H. M. SHEER.

WASHING MACHINE.

APPLICATION FILED JUNE 3, 1915.

1,285,428.

Patented Nov. 19, 1918.

3 SHEETS—SHEET 1.

Fig. 1.

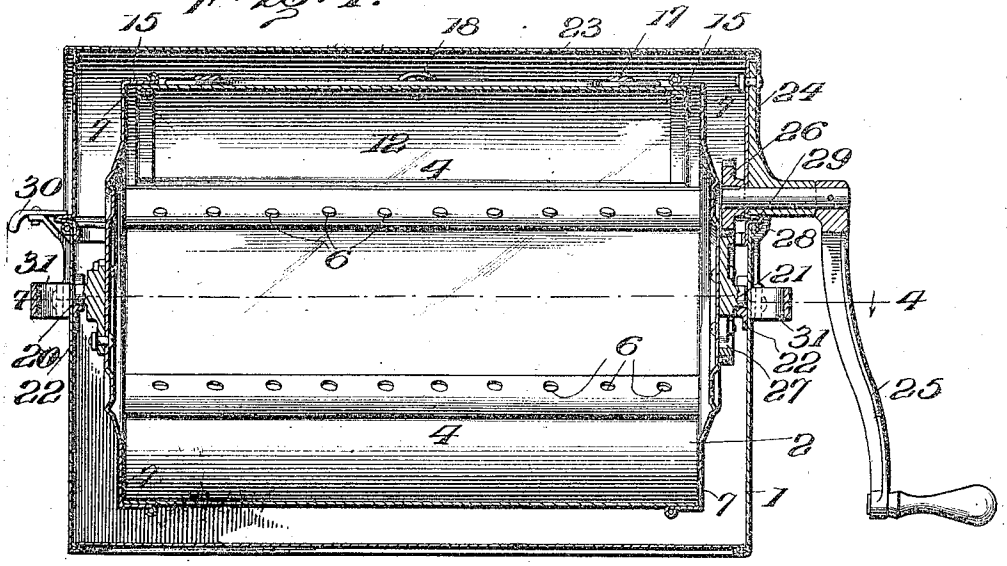
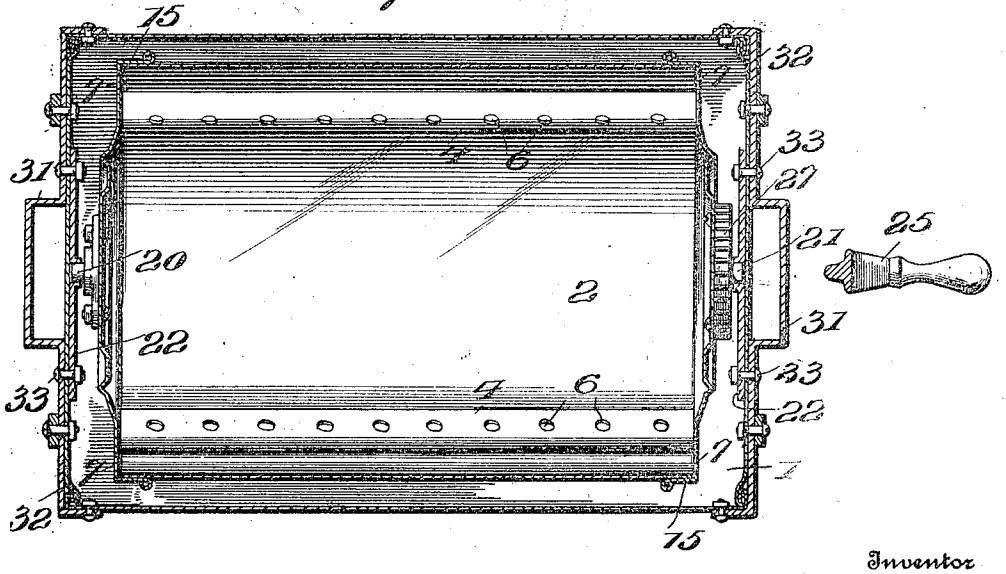


Fig. 4.



Inventor

Henry M. Sheer

Witness

W. A. Williams

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his Attorney

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3 SHEETS—SHEET 2.

Fig. 3.

