Feb. 17, 1942. T. S. WATSON 2,273,304

APPARATUS FOR DRYING LAUNDRY

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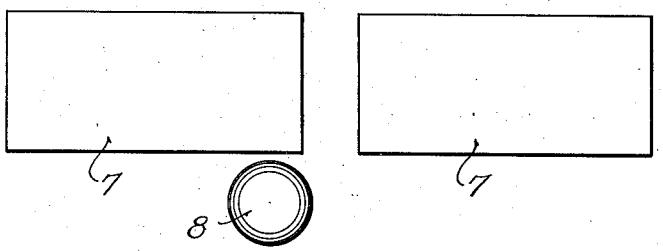


Fig. 1

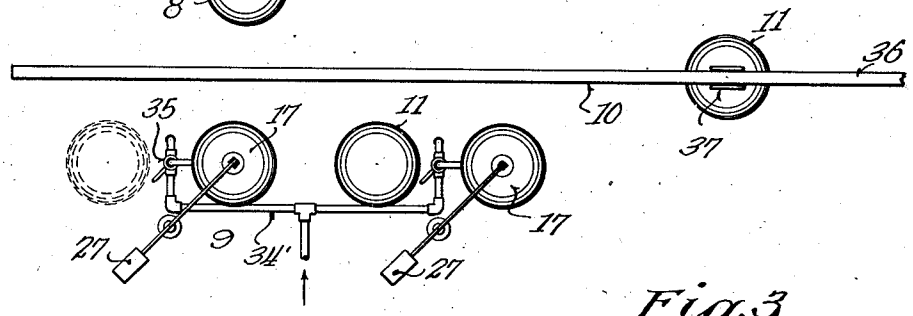


Fig. 3

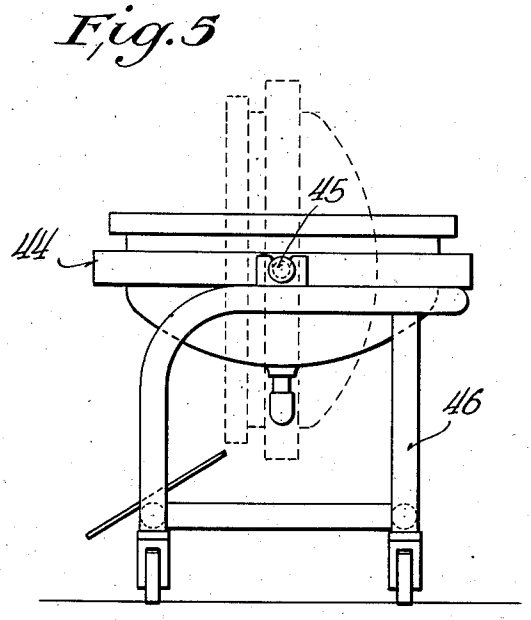
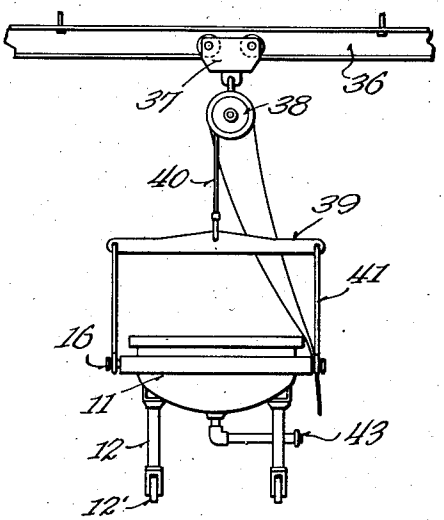


