

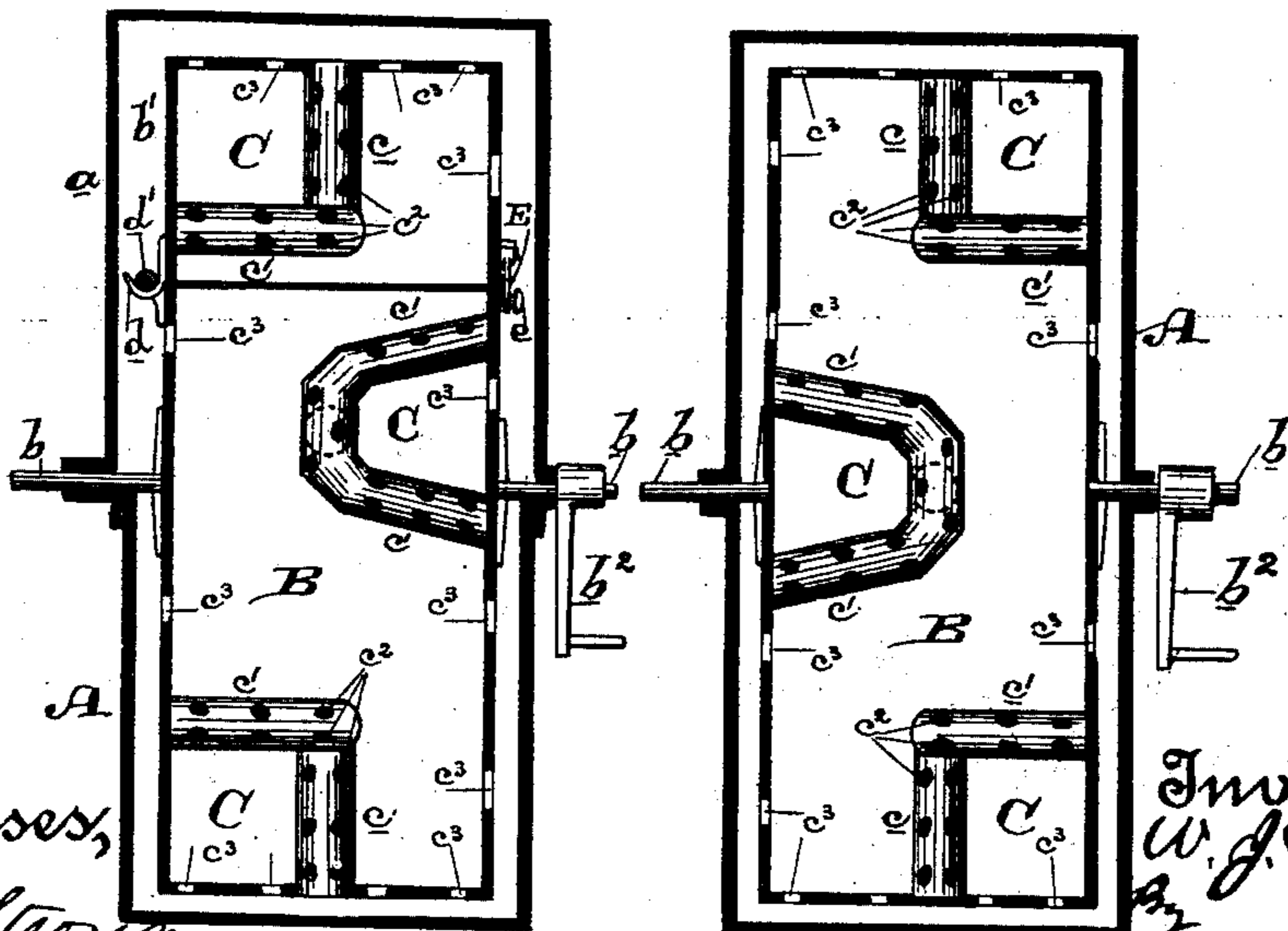
