Feb. 24, 1925. 1,527,378

W. V. ORR

WRINGER

Filed July 29, 1921 2 Sheets-Sheet 1

Fig. 1.

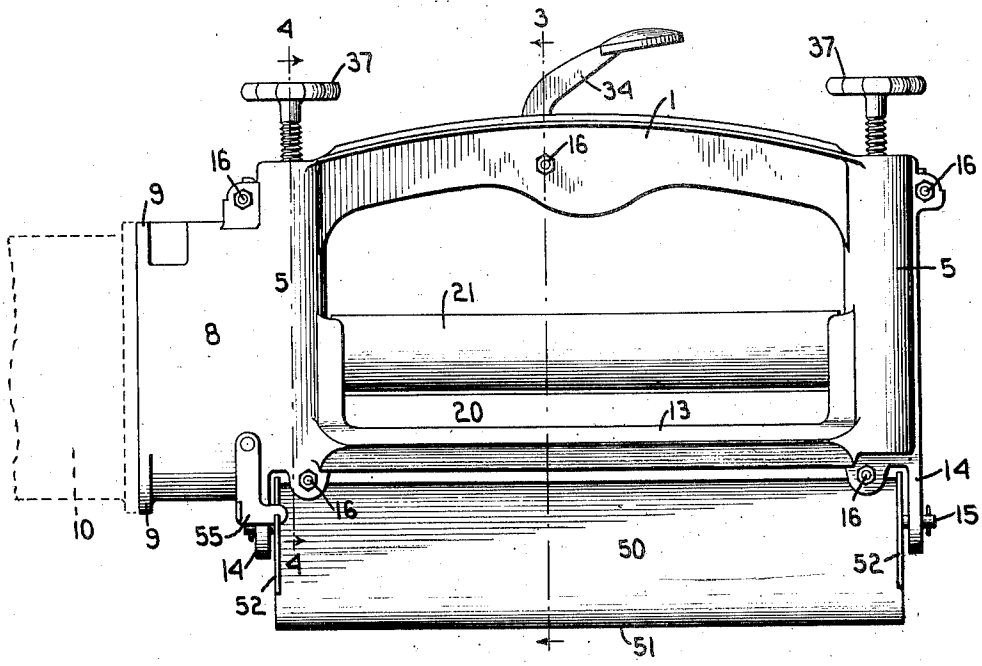


Fig. 3.

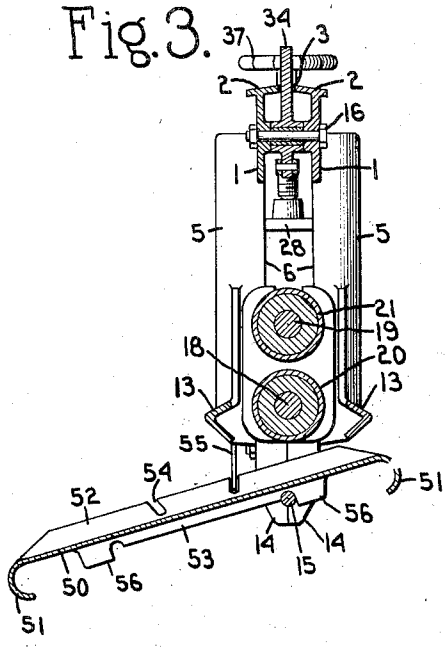
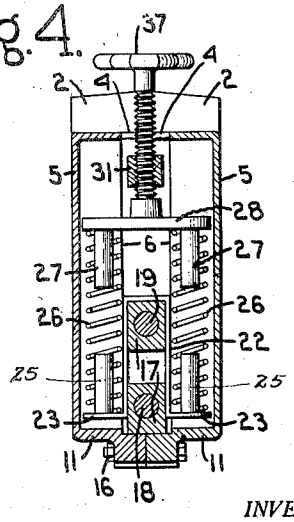


Fig. 4.



INVENTOR.

William V. Orr

BY Harold Elco Smith

ATTORNEY.

Feb. 24, 1925. 1,527,378

W. V. ORR

WRINGER

Filed July 29, 1921 2 Sheets-Sheet 2

Fig. 2.