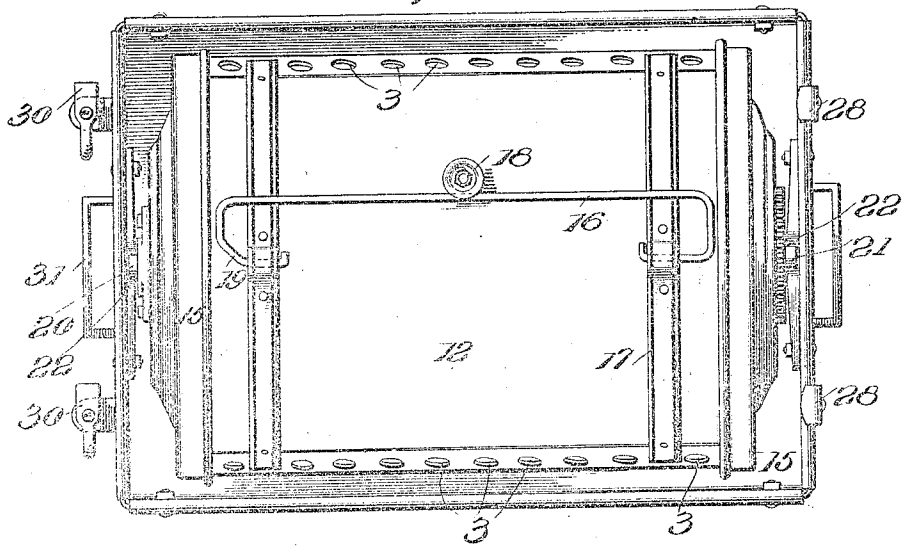
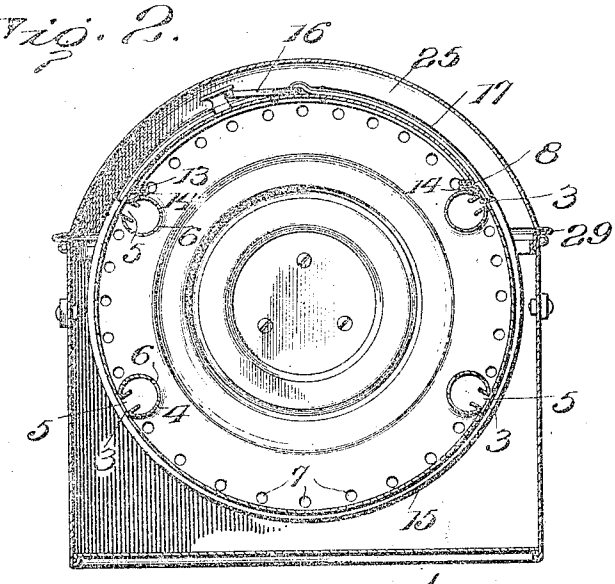


Fig. 2.



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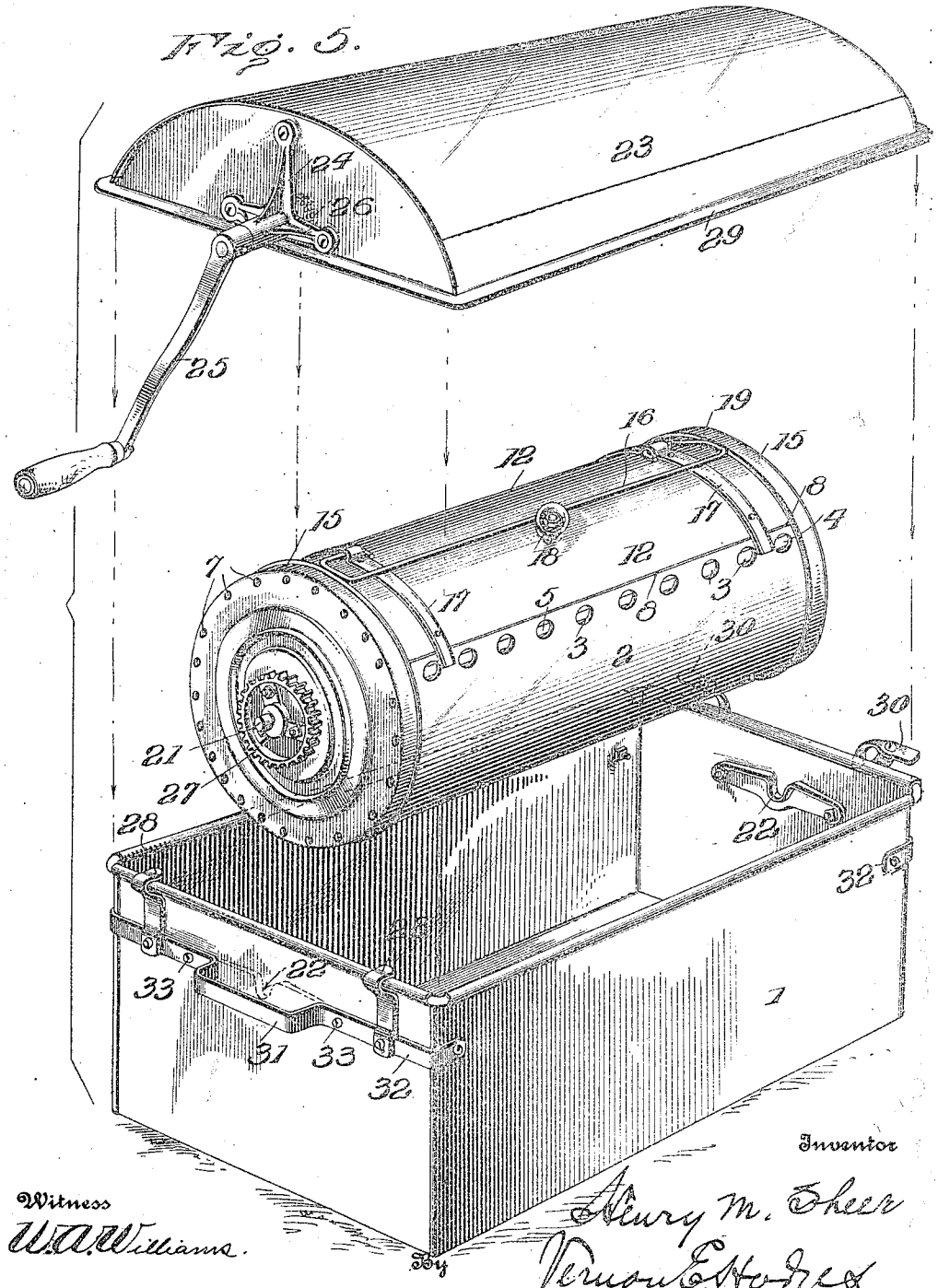
3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY M. SHEER, OF QUINCY, ILLINOIS.

