Feb. 27, 1940. N. A. LEVITETZ 2,191,891

WASHER CYLINDER

Filed Jan. 26, 1938

Fig. 1.

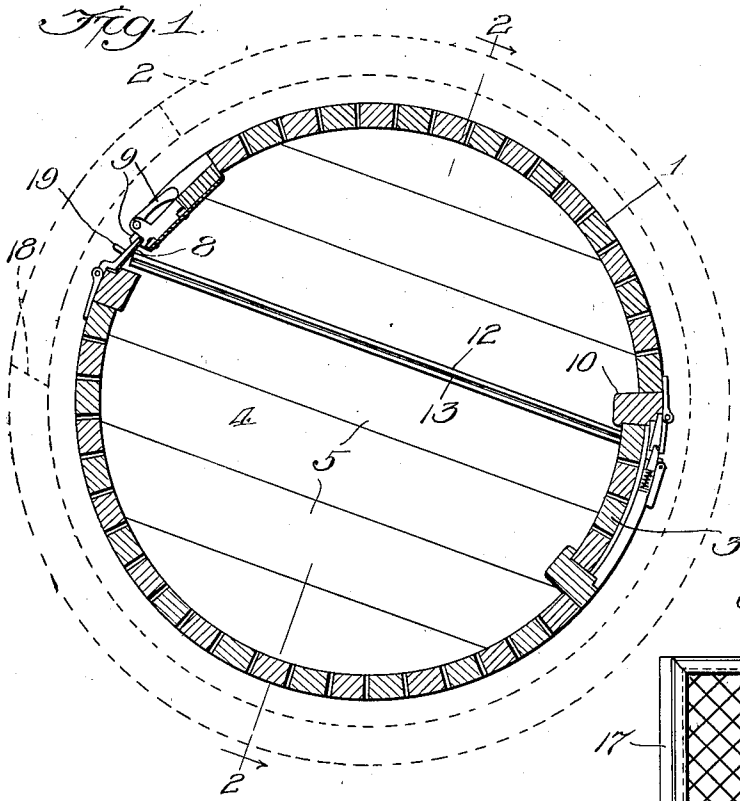


Fig. 5.

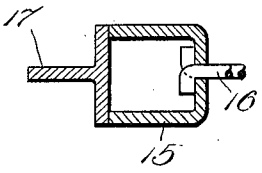


Fig. 6.

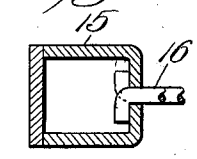


Fig. 4.

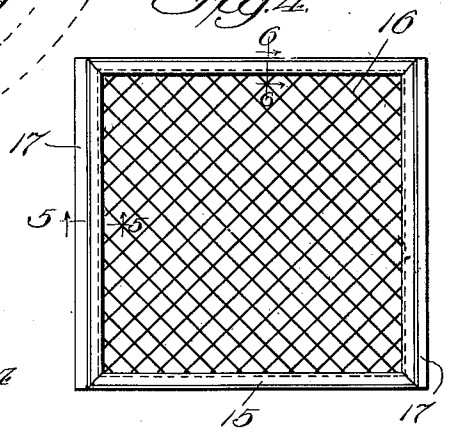


Fig. 2.

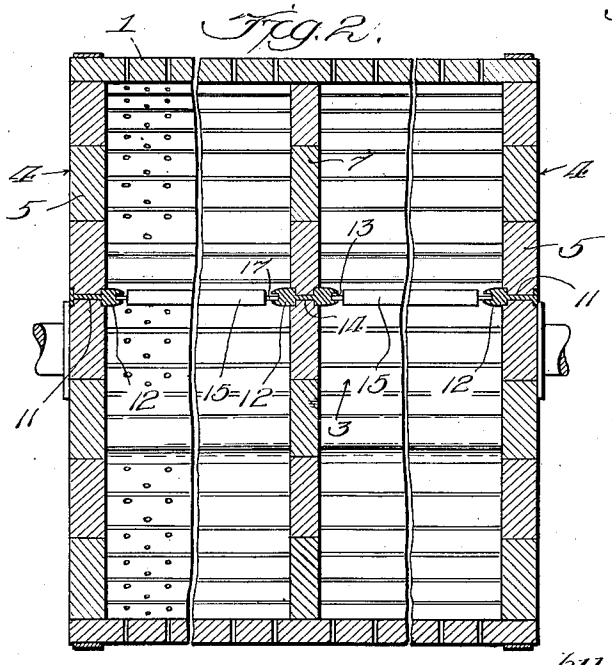
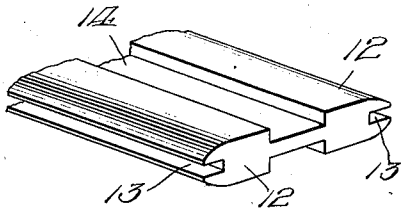


Fig. 3.



