

F. M. OVERHOLT & F. M. STEINER.  
LAUNDRY EXTRACTOR.

APPLICATION FILED MAR. 8, 1915.

Patented Sept. 14, 1915.

2 SHEETS—SHEET 1.

1,153,701.

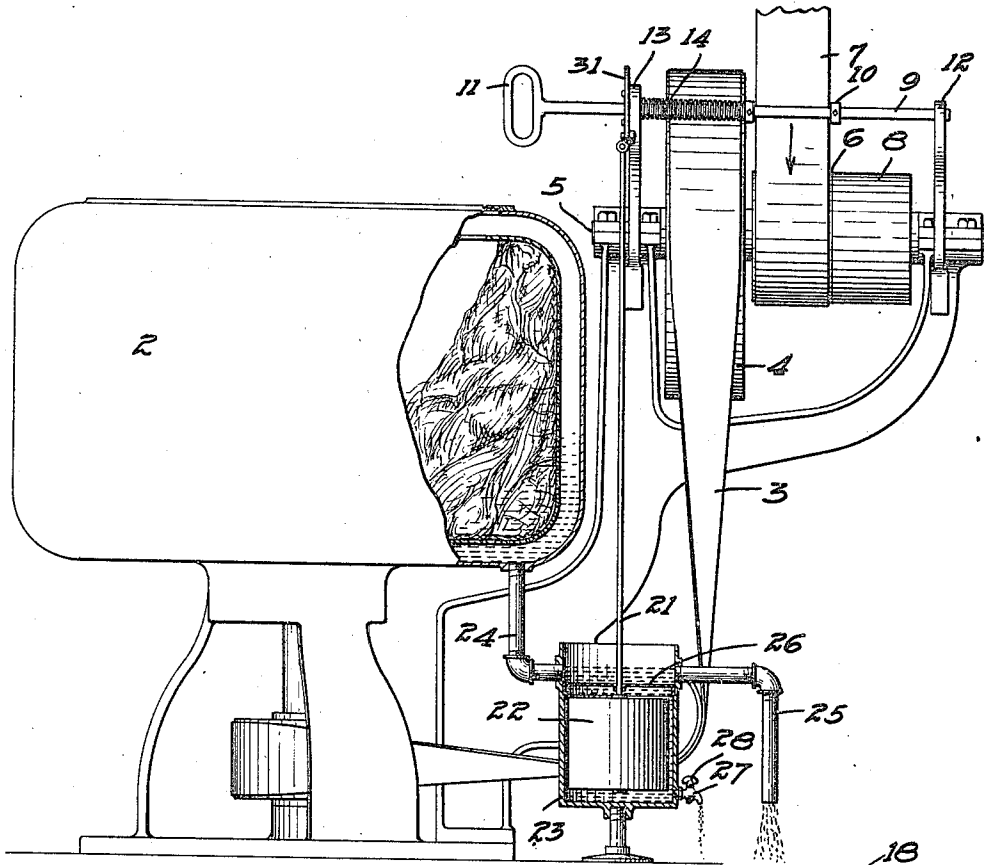


FIG. 1.

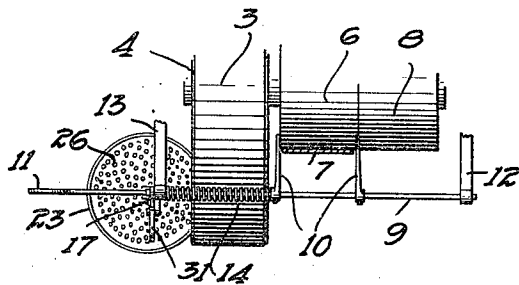


FIG. 2.

