M. RHODA.

BLOW-OFF DEVICES FOR STEAM-BOILERS.

No. 184,108. Patented Nov. 7, 1876.

Fig:1.

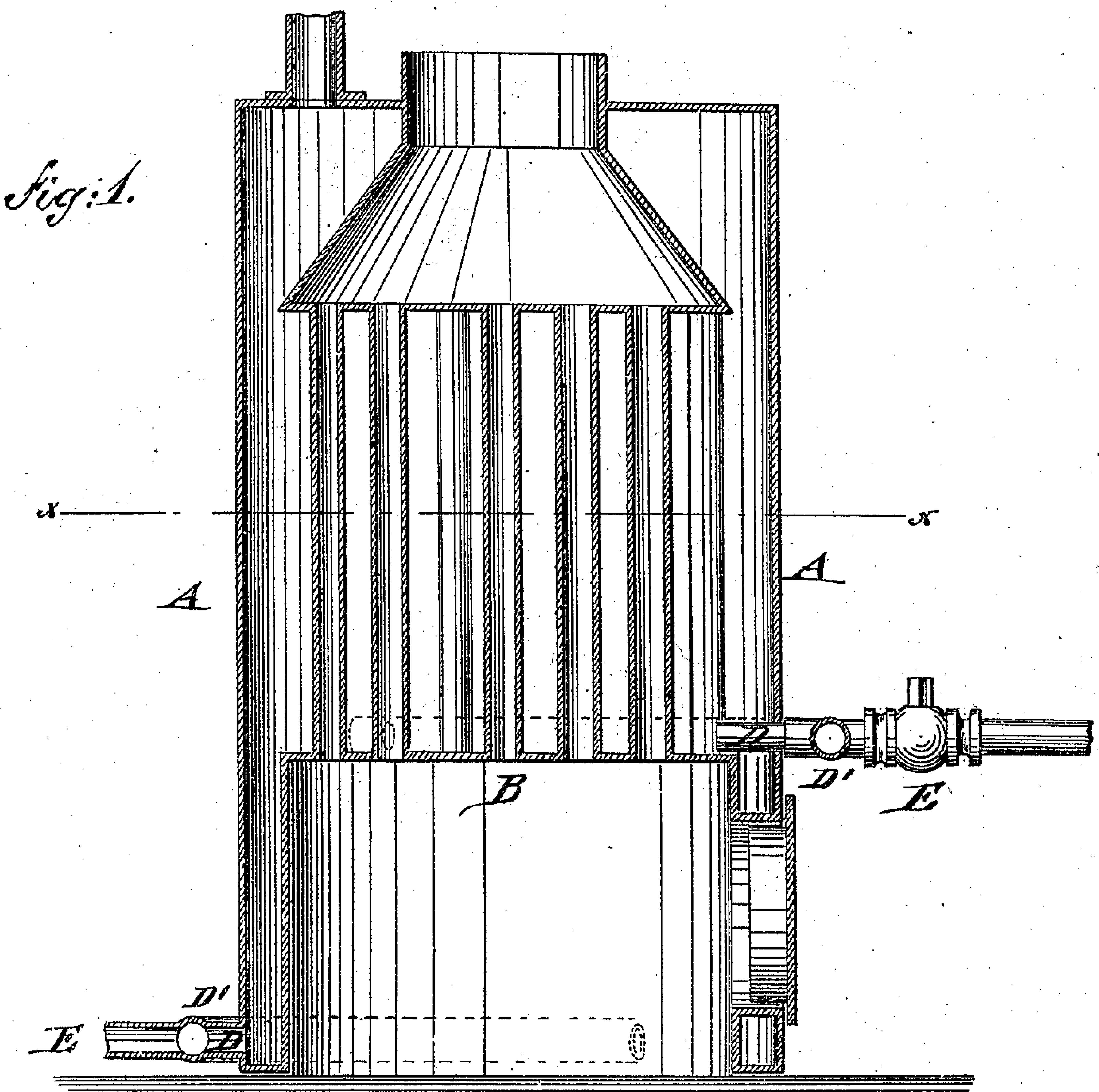
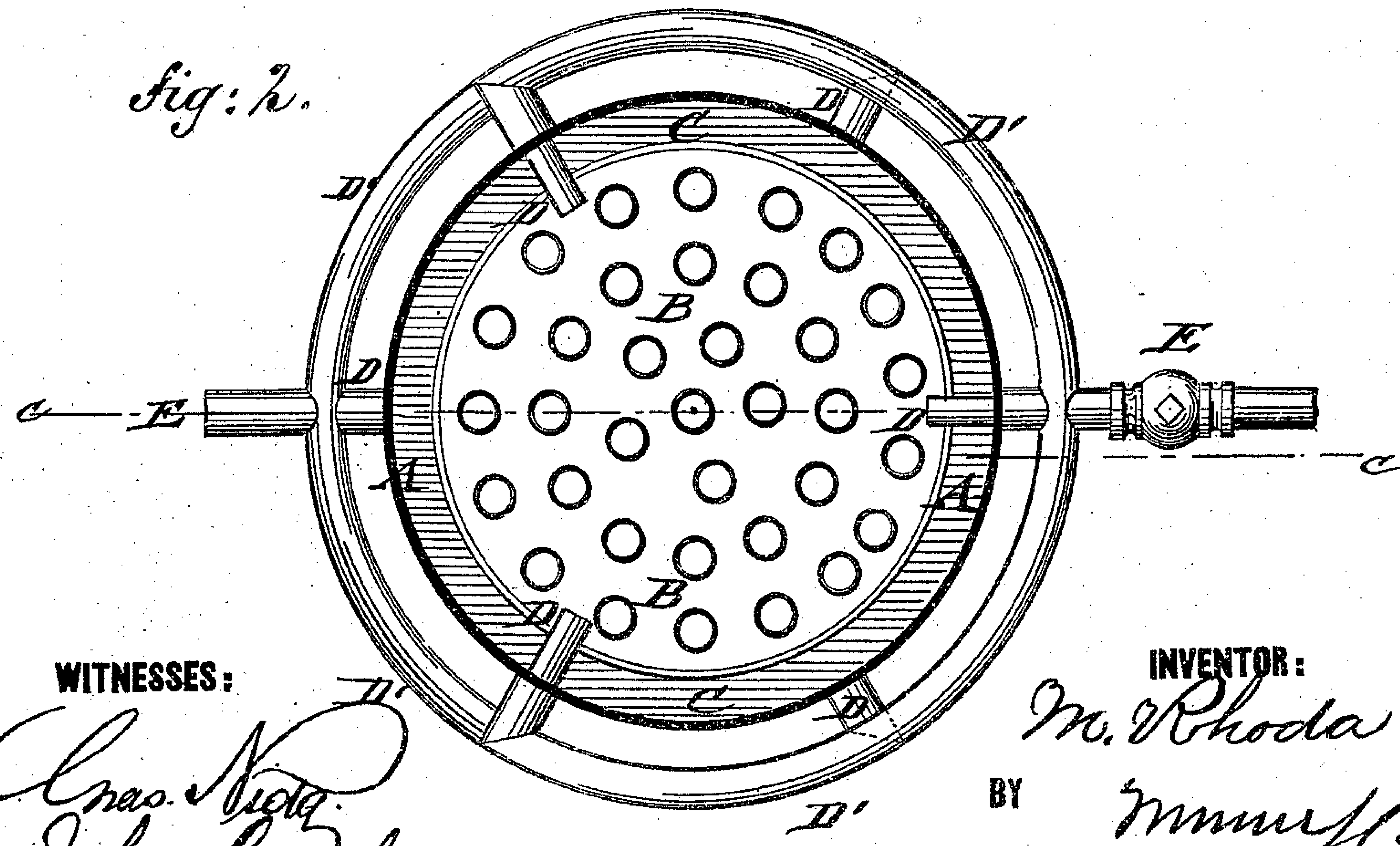


