

(No Model.)

J. SPAULDING.

SEDIMENT COLLECTOR FOR STEAM BOILERS.

No. 276,493.

Patented Apr. 24, 1883.

FIG. 1.

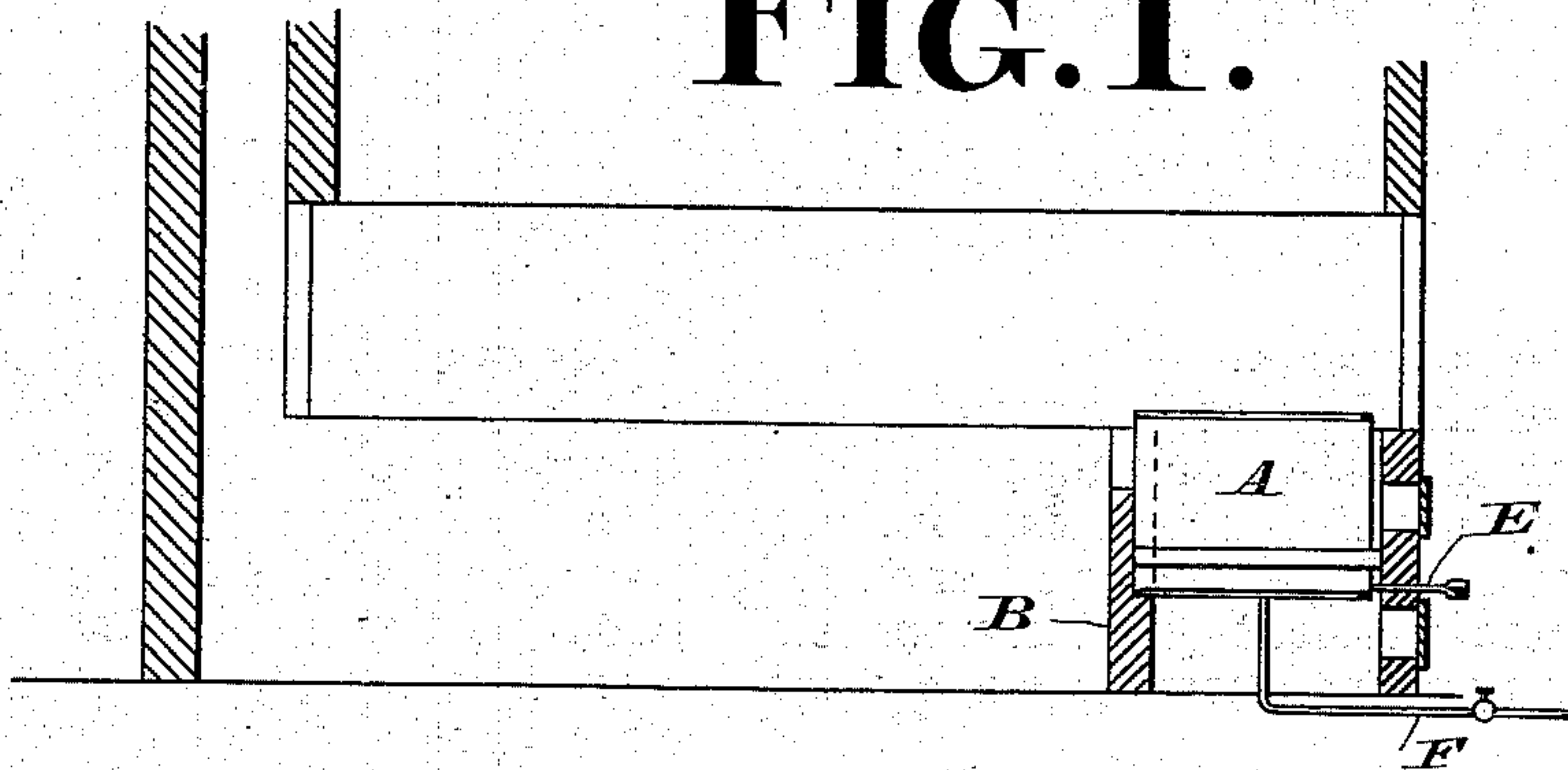


FIG. 2.

