No. 886,358. PATENTED MAY 5, 1908.

F. A. DINSMORE.

CLOTHES WASHER AND DRIER.

APPLICATION FILED AUG. 15, 1907.

Fig. 1.

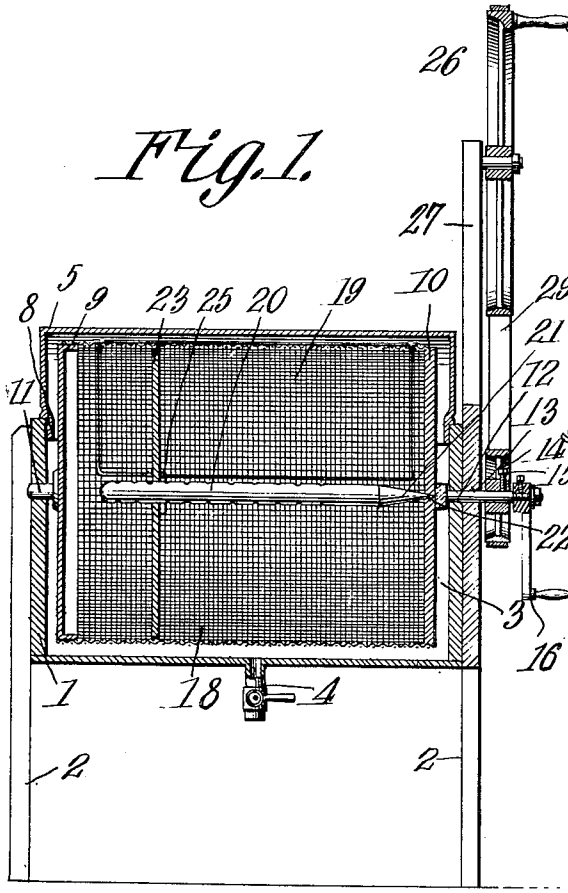
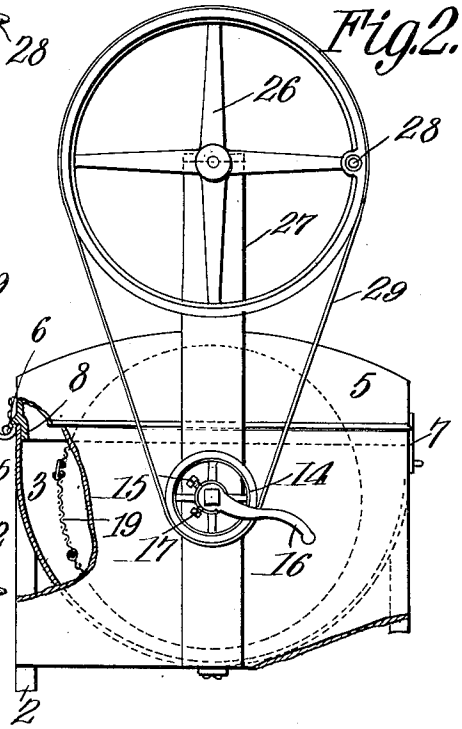


Fig. 2.



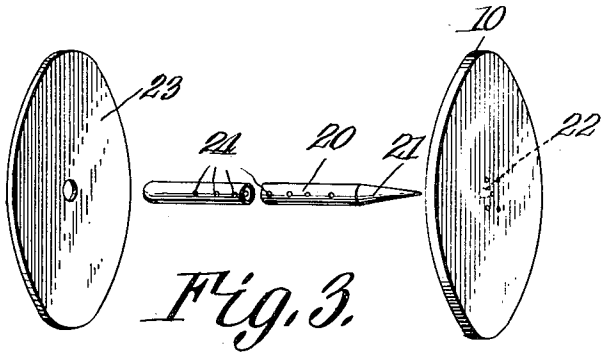


Fig. 3.

WITNESSES:

E. F. Stewart

C. A. Bateman.

Frank A. Dinsmore,
INVENTOR.

By C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANK A. DINSMORE, OF FREDONIA, NEW YORK.

CLOTHES WASHER AND DRIER.

No. 886,358. Specification of Letters Patent. Patented May 5, 1908.

Application filed August 15, 1907. Serial No. 388,690.

To all whom it may concern:

Be it known that I, FRANK A. DINSMORE, a citizen of the United States, residing at Fredonia, in the county of Chautauqua and State of New York, have invented a new and useful Clothes Washer and Drier, of which the following is a specification.

My present invention relates to improvements in laundry apparatus, and it has for its object to provide a machine that may be employed not only as a clothes washer, but also as a drier, the device being so simple in construction that it may be manufactured and sold at a reasonable price and is so simple in operation that it may be manipulated by almost any one without practice, while in use it thoroughly cleanses the clothes or other articles to be washed, and the drying or wringing operation may be performed without removing the clothes from the clothes receptacle.

To these and other ends, the invention comprises the novel arrangement and combination of parts hereinafter more fully described, and set forth particularly in the appended claims.

In the accompanying drawing, Figure 1 is an axial section through a washer and drier, constructed in accordance with the present invention. Fig. 2 is an end elevation of the device shown in Fig. 1, as viewed from the right. Fig. 3 is a perspective view of the compressor or follower on its guiding shaft.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The present invention is an improvement on the washing machine shown and described in my Patent No. 860,857 granted July 23, 1907, and its purpose is to adapt the machine for use, not only as a washer, but also as a drier whereby the clothes may be wrung without the necessity of removing them from the washing receptacle and passing them through the usual roller wringer. The wringing operation is effected by centrifugal action induced by rapid rotation of the revoluble cylinder or basket containing the clothes, so that tearing of the clothes and breakage of buttons is avoided.