WITNESSES  
M. R. M. Junior  
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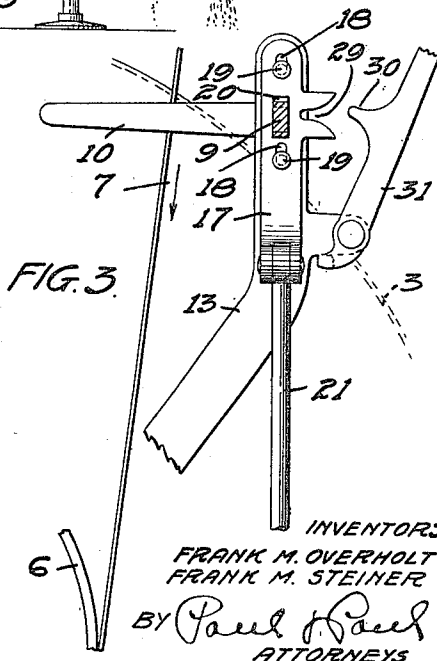


FIG. 3.

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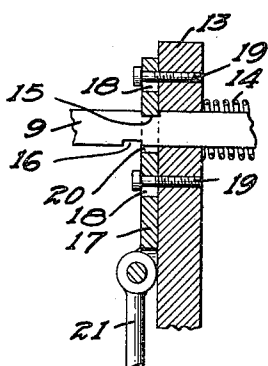


FIG. 5.

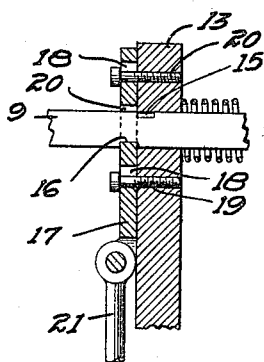


FIG. 6.

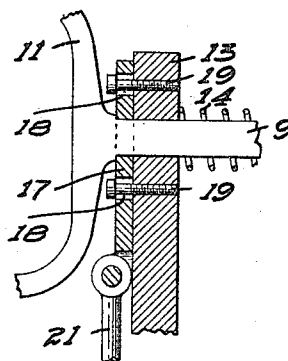


FIG. 4.

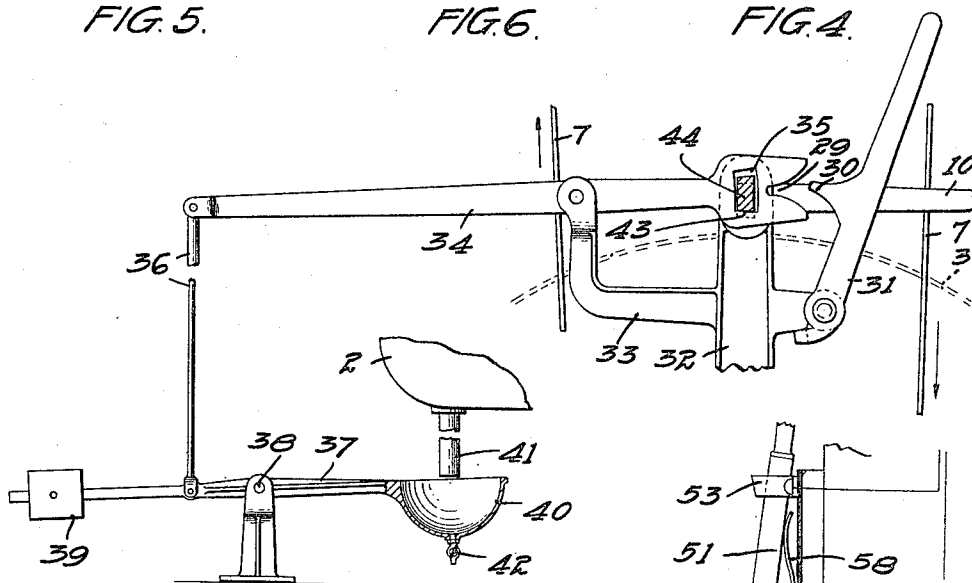


FIG. 7.

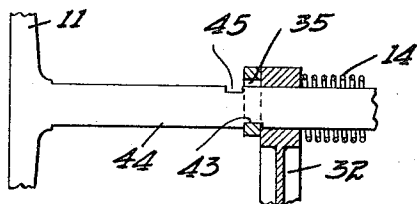


FIG. 8.

