R. A. McDONALD.

WASHING MACHINE.

APPLICATION FILED MAY 29, 1920.

1,363,892.

Patented Dec. 28, 1920.

3 SHEETS—SHEET 1.

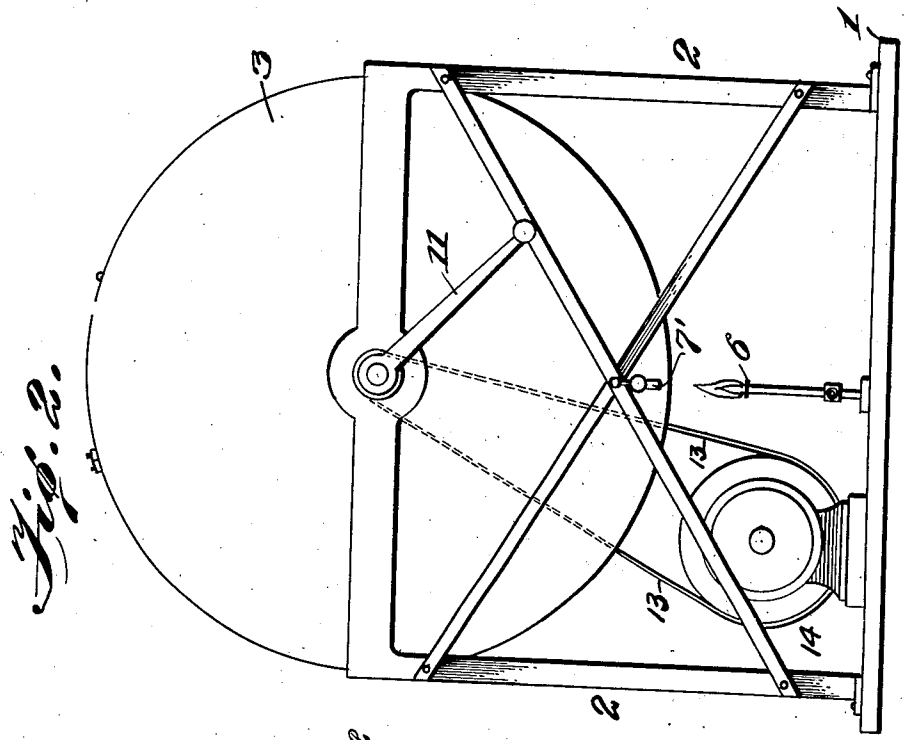


Fig. 2.

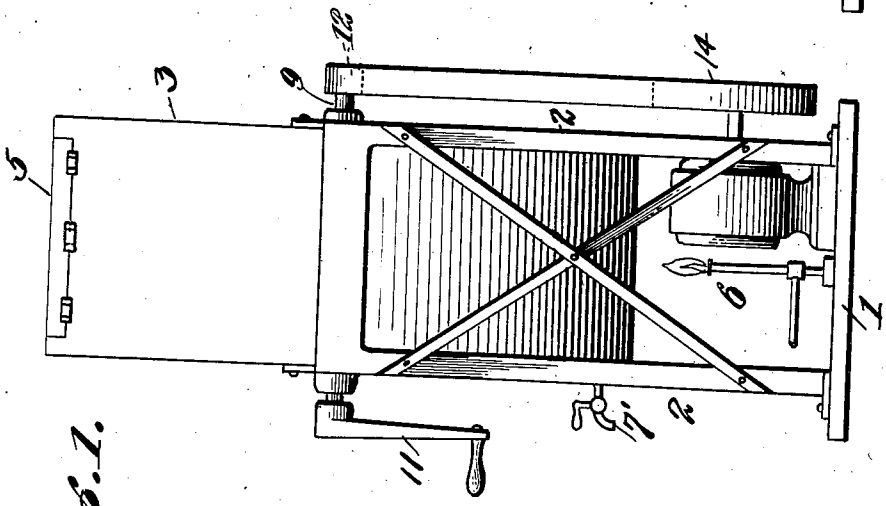


Fig. 1.

