

(No Model.)

2 Sheets—Sheet 1.

H. S. TREMBLE.
WASHING MACHINE.

No. 441,606.

Patented Nov. 25, 1890.

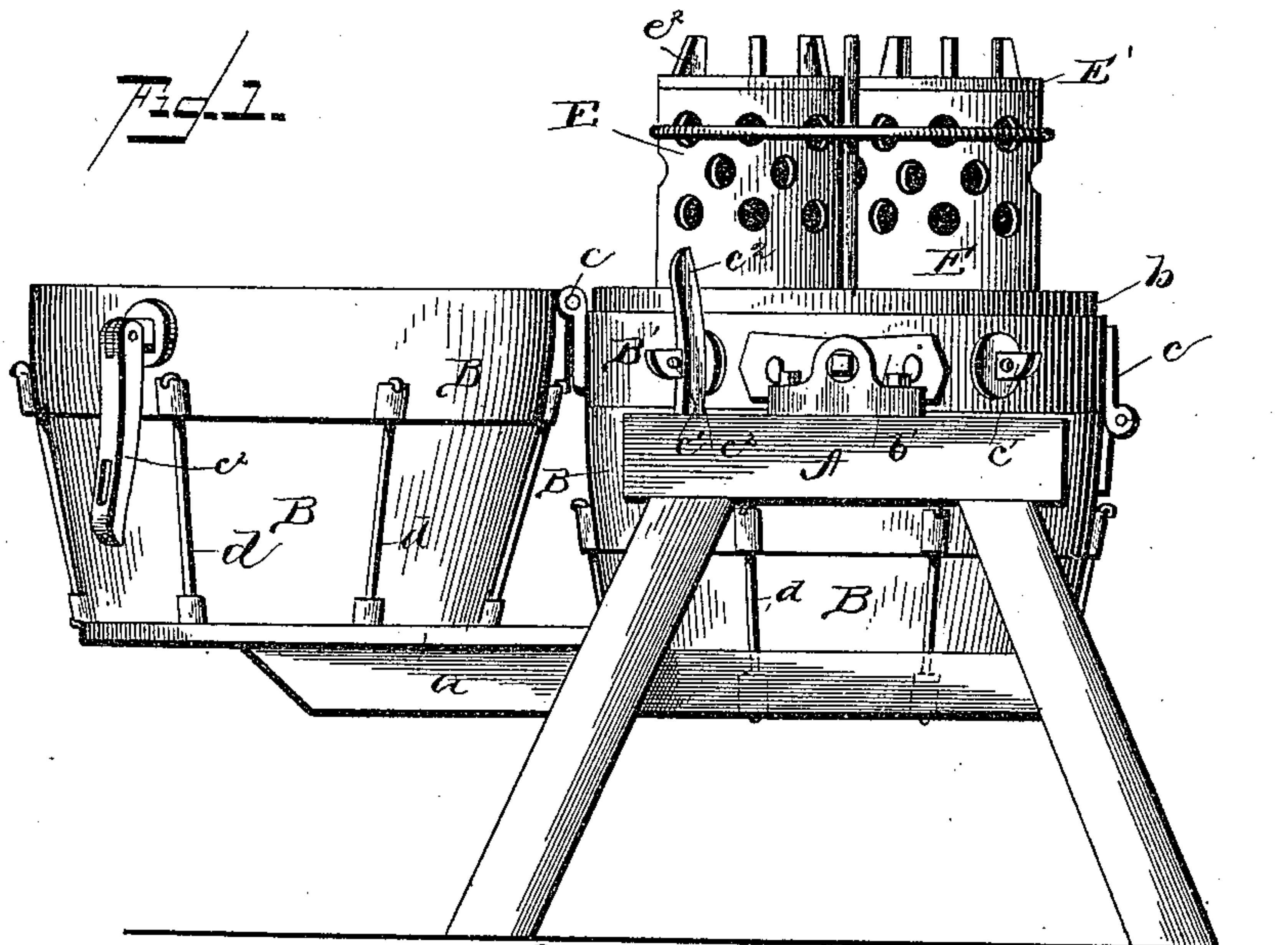
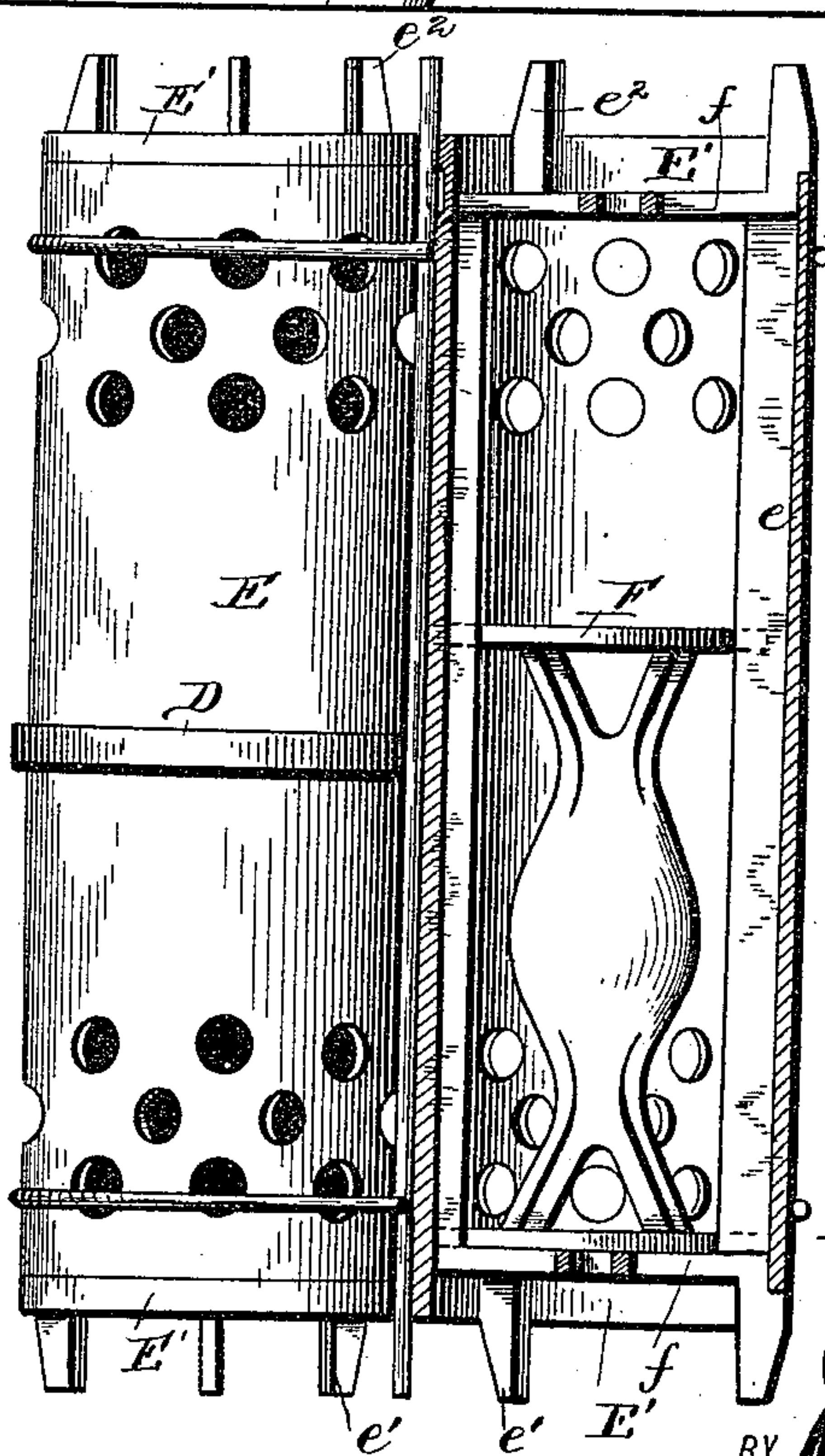