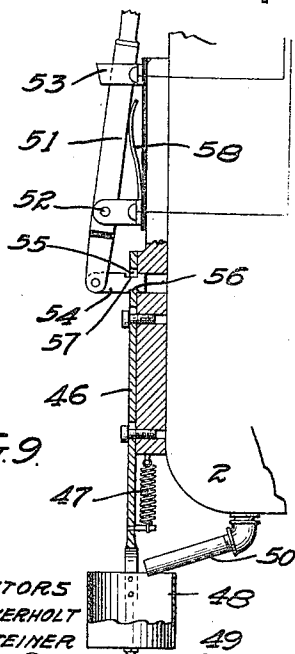


FIG. 9.

WITNESSES  
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# UNITED STATES PATENT OFFICE.

FRANK M. OVERHOLT AND FRANK M. STEINER, OF MINNEAPOLIS, MINNESOTA.

## LAUNDRY-EXTRACTOR.

1,153,701.

Specification of Letters Patent. Patented Sept. 14, 1915.

Application filed March 8, 1915. Serial No. 12,825.

*To all whom it may concern:*

Be it known that we, FRANK M. OVERHOLT and FRANK M. STEINER, citizens of the United States, residents of Minneapolis, 5 county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Laundry-Extractors, of which the following is a specification.

In the operation of a laundry it is customary to place the clothes in a centrifugal 10 extractor where they are rapidly revolved and the water thrown off by centrifugal force until the garments or other articles being laundried are in suitable condition 15 for the mangle.

It sometimes happens that an operator will allow the separator to run for too long a time so that too much water is taken out 20 of the clothes and there is danger of burning them when they pass through the rolls of the mangle. Furthermore, this unnecessary operation of the separator uses up the power and increases the overhead expense.

The object, therefore, of our invention is 25 to provide an attachment for the separator by means of which the power will be cut off, and the machine stopped when the clothes are sufficiently dry for delivery to the mangle.

30 The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming 35 part of this specification, Figure 1 is a detail sectional view illustrating the application of our invention to a laundry machine, Fig. 2 is a plan view of the belt shifting mechanism, Fig. 3 is a detail sectional view, 40 showing the device for operating the control mechanism mechanically when it is desired to stop the machine, Figs. 4, 5 and 6 are detail views, showing the different positions of the locking mechanism, Fig. 7 is a 45 detail view of a modified construction, Fig. 8 is a detail sectional view of the locking mechanism of the modified construction shown in Fig. 7, Fig. 9 is a detail sectional view showing still another modified con- 50 struction.

In the drawing, 2 represents a laundry extractor, in which the wet clothes are placed for extracting the water therefrom. This extractor is of ordinary construction and

is driven by a belt 3 from a pulley 4 mount- 55 ed on a shaft 5 on which is secured a driving pulley 6 and a belt 7. A loose pulley 8 is mounted on the shaft and a belt shifter bar 9 has the usual fingers 10 engaging the sides of the belt to shift it from the loose 60 the driving pulley, or vice versa, as may be required in the operation of the machine. The belt shifter bar 9 has a suitable handle 11 and is mounted to slide in guides 12 and 13 and is provided with a spring 14 65 that is put under tension when the belt is shifted from the loose to the driving pulley for returning the belt to the loose pulley when the shifter bar is released. The bar has notches 15 and 16 in its upper and lower 70 edges, arranged in staggered relation, as shown in Figs. 5 and 6 and mounted on the guide 13 is a slide 17 having slots 18 therein to receive bolts 19 which secure the slide on the guide 13 and allow it to be 75 moved vertically thereon. An opening 20 is provided in the slide in which the bar 9 is movable longitudinally and the upper and lower edges of this opening are adapted to enter the notches 15 and 16 in said bar 80 and lock it against premature movement in either direction. The slide is so arranged with respect to these notches that when it is drawn down to the limit of its downward movement it will be in position to engage 85 the notch 15 and lock the bar while movement in the opposite direction will disengage it from the notch 15 and engage it with the notch 16, assuming, of course, that the belt shifter bar 9 is in proper position to engage 90 with the slide. The lower end of the slide is connected by a rod 21 with a float 22 that is vertically movable in a receptacle 23 arranged near the base of the separator. This 95 receptacle has an open top and has a pipe connection 24 above the float with the lower walls of the separator so that the water thrown out by centrifugal force from the clothes will be conducted through the pipe 24 to the receptacle 23. A waste pipe 25 100 leads from the receptacle above the float. Within the receptacle 23 and above the float is a partition or wall 26 having perforations therein through which the water delivered by the pipe 24 may flow down into the re- 105 ceptacle and under the float, and the effect will be to raise the float and the rod 21 connected therewith and move the slide 17.