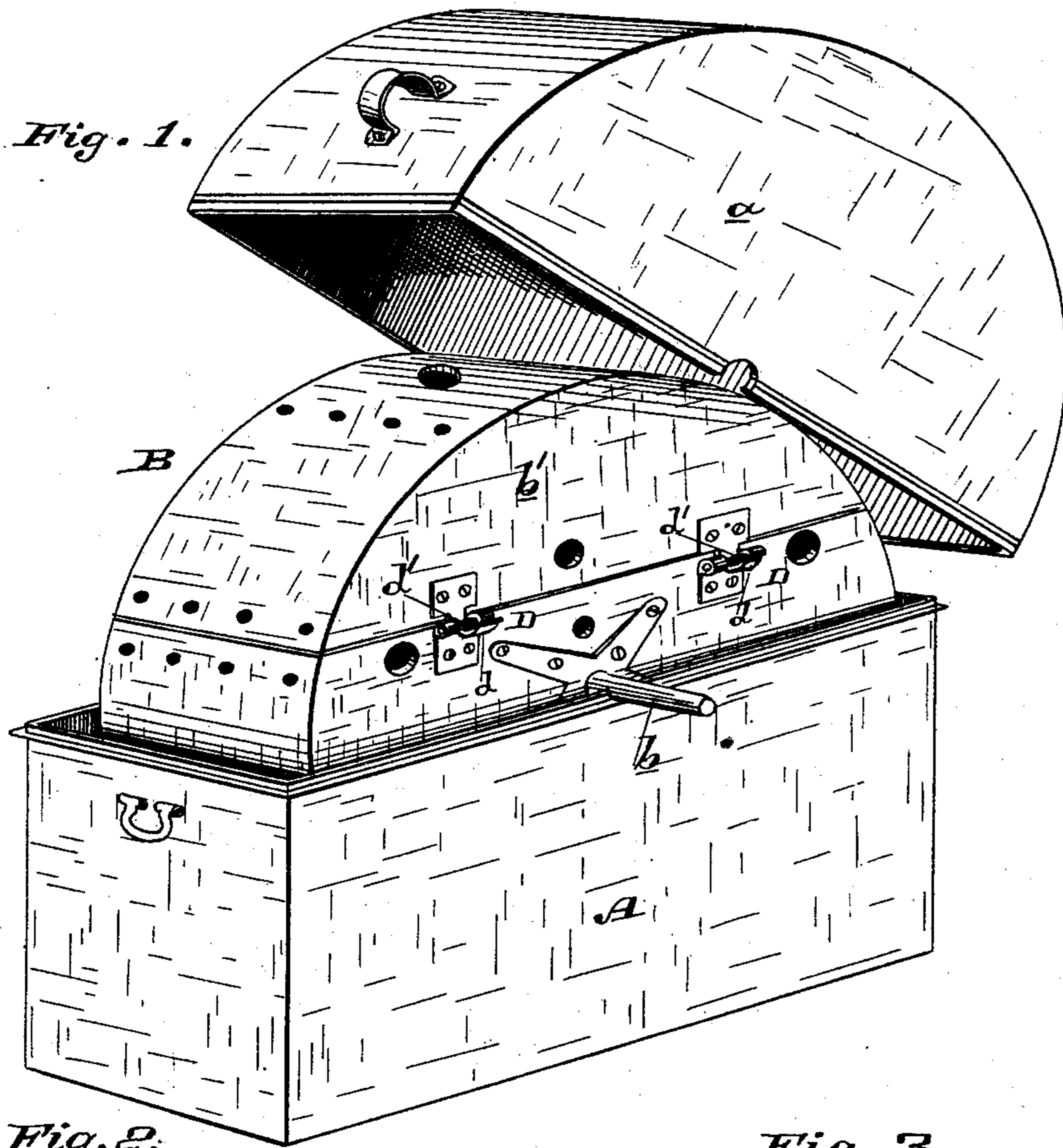
(No Model.)

