. This cylinder A is connected with the feed-pipe B at its top by means of inlet-pipe *a* and near its base by means of outlet-pipe *b*. Such pipe-connections may be of sufficient strength to support the cylinder A in its position, as shown in the drawing, or it may be sustained by means of brackets attached to the boiler, or upon a suitable stand, as preferred. The main water-feed pipe B is provided with a cut-off valve, *c*, midway between the points where the pipes *a* and *b* (connected with chamber A) are joined to the feed-pipe B. The two pipes *a* and *b* are also provided with valves *d* and *e*, as shown. At the top of the chambered cylinder A an inlet-pipe, *f*, is attached, which at its apex supports a permanently-attached funnel, *g*, a valve, *h*, in the pipe *f* furnishing a means of closing the entry to the cylinder A. At the base of the cylinder A an outlet-pipe, *i*, is attached, by means of which the cylinder may be entirely emptied. A glass gage, *k*, is attached to the chambered cylinder A for the purpose of indicating the quantity of fluids contained therein.

The operation of our device is as follows: The valves *d* and *e* being closed and the valve *c* in the feed-pipe B being open, the supplying of water to the boiler goes forward in the ordinary manner. The chemical compound is now introduced into the chambered cylinder A by pouring it into the funnel *g*. The valve *h* then being opened, it at once passes into the chamber of cylinder A. When the proper quantity has been admitted, as indicated by the glass gage *k*, the valve *h* is closed. The valve *c* in the feed-pipe B is now closed, and the valve *e* in the pipe *b*, connecting the base of the cylinder A to the feed-pipe B, is opened. The valve *d* in the pipe *a* is then opened, when the water from the feed-pipe B is at once forced into the chamber of cylinder A, and thoroughly commingles with the chemical compound therein contained, driving it out through the outlet-pipe *b* into the main pipe B, and thence into the boiler. This action is continued until the entire quantity of compound placed in the cylinder has been ejected. The normal position of pipes, valves, &c., as first described, is then resumed.

We claim as our invention—

The combination, with the feed-water pipe B of a steam-boiler and a device for forcing the water through it, of the chambered cylinder A, provided with funnel *g* and cut-off valve *h*, and inlet-pipe *a*, having valve *d*, and outlet-pipe *b*, having valve *c*, attached to feed-pipe B, all arranged, applied, and operating substantially as and for the purposes as herein shown and set forth.

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