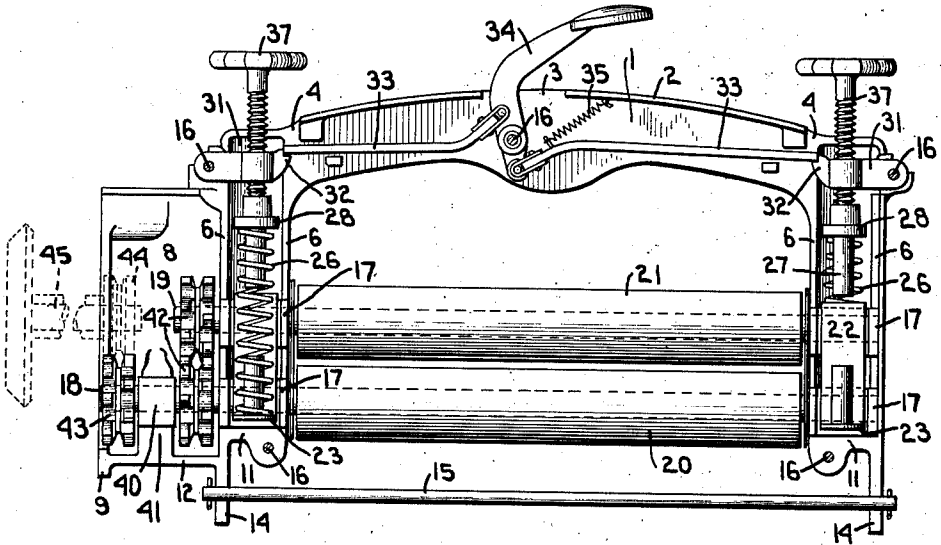


Fig. 5.

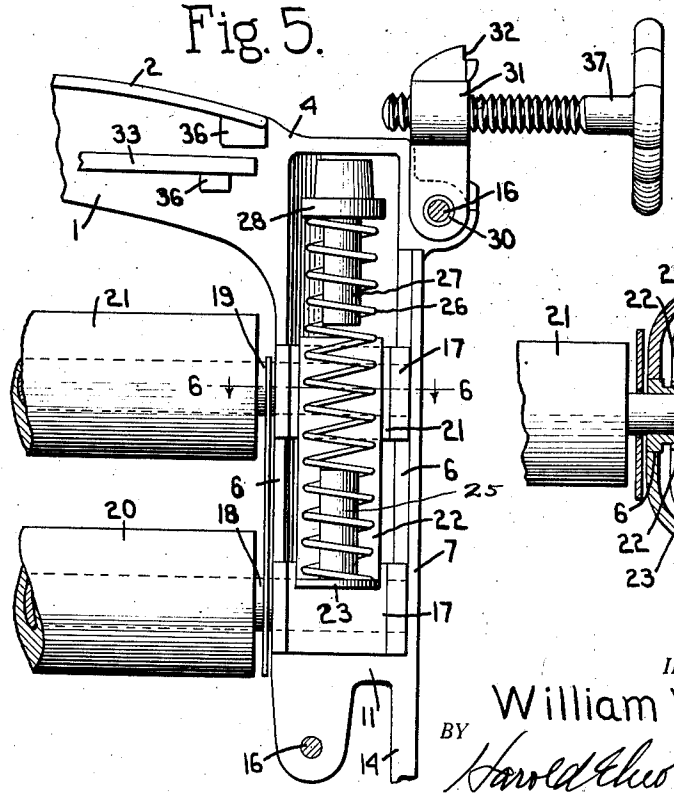
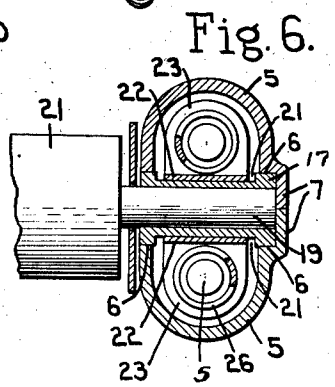


Fig. 6.



INVENTOR.

William V. Orr

BY

Harold Edwin Smith

ATTORNEY.

Patented Feb. 24, 1925. 1,527,378

UNITED STATES PATENT OFFICE.

WILLIAM V. ORR, OF CLEVELAND, OHIO.

WRINGER.

Application filed July 29, 1921. Serial No. 488,386.

To all whom it may concern:

Be it known that I, WILLIAM V. ORR, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Wringers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to clothes wringers, especially to those designed for power operation as in electrically-driven, domestic washing machines, although not limited to such use. The main objects of the invention are the provision of a device of this character which shall wear better and run easier than previous machines; which possess a particularly flexible spring-action; which shall be constructed all of metal and of great rigidity; which shall be all tight and clean and wherein all operating parts are closely housed; which shall possess a new and improved tension-release or emergency catch; which shall be constructed of simple parts easily manufactured; while further objects and advantages will become apparent as the description proceeds.