WASHING-MACHINE.

1,285,498 Specification of Letters Patent. Patented Nov. 19, 1918.

Application filed June 3, 1915. Serial No. 31,914.

To all whom it may concern:

Be it known that I, HENRY M. SHEER, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to an improvement in washing-machines, and more particularly of the type for domestic purposes, in which the machine is constructed and adapted to be placed directly on the stove, the primary object being to provide simple means for fastening the removable door of the cylinder of the washing-machine in place.

In the accompanying drawings:—

Figure 1 is a longitudinal vertical section;

Fig. 2 is a transverse section;

Fig. 3 is a top plan view with the cover removed, and showing the door of the cylinder in place;

Fig. 4 is a horizontal section taken through the handles and bearings and on the line 4—4 of Fig. 1.

Fig. 5 is a view in perspective with parts disassembled.

The numeral 1 is the tank or boiler. This, of course, may be made in any size and shape to suit requirements, although in the form shown it is rectangular. The tank or boiler is adapted to be placed on the range or stove, and to receive the water of which only a limited amount is required to be used in boiling and washing the clothes to be laundried.

The numeral 2 indicates the cylinder in which the laundry is placed. Both the sides and ends of the cylinder are preferably perforated, the perforations 3, 3, in the sides being preferably relative large and in rows extending at intervals longitudinally of the cylinder, there being in the form illustrated some four rows of these perforations, although, of course, there might be even more, or less. Water-elevating tubes 4, 4, extend from one end of the cylinder to the other opposite these perforations 3, 3, and their open sides 5, 5, partially cover these perforations as shown in Fig. 2, the function of these tubes being to dip their fill of water as they turn through the lower portion of the tank or boiler (their ends being closed by the ends of the cylinder) and elevate it as the cylinder turns to a point over the clothes contained in the cylinder, whereupon the boiling water is discharged in jets through the row of perforations 6, 6, on the inner surfaces of the tubes or more or less opposite their open sides 5, 5.

The relatively small perforations 7, 7, in the ends of the cylinder, while of course permitting a free circulation of water in the washing-operation, are mainly designed to facilitate the draining of the cylinder when it is lifted from the tank or boiler, these perforations being sufficiently small to prevent buttons from getting caught in them.

Incidentally the tubes give strength to the cylinder, forming ribs longitudinally therethrough, and two of them are preferably located at the edge of the opening 8 in the cylinder as shown in Fig. 2.

A door 12 is provided for this opening 8, it being rounded to complete the cylinder, and is preferably provided with inturned flanges 13, 13, at the opposite side edges which rest or fit upon corresponding flanges 14, 14, on the opposite edges of the opening 8, which latter merge into the adjacent tubes. The ends of the door are adapted to slide beneath the flanges 15, 15, of the cylinder-heads, one end of the door being first slid under one flange, and then the other under the flange at the opposite end of the cylinder.

