

(No Model.)

G. M. BRAUNINGER.
BOILER WATER PURIFIER.

No. 323,494.

Patented Aug. 4, 1885.

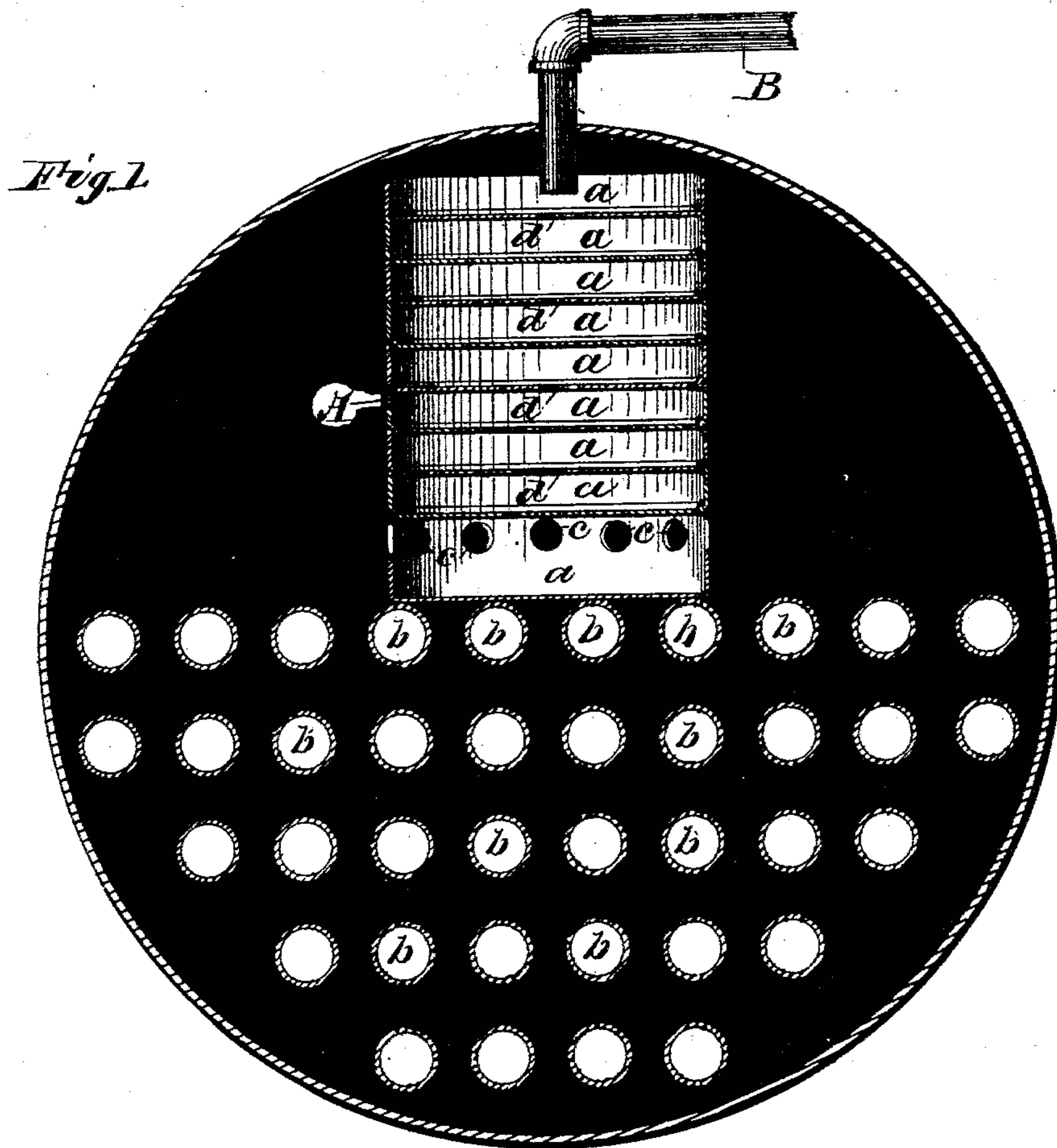
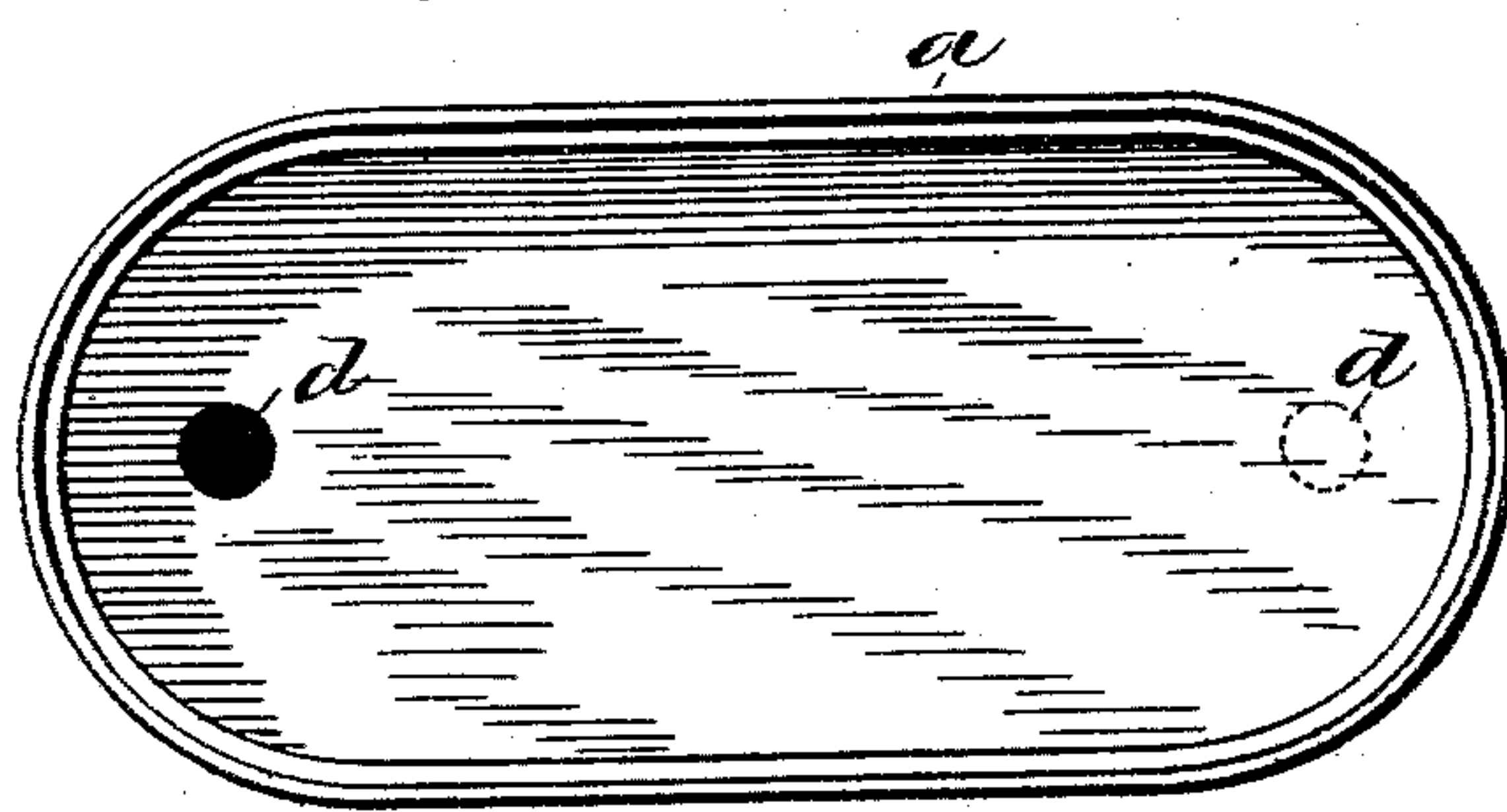


Fig. 2.



