N. D. THOMPSON, Jr.

WASHING MACHINE.

APPLICATION FILED SEPT. 6, 1917.

1,275,628. Patented Aug. 13, 1918

Fig. 1

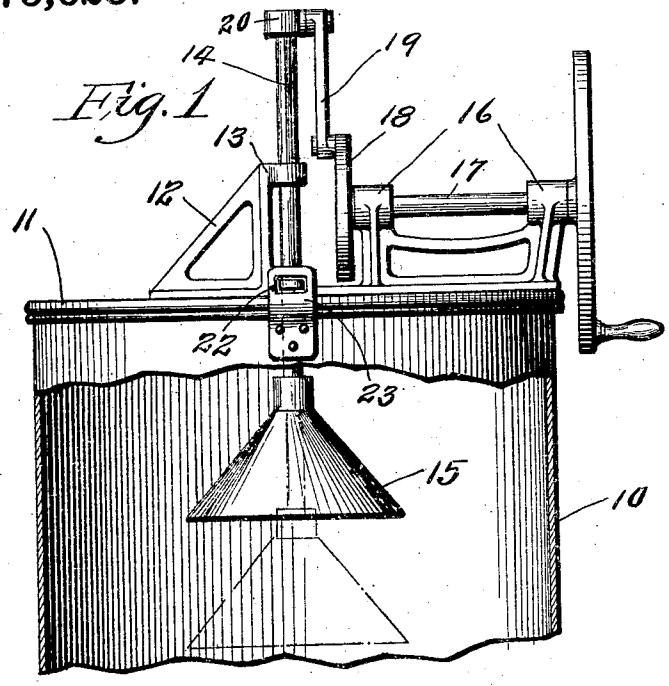


Fig. 2

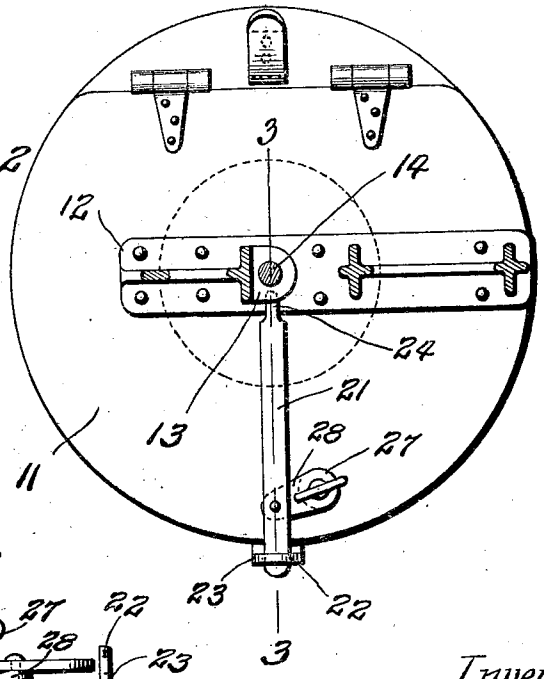


Fig. 4

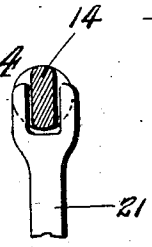
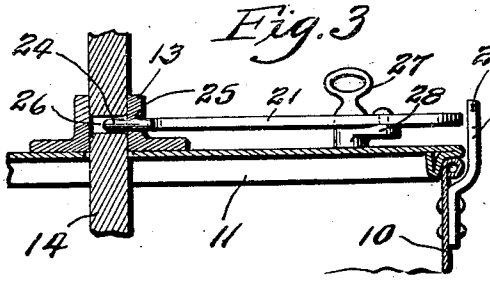


Fig. 3



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UNITED STATES PATENT OFFICE.

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WASHING-MACHINE.

1,275,628. Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed September 6, 1917. Serial No. 189,981.

To all whom it may concern:

Be it known that I, NATHAN D. THOMPSON, JR., a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Washing-Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates generally to washing machines of the type having a container, a hinged lid or cover therefor, a vertically disposed shaft mounted for reciprocating movement through the cover, the lower end of said shaft carrying a suitable clothes engaging member or pounder, preferably of hollow conical construction, said lid or cover carrying the driving or operating means for the reciprocating shaft, and my invention relates more specifically to means for locking the lid or cover in closed position, said means being also utilized for locking the reciprocating rod in position so that the clothes engaging member carried by the lower end thereof will not strike against the wall of the container when the lid or cover is swung into open position.

It will be understood that in the types of washing machines to which my invention relates, the vertically reciprocating rod and the clothes engaging member carried thereby extend a substantial distance downward into the container, particularly when said rod is at its lowermost limit of movement, and with the parts in their lowermost positions, it is impossible for the lid or cover of the machine to be swung into open position, for the reason that the clothes engaging member on the lower end of the rod will strike against the wall of the container, and if the opening movement imparted to the lid or cover be sudden or delivered with considerable force, the clothes engaging member will be bent and damaged so as to be unfit for service.