Fig:2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MATHEW RHODA, OF ALLENTOWN, PENNSYLVANIA.

IMPROVEMENT IN BLOW-OFF DEVICES FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. **184,108**, dated November 7, 1876; application filed September 22, 1876.

To all whom it may concern:

Be it known that I, MATHEW RHODA, of Allentown, county of Lehigh, and State of Pennsylvania, have invented a new and Improved Steam-Boiler, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section of my improved steam-boiler on the line *c c*, Fig. 2; and Fig. 2, a horizontal section of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to such improvements in upright, tubular, and other boilers that the accumulation of mud and scale on the crown-sheets and bottoms of the boilers is fully prevented by simple and effective means, and thereby not only the duration of the boilers extended, but also the danger of accidents by such an accumulation of sediments avoided.

The invention consists of the combination of the crown-sheet and bottom of a steam-boiler, with exit-tubes, a communicating-tube, and a blow-off cock.

In the drawing, A represents an upright, tubular, or other steam-boiler; and B, the crown-sheet of the same above the fire-place. C is the bottom or base plate of the lower boiler-section, that encircles the fire-place. The mud sediment that gradually collects on the crown around the flue and on the bottom sheet destroy, in course of time, the efficacy of the sheets by the formation of thick layers of scale, so as to exert an injurious influence upon the boiler, and expose the same to the danger of bursting. For the purpose of obviating the formation of scale, and for keeping the crown and bottom sheets perfectly clean and efficient for work, I arrange a number of radial exit-tubes, D, near the crown and bottom sheets, and connect them by a tube, D′, that extends around the outside of the boiler, and is provided with a blow-off cock, E, which, on opening, admits the ready cleaning of the sheets of any sediments by the powerful agitation of the water caused by the steam. By blowing off any accumulating mud from time to time the crown and bottom sheets cannot be destroyed, so that the boiler will hold out for a greater length of time without requiring repairs, reducing thereby also the accidents that have resulted from this cause.

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

The combination of the radial tubes D, circular connecting-tube D′, and blow-off cock E, with the water space of a steam-boiler, substantially as and for the purpose set forth.

MATHEW RHODA.

Witneseses:

PAUL GOEPEL,

C. SEDGWICK.