

June 23, 1942.

M. N. BONSIKOS

2,287,288

WASHING MACHINE

Filed May 13, 1941

3 Sheets-Sheet 1

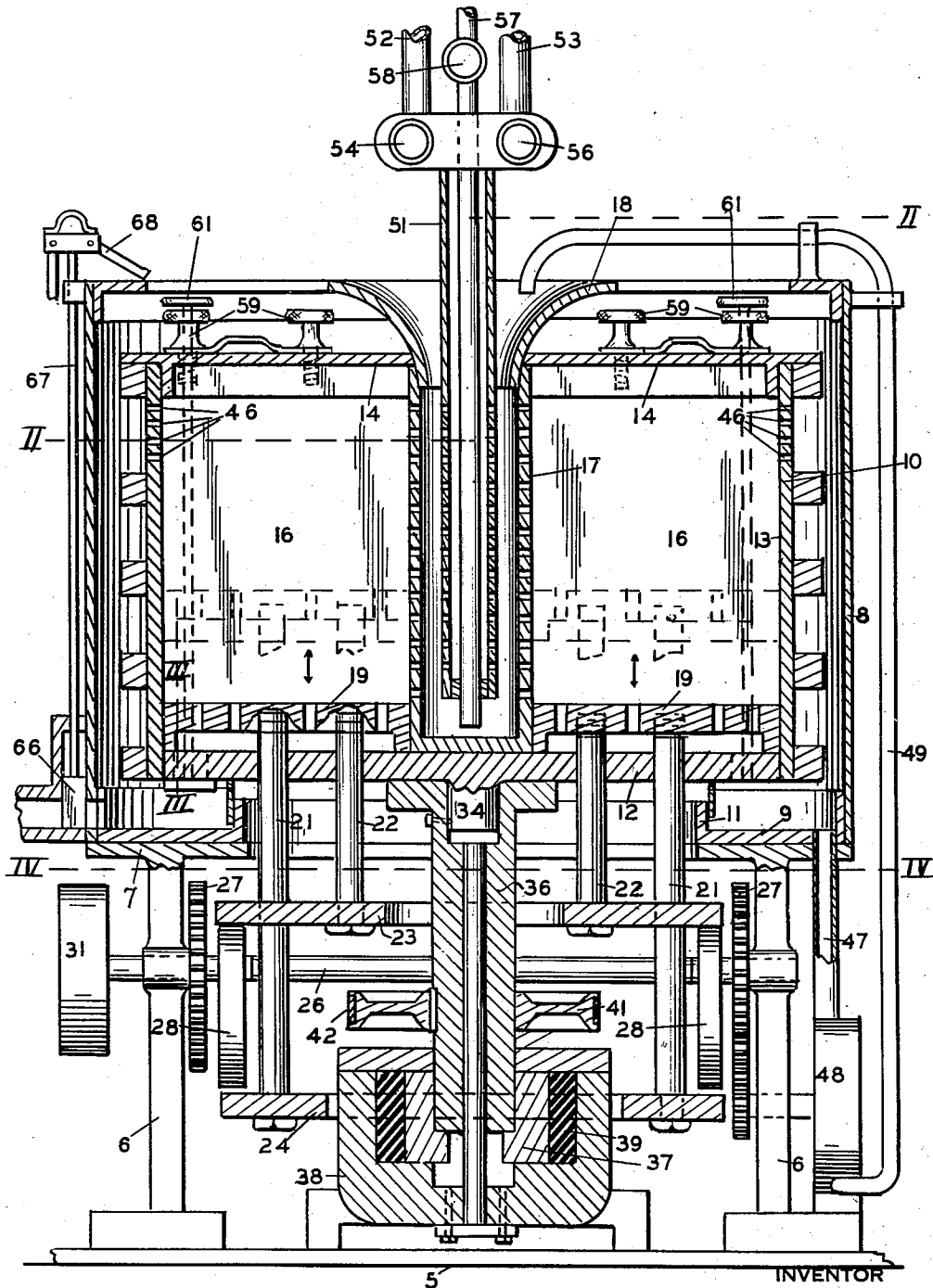


Fig. I.