The device shown in the present embodiment of the invention comprises a body portion 1 supported on suitable legs 2 and having a semi-cylindrical receptacle 3 formed therein to receive the suds or other washing solution, a draw-off valve 4 being preferably provided in the bottom of this chamber in order that the latter may be emptied conveniently. This chamber is closed by means of a cover 5, the latter being preferably hinged at one edge to the body portion of the washer, at 6, and provided with a catch 7 for holding the cover in closed position, a flange 8 on the lower edge of the cover entering within and coöperating with the upper edges of the receptacle to form a sealed joint. Within the chamber thus provided is mounted the clothes receptacle, the latter embodying, in the present instance, a revoluble cylinder having relatively fixed heads 9, 10 arranged in the opposite ends of a semi-cylindrical chamber, the head 9 being provided with the centrally arranged outwardly extending journal 11 adapted to fit in a suitable bearing formed in the wall at the rear of the chamber, and the flange 10 is provided with a similar forwardly extending journal 12 resting in a bearing 13 formed in the forward wall of the chamber and projecting to the exterior thereof, a pulley 14 being arranged to be connected and disconnected relatively to this journal by means of a set screw 15, and beyond this pulley is fitted a crank 16, the latter being detachably connected to the journal by means of a set screw or nut 17.

Connecting the head of the cylinder is a cover 18 of any suitable material, a wire gauze being generally preferable, for the reason that it is relatively inexpensive and it offers very little resistance to the entrance or exit of the water relatively to the cylinder wherein the clothes are contained. In order to permit introduction and removal of the clothes, the cylinder is provided with a suitable door 19, the latter, in the present instance, being formed in the side of the cylinder and it may be hinged at one edge and provided with a suitable catch for retaining it in closed position during the operation of the cylinder.

During the washing operation, the clothes or other articles being washed lie loosely within the cylinder in order to permit the water or washing solution to reach them, but when the cylinder is employed as a drier, it is necessary to so distribute the clothes within the cylinder as to balance it, and the device employed in the present instance for accomplishing this purpose embodies a shaft or mandrel 20 having one end pointed, at 21, and adapted to fit the correspondingly

shaped recess 22 in one of the heads, the shaft being of a length that will permit it to be inserted and removed through the door opening in the cylinder, and this shaft is adapted to receive an annular compressor or follower 23, the compressor or follower serving to center one end of the shaft while the recess 22, coöperating with its reduced end, serves to center it. The compressor is movable axially of the shaft and the latter is provided with a series of apertures 24 spaced longitudinally thereof and adapted to receive a pin 25, the latter resting behind the compressor and thereby retaining it in the desired position of adjustment. When the machine is employed for drying or wringing clothes, the follower or compressor is placed according to the space to be occupied by the clothes to be washed, the latter being packed closely around the shaft in the space formed between the follower and the head 9 of the cylinder.

During the washing operation, the cylinder is oscillated on its axis by means of the crank 16 connected directly thereto, but when it is desirable to operate the machine as a drier, it is necessary to rapidly revolve the cylinder in order that the centrifugal action will be sufficient to extract the water from the clothes within a reasonable time, and the driving devices shown in Figs. 1 and 2 embody a comparatively large belt wheel 26 suitably journaled to turn on an extension 27 having a crank 28 by means of which it may be rotated, the belt 29 passing over this wheel and the relatively small wheel 14 on the journal of the cylinder serving to revolve the latter with sufficient velocity to effect the drying operation. Of course, during the drying operation, the crank 16 will be removed and the set screw 15 of the smaller pulley tightened, and during the washing operation the set screw 15 may be loosened and the crank 16 will be applied.

A laundry machine constructed in accordance with my present invention serves the dual purposes of a washing machine, and a drier or wringer, the cylinder being adapted to receive the clothes through the door therein and being subjected to the action of the washing solution during the relatively slow oscillating movements of the cylinder, the open covering thereon permitting access of the solution to the clothes; and prior to the drying or wringing operation, the washing solution is withdrawn from the receptacle or chamber through the drawn-off cock or plug 4, so that the chamber is empty and forms a receptacle to receive the liquid extracted from the clothes by centrifugal action during the relatively high velocity of rotation of the cylinder, the shaft and its coöperating compressor or follower serving to hold the clothes closely packed and centered and thus prevents vibration during the drying or wringing operation; and the driving devices provide convenient means for operating the machine either as a washer or a wringer.

What is claimed is:—

1. In a machine of the character described, the combination with a suitable receptacle, of a clothes receiving cylinder revolubly mounted therein, a shaft removably fitted axially in the cylinder and having a series of transversely extending apertures spaced longitudinally thereof, a follower adjustable longitudinally of the said shaft, and a pin adapted to fit the apertures in the shaft and to coöperate with the follower and retain the latter in adjusted position.

2. In a machine of the character described, the combination with a suitable receptacle having a cover, of a clothes receiving receptacle revolubly mounted within the receptacle and its cover embodying a pair of suitably spaced heads having a perforated covering connecting them, one of the heads having an axially arranged recess therein, a removable shaft having a reduced end adapted to coöperate with the recess, and a follower adjustable longitudinally of said shaft and adapted to confine the clothes between it and one of the relatively fixed heads of the cylinder.

3. In a machine of the character described, the combination with a suitable receptacle adapted to contain a washing solution and to receive liquid expelled during the wringing operation, of a clothes receiving cylinder revolubly mounted within the receptacle, a shaft removably fitted axially of the cylinder, a follower slidably mounted on said shaft, means for securing the follower at different positions of adjustment on the shaft, means for rotating the cylinder during the washing operation and means for revolving the cylinder at a relatively high velocity independently of the operating means employed during the washing operation.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK A. DINSMORE.

Witnesses:
OLIVE P. JENKINS,
EDNA L. SMITH.