F. A. HOUCK & J. E. GARDNER.

Boiler Washing-Machine.

No. 208,602. Patented Oct. 1, 1878.

Fig. 1.

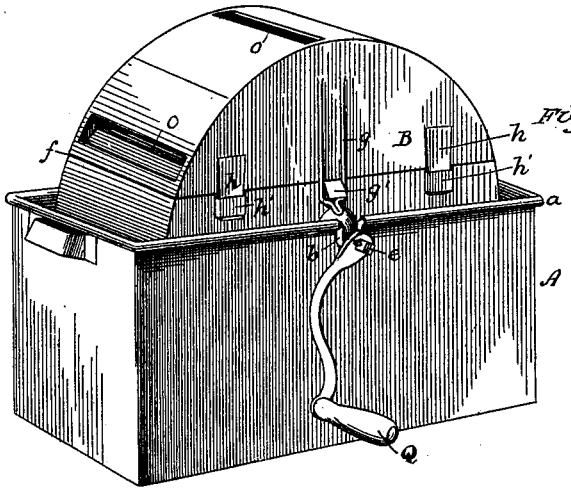


Fig. 2.

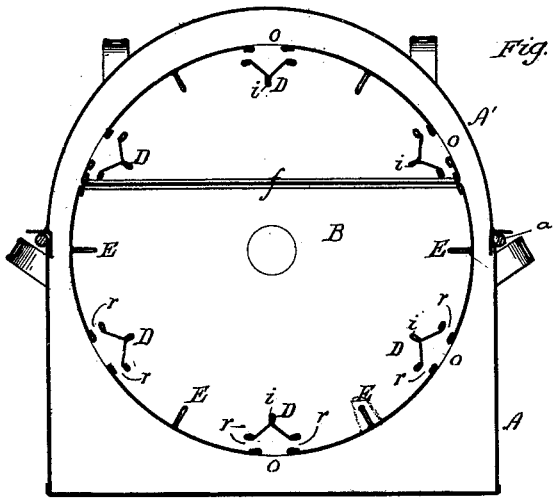


Fig. 3.

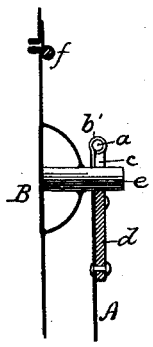
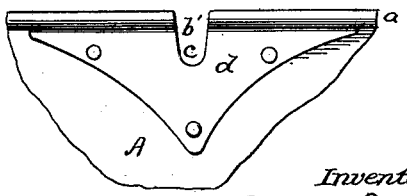


Fig. 4



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UNITED STATES PATENT OFFICE.

FRANK A. HOUCK AND JAMES E. GARDNER, OF HOLDEN, MISSOURI.

IMPROVEMENT IN BOILER WASHING-MACHINES.

Specification forming part of Letters Patent No. **208,602**, dated October 1, 1878; application filed August 17, 1878.

To all whom it may concern:

Be it known that we, FRANK A. HOUCK and JAMES E. GARDNER, both of Holden, Missouri, have invented a new and Improved Washing-Machine; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a perspective view of the washer with the lid removed. Fig. 2 is a longitudinal vertical section. Figs. 3 and 4 are the bearings and other details, to be referred to.

The object of our invention is to produce a clothes-washer in which the clothes may be effectually cleansed while the water-receptacle remains upon the fire, and the water kept boiling, if desired.

Our invention consists in a sheet-metal boiler, of the construction described hereinafter, arranged to be placed on the fire, and provided with peculiar bearings to sustain the shaft of an internal revolving drum, in which is placed the clothes to be washed.

In order that those skilled in the art may make and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings, A is a rectangular sheet-metal boiler, having around its upper edge the usual wire brace *a*, but changed in form, so as to provide a U-shaped depression, *b*, on one side, and on the opposite side cut away, as seen at *b'*, leaving an opening, *c*, which is surrounded by a brace, *d*, riveted to the side of the boiler.

The U-shaped depression *b* and the opening *c* form bearings for a shaft, *e*, on which revolves a drum, B, which is located within the boiler A. This drum is divided, so as to form a means of placing the clothes within it, and the divided portions are hinged at *f*, and fastened by means of a hasp, *g*, passing over projection *g'*, while lugs *h* and staples *h'* relieve the hasp of all lateral strain.

Equidistant within and around the periphery of the cylinder B are narrow transverse openings *o o*, inside of which, fastened to the ends of the cylinder, is a series of inverted V-shaped blades D, with the peaks of the blades *i* somewhat prolonged. The flaring mouths of these blades are somewhat wider than the transverse openings *o o*, and the edges of the blades set a short distance above the edge of openings *o o*. This construction forms a sort of bucket, with long narrow openings *r r*, leading to the interior of the cylinder.

Between the blades D, and fastened directly to the cylinder, is a series of projecting ribs or blades, E. These blades may be made by crimping the sections of the sheet metal forming the periphery of the short cylinder, as seen in Fig. 2, or made separately and then fastened in.

The operation is as follows: The clothes are introduced into drum or cylinder B and the boiler A, containing water, and if desirable to have it boiling, the boiler remains over the fire. By means of handle or crank Q the cylinder is rotated. The cover A' on boiler A prevents any water from being thrown about. The buckets formed by the openings *o o* and blades D admit the water, which runs down till it strikes rib E, when it is projected or poured over the clothes, which are kept in constantly-changing position by contact with the interior ribs during the rotation of the drum, and they are thus thoroughly cleansed.

We are aware that it is not new to place bushing in curved openings on the frame of a washing-machine, nor do we claim such as our invention; nor is it new to place V-shaped blades within a cylinder. Such, broadly, is not our invention.

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

1. The washing-machine herein described, consisting of the boiler A, provided with a wire brace around its upper edge, the said brace having a U-shaped depression, *b*, on one side, and ending at the opening *c* on the other side, said opening being surrounded by the re-enforce *d*, and the interior rotary drum B, substantially as described.

2. The cylinder B, provided with V-shaped blades D, and openings *o o* beneath said blades, and the straight blades E, alternating with the V-shaped blades, all constructed and arranged substantially as described.

FRANK A. HOUCK.
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Witnesses:
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W. P. JOHNSON.