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3 Sheets-Sheet 2

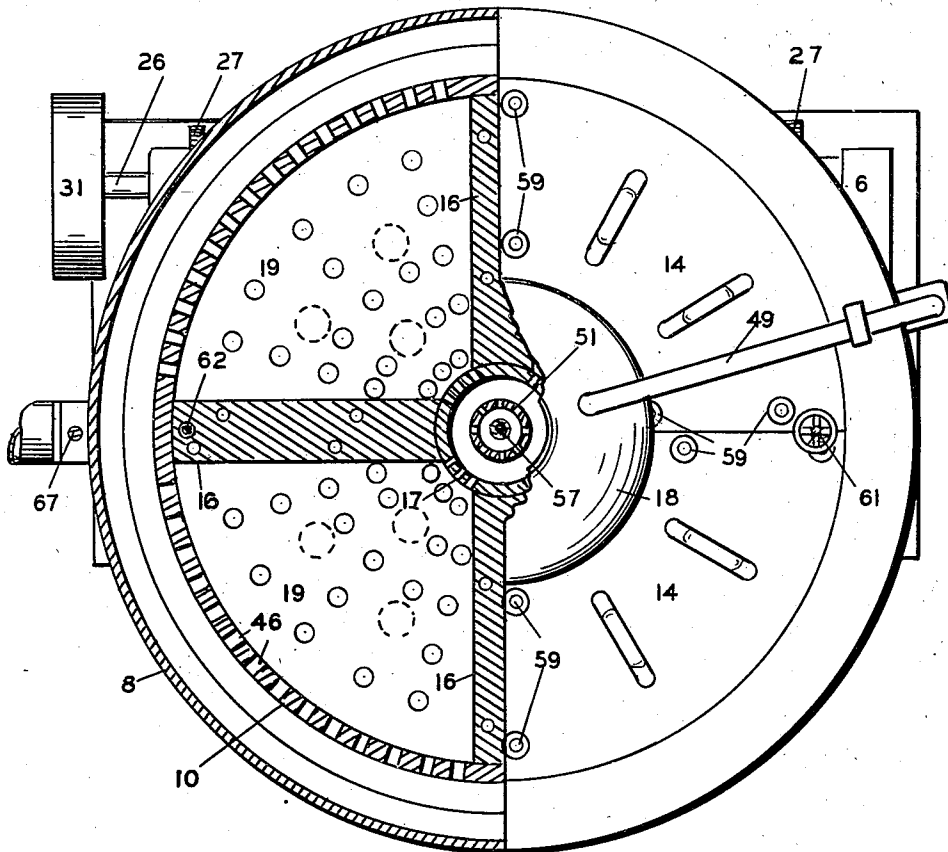


FIG. II.

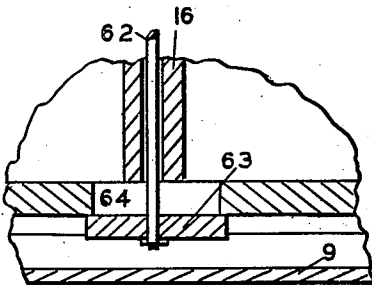


FIG. III.

