

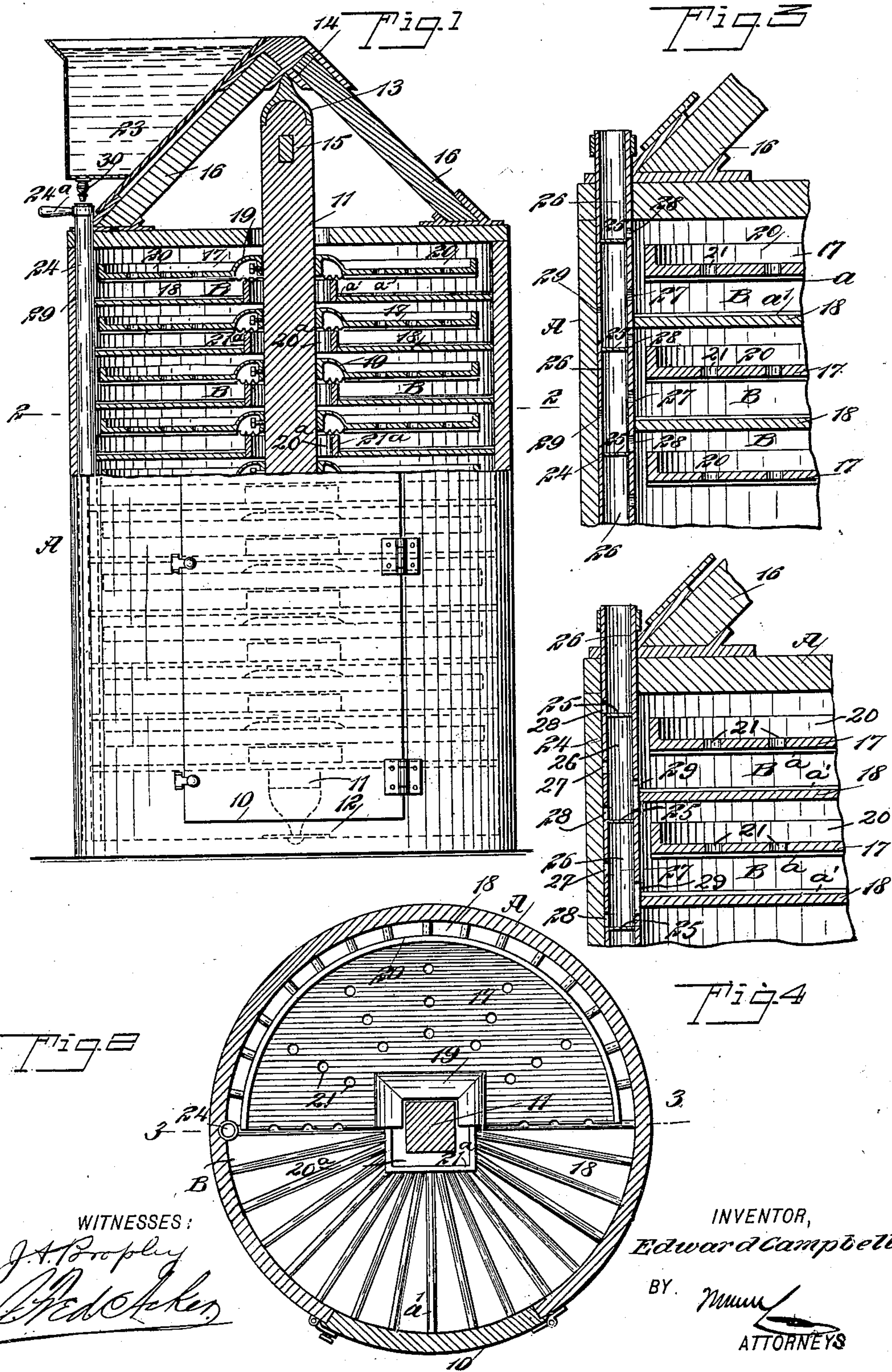
No. 677,636.

Patented July 2, 1901.

E. CAMPBELL.
WASHING MACHINE.

(Application filed Aug. 28, 1900.)

(No Model.)



WITNESSES:

J. A. Proply
J. A. Proply

INVENTOR,

Edward Campbell.

BY.

Mum
ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD CAMPBELL, OF WINNIPEG, CANADA, ASSIGNOR TO HIMSELF
AND CALVIN JAMES WARDROPE, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 677,636, dated July 2, 1901.

Application filed August 28, 1900. Serial No. 28,270. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CAMPBELL, a subject of the Queen of Great Britain, and a resident of Winnipeg, in the Province of Manitoba and Dominion of Canada, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

One purpose of the invention is to provide a washing-machine in which a series of partitions are so arranged as to form a series of compartments for the reception of clothes, enabling an entire washing operation to be successfully carried out and the clothes graded, one compartment being independent from another, so that fine material—such as laces, collars, shirts, and other white goods—may be placed in sundry of the compartments and not brought in contact with heavy goods—flannels or colored material—contained in other of the compartments.

Another purpose of the invention is to provide a means for delivering water to the various compartments and for causing a rubber in each compartment to have a rotary or a rotary reciprocating movement, whereby the clothes in the various compartments will be rubbed clean.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a partial front elevation and partial sectional view of a washing-machine constructed in accordance with my invention. Fig. 2 is a horizontal section through the machine, showing a portion of two boards constituting a compartment in the machine, the section being taken on the line 2 2 of Fig. 1; and Figs. 3 and 4 are sectional detail views of the water-supply pipe, illustrating the manner in which water is supplied to the several compartments and from one compartment to the other, the sections being taken practically on the lines 3 3 of Fig. 2.