A bail 16 is hinged at its ends to metal straps 17, 17, the ends of which latter overlap the edges of the opening in the cylinder, whereby to rest upon the edges of the opening in the cylinder and hold the door in place. The bail is used as a handle for removing the cylinder when the latter is to be lifted from the tank or boiler, and also to remove the door from the cylinder. It also has the important function of locking the door against endwise movement, and accidental displacement from the cylinder by resting in a position when sprung beneath the button 18 to form stops at its ends in position to strike the flanges 15, 15, of the cylinder, and thus prevent the door from getting out of place.

When thus fastened, the clothes to be laundried are confined within the cylinder, from which they may be removed after lifting the bail, and removing the door therefrom.

At least one end of the bail is bent away from the door a trifle as at 19 to clear the flange 15 when raised to the elevating position so as to permit the door to be slid sufficiently far in one direction beneath the corresponding flange 15 that the other end

of the door clears the opposite flange 15 and can be lifted out first in the operation of removing the door from the cylinder whenever this is to be done.

The cylinder has axially-located trunnions 20 and 21 at opposite ends, which are removably supported in the open bearings 22, 22, in the ends of the tank or boiler.

The cover 23 is removably fitted upon the tank or boiler, and at one end carries a bearing 24. The crank 25 is journaled in this bearing, and has a small pinion 26 on its inner end within the cover in position to engage the larger gear-wheel 27 secured to the corresponding head of the cylinder 2 surrounding and concentric with the trunnion 21, so that a part of the transmission-gear is on the cylinder and a portion on the cover, and consequently the cylinder is intended to be rotated only when the cover is in place on the tank or boiler. Thus the gear and pinion are absolutely safe, for when in operation they are entirely inclosed, and the operator is protected.

The cover is removably secured in place in any approved manner, and for convenience the hooks 28, 28, are placed at the end of the tank or cylinder where the gear-wheel is located, and the flange 29 on the end of the cover adjacent to the crank is first inserted beneath these hooks, when the cover is placed on the boiler or tank, thus bringing the teeth of the gear and pinion into mesh, whereupon the cover is lowered into position, and the fasteners 30, 30 are swung over the flange at the opposite end. Of course the cover could be held in any other approved manner, but I have shown and described this as a simple means for accomplishing the purpose.

Handles 31, 31, are secured at the opposite ends of the tank or boiler, and are preferably made by bending a loop in the center of the straps 32, 32, which are bolted horizontally across the ends of the tanks, the same bolts which secure the bearings 22 being preferably utilized as well as the bolts 33, 33 at the ends of these straps.

In operation, this washer is placed on a coal, wood, gas, gasolene, or oil-stove. A comparatively small quantity of water is required, just sufficient to bring the water-level to one-half inch above the tubes when they are at the bottom of the cylinder. It is only necessary to heat about half as much water as required in other types of washers.

The boiling hot water is dipped up by the water elevating tubes, as they traverse the bottom of the tank or boiler, and discharge in small hot jets from above upon the clothes within the cylinder.

When operating the machine, the cylinder is occasionally reversed. In other words, it is not necessary to continually turn the crank, as it may be turned occasionally in one direction and then in the other, so that the housewife can go about her other duties and not be constantly confined to the work of turning the machine. In this way, the laundry work is completed in a comparatively short time with the least amount of physical exertion and with a minimum expenditure of fuel and water.

I claim:

1. In a washing-machine, a cylinder having an opening in the side, a door removably fitted to the opening, a bail pivoted to the door, the heads of the cylinder each having a flange beneath which the ends of the door are slid endwise, and means for holding the bail in the path of these flanges when against the door to prevent endwise movement of the door and its removal from the cylinder.

2. A washing-machine cylinder having an opening in its side, and the heads of the cylinder flanged, a rounded sliding door for the opening, the edges of said door adapted to engage and rest upon the edges of the opening, and the ends of the door to be slid beneath the flanges of the cylinder-heads, straps secured transversely to the door, and the ends of which protrude beyond the edges of the door in position to rest upon the edges of the opening in the cylinder, and a bail pivoted to the straps, one end of which bail is bent away from the door to afford clearance for the flange of the cylinder-head to allow the door to slide farther endwise in one direction than in the other, whereby one end is cleared from the adjacent flange, so that it may be swung therefrom in removing the door from the cylinder, and the ends of the bail when swung against the door locking the latter against removal from the cylinder.

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

HENRY M. SHEER.

Witnesses:
HELEN KLUSMAN,
M. J. KREIMEYER.