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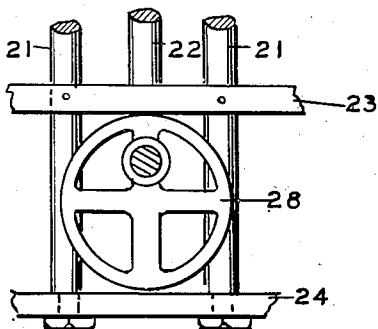
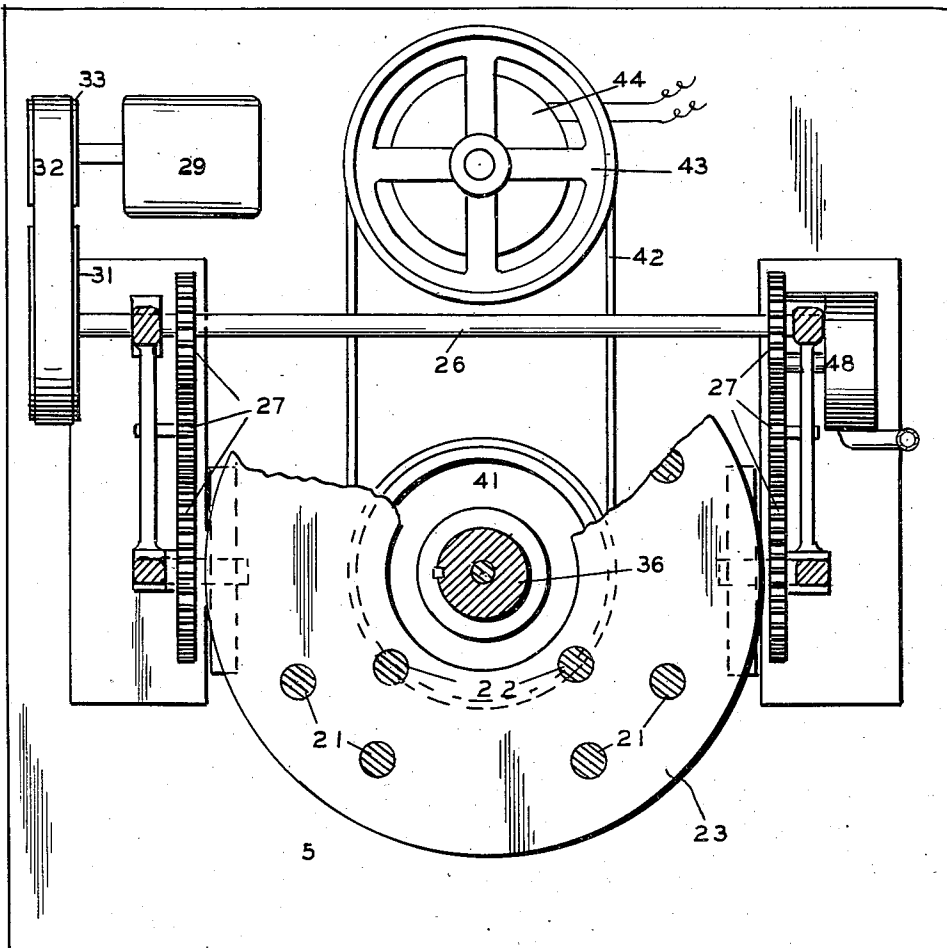


Fig. IV.

Fig. V.

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2,287,288

WASHING MACHINE

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Application May 13, 1941, Serial No. 393,180

1 Claim. (Cl. 68—23)

This invention relates to improvements in washing machines and has particular reference to a washing machine for handling large quantities of clothes and discharging them in a relatively dry condition.

The principal object of this invention is to provide a washing machine wherein several loads of clothes may be washed at the same time, yet maintaining various loads separated one from the other.

A further object of the invention is to produce a device of this character which will be sturdy in construction, free from projections which might injure or tear the clothes, and a machine which will force the water and cleaning fluids through the clothes in a most efficient manner.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. I is a vertical cross sectional view of my device;

Fig. II is a cross sectional view taken on the line II—II of Fig. I;

Fig. III is a fragmentary detailed view taken on the line III—III of Fig. I and on an enlarged scale;

Fig. IV is a cross sectional view taken on the line IV—IV of Fig. I; and

Fig. V is a fragmentary detailed view of one of the eccentrics.

In the washing of clothes, particularly in laundries, it is important to handle the clothes as expeditiously as possible. This can be best done by employing quick washing methods and by maintaining the clothes in separate compartments in counterdistinction to employing laundry mesh bags in which separate clothes are placed, and, also, the laundry mesh bags do not permit the proper washing of the clothes. As a result, strong bleaches must be employed, which bleaches are harmful to the clothes.

I have, therefore, provided a machine which will overcome some of the difficulties now encountered in laundries.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the base plate upon which standards 6 are positioned. These standards support a plate 7 upon which the casing 8 is mounted. This casing has a bottom 9 and an upstanding collar 11. Within the casing is positioned a tub 10 having

