

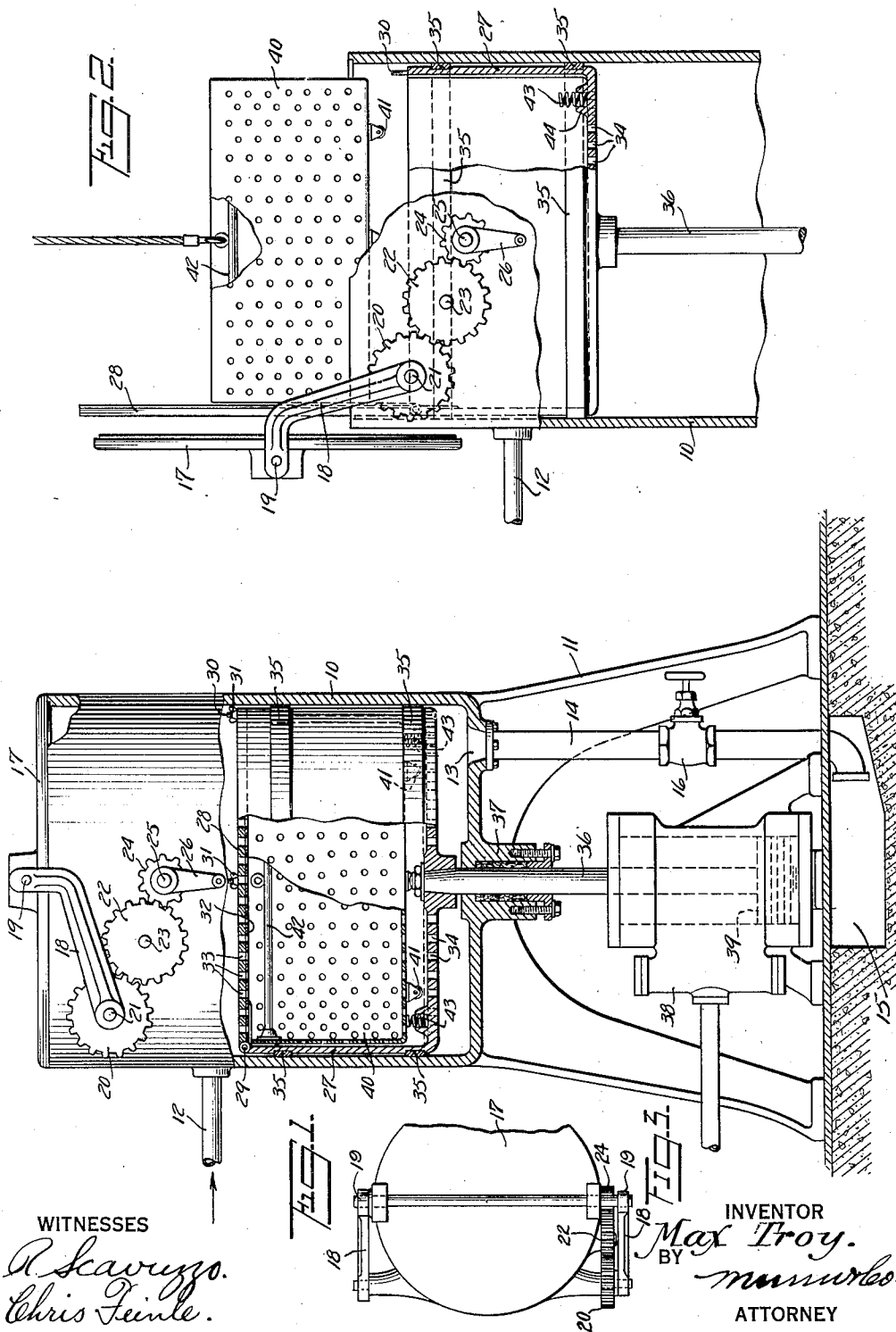
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WASHING MACHINE

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WITNESSES

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WASHING MACHINE

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This invention relates to a washing machine for washing clothes and other goods, and relates more particularly to a reciprocating type of washing machine of the indicated character.