2 Sheets—Sheet 1.

W. J. HUNT.  
WASHING MACHINE.

No. 371,140.

Patented Oct. 4, 1887.



Geo. H. Strong  
B. Nurse.

Inventor,  
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by  
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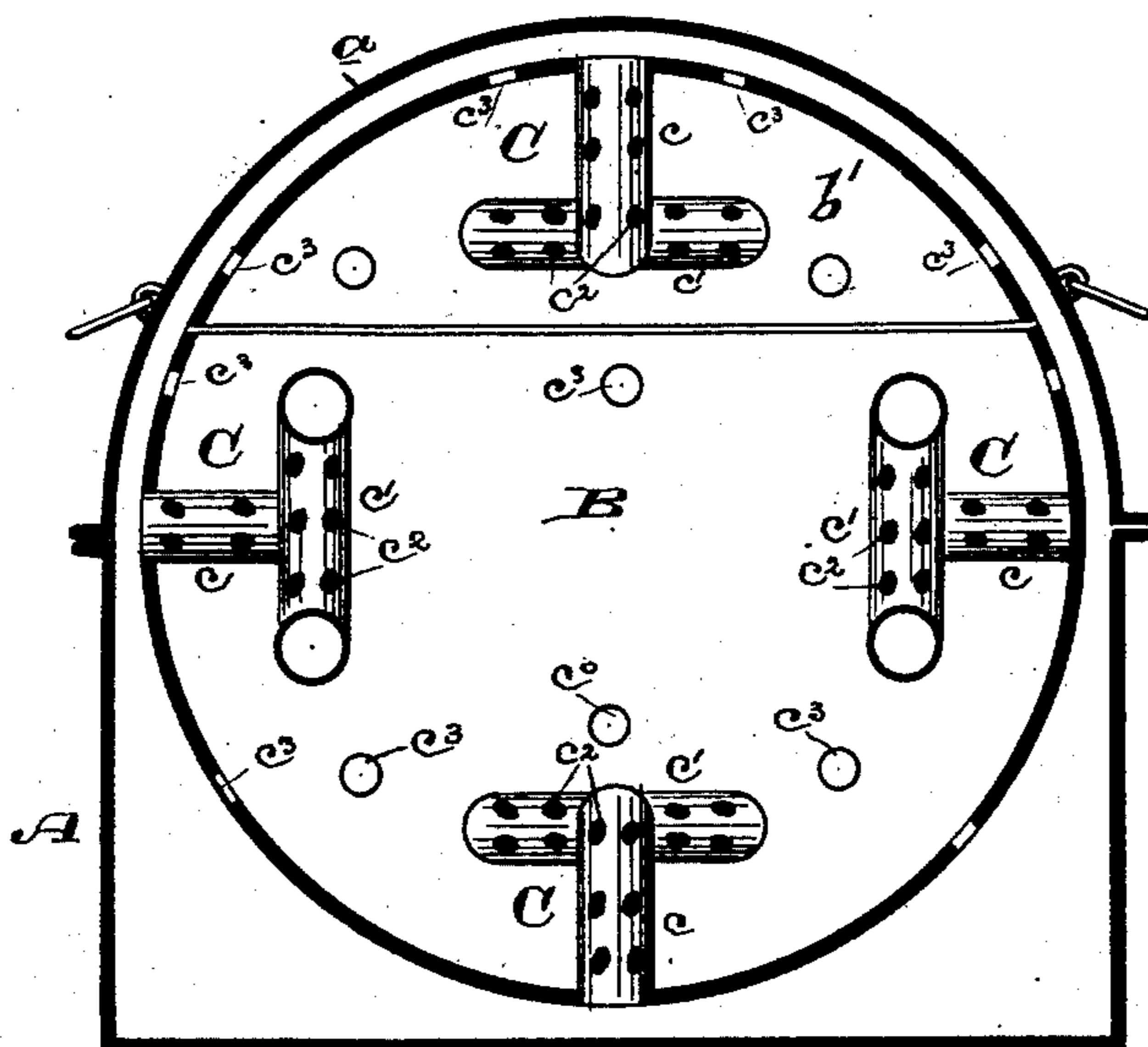
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Fig. 7.



Witnesses,  
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J. T. Morse.

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# UNITED STATES PATENT OFFICE.

WILLIAM JESSE HUNT, OF LOS ANGELES, CALIFORNIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 371,140, dated October 4, 1887.

Application filed February 2, 1887. Serial No. 226,324. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM JESSE HUNT, of Los Angeles, Los Angeles county, State of California, have invented an Improvement in Washing-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of washing-machines in which a cylinder containing the clothes is rotated within a casing containing the water, communication being freely effected between the two through apertures made in the cylinder; and my invention consists in the peculiar construction and combinations of devices, all of which I shall hereinafter fully describe and claim.

The object of my invention is to provide a simple and effective washing-machine which can be readily operated and in which the clothes will be subjected to a complete circulation of steam throughout their mass, while they are prevented from packing or rolling around into a lump within the cylinder.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view showing the top of the casing partially removed. Fig. 2 is a vertical cross-section of the machine. Fig. 3 is a horizontal section. Fig. 4 is a vertical longitudinal section.

A is the outer shell or casing, which forms the boiler of the machine and contains the water, which is subjected to heat in the usual or any suitable manner. This casing is provided with a removable top, *a*.

B is the cylinder, which contains the clothes. This cylinder is mounted within the casing upon journals *b*, and is rotated by means of a crank, *b*<sup>2</sup>, or other power. It has a diameter very little smaller than that of the exterior casing, and is provided with a lid or cover, *b*<sup>1</sup>.

C are circulating-pipes. These consist of two portions, the one *c* projecting radially and inwardly from the periphery of the cylinder, through which it opens, thus forming a communication with the outer casing. The other, *c*<sup>1</sup>, is U-shaped, approximately, and is located within the cylinder, joining and communicating with the radial portion at its inner end, and having its legs joining and opening through the sides of the cylinder, whereby a

complete communication is effected with the outer casing. The circulating-pipes C are perforated, as shown at *c*<sup>2</sup>. Holes *c*<sup>3</sup> are also made through the walls and periphery of the cylinder, so that a free communication is also effected by these means.

