

W. & M. KOLB.  
Wash-Boilers.

No. 149,137.

Patented March 31, 1874.

Fig. 1

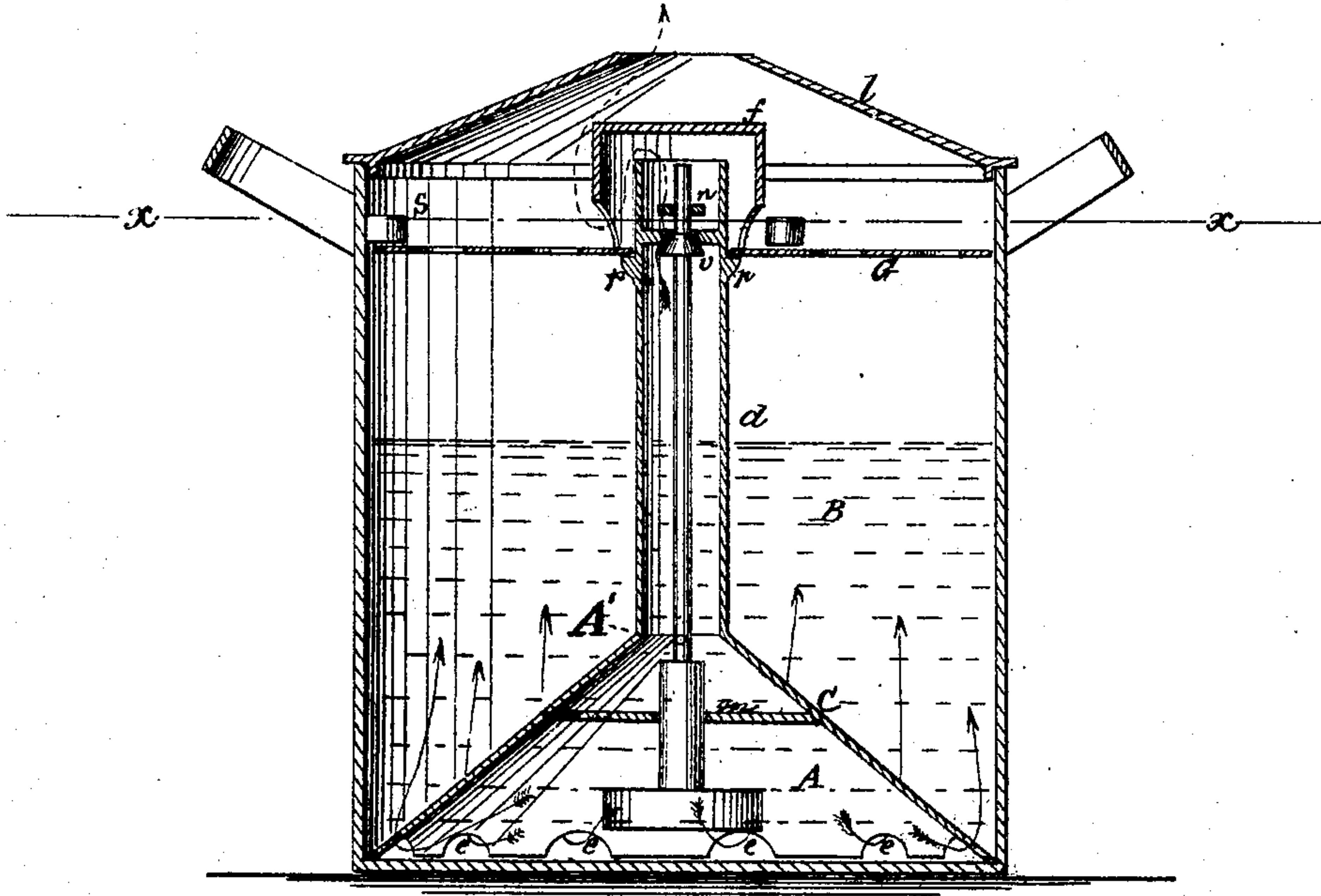