Among the objects of the invention are: to provide a washing machine of the indicated character in which the clothes or goods are subjected to the cleaning solution or water in a more thoroughly effectual manner than heretofore; to provide a washing machine embodying improved features for facilitating the handling of the clothes or goods, for quickening the washing time, and easy on the clothes or goods.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawings, in which—

Figure 1, is a view of the machine embodying the features of the invention, shown partly in elevation and partly in section.

Fig. 2, is a view partly in elevation and partly in section, illustrating the manner of handling the clothes or goods receptacle.

Fig. 3 is a fragmentary plan view showing certain details.

The machine includes an outer metal casing or shell 10, of cylindrical form, adapted to contain the cleaning liquids or solutions or water. The casing 10 is supported on a suitable stand 11. The casing 10 is provided with an inlet 12 which serves for admitting the cleaning liquids or solutions, hot or cold, the said inlet being connected with a suitable supply. The inlet 12 communicates with the interior of the casing 10 at a point intermediate its ends. The casing 10 also has an outlet 13 through which the waste liquid is discharged into a pipe 14 which opens at the lower end into a trough 15 in the floor. The pipe 14 has a stop valve 16. The casing 10 is open at the upper end, and the said end is closed by a lid or cover 17. The cover 17 is movable to opened and closed positions, in any suitable manner. In the present instance this is accomplished by providing the cover 17 with arms 18 respectively at opposite sides thereof which are pivotally con-

nected with the cover as at 19. One of the arms 18 is also pivotally connected with a stud on the casing 10, and the other arm 18 is movable with a gear 20 rotatable on a stub shaft 21 on the casing 10. The gear 20 meshes with an intermediate gear 22 rotatable on a stub shaft 23 on the casing, and the gear 22 meshes with a pinion 24 rotatable on a stub shaft 25 on the casing. The pinion 24 has secured thereto a handle 26. The arrangement is such that by turning the handle 26, the cover 17 may be moved to the opened and closed positions.

Arranged for reciprocatory movement in the casing 10 is a hollow metal body or casing 27 of cylindrical form, which serves as a plunger. The external diameter of the casing 27 is slightly smaller than the internal diameter of the casing 10. The casing 27 is pervious to the cleaning solution or liquid in the casing 10 in a manner to be explained. The casing 27 is opened at the upper end, and the said end is closed by a lid or cover 28. The cover 28 is hingedly connected as at 29, and is held in the closed position by any suitable means, such as the threaded members or studs 30, and wing nuts 31 which respectively cooperate with the studs 30. The inside of the cover has a lining 32 of Monel metal. The cover 28 is perforated, or in other words has a multiplicity of holes 33. The bottom of the casing 27 has a multiplicity of holes 34. In order to prevent the cleaning solution or liquid from passing around the inner casing 27, the casing 27 is in frictional contact with the cylindrical wall of the outer casing 10. In the present instance this is accomplished in a practical manner, by providing the cylindrical wall of the casing 27 with expansible rings 35, which moves in frictional contact with the cylindrical wall of the casing 10.

In order to operate or reciprocate the casing 27, the said casing 27 is provided with a piston rod 36, which extends through a stuffing box 37 on the bottom of the casing 10. Movement is imparted to the rod 36 by a steam operated device 38 including a piston 39 connected with the lower end of the rod 36.

Adapted for arrangement in the casing 27

is a carrier or receptacle 40 for the articles, such as clothes, or other goods to be washed. The receptacle 40 is pervious to the cleaning solution or liquid, and for that reason the walls thereof are perforated. The receptacle 40 will be made preferably of Monel metal, and is open at the top. The bottom of the receptacle 40 has rollers 41, rendering the same readily portable. At the upper end, the receptacle 40 is provided with a transverse rod 42 which may be grappled by a suitable appurtenance such as a hoist, either for the purpose of letting the receptacle 40 down into the casing 27, or for removing the receptacle 40 therefrom. This, of course, will be accomplished by moving the covers 17 and 28 to the opened positions, as shown most clearly in Fig. 2.