The cover or lid *b*<sup>1</sup> of the cylinder, and which forms a part of it, is connected with the body of the cylinder by means of hinges D, which comprise a hook portion, *d*, and a pintle portion, *d*<sup>1</sup>, which are readily separable and as readily applied, whereby the cover or lid may be easily removed from the cylinder and as easily replaced. Hooks E on the side of the cover or lid engage studs *e* on the body of the cylinder, whereby the cover or lid is fastened in place.

The journals *b* of the cylinder extend beyond the outer casing a sufficient distance to enable them to be used as handles, for the purpose of removing the cylinder from the casing. These journals are therefore made not only long enough, but also with a greater diameter than would otherwise be necessary. They are grasped with the assistance of a pad to prevent burning of the hands.

Though the circulating-pipes C, under any circumstance of number, shape, relative size, and position, would be effective in producing the result desired, they should be preferably constructed and arranged as follows: In the first place, they are four in number, to which fact is due an advantage of location, enabling me to distribute them equally by placing their U-shaped portions two on each side the cylinder. In the next place they are arranged alternately, first one on one side, then the adjacent one on the other, and so forth. This alternate arrangement provides for a third consideration—namely, the overlapping, without interference, of the planes of their inner extremities in the width of the cylinder—that is to say, if the width of the cylinder be eleven inches, each U-shaped portion *c*<sup>1</sup> will extend six inches, so that it passes the center plane of the width by one-half inch, and the amount of overlap at the center plane, and counting from both sides, is one inch. The radial portions *c* should be made about two and a half inches, so that the U-shaped portions nowhere approach the periphery of the cylinder within

that distance. The alternate arrangement, as I have before said, prevents interference, but at the same time necessitates the location of one of the circulating-pipes C in the cover or lid *b'*; but as said cover or lid forms, when in place, a part of the cylinder, the continuity of the series of circulating-pipes is unbroken. This arrangement of these pipes provides for conveying the steam to the center and to every part of the cylinder equally, and also by the rotary motion of the cylinder keeps the clothes open or separated, thus permitting them to be filled with the steam.

The operation of the machine is as follows:  
 15 A suitable amount of water is placed in the outer casing and subjected to a heat sufficient to generate steam. The cover or lid of the cylinder is removed entirely, so that it is not in the way when the clothes are being placed into the cylinder. When so placed, the cover or lid is returned and fastened, while over the top of the cylinder is fitted the upper cylindrical portion or top, *a*, of the outer shell or casing, thereby completely inclosing the cylinder. The crank is then rotated, whereby a rotary movement is given to the cylinder. A constant and perfect circulation of steam is obtained, not only through the various holes *c*<sup>3</sup> in the walls and periphery of the cylinder, but also through the inwardly-projecting pipes C, which carry it into the mass of clothes in all portions of the cylinder, so that the steam emerging from said pipes permeates the entire mass. The shape and arrangement of the circulating-pipes, as before stated, conduce to this thorough introduction of the steam into the body of the clothes, and, further, their shape serves the purpose of causing them to act as supporters and stirrers or agitators for the clothes, whereby they are prevented from bunching or wadding together in rolls or lumps, but are kept separated to an extent which permits the perfect circulation of the steam through them. When the operation is complete, the cover or lid of the cylinder is un-

fastened and removed completely. The body of the cylinder is then taken out from the casing by grasping, with suitable protection, the journals *b*, so that the clothes may be dumped bodily into a tub, thereby saving much handling.

I do not claim, broadly, a washing-machine cylinder provided with elbow-tubes having openings, as I am aware that such construction is shown in the patent to Lawlor, No. 339,065, dated March 10, 1886. My invention differs from the construction shown by Lawlor in that the elbow-pipes in the cylinder of my machine are arranged alternately on the opposite ends of the cylinder and project beyond the center of the cylinder, so as to overlap without interfering with each other, by which construction the clothes are thoroughly agitated and also rubbed by the projecting elbow-tubes.

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

In a washing-machine, the outer shell or casing, A, in combination with the rotating cylinder B and the perforated circulating-pipes C, comprising a radially-extending portion, *c*, communicating through the periphery of the cylinder with the casing A, and a U-shaped portion, *c'*, communicating with the radial portion and through the side walls of the cylinder with said casing, the U-shaped portion of said circulating-pipes communicating alternately with each side of the cylinder and projecting from each side beyond the center plane of the width of the cylinder, whereby the planes of the extremities of the circulating-pipes overlap, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM JESSE HUNT.

Witnesses:

T. E. ROWAN,  
 R. A. BROWN.