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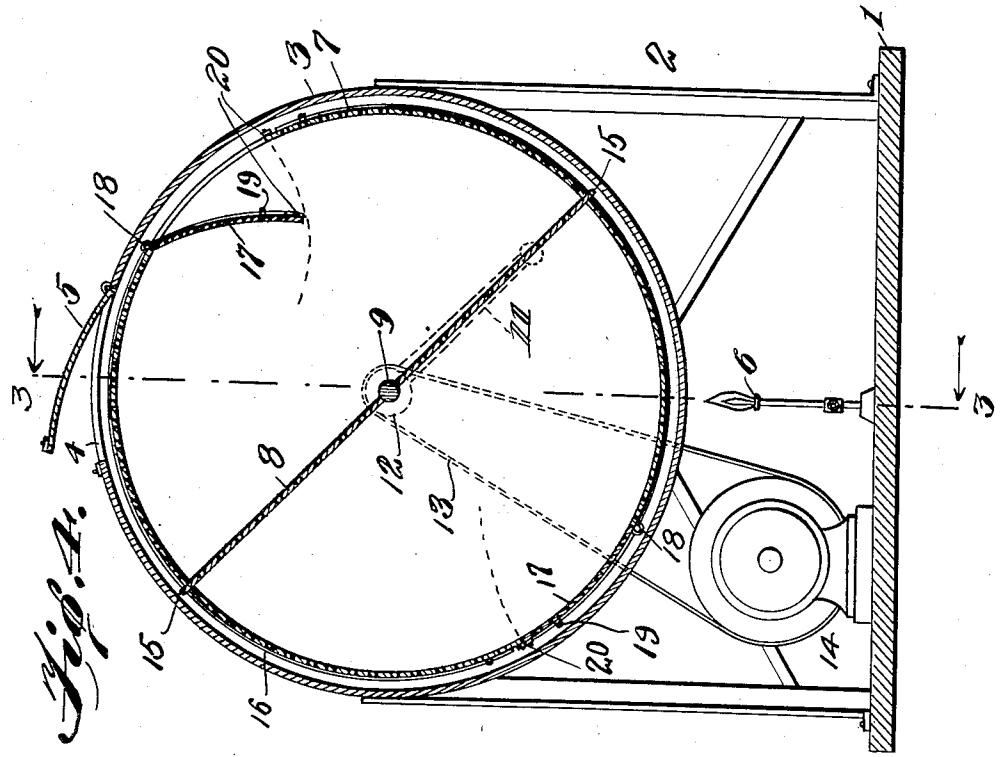


Fig. 4.

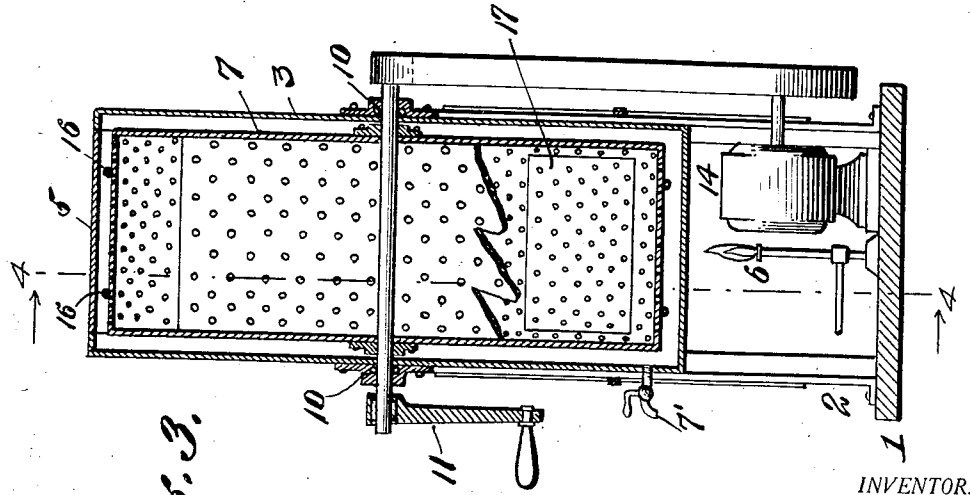


Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 5.