Fig. 2.



WITNESSES:

F. L. Curran

M. Johnson

H. S. Tremble,

INVENTOR

BY

[Signature]

ATTORNEY.

(No Model.)

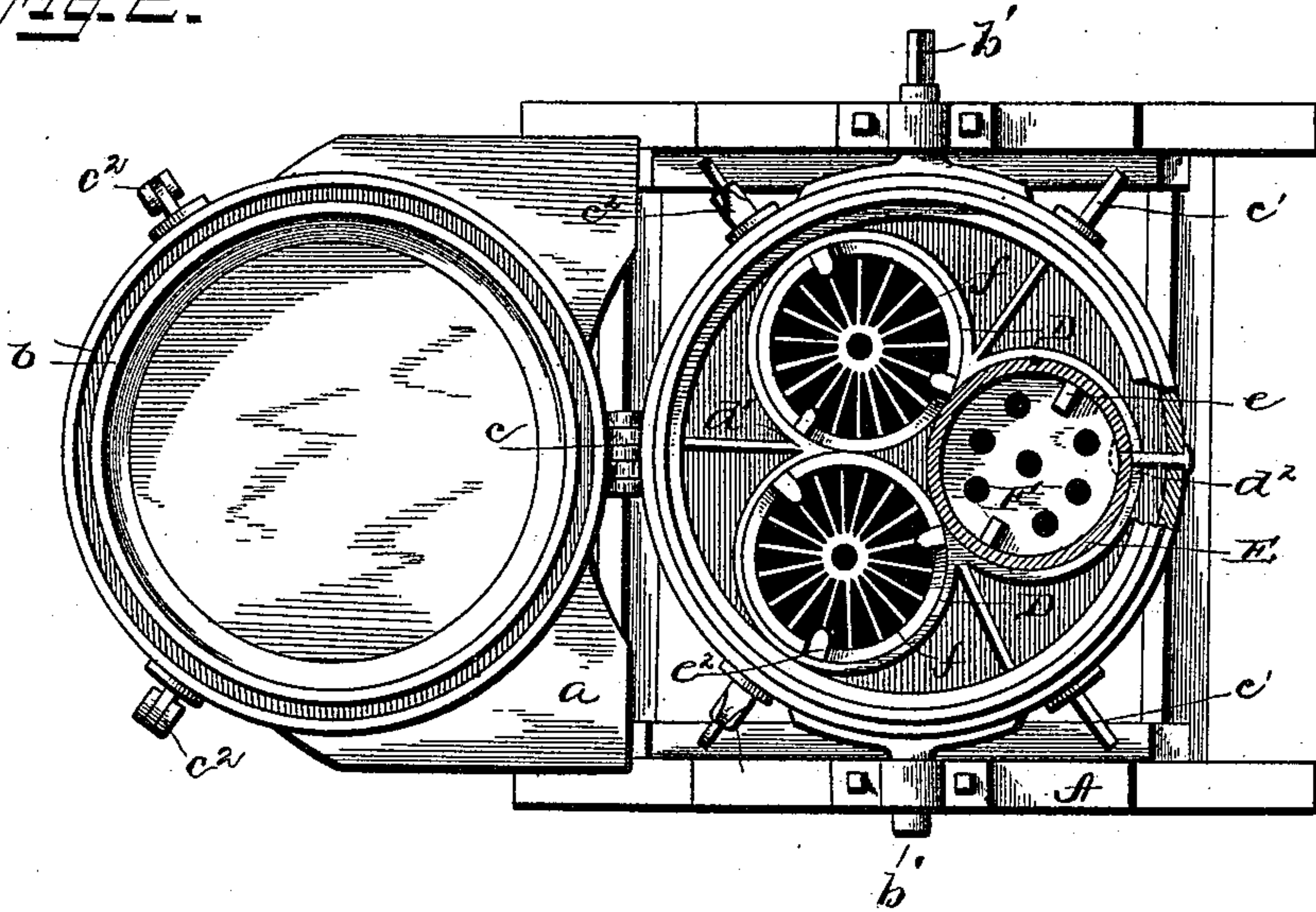
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WITNESSES:

F. L. Curand

E. W. Johnson

UNITED STATES PATENT OFFICE.

HIRAM S. TREMBLE, OF MOAB, UTAH TERRITORY.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 441,606, dated November 25, 1890.

Application filed May 15, 1890. Serial No. 351,960. (No model.)

To all whom it may concern:

Be it known that I, HIRAM S. TREMBLE, a citizen of the United States of America, residing at Moab, in the county of Emery and Territory of Utah, have invented certain new and useful Improvements in Rotary Washing-Machines; 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 of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in rotary washing-machines.