Fig. 2

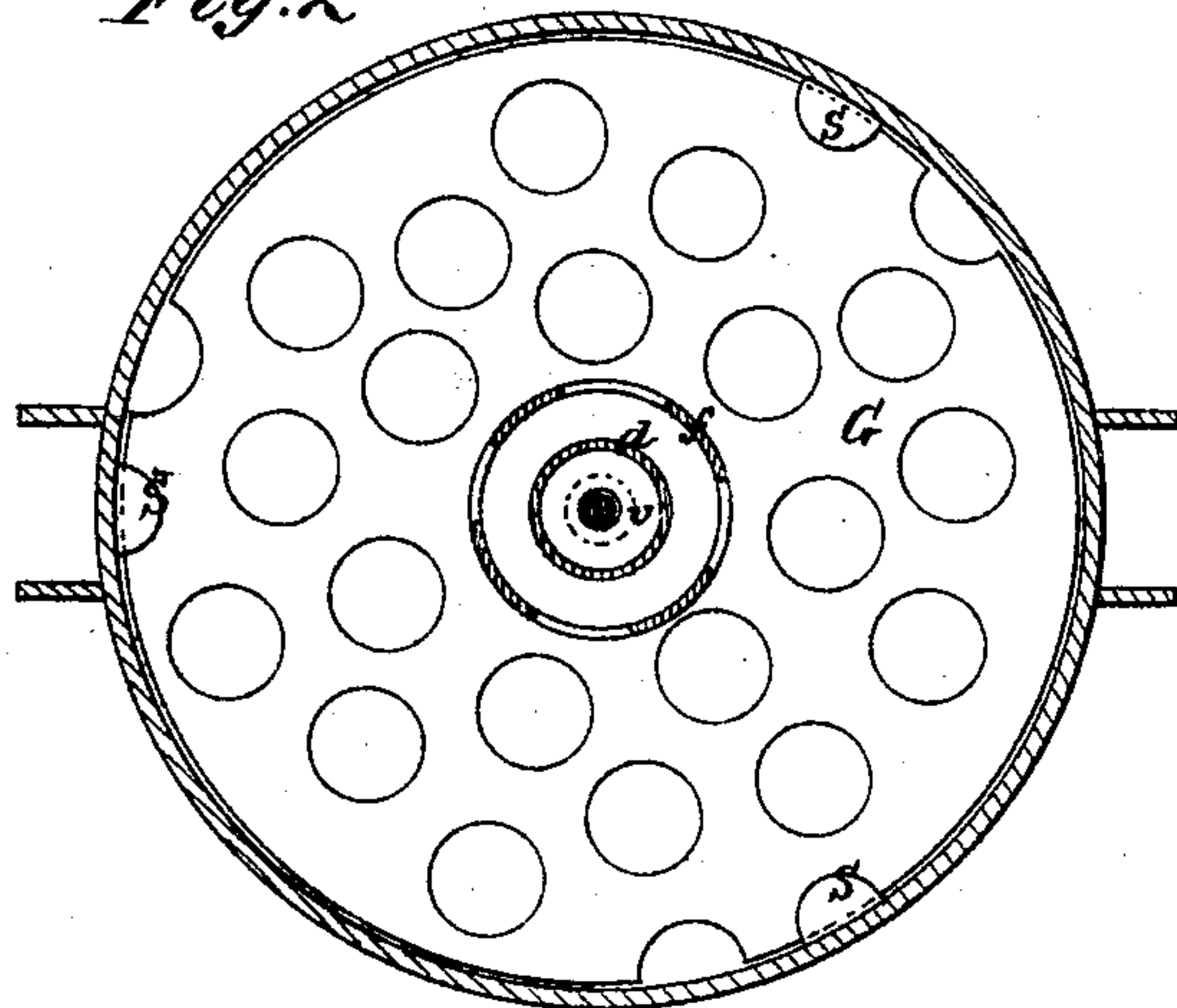
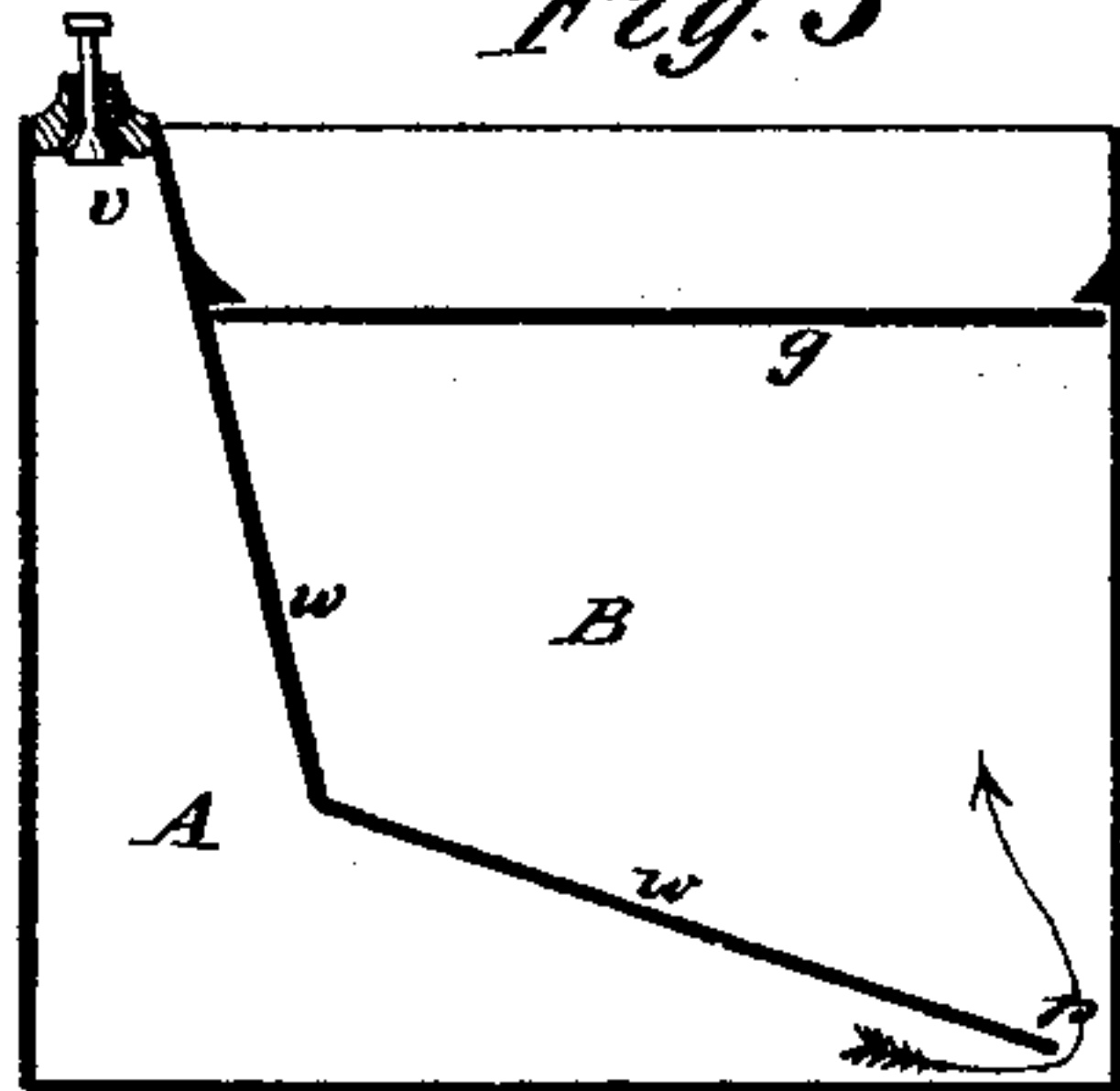


Fig. 3



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM KOLB AND MATHIAS KOLB, OF NEW YORK, N. Y.

## IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. 149,137, dated March 31, 1874; application filed September 6, 1873.

*To all whom it may concern:*

Be it known that we, WILLIAM KOLB and MATHIAS KOLB, of the city, county, and State of New York, have invented a new and Improved Wash-Boiler, of which the following is a specification:

Our washing-boiler belongs to that class of washing-boilers in which the wash is cleansed by passing hot suds through it.

In the washing-boilers of this class which have heretofore been invented and used, the upward currents in the boiler, due to the continued formation of steam at its bottom, is guided in such a manner as to produce a perfect circulation of the soap-suds through the wash.

In the washing-boiler which forms the object of our invention, we use the force of the steam directly to force the suds through the wash, and thereby attain much better results.

To attain our object we divide a washing-boiler into two divisions, the lower parts of which communicate with each other, while their upper parts only do so by means of a valve. We further make the division in such a manner that the partition, which may be closed by the valve, receives most of, or all, the heat.

In the diagram, Fig. 3, we have given an example of such a division.

The partition-wall *ww* divides the boiler into two divisions, A and B, the lower parts of which communicate with each other by the passage *p*, while their upper parts only do so by means of the valve *v*.

The clothes are put into the division B, and the boiler is filled three-quarters full of water. A grate, *g*, is then fastened over the wash to keep it down. If, now, the valve *v* is closed, the steam that forms will accumulate in the upper part of A, and will thereby force the water out of A into B and through the wash. When most of the suds have been forced out of A into B, the valve is opened, the steam escapes into the atmosphere, and the water in B will, by its own weight, rush back into A. By closing the valve again, the water will again be forced out of A into B, and so on.

In the next section we will describe a simple mode of closing and opening the valve by the rising and falling of the water itself.

After having explained the principle of our invention, we will now describe one of the best modes in which we contemplate to apply this principle.

Figure 1 of the annexed drawings shows one of our washing-boilers in sectional elevation, while Fig. 2 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts.

The removable cone *c* and tube *d* divide the boiler into two divisions, A and B. The lower parts of both divisions communicate with each other by cuts *eee* in the periphery of the cone *c*, while their upper parts only do so by means of the valve *v*. *h* is a buoy, which is connected with the valve *v* by means of a rod.

The buoy is of such proportions and of such a weight that if it is out of the water, the combined weight of the buoy, rod, and valve exceeds the highest pressure of the steam on the valve, and that it will not float until the water has risen near to its upper end. The buoy must consequently, when floating, displace a volume of water that exceeds (by about twenty per cent.) the volume of a column of water that has for its height the extreme height of the water in the washing-boiler, (while the water has been forced out of A into B,) and whose base is equal to the area of the valve *v*.

The wash is put into the division B, and a grate, *g*, which rests on a projection, *p*, on the tube *d*, is fastened over it by the studs *sss*. This grate holds both the cone and wash in position. *f* is a cap, which is fastened to the grate, and which directs the steam and suds which issue from the valve back into the boiler. This cap is cut at its lower end. *m* and *n* are guides for the valve-rod. *l* is the lid of the boiler. It has a circular hole in its center to permit the escape of the steam.

The action of the machine is very simple. After the boiler has been filled with soap-suds up to the grate, it is set on the fire. As soon as steam forms, the suds will be forced out of A into B, and consequently through the wash. When nearly all the water has been forced out of A, the buoy will no longer be supported; the valve will, therefore, open, the steam will escape, and the suds will rush back into A.

When the suds have risen so high in A that they float the buoy, the valve will be closed again, and the confined steam will again force the suds out of A into B, and so on.

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

In combination with a wash-boiler, the removable fountain A, provided with the oper-

ings *e* at the base, and the upper-end opening, controlled by the valve *v* and float, in the manner described.

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Witnesses:

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