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2,191,891

WASHER CYLINDER

Norman A. Levitetz, Chicago, Ill., assignor to Why Corporation, a corporation of California

Application January 26, 1938, Serial No. 186,966

2 Claims. (Cl. 68—210)

The object of the present invention is to make it possible to unload the cylinder of a laundry washing machine in a simple and convenient manner, without being required to lift the laundry bodily or one piece at a time out of the washing or rinsing liquids during unloading.

In carrying out my invention I provide any usual or suitable washer cylinder with a detachable shelf for each compartment which the cylinder may contain; this shelf being introduced into the cylinder, above the contents, at the end of a washing or rinsing operation so that, upon turning the cylinder part way around, the clothing or other material that is being operated upon is supported by the shelf directly behind the usual door. Then, when the door is opened, the work can be drawn out through the door opening without further lifting. In order that the work may lie on top of the shelf when the cylinder is in an unloading position, it is necessary to insert the shelf while the door is at the back of the cylinder, the shelf being now above the work, but reversing positions with the latter when the cylinder is turned to bring the door to the front. I therefore provide the cylinder with an auxiliary door which is at the front while the main door is at the back. The shelf may be inserted through this auxiliary door and the cylinder be then turned far enough to bring the main door to the front, thus lifting the laundry or other work out of the liquids and above the lower edge of the main door opening. Often a cylinder or a compartment therein contains so much laundry that it projects above the center or axis of the cylinder. I therefore place the partition along a chord of the cylinder that is shorter than the diameter, so that the interior of the cylinder is divided into compartments of unequal size, the larger of which is at the top when the main door of the cylinder is on the front side. With this arrangement the contents of the cylinder will not interfere with the insertion of the shelf, even though the cylinder be more than half full.

The shelves must be supported from the heads or transverse partitions of a cylinder, and the supporting means for the shelves must therefore be firmly held to the heads and partitions. In the preferred arrangement, the supporting means for the shelves are preferably rugged guide bars. One of the objects of the present invention may therefore be said to be to produce guide bars for shelves of the character described, which shall be rugged, and which shall firmly hold a cooperating shelf against displacement transversely of the plane of the shelf, together with means for incorporating the guide bars in the cylinder heads and partitions in such a manner that each head or partition and its guide bar constitute a single rigid whole.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a section through a horizontal washing cylinder embodying the present invention, the shelf being omitted; Fig. 2 is a section on line 2—2 of Fig. 1, the cylinder being shown as one having at least one transverse partition in addition to the ends or heads; Fig. 3 is a perspective view of a fragment of one of the guide bars; Fig. 4 is a plan view of one of the shelves; Fig. 5 is a section, on an enlarged scale, on line 5—5 of Fig. 4; and Fig. 6 is a section on the same scale as Fig. 5, on line 6—6 of Fig. 4.

Referring to the drawing, 1 represents a horizontal washing cylinder of any usual or suitable construction rotatable in any usual or suitable casing 2, shown in dotted lines in Fig. 1. The cylinder is shown as being of wood and, for the sake of brevity, the detailed description will be confined to this single type.

The cylinder has the usual door, indicated at 3, to which I shall refer as the main door. The ends or heads 4 of the cylinder are sectional, conveniently consisting of wood slabs or planks 5 engaged edge to edge. If there be one or more transverse partitions, or intermediate heads, they may be constructed in the same fashion as the main cylinder heads, excepting that ordinarily they need not be quite as heavy. In the drawing there is illustrated a single transverse partition 7, the same being built up of slabs or planks that are somewhat thinner than those in the cylinder ends.

In the wall of the cylinder, more or less opposite the main door, is an auxiliary door 8 which, like the door 3, extends throughout the length of the cylinder. Since the door 8 need only be wide enough to permit the insertion of the shelf to be hereinafter described, it may be quite narrow. In fact, the auxiliary door opening need be no wider than one of the slats of which the cylindrical shell is composed. The main door illustrated is that disclosed in Patent No. 1,913,764, whereas the auxiliary door may be similar to the unloading shelf disclosed in that patent; the lock 9 as-

sociated with the auxiliary door being mounted on the cylinder whereas the lock for the unloading shelf in said patent is mounted on the main door with which the shelf is associated.