This will take place soon after the machine is started. To start the machine, the operator will grasp the handle 11 and draw on the belt shifter bar until the belt is shifted from the loose to the driving pulley and this movement from the position of the bar shown in Fig. 4 will put the spring 14 under compression and bring the notch 15 to a point where the slide 17 will enter the notch, being drawn down by the weight of the rod 21 and the float 22. The shifter bar will thereby be locked and the operator may release the handle. The machine being started, will throw water out of the clothes, which, accumulating in the bottom of the extractor, will flow down through the pipe 24 into the receptacle 23 and gradually raise the float 22 to disengage the slide from the notch 15. It will engage the notch 16 in the underside of the shifter bar and lock the bar against endwise movement and prevent the shifting of the belt from the driving pulley to the loose pulley.

In the bottom of the receptacle 23 we provide a waste cock 27 having a valve 28 through which the accumulation of water in the receptacle may be discharged. By adjusting this valve the operator can easily regulate the flow of water from the receptacle and time the descent of the float, for evidently, as the the operation of the machine continues, the volume of water separated from the clothes and delivered through the pipe 24 will decrease and when the discharge through the waste cock 27 is greater than the supply delivered through the pipe 24, the float will sink by gravity and release the shifter bar, and as soon as the shifter bar is released, the spring 14 will throw it to its normal position and move the belt from the driving to the loose pulley. By making the operation of the machine depend upon the volume of water thrown out from the clothes rather than timing its operation for any specified number of minutes, we are able to stop the machine when any desired stage of dryness of the clothes has been attained, for whenever the column of water delivered to the float receptacle falls below a predetermined volume, the float will descend and release the belt shifter bar to shift the belt to the loose pulley and stop the machine. In this way the operator is able to extract any desired amount of water from the clothes and not only keep the clothes sufficiently moist, but also sufficiently dry for the mangle, and also effects a considerable saving in the power for operating the machine, as well as the wear and tear on the mechanism itself.

It is desirable in a device of this kind to provide means for a manual release of the shifter bar. We therefore provide a substantially V-shaped recess 29 in the slide 17, adapted to receive a lug 30 carried by a lever

31, said lug engaging the edges of the recess and operating the slide to release the shifter bar when it is desired to stop the machine for any purpose.

In Fig. 7 we have shown a modified construction, which consists in providing a bracket 32 having an arm 33 on which a lever 34 is pivoted. One arm of this lever has an opening 35 to receive the shifter bar, the upper and lower edges of the opening engaging the notches in the bar as previously described with reference to the construction in Fig. 1. The opposite arm of the lever 34 has a link 36 pivotally connecting it with a beam 37 pivoted at 38. One arm of this beam has a weight 39 thereon and the other arm is provided with a pan 40 in position to receive the water from a waste pipe 41 communicating with the separator, the bottom of the pan having a valve 42 for regulating the escape therefrom. When this pan is filled with water from the pipe 41, the beam 37 will be tilted to raise the lever 34 and disengage it from a notch 43 in the lower edge of the shifter bar 44 and allow the upper edge of the opening 35 to engage the notch 45 in the upper edge of the bar, thereby locking it in position to hold the belt on the driving pulley. As the flow of water into the pan 40 diminishes, the weight 39 will tilt the beam in the other direction and pull the lever 34 downwardly to disengage it from the notch 45 and allow the shifter bar to change the belt.