Witnesses
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GEORGE M. BRAUNINGER, OF JANESVILLE, ASSIGNOR OF ONE-HALF TO
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BOILER-WATER PURIFIER.

SPECIFICATION forming part of Letters Patent No. 323,494, dated August 4, 1885.

Application filed March 10, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. BRAUNINGER, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Boiler-Water Purifiers; 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 it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain improvements in boiler-water purifiers, for which Patent No. 294,754 was granted to me March 11, 1884, in which patent two separate forms of apparatus are shown, in both of which an outside inclosing-case having a head or cover and blow-off pipe are essential elements. In one of said forms the several apartments are retained in place, one upon another, by contact of their flanges with the outside inclosure, together with the central pipe. In the other form is shown a single large inner receptacle having permanently-affixed partitions, such which forms, when complete, can be inserted through the man-hole of the boiler, nor is either form capable of being separated into independent parts and inserted in the boiler without the aid of mechanical appliances, but must necessarily be in a great part, at least, constructed within the boiler.

The object of my improvement is to so form the several receptacles which alone constitute my apparatus that they may be made complete outside of the boiler, and in their several independent parts be readily inserted and withdrawn from the boiler, and when set up within the boiler may be thus retained in place without either the inclosing-case, the covers, or blow-off pipe, all of which parts it is the object of my present invention to dispense with.

My invention is further explained by ref-

erence to the accompanying drawings, in which—

Figure 1 is a cross-section of a boiler having my device therein, which is also shown in cross-section. Fig. 2 is a top view of one of the pans.

The same letters refer to like parts in both views.

The purifying device A consists of a series of pans, *a a a*, placed one upon another within the boiler, forming chambers therein. The bottom pan may rest upon the top series of the flues, *b b b*, or upon a bracket or frame provided especially therefor, as desired. The bottom pan is provided with a series of holes, *c c c*, through its vertical sides, near the top, and at some little distance up from its bottom. The bottom of this lowest pan is tight, but the other pans superimposed thereon in a successive series are each provided with an aperture, *d*, through the bottom thereof, near one end of the pan, and the pans are so placed one upon another that these apertures *d d* will not be successively one above another, but will alternate, one being at one end of the device and the next one at the other end of the device. For convenience in placing one pan upon another in position, the pans above the lowest one are provided around their bottom edge with a small inwardly-extending shoulder, around and against which the top of the succeeding pan next below is placed.

The water is supplied to the boiler in the usual way through a pipe, B, which pipe discharges the incoming water into the top pan, and in its course down through the pans changes from end to end of the device as it passes down through the alternating apertures *d d* to the bottom pan, out of which it flows through the holes *c c*. In passing through the several chambers of this device the water flows over a series of spaces within the pans, which in the aggregate amounts to a long distance, and as it moves slowly it has ample time to and does deposit all mud and earthy sediment on the bottoms of the pans, and as the water is heated while yet in the pans the lime in the water is precipitated upon the inner sur-

face of the pans in the passage of the water through them. These pans can from time to time be readily removed from the boiler through the man-hole and cleaned and replaced.

5 What I claim as new, and desire to secure by Letters Patent, is—

10 The combination, within a boiler, beneath inlet-water pipe, of a series of separate detachable pans having interlocking shoulders or fastenings by which they are retained and rendered self-supporting, one above another, independently of an inclosure, said pans being

provided with apertures or passages communicating with each other and the boiler and adapted to secrete the sediments of the water in passing from the inlet-pipe to the boiler, and to be detached and removed in sections from and replaced in the boiler, substantially as and for the purpose specified.

20 In testimony whereof I affix my signature in presence of two witnesses.

GEORGE M. BRAUNINGER.

Witnesses:

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