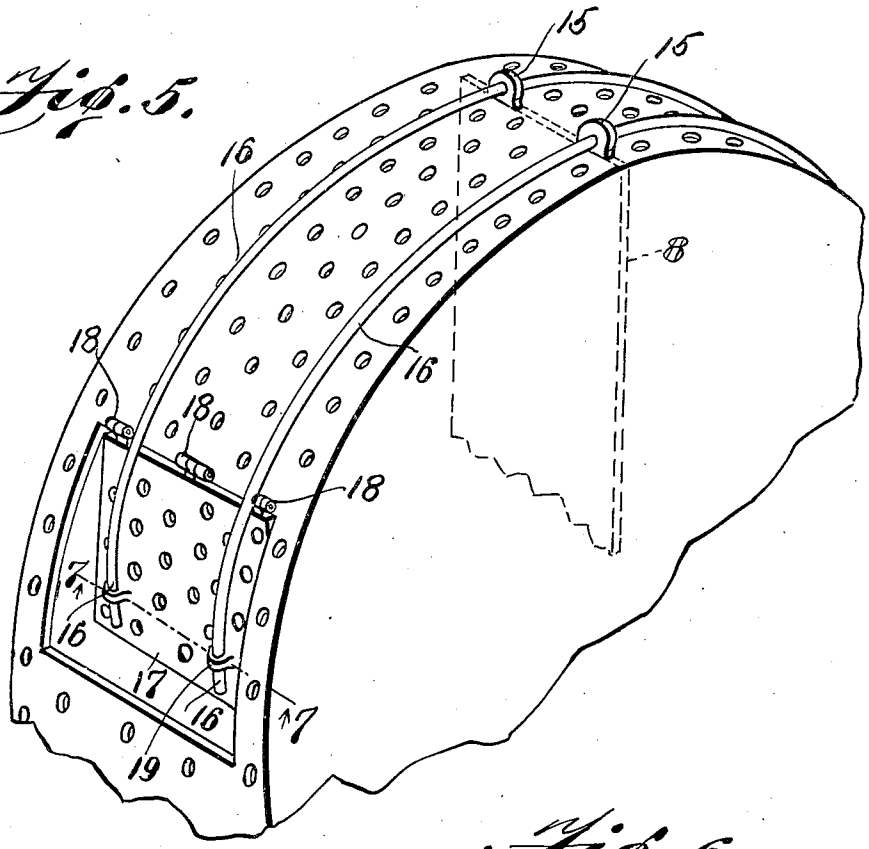
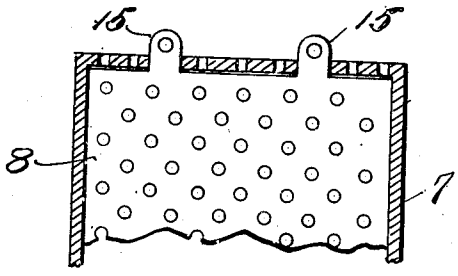


Fig. 6



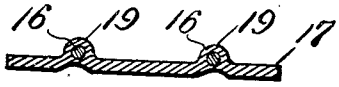


Fig. 7.

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UNITED STATES PATENT OFFICE.

ROLAND A. McDONALD, OF ST. JOSEPH, MISSOURI.

WASHING-MACHINE.

1,363,892. Specification of Letters Patent. Patented Dec. 28, 1920.

Application filed May 29, 1920. Serial No. 385,164.

To all whom it may concern:

Be it known that I, ROLAND A. McDONALD, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a machine which combines within itself a washing machine and extractor or wringer and a rotary drying tumbler or drier, and more particularly, to a motor driven or manually driven drum or cylinder that is adapted to contain the clothes, which cylinder revolves within the primary cylinder, the primary cylinder being supported upon a suitable frame or support.

Another object of the invention is the construction of an efficient and simple auxiliary or rotatable cylinder that is provided with doors held closed by springs, and which cylinder is divided by a partition, producing compartments in the cylinder.

Another object of the invention is the construction of a washing machine that can be heated for heating the water in the machine or the heating means utilized, when desired, for drying the clothes in the machine, while they are being tumbled about by the motion of the machine.

With these and other objects in view, my invention comprises certain novel combinations, constructions and arrangements of parts as will be hereinafter described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is an end view, in elevation, of a machine constructed in accordance with the present invention, while

Fig. 2 is a side view of the same.

Fig. 3 is a sectional view, taken on line 3—3, Fig. 4, and looking in the direction of the arrows.

Fig. 4 is a sectional view, taken on line 4—4, Fig. 3, and looking in the direction of the arrows.

Fig. 5 is an enlarged perspective view of the auxiliary cylinder.

Fig. 6 is an enlarged fragmentary sectional view of the auxiliary cylinder.

Fig. 7 is a sectional view, taken on line 7—7, Fig. 5.