A represents the body of the machine, and while this body is shown of cylindrical form it may have other contour, if desired. The body is closed at the top, bottom, and sides and access is obtained to the interior through the medium of a door 10, as shown in Figs. 1 and 2. A shaft 11 is passed centrally through the body A, and the lower end of the shaft is held to turn in a bearing 12 at the bottom of the body, while the upper end portion of the shaft extends through the top of the body, and the upper extremity of the shaft is provided with a conical cap 13, held to turn in a bearing 14, supported a suitable distance above the top of the body by braces 16 or the like. This shaft between its bearing-points is preferably polygonal in cross-section, and the opening in the top of the body through which the shaft passes is made sufficiently large to permit the shaft to be rotated partially or entirely, and such rotation of the shaft or partial rotation may be accomplished through the medium of a handle 15, which is secured to the shaft near its upper end; but suitable gearing may be employed for the purpose driven in any convenient manner.

The interior of the body A is divided into a series of compartments B by partitions 18, and each compartment contains a rotary rubber 17. The rotary rubbers 17 have ribs or corrugations a upon their lower faces and the partitions 18 have ribs or corrugations a' on their rubbing-surfaces on their upper faces. The rotary rubber 17 for each compartment is adjustably attached to the shaft 11, and where the rotary rubber connects with the shaft an upwardly-extending flange 19 is formed, and at the margin of each rotary rubber 17 a second upwardly-extending flange 20 is provided. As shown in Fig. 2, the rotary rubbers are provided with apertures 21 between their flanges. Each partition 18 is secured to the inner wall of the body A and is provided with a central opening 20^a, through which the shaft 11 passes and in which the shaft may freely turn, and at this central opening 20^a in each partition 18 a flange 21^a is formed. The partitions 18 are not perforated and are capable of holding

about an inch, more or less, of water. The clothes are placed upon the partitions and are rubbed by the rotation of the rubbers 17.

Upon the top of the body a water-tank 23 is located, the outlet-faucet whereof is connected with the stand-pipe 24. This pipe extends down at the outside of the body close to the inner face thereof and is capable of turning, being provided at the top with a handle 24^a. The stand-pipe 24 is divided by partitions 25 into a series of chambers 26, each chamber extending from near the top of a compartment B to the upper portion of the next lower compartment. Each chamber 26 has two openings 27 and 28 in one side of the stand-pipe and a single opening 29 in the opposite side of the stand-pipe. The openings 27 and 28 are so placed that when they face the compartments B one opening 27 will be about an inch, more or less, above the partition 18, while the other opening 28 will be just below the same partition. Thus when water is supplied to the stand-pipe 24 it flows from one chamber 26 through the opening 28 in the compartment B, falling upon the partition of that compartment, and when the water in said compartment rises to the level of the upper opening 27 in the next chamber 26 the water enters that chamber and passes out therefrom to the next lower compartment B. In this manner water is supplied from one compartment B to the other.

Water is supplied to the stand-pipe 24 preferably through the medium of a faucet 30, attached to the tank 23, as is shown in Fig. 1. It will be observed that the washing fluid is not delivered simultaneously from the stand-pipe to the various compartments, but is delivered first to the uppermost compartment and passes from thence to the next lower compartment, and so on to the bottom of the body A. It is obvious that a large quantity of assorted articles can be simultaneously and quickly washed by a machine constructed as set forth—in fact, a machine may be of such size as to receive and thoroughly clean an entire family wash during one operation.

The openings 29 in the stand-pipe 24 are each of sufficient length to extend above and below the partitions 18, as shown in Figs. 3 and 4. Thus when it is desired to drain water from the compartments B the stand-pipe may be turned until the openings 29 are opposite the partitions 18, extending above and below them, as shown in Fig. 4, whereupon the water will pass through an upper compartment B into a compartment 26 of the stand-pipe and out from such compartment 26 to the next lower main compartment B, and so on until the bottom of the machine is reached. The water may now be drawn off at the bottom of the machine in any desired manner. By pouring clean water into the machine any dirty water or sediment remaining in the stand-pipe may be flooded out.

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

1. In a washing-machine, a tubular body, a shaft mounted to revolve in said body, a series of partitions located within the body, having corrugated or ribbed upper faces and openings through which the shaft passes, the said partitions being provided at said openings with upwardly-extending flanges, a series of rubbers located one above each partition, the said rubbers being attached to the said shaft, each rubber having a corrugated or roughened face, an upwardly-extending marginal flange and an inner flange around the shaft, the rubbers being also provided with series of apertures between their flanges, and means located within the said body whereby the water is conducted to the various compartments formed by the said partitions consecutively from the upper compartment to the lower, as described.

2. In a washing-machine, a body and a series of partitions forming compartments independent of each other and adapted to receive clothes, each partition having a rubbing-surface on its upper face, a rotary rubber in each compartment, having ribs or corrugations on its under face, and a stand-pipe which is passed through the partitions, which stand-pipe is provided with a series of chambers, each of said chambers being provided with an inlet and an outlet opening, each inlet and outlet opening being located at opposite sides of the partition, the said stand-pipe being adapted to receive water and to conduct the same from one compartment to the other, as specified.

3. In a washing-machine, the combination, with the body having a series of compartments independent one from the other and adapted to receive clothes, the said compartments being formed by series of partitions having an upper rubbing-face, apertured rubbers mounted to rotate over each partition, which rubbers have their lower faces roughened, both the partitions and rubbers being adapted to receive a supply of water, of a stand-pipe mounted to turn in said body, which stand-pipe extends through openings in the said partitions, partitions located within the stand-pipe, dividing the same into a series of chambers, each of which chambers is provided with apertures in a side of the stand-pipe, the said apertures being located one above and the other below a partition in the body, for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD CAMPBELL.

Witnesses:

F. A. LOUTHARD,
HORACE E. CRAWFORD.