The object of the invention is to provide a two-part case mounted upon a support to be rotated thereon, said casing inclosing a series of cylinders or chambers containing plungers and compartments for the clothes to be washed, whereby as the casing is rotated the plungers within the cylinders will be reciprocated to strike against the clothes to wash them, as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a side view of a washing-machine constructed in accordance with my invention, the case being opened. Fig. 2 is a plan view partly in section. Fig. 3 is a side view of the cylinders detached, one of the same being shown in section.

A refers to the support or frame, which is provided on one side with a table *a*, upon which one of the sections of the casing may rest, as shown in Fig. 1.

The casing is made up of three parts B B and B', the part B' being a central ring having at its upper and lower edges reduced annular portions *b*, and on its outer face, at opposite points, with stub-axles *b'*, resting in bearings in the main frame, and one of which axles is extended and key-ended to receive a crank-shaft. The ring or central portion B' of the casing has rigidly attached at diametrically-opposite points hinges *c c*, to which are connected the upper and lower portions B B of the casing. This ring is also provided at suitable intervals with outwardly-projecting perforated pins *c'*, with which hasps or loops *c''*, pivotally secured to the parts B B of

the casing, engage, and when said casing is folded upon the ring these hasps or loops can be turned to engage with the pins *c'*, and thereby retain the parts closely upon each other. Keys are employed for preventing the detachment of the hasps. The reduced portions *b* fit in recesses therefor in the sections B B to afford tight joints.

The parts B B of the outer casing may consist of an upper metallic ring and a bottom section of wood, and when such construction is used the lower sections are connected to the rings by rods *d*, as shown. The ring or central portion B' of the casing may have secured or attached to the inner face thereof, in any suitable manner, a frame D, made up of a series of segments, the ends of the segments being joined to each other, as shown at *d'*, while the portions *d''* are connected to the ring B' by rivets or bolts, and when such construction is employed I use in connection therewith independent cylinders E, over the ends of which are adapted to be secured closing-caps E', with a perforated central portion, through which the fabric or garment to be washed is partly passed and secured by a pin. The cylinders E have projecting guides or flanges *e e*, upon which slide plungers F, connected to each other by a central weighted bar, said plungers being perforated, so that the water can pass freely through them. The caps of the cylinders are also provided with perforations *f*. These cylinders are of a little less length than the distance between the ends of heads of the sections B, so that when said sections are closed to bring them into an operative position the inner sides of said heads will bear upon the feet or projections *e''*, formed on the caps E' of the cylinders E.

When independent cylinders are used, they are first placed in position in one of the tubs B, and the clothes or fabric to be washed secured to the caps E' by being passed through the central openings therein and secured by catches or safety-pins. After all the cylinders have been filled the cover is closed and secured to the central ring B' and the whole casing reversed, which will bring the plungers in direct contact with the clothes. The opposite section B of the casing being loosened and turned back will expose the opposite ends of the cylinders, so that the clothes

can be placed in them. One of the tubs or casings is partially filled with water, and it is evident from the foregoing description of the construction that in operation the articles to be washed will be cleansed by the impact of the piston thereon and by the agitation of the water in the casing.

Having thus described my invention, I claim—

10 1. In a washing-machine, a separable rotary casing made up of two or more sections adapted to be closed upon each other to form a water-tight compartment and cylinders containing pistons secured within the rotary casing, substantially as set forth.

15 2. The combination, in a washing-machine, of a rotary casing supported upon a suitable frame, a series of cylinders containing movable pistons, and closures for said cylinders, the parts being combined so that as the casing is rotated the pistons will impact against the articles to be washed, substantially as set forth.

3. The combination, in a washing-machine, of a casing made up of a central ring having 25 journals, hinges connecting tubs B B thereto, and clasps for holding the tubs closed upon the central ring, said casing holding in place cylinders with movable pistons and closures for said pistons, substantially as shown, and 30 for the purpose set forth.

4. In combination with a rotary casing or chamber, a series of cylinders adapted to be maintained within the same and movable pistons contained within said cylinders, whereby 35 said pistons will be actuated by gravity, so as to impact upon the articles placed within said cylinders, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in 40 presence of two witnesses.

HIRAM S. TREMBLE.

Witnesses:

J. E. RIZER,
W. B. OATES.