a bottom plate 12, a side wall 13 and cover sections 14. Partitions 16 divide this tube-like structure into four sections. It is obvious that the tub might be divided into a different number of sections, if so desired. By viewing Fig. 2, it will be noted that the cover sections 14 are so arranged as to cover each section separately. A centrally disposed perforated tubular member 17 is centrally positioned in the tub and supports at its upper end a funnel 18. Mounted in the bottom of each section of the tub are plunger plates 19, which plates may be reciprocated by rods 21 and 22. The rods 22 are connected to a pusher plate 23, and the rods 21 are connected to a pusher plate 24. These rods pass through the bottom 12 and may be provided with packing glands, which have not been shown. A power driven shaft 26 is connected through gears 27 in such a manner as to rotate eccentric wheels 28 positioned between the plates 23 and 24. The shaft 26 may be driven in any convenient manner. Here I have shown a motor 29 driving the pulley 31 through the medium of a belt 32 passing over the motor pulley 33. The bottom of the tub is provided with a downwardly extending stub 34, which is connected to a supporting shaft 36 rotatably mounted in a bearing 37, which bearing is mounted in a bearing block 38 and is cushioned by a rubber buffer 39. A pulley 41, mounted upon the shaft 36, is driven by a belt 42, which is in turn driven by a pulley 43 rotated by the motor 44, the purpose of which is to rotate the tub 10 during the drying action so that water will be expelled through the openings 46 near the top of the tub.

A pipe 47 communicates with the bottom 9 of the casing and has its opposite end connected to a pump 48 which delivers discharge therefrom to a pipe 49, which in turn spills into the funnel 18, which in turn discharges into the tubular member 17. A perforated supply pipe 51 extends through the funnel 18 and into the centrally disposed perforated tubular member 17. This supply pipe is connected to hot and cold water pipes 52 and 53 through valves 54 and 56, respectively. A steam pipe 57, controlled by a valve 58, passes downwardly through the supply pipe 51 into the perforated tubular member 17.

The covers 14 are held upon the tub by means of hand screws 59. The hand screws 61 permit the raising and lowering of rods 62, at the bottom of which are valves 63 (see Fig. III). These valves permit water to flow through a port 64 from the compartments formed on each side of the partitions 16, the water flowing into the bot-

tom 9. The water can be discharged from the bottom 9 through a gate valve 66 controlled by a pull rod 67, which may be held in elevated position by pivoted dogs 68.

The operation of my device is as follows:

The covers 14 are removed by loosening the hand screws 59, and each compartment is filled with clothes to be washed. The covers are then replaced, and the valves 54 and 56 are regulated to permit water to flow through the supply pipe 51 and the perforations, thence through the centrally disposed tubular member 17 and thence into the tub. Steam may also be admitted by opening the valve 58 and allowing the steam to flow through the pipe 57. After the proper amount of liquid has been introduced into the tub, the motor 29 is turned on, with the result that movement is transmitted through the connecting gearing to the eccentric wheels 28. These eccentric wheels 28 push upwardly on the pusher plate 23 and rods 22 and cause the plunger plates on each of the compartments to rise, as indicated in dotted lines in Fig. I. This action sucks fluid through the clothes and into the space beneath the plunger. When the top of the stroke has been reached, the eccentric wheels then start to bear upon the pusher plates 24 and transmit downward motion to the rods 21 to the plunger plates 19. The water trapped beneath the plunger plates is now forcibly moved upwardly therethrough with a powerful jet-like action which impinges upon the clothes, driving the dirt therefrom and causing a very rapid washing action. The up and down motion of the plunger plates agitates the clothes and, at the same time, causes a circulation of water therethrough to quickly remove dirt therefrom.

After the washing period has been completed, the motor 29 is stopped and the motor 44 is started. Consequently, the pulley 43 and the belt 42 transmit motion to the pulley 41 and to

the shaft 36, which in turn transmits rotary motion to the tub 10. As this rotary motion is at exceedingly high speed, the water within the clothes will travel outwardly and up the sides of the tub and escape through the perforations 46 into the casing 8. The valve 66, being open, will permit the water to drain away, and after a period of whirling, the clothes will be found dry enough to pass through the ironing machine.

During the washing period some water will slop over through the perforations 46, and this water will drain into the pump 48 and will be returned to the tub through the pipe 49.

Thus it will be seen that I have produced a device which will effectively wash clothes in large quantities at a rapid rate and, at the same time, will keep various groups of clothes separated into their proper classification.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

In a washing machine, a base, a casing supported above said base, a vertically disposed shaft mounted on said base and extending into said casing, a tub carried by said shaft and concentrically arranged in said casing, partitions formed in said tub to form tub sections, perforations formed in the upper portion of the sides of each of said sections, each of said sections having a removable cover secured thereto, perforated plunger plates positioned in each of said sections, said plates having the same area as the exposed area of the bottom of the sections, and means for reciprocating said plunger plates.

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