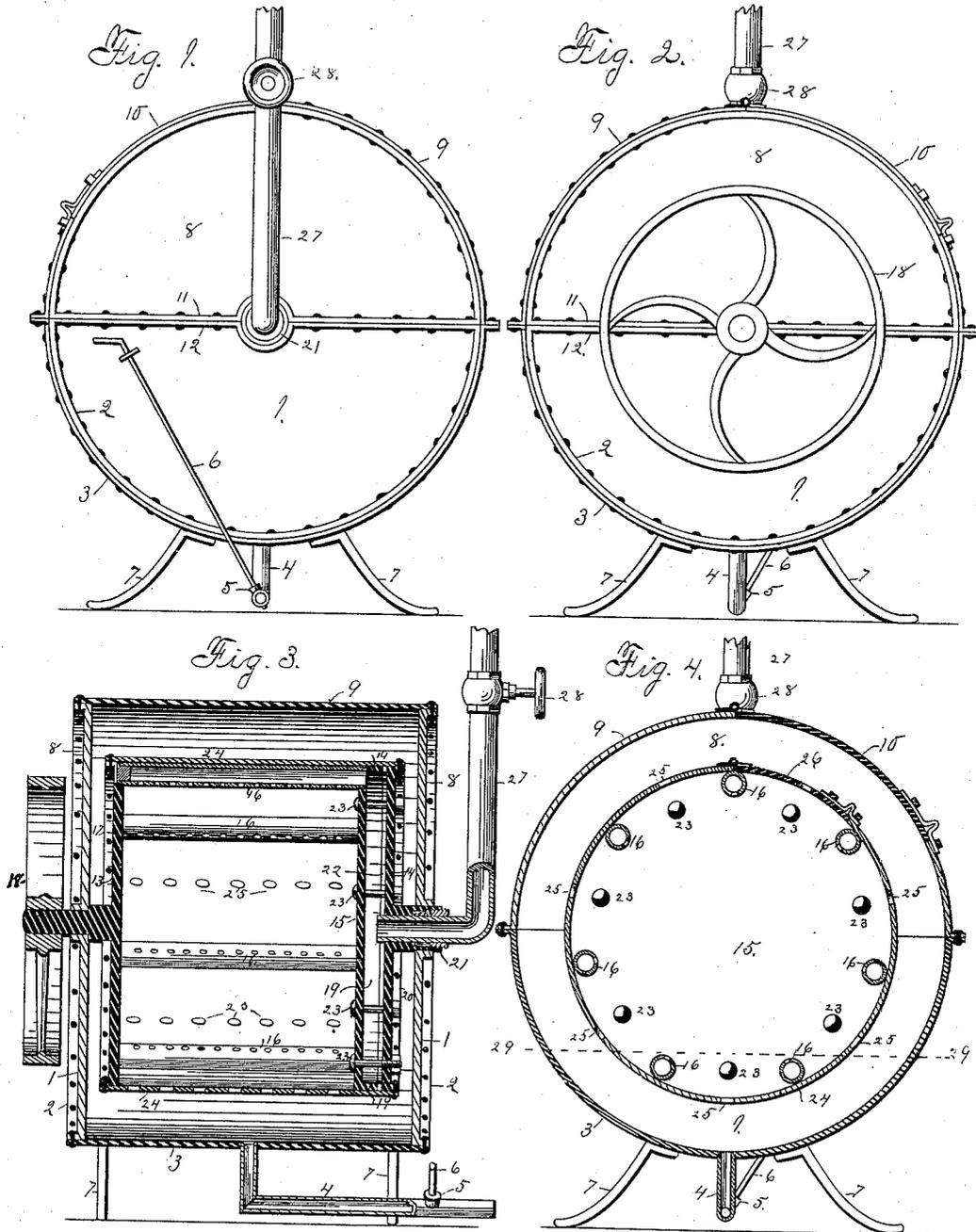


(No Model.)

I. V. MONTANYE.
WASHING MACHINE.

No. 369,609.

Patented Sept. 6, 1887.



Witnesses:
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UNITED STATES PATENT OFFICE.

ISAAC V. MONTANYE, OF ROCKFORD, ILLINOIS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 369,609, dated September 6, 1887.

Application filed November 23, 1886. Serial No. 219,711. (No model.)

To all whom it may concern:

Be it known that I, ISAAC V. MONTANYE, a citizen of the United States, residing in the city of Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to a class of washing-machines known as the "steam-washer," and is designed more especially for laundry purposes.

The object of this invention is to produce a durable and efficient machine of its class. To this end I have designed and constructed the machine represented in the drawings.

In the accompanying drawings, Figures 1 and 2 are end elevations of a machine embodying my invention. Fig. 3 is a lengthwise central section. Fig. 4 is a transverse central section.