Fig. 5



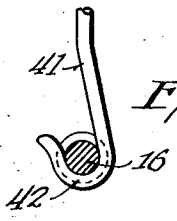


Fig. 4

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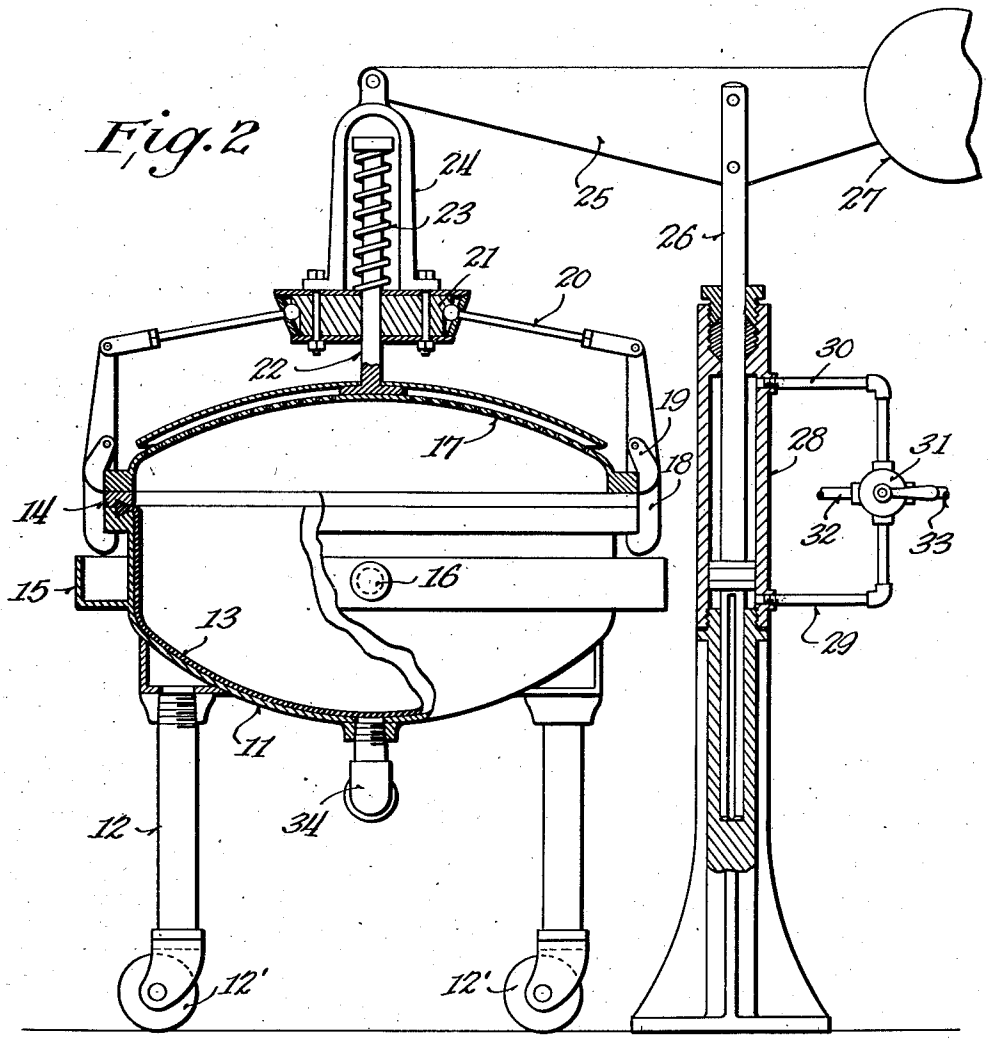
ATTORNEYS

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Fig. 2



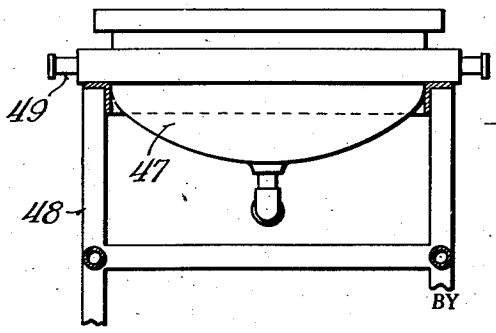


Fig. 6

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UNITED STATES PATENT OFFICE

2,273,304

APPARATUS FOR DRYING LAUNDRY

Thomas S. Watson, Milwaukee, Wis., assignor of one-half to Huebsch Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Application March 31, 1938, Serial No. 199,403

1 Claim. (Cl. 68—242)

The invention relates to apparatus for drying laundry.

The main object of the invention is to provide an apparatus for expeditiously drying laundry wherein the laundry to be dried is placed in the body portion of an extractor and moved therein to an extracting station where the water is removed therefrom, and thereafter the dried clothes may be readily removed from the extractor body at the extractor station or carried in said body to a place of deposit for the clothes.

The invention further comprises a new and improved form of extractor apparatus wherein the body of the extractor is adapted to be tilted to discharge its load and is preferably mounted on a wheeled carriage by which it may be readily moved from one station to another.

The invention further consists in an apparatus as hereinafter described and more particularly pointed out in the appended claim.

Fig. 1 is a diagrammatic view of apparatus embodying the invention;

Fig. 2 is a side elevation view, with parts broken away and parts shown in section, of an extractor apparatus for carrying out the method embodying the invention;

Fig. 3 is a side view of parts of the apparatus shown in Fig. 1;

Fig. 4 is a detail of a conveyor hook;

Fig. 5 is a detailed side elevation view of a modified form of extractor apparatus;

Fig. 6 is a detailed view, partly in section of certain modifications of the extractor apparatus.

Referring to Fig. 1, the numeral 7 designates washing machines, 8 an extractor body in a loading position, 9 an extractor station, and 10 a conveyor.

The extractor station 9 may include sets of pairs of extractor bodies and a cover mechanism for each pair of bodies. The extractor bodies may be formed as shown in Fig. 2 wherein the body 11 is formed as a container having legs 12 secured thereto and provided with wheels 12' and a flexible bag 13 of rubber or other suitable material clamped to the open end of the container by a clamping ring 14 and bolts (not shown). The body is also shown as provided with an overflow trough 15 to which tubular projections 16 are secured.