It is the principal object of my invention to provide a comparatively simple locking bar, one end of which is adapted to engage a loop or keeper on the body of the container for locking the lid or cover in closed position, and the opposite end of said bar being adapted to engage the reciprocating rod when the latter is in its highest position, thus holding said rod and the clothes engaging member so that the latter will clear the upper portion of the container when the lid is swung into open position.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is an elevational view of the upper portion of a washing machine, a portion of the container being in section, and showing my improved locking means on the lid or cover of the machine;

Fig. 2 is a plan view of the machine, parts thereof being in section;

Fig. 3 is a detail section taken approximately on the line 3—3 of Fig. 2;

Fig. 4 is a detail view of the modified form of the rod engaging end of the locking bar.

Referring by numerals to the accompanying drawings, 10 designates the body or container of the machine, 11 the hinged lid or cover thereof, and 12 a casting which is fixed on top of said cover. Formed integral with this casting 12 are vertically alined bearings 13, the same being disposed at the center of the cover 11, and mounted for sliding movement through said bearings is a shaft or rod 14, the lower end of which carries a clothes engaging member or pounder 15, the same being of any desired construction, but preferably a hollow conical member.

Formed integral with the casting 12 is a pair of horizontally alined bearings 16 in which is mounted for rotation a shaft 17, the same carrying at its inner end a disk 18. Pivotally mounted on a wrist pin carried by this disk is one end of a link 19, the opposite end of which is pivotally connected to a collar 20, the latter being fixed in any suitable manner to the upper portion of shaft or rod 14.

By virtue of the construction just described, the rotary motion of shaft 17 is converted into reciprocatory motion and imparted to vertically disposed shaft 14.

Arranged above the lid or cover 11 and disposed substantially at right angles to the

casting 12 is the locking means contemplated by my invention, said means comprising a bar 21, the outer end of which is adapted to pass through an aperture 22 which is formed in the upper portion of a plate 23, the latter being fixed to the body or container 10. The opposite or inner end of this locking bar is formed into a pin or finger 24 which is adapted to slide through a suitable aperture 25 formed in the lower one of the bearings 13 and the end of said pin or finger is adapted to enter an aperture or recess 26, the same being formed in rod or shaft 14. This aperture or recess 26 is disposed so that it can only be engaged by the pin or finger 24 when the rod 14 is at its upper limit of movement. This locking bar 21 is shifted from one position to another by means of a button 27, the same being pivoted to the lid or cover 11 and said button being provided with a short crank arm 28 which is pivoted to said locking bar.

To lock the lid or cover in closed position, button 27 is manipulated so as to move the locking bar outward, with the result that the outer end of said bar is engaged in the aperture 22 and when the bar is thus positioned, the pin or finger 24 is wholly disengaged from the aperture or recess 26, thereby permitting the rod or shaft 14 to reciprocate freely in its bearings.

To open the lid or cover, it is necessary to shift the locking bar so as to disengage the outer end thereof from the aperture 22 in plate 23, and this movement of the bar can only be effected when the shaft 14 is moved to its uppermost position so that aperture or recess 26 is in alinement with the finger 24. Thus, after the shaft has been elevated, locking bar 21 is moved inward, thereby moving the finger 24 into aperture or recess 26 with the result that shaft 14 is locked at its upper limit of movement and the outer end of bar 21 is disengaged from the aperture in plate 23.

The lid or cover can now be swung into open position and as the clothes engaging member 15 occupies a position immediately beneath the lid or cover, said member will swing upward with the cover without striking the wall of the container 10. Obviously, when the lid or cover is closed, the shaft 14 cannot be reciprocated until the locking bar has been shifted so as to disengage the finger 24 from the aperture or recess in said shaft, and which action moves the outer end of the locking bar into the aperture 23, thereby locking the lid or cover in closed position.

In Fig. 4 the inner end of the locking bar 21 is shown bifurcated and where such construction is employed, it is necessary to provide an oppositely disposed pair of notches in the reciprocating shaft 14.

A locking device of my improved construction is comparatively simple, can be easily manipulated, is effective in locking the lid or cover of the washing machine in closed position, and is likewise effective in preventing the lid or cover from being raised when the clothes engaging member is in a position where it will strike against the wall of the container.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved locking device can be made and substituted for those herein shown and described, without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. The combination with a washing machine having a lid, a shaft reciprocating therethrough, and a member on the body of the washing machine adjacent to the edge of the lid, of a locking member arranged for sliding movement on the lid and adapted when in one position to engage the member on the body of the washing machine to lock the lid in closed position and when in another position to directly engage the reciprocating shaft to lock the same in an elevated position.

2. In a washing machine having a hinged lid and a reciprocating shaft arranged for operation therethrough and a member on the body of the machine adjacent to the free edge of the lid, a locking bar mounted for operation on the lid, which locking bar is adapted when in one position to engage the member on the body of the washing machine to lock the lid in closed position and when in another position to directly engage the reciprocating shaft to lock the same in an elevated position, and means for operating said locking bar.

3. The combination with a washing machine having a hinged lid, a shaft arranged for reciprocation through said lid, and a keeper on one side of the body of the machine, of a locking bar arranged on the lid, one end of which bar is adapted to engage in said keeper to lock the lid in closed position and the opposite end of said bar being adapted to engage a shoulder on the shaft to lock it against movement.

In testimony whereof I hereunto affix my signature this 4th day of September, 1917.

NATHAN D. THOMPSON, JR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."