The outer casing of my improved steam-washer is of cylindrical form, and is composed of an upper and lower portion. The ends 1 of the lower or reservoir portion are in this instance of cast material, and are flanged, as at 2, said flanges being perforated at proper intervals. These ends are held separated a suitable distance by a curved bottom, 3, of plate material, which is riveted to the flanges 2 of the ends 1. An outlet-pipe, 4, is joined to the under side of the reservoir, and in which a stop-cock, 5, is inserted. A rod, 6, is connected to the stop-cock and extends upward within easy reach of the attendant, for the purpose of operating the stop-cock to hold the water in the reservoir or to allow it to escape therefrom. The lower portion is also provided with supporting-legs 7. The upper portion is composed of ends 8, of cast material, and top 9, of plate material, which are joined together in the same manner as the ends 1 and bottom 3 of the lower portion. A lid, 10, is hinged to one side of an opening in the top 9, and is provided with a suitable fastening device. These two portions are joined together by rivets or bolts passing through flanges 11 and 12. A cylindrical vessel of dimensions to enter within the outer casing is composed of heads 13 and 14, partition 15, and longitudinal steam-tubes 16. The head 13 in this instance is produced of cast material and provided with a peripheral flange, 17. In the

center of said head is a shaft, which is supported in a bearing in the upper face of the lower portion. This shaft extends beyond the outer casing a sufficient distance to receive a pulley, 18. This head is bored and screw-threaded for the reception of the tubes 16.

The partition 15, which is of cast material, is provided with a peripheral flange, 19, and is also bored and screw-threaded to receive the tubes 16, which separate it from the head 13.

The head 14 is of cast material, and is provided with a peripheral flange, 20, and in the center of the head is a tubular shaft, 21, which extends beyond the outer casing, and its outer end is chambered and screw-threaded in stuffing-box form, and is supported in a bearing formed in the upper edge of the lower or reservoir portion. This head 14 is separated from the partition 15 by means of the flange 19 on said partition. A packing-ring, 22, is placed between the flange and head, which, when held in place by the bolts 23, which clamp the partition and head together, makes a steam-tight connection.

The tubes 16 are perforated, as shown in Figs. 3 and 4, and the ends are closed, which are screw-threaded into the head 13, and their open ends communicate with the steam-chamber.

The outer casing, 24, of the inner vessel is of plate material, and is provided at proper intervals with openings 25, through which water can enter the cylinder or escape therefrom. The casing is bolted or riveted to the flanges 17 and 20 of the ends 13 and 14, as shown in Fig. 3. This cylinder is provided with a lid, 26, hinged to one side of the opening in the casing, and has a fastening device.

A steam-supply pipe, 27, which connects with a steam-generator, is fitted with a valve, 28, and is inserted in the tubular shaft of the head 14, and extends into the steam-chamber formed by said head and partition 15, and by reason of the packing in the stuffing-box forms a steam-tight connection with the steam-chamber.

In use water is placed in the reservoir to rise about to the water-line 29, as shown in Fig. 4. The clothes with soap or other washing material are then put into the inner cylinder, and the lids of both the cylinder and outer casing are closed and fastened in place.

By means of the valve 28 steam is admitted into the steam-chamber and distributed into the clothes-receptacle through the openings in the tubes 16, which will heat the water in the reservoir and keep it at the required temperature. The cylinder is then rotated by means of a prime mover connected with the cylinder by a belt over the pulley 18, which will agitate the clothes contained therein and cause the water to filter through them. This process is continued until the clothes are washed, after which they are removed from the cylinder and treated in the usual manner. In the rotations of the cylinder in the reservoir containing the water the water will enter the openings in the periphery of the cylinder, and in connection with the steam which is forced through the many openings in the steam-tubes will rapidly cleanse the clothes.

In steam-washers as heretofore constructed steam is generated from the water in the reservoir by placing the reservoir on a stove or other heater, and the steam has but little effect on the clothes in the cylinder. In my construction steam is supplied to the cylinder from a steam-generator other than the reservoir of the steam-washer, which is distributed in the cylinder by the steam-tubes. The steam-tubes, in passing through the water, keep it constantly hot. The clothes in the cylinder are at all times subjected to the action of the steam forced from the steam-tubes with which they come in contact, and these steam-tubes tend to carry the clothes in the cylinder with its revolutions until they fall by the action of gravity, and also serve to carry with the clothes a quantity of water, all of which adds greatly to its efficiency as a washing-machine.

I claim as my invention—

1. The combination, with a reservoir, of a cylinder having communicating chambers, one of the chambers being closed to the admission of water from the reservoir and open to the admission of steam from a generator other than

the reservoir, and the other chamber being open to the admission of water from the reservoir and steam from the aforesaid chamber, and provided with a door for the reception of clothes, substantially as set forth.

2. In a washing-machine, the combination, with a reservoir, of a rotary cylinder having openings through its peripheral rim to communicate with the reservoir, the said cylinder being divided into compartments to form a clothes-receptacle and a steam-chamber, communicating with each other through suitable openings, the said steam-chamber being closed to the admission of water from the reservoir, and a steam-conducting pipe leading from a steam-generator other than the reservoir to the steam-chamber, substantially as set forth.

3. The combination, with reservoir having the cylindrical form, substantially as shown, of the rotary cylinder journaled therein, the said cylinder being separated into a steam-chamber and a clothes-receiving chamber by the steam-tight partition, the rim of the clothes-receiving chamber being perforated and the rim of the steam-chamber being steam and water tight, and the series of perforated tubes having their ends secured, respectively, in the said partition and in one of the cylinder-heads, substantially as set forth.

4. The herein-described rotary cylinder separated into a steam-chamber and a clothes-receiving chamber by the steam-tight partition, the rim of the clothes-receiving chamber being perforated and the rim of the steam-chamber being steam and water tight, and the series of perforated tubes open at one end and closed at the opposite end, their open ends being secured in suitable openings in the said partition and their closed ends being secured in one end of the cylinder, substantially as set forth.

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