The cover 17, provided with a series of apertures, fits over the top of the body upon the ring 14 and is clamped thereto by a series of latches 18, each pivotally mounted intermediate its ends on a bracket 19 on the cover and having its upper end connected by a link 20 with a sliding block 21 which is slidably mounted on a guide rod 22 secured to the cover and is normally urged downwardly by a spring 23. The cover is moved by its suspension from the block 21 through the yoke 24 secured thereto and connected to an arm 25 on a reciprocatory standard 26, said cover preferably being counterweighted by another weighted arm 27. The standard 26 may be raised and lowered in any suitable manner and is shown as hydraulically operated and formed as a piston whose rod and head work in a cylinder 28 formed as a part of a fixed standard, hydraulic fluid being introduced into the chamber at either side of the piston and exhausted from the other side through pipe connections 29 and 30 controlled by a suitable three-way valve 31 which connects with a relief pipe 32 or with a pressure supply pipe 33.

With this construction when the standard 26 is raised, the block 21 through the sliding connection with the rod 22 is moved upwardly relative to the cover against the action of the spring 23, and this pulls the links 20 inwardly and hence swings the upper ends of the latches 18 inwardly and thus releases the latches from engagement with the body of the extractor and thus releases the cover and permits it to be raised and through the turning of the standard 26 to be swung over to the body member at the other side of the standard, so that one cover may be used for a plurality of extractor bodies.

When the bag 13 of the extractor is loaded with wet clothes, and the cover is in closed position, pressure fluid introduced into the container body 11 through a pipe 34 from a pipe 34' which is controlled by a suitable three-way valve 35 enters the space between said body and the bag 13 and forces said bag 13 upwardly and thus presses the wet clothes in the bag against the cover and in that way forces or presses the water out of them. Further details of the construction of extractor mechanism suitable for use in carrying out the present invention may be had by reference to my copending application Serial No. 184,910, filed January 14, 1938, for Clothes drier.

As shown in Fig. 1, there are two sets of extractors at the extractor station with a pair of extractor bodies and a cover for each set, the extractor bodies receiving their load at the washing machine and then being pushed over to a position where they may be temporarily covered over by the covers while the water is being removed from the clothes. After the removal of the water from the clothes and the shifting of the cover to an open position, the clothes within

the extractor body may in some instances be removed at the extractor station, or the loaded extractor bodies may be wheeled off to a discharge station, or the said bodies may be carried to said discharge station by a conveyor such as the conveyor shown in Figs. 1 and 3 which includes a track 36, a carriage 37 mounted to move on said track and carrying a hoist mechanism here shown as including a hoist 38 and a carrier 39 connected by cable 40 with said hoist, said carrier being in the nature of a sling having spaced bars 41 provided with hooked ends 42 which are adapted to engage the projections 16 on the sides of said body as shown in Fig. 3. With the body suspended from the conveyor as shown in Fig. 3, it may be carried to any suitable discharge station and then turned or tipped about the hooks 42 to discharge its load, it being noted that the piping 34 is equipped with a union coupling 43 whereby it may be readily separated from its supply line. After the loaded extractor is emptied, it is returned to the loading station either by the conveyor or by being pushed over the floor to said station, and the series of operations is repeated.

In Fig. 5 I have shown the extractor body 44 similar to the body 11 as carrying trunnions 45 movably mounted on a wheeled frame or carriage 46, so that it may turned to the dotted line position therein shown to empty the extractor body. With this construction the body with its carriage may be moved as a unit to the place of discharge, or the body may be lifted off and mounted on the conveyor shown in Fig. 1.

In Fig. 6 I have shown another modification of the extractor in which the body structure 47 is similar to the body 44, but instead of being mounted in its wheeled frame 48 for tipping movement is removably mounted in the upper end of said frame and is provided with projections 49 whereby said body 47 may be lifted up out of said frame 48 by conveyor mechanism such as shown in Figs. 1 and 3 and carried to a suitable place for discharge of its contents, the hooks 42 being engageable with the projections 49.

From the above it will be noted that the extractor mechanism embodying the present invention may be moved from a loading position at the washing machine to its extractor station and may then be moved either as a wheeled unit or by a separate conveyor to a place for discharge of the dry clothes, and in either of the last mentioned instances the body of the extractor is preferably arranged, so that its contents may be removed by tipping said body.

I desire it to be understood that this invention is not to be limited to any particulars heretofore described except in so far as such limitations are included in the appended claim.

What I claim as my invention is:

In a clothes drying apparatus, the combination of an extractor body comprising a supporting wheeled carriage having a container portion and a flexible bag mounted in said container, an apertured cover for said bag, means for introducing hydraulic fluid between said container and said bag to move the bag with clothes therein toward said cover, suspending means, and supports on said carriage having tiltable engagement with said suspending means.

THOMAS S. WATSON.