In order to keep the carrier or receptacle 40 from unnecessary relative movement with respect to the casing 27, there is provided means, which, in the present instance consists of springs 43 arranged respectively in suitable sockets 44 on the bottom wall of the casing 27. From the foregoing it will be apparent that when a carrier or receptacle 40 laden with clothes or other goods to be washed, is arranged in the casing 27, and both covers 17 and 28 are closed, the machine is ready for operation. It is to be understood that the cleaning solution, consisting of hot water and suitable detergents, are admitted to the interior of the casing 10, through the inlet 12, which will fill the space in the casing 10 above the casing 27, the latter being in the lowermost position shown in Fig. 1. The power device 13 may then be started to cause the reciprocation of the casing 27, and therefore the receptacle 40. This reciprocation of the casing 27 and receptacle 40, will cause the cleaning solution or liquid to be forced alternately through the clothes or goods in the receptacle 40, such cleaning solution or liquid passing through the perforated cover 28, and the perforated walls of the receptacle 40, and then through the perforated bottom of the casing 27, in the upward movement of the latter, and reversely in the downward movement of the casing 27. The cleaning solution or liquid thus forcefully subjects the clothes or other goods to be washed, to a cleaning action. The carrier or receptacle 40 may be reciprocated at a proper speed, the arrangement provided will be easy on the clothes or goods being washed, will facilitate the handling of the clothes or goods, and will quicken the washing time.

It is to be understood that a number of similar carriers or receptacles 40 will be utilized in order to avoid delay, the machine being well adapted for this purpose, which will have a comparatively large capacity for work.

It is to be understood that the invention is not restricted to the precise arrangement of parts shown and described, as details of con-

struction may be modified and rearranged without departing from the spirit of the invention, the scope of which is limited only by the terms of the appended claims.

I claim:

1. In a washing machine, the combination of an outer casing provided with a cleaning solution inlet, and a waste solution outlet; an inner casing arranged for reciprocating movement within the outer casing having contact therewith to prevent the solution from flowing around the inner casing, a separate clothes receptacle adapted to be removably arranged in said inner casing and movable therewith, each of said casings having a closure adapted to be opened for the purpose of placing said receptacle in the inner casing, said inner casing and receptacle both being pervious to the solution, and means to cause the movement of the inner casing for the purpose of forcing the solution through the clothes.

2. In a washing machine, the combination of an outer cylinder provided with a movable closure at one end, a cleaning solution inlet, and a waste solution outlet; a reciprocatory inner cylinder provided with a movable closure at one end adjacent the first closure, and rings in contact with the adjacent wall of the outer cylinder to prevent the solution from flowing around the inner cylinder; a separate clothes receptacle adapted to be removably arranged in the inner cylinder, and to be held in the inner cylinder by the closure of the inner cylinder, the inner cylinder and the receptacle being pervious to allow the solution to be forced therethrough in the reciprocation of the inner cylinder, and means for effecting the reciprocation of the inner cylinder.

3. In a washing machine, the combination of an outer cylinder adapted to contain a cleaning solution, said cylinder having a solution inlet, a waste outlet, and a movable closure; a clothes carrier adapted to be removably arranged in said cylinder, said carrier being pervious to the solution and capable of being reciprocated, and carrier reciprocating mechanism including a perforated cylinder having frictional contact with the interior of said cylinder, to prevent the solution from flowing around said carrier, said mechanism being operable to reciprocate said carrier for the purpose of forcing the solution through said carrier.

Signed at 2409 Ave. R in the county of Kings and State of New York, this 25th day of April, A. D. 1928.

MAX TROY.