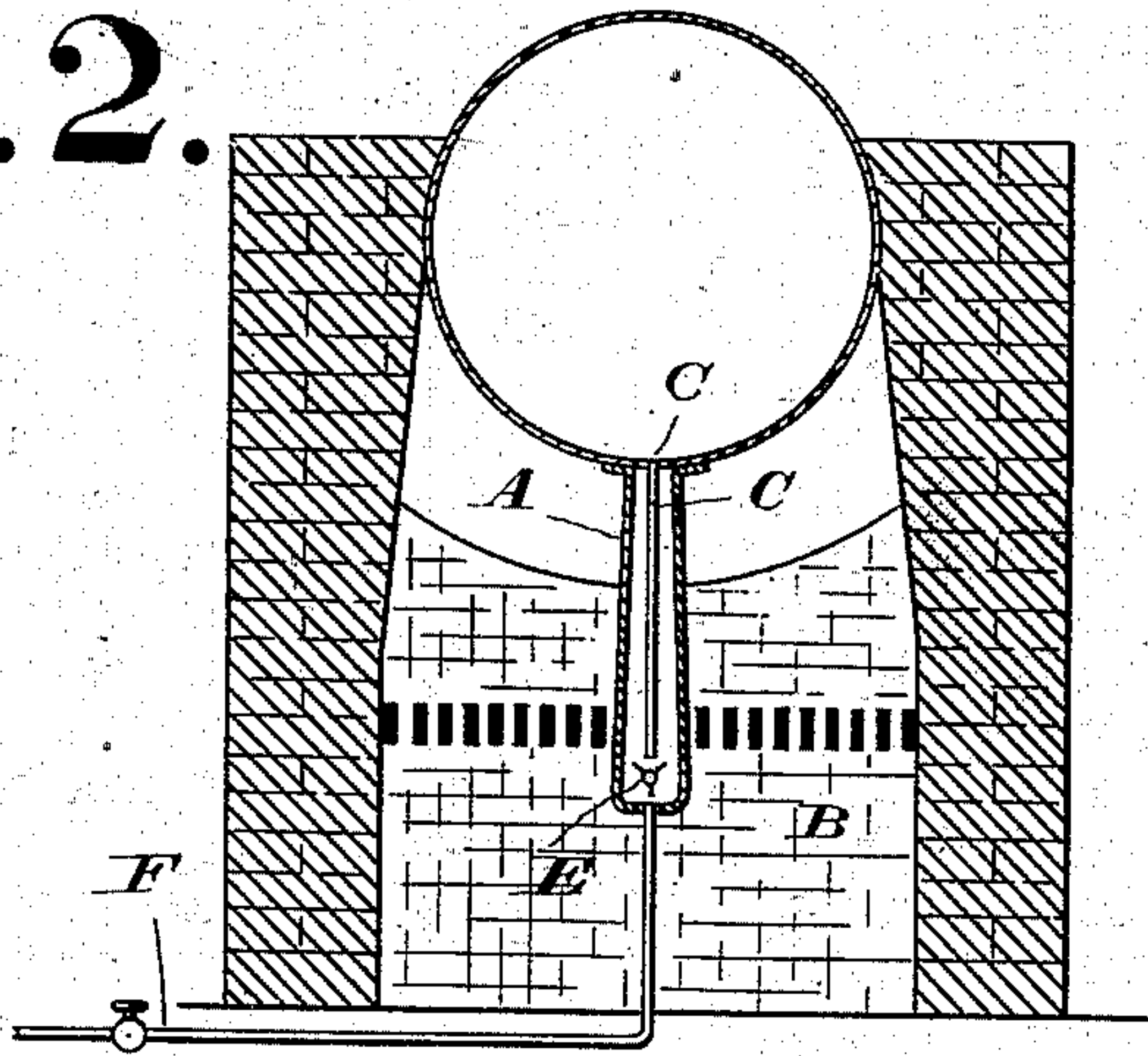
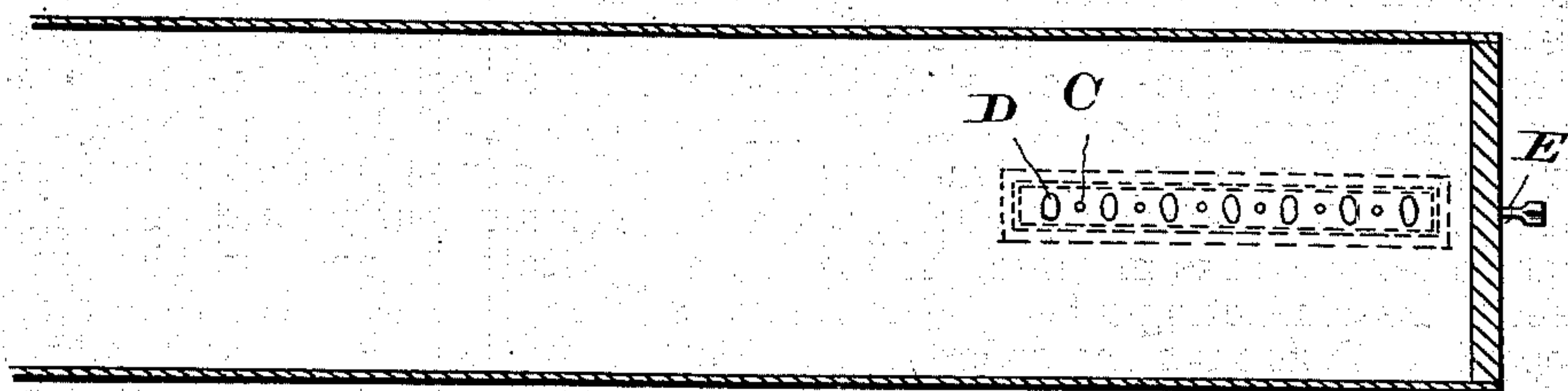