Referring to the drawings by numerals, 1 designates a suitable platform, to which is secured the frame 2 of the machine; the frame 2 is preferably made of metal, and upon its upper end is supported the primary cylinder 3; the cylinder 3 has an opening 4, closed by the hinged door 5.

Heating means, such as a gas jet 6, is placed under the primary cylinder 3, whereby said cylinder may be heated for heating water contained therein, or when water has been emptied from the cylinder, by means of faucet 7', the heat generated from the jet 6 may be utilized to dry the clothes that may be contained in the revoluble auxiliary cylinder 7.

The auxiliary cylinder is preferably perforated (Figs. 3 and 4) and in the cylinder is a perforated partition 8, dividing the cylinder into two compartments. Extending through the cylinder 7 and partition 8 is a shaft 9; this shaft is journaled upon ball-bearings 10, and to one end of the shaft, outside of the primary cylinder 3, is suitably attached a crank handle 11, and to the other end of the shaft is attached pulley 12, over which pulley 12 (Fig. 4) is passed a driving belt 13, said belt being connected to the motor 14, whereby the inner or auxiliary cylinder may be rotated manually, through the crank handle 11, or be driven by the motor, at the will of the operator.

The partition 8 is provided with small or short lugs 15, extending through the outer portion of the cylinder 7, and these lugs are apertured for receiving springy or wire-expansion bands 16, retaining these bands 16 efficiently in place upon the auxiliary cylinder. A pair of inwardly-swinging doors 17 are hinged at 18 upon the auxiliary cylinder, and the resilient or springy bands extend through integral eyelets 19, projecting from the outer face of the doors, thereby permitting the doors to be pressed inwardly to allow the insertion or the removal of clothes from the compartments of the auxiliary cylinder, but upon the operator removing pressure from the doors 17, they will immediately be closed by the action of the bands or wires 16, and any suitable latch device or catch may be used, at 20, for holding the doors 17 normally in their closed position.

I found from experience that the dividing of the auxiliary cylinder into sections or compartments produces a better balance of

the load as the machine washes, wrings and dries and enables the cylinder 7 to be rotated in one direction without tangling the clothes; I claim this to be a new principle in this type of a one-way washing machine.

My machine is what may be called a "three-in-one" machine; that is, it is a washer, extractor or wringer and drier. It does the work of a wringer and wrings by centrifugal force without the assistance of heat or any other agency. It is a drier when the heat is applied to the machine after the process of wringing or extracting has been completed.

In operating my machine, it will be necessary to run the same at one speed for washing clothes, and at another for extracting, and yet at another for drying.

It will be appreciated that my machine may be adapted for use in a laundry or for use in a dwelling or home. Further, while I have described the preferred embodiment of my invention, and have illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates, during the extensive manufacture of the same and I, therefore, reserve the right to make such alterations or changes as shall fairly fall within the scope of the appended claims.

What I claim is:

1. In a washing machine, the combination with a frame, a primary cylinder carried by said frame, of an auxiliary cylinder mounted within said primary cylinder, a partition in said auxiliary cylinder, a hinged door carried by said auxiliary cylinder, and springs means extending through a part of said partition and through a part of said door for normally holding the door in a closed position upon the auxiliary cylinder.

2. In a washing machine, the combination with a frame, a primary cylinder upon said frame, of an auxiliary cylinder in said primary cylinder, a partition in said auxiliary cylinder and having portions of its ends extending through the auxiliary cylinder, inwardly-swinging doors on the auxiliary cylinder at opposite sides of the partition, and resilient bands positioned in the extended ends of the partition and fastened to the doors for moving the same to a closed position after they have been swung inwardly upon the auxiliary cylinder.

3. In a washing machine, the combination with a frame, a primary cylinder carried by said frame, of an auxiliary cylinder rotatably mounted within said primary cylinder, a partition in said auxiliary cylinder provided at its ends with apertured lugs, said lugs extending through portions of the auxiliary cylinder, inwardly-swinging hinged doors carried by the auxiliary cylinder upon opposite sides of the partition, each door provided with outwardly-extending integral eyelets upon its outer face, and springy expansion bands extending through the apertured lugs of the partition and through the eyelets of the doors for causing the doors to swing outwardly to a closed position after said doors are pressed inwardly for the placing of or removing of clothes from within the auxiliary cylinder.

In testimony whereof I hereunto affix my signature.

ROLAND A. McDONALD.