The doors are preferably not diametrically opposed but are located at the ends of a chord shorter than the diameter of the cylinder. Each cylinder end has a guide member extending along the inner side thereof from the auxiliary door to the main door; such member preferably terminating at a point which is just above the sill 10 which is the lower sill for the main door opening at the time the main door is at the front. Each intermediate head or transverse partition has a similar guide member on each side thereof.

In the arrangement shown, the guide members on the cylinder ends are bars 11, I-shaped in cross section, one cross piece or double flange 12 of each bar being thickened. Therefore, when one of these bars is interposed between two of the slabs of a cylinder end, as illustrated, the thickened part projects beyond the inner face of the cylinder end. Each such thickened guide bar part contains a groove 13 extending throughout the length thereof on the edge face. The guide bars 14 for the intermediate heads or transverse partitions are similar to the bars 11 except that both ends of the I are thickened and grooved, as best shown in Fig. 3. When one of the bars 14 is interposed between two of the slabs or sections of a transverse partition, the latter has grooved guide rails projecting from both faces. In other words, each transverse partition has on each side a guide rail adapted to be paired with a similar rail on another partition or on a cylinder end.

Any suitable panel, adapted to serve as a shelf as long as the guide bars and as wide as the distance between the guide bars at the ends of a compartment in which the panel is adapted to be inserted, may be introduced into a cylinder compartment through the auxiliary door opening when the auxiliary door is at the front, as in Fig. 1. When the main door is at the front the panel may be withdrawn through the main door, however, without requiring that the cylinder be partially rotated to bring the auxiliary door again to the front. The side marginal portions of the panel are, of course, engaged in the grooves in the guide bars, so as to be held against displacement transversely of the plane thereof. Also, the length of the panel is preferably such that when it is in the cylinder it engages at one end with the main door, and the other end is engaged by the auxiliary door when the latter is closed. In Figs. 4, 5 and 6 I have illustrated a panel or shelf element comprising a hollow rectangular metal frame 15 across which is stretched a coarse wire fabric 16. The ends of the wires may be brought through holes in the walls of the frame members and be bent over, or welded to the bars, or both. Those frame members which form the sides of the frame have projecting fins 17 extending throughout the length of the same in a plane parallel with the plane of the frame. The parts are so proportioned that these fins enter the grooves in both of the rails between which the panel or shelf is placed. Thus, when the panel or shelf is slipped into the cylinder, it is interlocked with the corresponding rails so that it cannot move substantially in any direction except along the latter and, with both doors closed, is held against any movement relatively to the cylinder.

In Fig. 1 the cylinder is shown in the position to receive a shelf; the auxiliary door being at the front and opposite the door opening 18 in the surrounding casing. The auxiliary door being unlocked, it may be swung outwardly to open the same by grasping the handle 19. The proper shelf may then be inserted and slid along the cooperating guide rails until it engages the main door. The auxiliary door is then closed and, upon turning the cylinder far enough to bring the main door to the front side, opposite the door opening 18 in the casing, the cylinder is ready to be unloaded.

At the time of inserting the shelf, the larger of the two unequal portions into which the cylinder compartment is divided by the shelf lies below the latter and contains the work immersed, in whole or in part, in the cleaning or rinsing liquids. After a partial rotation of the cylinder to bring the main door into unloading position, the work lies on top of the shelf and may be easily removed, without the necessity of lifting each piece out of the bottom of the cylinder.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. In combination, a hollow cylinder having doors located at the ends of a chord of substantially less length than the diameter of the cylinder, two transverse walls of wood associated with the cylinder, each of said walls being divided along said chord, a guide bar arranged between the portions of each wall lying on opposite sides of said chord, each guide bar extending from one door to the other.

2. In combination, a hollow cylinder having two doors spaced apart angularly of the cylinder, two transverse sectional wood walls associated with the cylinder, thin, flat guide bars arranged between the sections of said walls and extending from one door to the other, each guide bar having a thickened part projecting from the face of the wall in which it is located and having a longitudinal edge groove in the projecting portion to receive a marginal portion of a shelf.

NORMAN A. LEVITETZ.