FIG. 3.



WITNESSES

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JOHN SPAULDING, OF SAN FRANCISCO, CALIFORNIA.

SEDIMENT-COLLECTOR FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 276,493, dated April 24, 1883.

Application filed December 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN SPAULDING, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Sediment-Collectors for Steam-Boilers, of which the following is a specification.

To enable others skilled in the art to make and use my said invention, reference is had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a sectional side elevation of my improved sediment-collector as applied to a steam-boiler. Fig. 2 is a vertical section through the boiler, sediment-collector, and fire-box. Fig. 3 is a sectional plan view of the lower end of the boiler.

Similar letters of reference are used to indicate like parts throughout the several figures.

To the bottom of the boiler-sheet I connect the rectangular sediment-collector A by means of bolts or rivets, which pass through the holding-flanges of the collector and boiler-sheet. The collector extends longitudinally from the front of the boiler back to the bridge-wall B, and vertically below the grate-bars, as shown in Fig. 2. A series of gas-pipes, C, connect with the interior of the boiler by means of screw-threads, the inner ends of which are flush with the interior face of the boiler, while the lower ends of these pipes extend to near the bottom of the collector, whereby a constant water communication is had between the boiler and sediment-collector. Intermediate, however, between these connecting-tubes C, I make holes or openings D through the boiler-sheet, which lead into the collector, whereby a greater circulation of water from the boiler to the collector is had, and an enlarged area for the scum and temporarily-floating crystals of salt and solid matter to pass down into the collector. The chamber of the sediment-collector is made wider at the bottom than at the top, or other-

wise tapering from its juncture with the boiler to the bottom thereof, and in this chamber I place a three-flanged rake or scraper, E, with the inner end stepped in the collecting-chamber, and the outer end extending through the front portion of the chamber wall or plate, at which point it is provided with a square head to receive a wrench or key, by which the rake is rotated and adapted to stir up the contents of the chamber and prevent by agitation the sediment from collecting or settling in the bottom of the chamber in such quantity as to obstruct the opening in the draw-off pipe and cock F, which latter connects with the chamber near the front lower end, and passes beneath the furnace and out at one side, as shown.

It should here be observed that the boiler is set at an angle of inclination to the front in the usual way.

By this construction it will be seen that the main portion of the sediment-collector is surrounded by the fire and heat of the furnace, while the lower end is below the fire-grate, and that a constant circulation between the boiler and collector is had without any violent ebullition of the water contained in the collector.

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

The combination, with a steam-boiler having a sediment collector, A, depending therefrom in front of the bridge-wall, of a series of pipes, C, passing vertically into said collector and communicating with the boiler, the scraper or agitator E, and the blow-off pipe F, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 24th day of November, 1882.

JOHN SPAULDING. [L. S.]

Witnesses:

C. W. M. SMITH,
WILMER BRADFORD.