In Fig. 9 a similar controlling mechanism is provided for regulating the switch of a motor through which the extractor is operated. In this modification the slide 46 is movable vertically, as described with reference to Fig. 1, normally held in its raised position by a spring 47 and carries a bucket 48 at its lower end having a waste cock 49 and arranged in position to receive the water thrown out from the clothes from a pipe 50. The motor switch has a lever 51 pivoted at 52 and engaging the contacts 53 at one end on the other side of its pivot. The lever is pivotally connected with a bar 54 that is movable in a slot 55 in the slide 46 and has oppositely arranged notches 56 and 57 to receive respectively the upper and lower edges of the slot 55. A spring 58 is provided in the switch and normally tends to throw the switch lever out of engagement with the contact 53. As the bucket 48 fills with water, the slide 46 will move downward out of engagement with the notch 56 and into engagement with the notch 57, which, as shown in the figure, is made a little longer than the slot 56. When the flow of water into the bucket decreases to such a point that the tension of the spring 47 overcomes the weight of the bucket, it will be raised with the slide and the bar 54 will be released, allowing the spring 58 to throw

the lever 51 out of engagement with the contacts 53, thereby breaking the circuit and stopping the motor.

We claim as our invention:

5 1. The combination, with a centrifugal laundry extractor having a discharge for the waste water thrown out of the clothes, and a power transmitting means for said ex-  
10 tractor, of means controlled by the waste water for shifting said transmitting means to stop the machine when the discharge of water falls below a predetermined volume.

2. The combination, with a centrifugal laundry extractor having a discharge for the waste water thrown out of the clothes and a power transmitting means for said extractor, a receptacle arranged to receive the waste water and having a waste cock, and means governed by the decrease in the flow of wa-  
20 ter to said receptacle for shifting said power transmitting means to stop said extractor.

3. The combination, with a centrifugal laundry separator having a discharge pipe for the waste water thrown out of the clothes and a power transmitting means, of a recep-  
25 tacle communicating with said pipe and having a waste valve and a float in said receptacle, means connecting said float with said power transmitting means for locking it in  
30 position to transmit power to said separator when a predetermined volume of water is flowing from said separator, said float dropping by gravity and shifting said power transmitting means to stop said separator  
35 when the water falls below a predetermined volume.

4. The combination, with a centrifugal extractor having a discharge for the waste water thrown out of the clothes and a power transmitting belt for said extractor, of a  
40 shifter bar engaging said belt and means for normally holding it in its idle position, means for locking said bar in the shifted position of said belt for transmitting power  
45 therethrough, and means governed by the decrease in the flow of waste water from said extractor for tripping said shifter bar to return said belt to its normal, inactive position.

50 5. The combination, with a centrifugal

laundry extractor having a discharge opening for the waste water thrown out of the clothes and a power transmitting belt, of a spring-actuated shifter bar having means  
55 to engage and shift said belt, said bar having notches therein, a locking slide having a slot to receive said bar, one end of said slot engaging a notch in said bar upon the initial movement of said bar to shift the  
60 belt to its active position, and means actuated by the waste water discharged from the extractor for first moving said slide to disengage one end of its slot from said bar and engage the opposite end of the slot with the  
65 other notch, to temporarily lock said bar, said means moving in the opposite direction to disengage said slide from said bar when the waste water falls below a predetermined volume.

6. The combination, with a centrifugal laundry extractor having a discharge pipe  
70 for the waste water thrown out of the clothes and power transmitting means for said extractor, of a receptacle communicating with said waste pipe and having a waste  
75 valve in the lower portion thereof, a float arranged within said receptacle, means for shifting said power transmitting means, a locking device for said shifting means connected with said float and arranged to be  
80 locked to hold the said power transmitting means in position to transmit the power to drive said extractor when the flow of waste water from said extractor exceeds the discharge from said valve, said float dropping  
85 by gravity and releasing said shifting means when the discharge from said waste valve exceeds the flow through said discharge pipe.

7. In combination, with a centrifugal laundry extractor, means controlled by the  
90 volume of the waste water from the extractor for automatically stopping the machine.

In witness whereof, we have hereunto set our hands this 3d day of March, 1915.

FRANK M. OVERHOLT.  
FRANK M. STEINER.

Witnesses:

GENEVIEVE E. SORENSSEN,  
EDWARD A. PAUL.