In the drawings accompanying and forming a part of this application I have shown an illustrative embodiment of my invention, although it will be understood that many changes can be made within the scope of my inventive idea. Fig. 1 represents a side elevation of a wringer embodying my improvements; Fig. 2 is a view similar to Fig. 1 but with the front plate of the wringer removed; Figs. 3 and 4 are sectional views corresponding to the lines 3—3 and 4—4, respectively, of Fig. 1 and looking in the direction of the arrows; Fig. 5 is an enlarged detail view showing the result of releasing the emergency catch; and Fig. 6 is a detail sectional view upon the line 6—6 of Fig. 5.

The frame of my improved wringer is preferably made of two reversely-symmetrical, cast-metal members which are approximately rectangular in outline. Each comprises a pair of upright risers, a straight bottom-bar and a top bar which may be straight but is preferably arched both for strength and for appearance. Each top bar has a depending web 1 spaced from the other web and a top flange 2 which meets the other top flange closely except for the notches 3 which are left for the emergency catch and the notches 4 which are left for the adjusting screws. Each riser comprises a hollow semicylindrical body 5 spaced from and facing the opposite body, their opposing edges 6—6 constituting vertical guideways. Each riser of one pair is formed with a flange 7 projecting toward the opposite flange and making a tight joint; each riser of the other pair is formed with a hollow extension 8 which cooperates with the mating extension to form a gear box whose mouth is flanged as at 9 for attachment to the supporting bracket 10. The bottom of each riser is formed with a web 11 and that of the extension with a web 12 adapted to make an oil tight joint with the web of the mating member. The bottom bars 13—13 are spaced apart sufficiently to receive the lower roll and are shaped to constitute guides thereto. The ends of the frame are provided with notched ears 14—14 which receive between them the rod 15 that carries the drain board and the two halves of the casing are held together by suitable screws 16—16.

Slidably mounted in the guideways 6—6 are the bearing blocks 17—17 which are preferably rectangular pieces of hard wood, impregnated with lubricant, and journaled in these bearings are the roll shafts 18 and 19 having thereon the roll portions 20 and 21 respectively. The sides of the bearing blocks are formed with shallow notches which receive the legs 22 of a U shaped saddle which rests on the upper block, and slidably embraces the lower block, terminating in out-turned feet 23. Each foot is formed with an upright stud 25 receiving the lower end of a spring 26, whose upper end receives the stud 27 of a yoke 28.

Suitably pivoted at each end of the frame, as about a sleeve 30 surrounding one of the bolts 16, is a nut 31 having at one side the shoulder 32 adapted to be engaged by the reciprocable latch 33, the opposite end of which is connected to the pivoted lever 34 pivoted between the webs 1—1 and projecting through the notch 3. This lever and its latches are ordinarily held in engaging position by the spring 35, the latches being guided by integral studs 36 cast in the frame. The nuts 31 are provided with adjusting screws 37—37 constituting tension members which, when the nuts are so se-

cured, press upon the yokes 28, but which upon the depression of the lever 34 fly to the position shown in Fig. 5, freeing the rolls completely.

The bearings of the lower roll rest on the bottom webs 11 and the box 8 is preferably provided with a third bearing 40 in line therewith and mounted on a seat 41. The usual roll gears, 42—42 are located between this bearing and the adjacent bearing 17, and the lower roll shaft 18 is extended upon the opposite side of this bearing sufficiently to receive a third gear 43 adapted to mesh with a driving gear 44 mounted on the drive shaft 45 carried by the bracket 10. These gears are preferably of the double-tooth, cast-iron type generally used in wringers, and because they will run together at widely varying angles and distances they constitute a kind of flexible joint which compensates for a very large amount of wear of the bearings which support the lower roll. This gear-arrangement fulfills all the requirements of a double universal joint and with the added advantage of saving length and expense. It also prevents end-play of both rolls.

The drain-board consists of a flat sheet of metal 50 interposed between the rod 15 and the bottom of the wringer frame. The side edges of this sheet are rounded as at 51 and the end margins are folded to form upwardly projecting flanges 52 and downwardly projecting flanges 53. The former are provided with notches 54 adapted to receive the latch 55 carried by the wringer frame whereby the drain board is fixed in its adjusted position; and the latter are formed with projections 56 constituting stops to limit the movement of the drain board.

It will be understood that many changes in design, construction, and arrangement can be made and that I do not limit myself in any wise except as specifically recited in the annexed claim or rendered necessary by the prior art.

Having thus described my invention what I claim is:

In a device of the class described. an end frame having a central vertical rectangular guide-way therein, tubular recesses in said frame adjacent to said guide-way, a lower bearing block in the bottom of said guide-way, a wringer roll journaled in said bearing block, an upper wringer roll journaled in said guide-way, an upper journal bearing in said guide-way for the upper roll, arms on the upper journal bearing and extending therefrom downwardly in said recesses, coiled springs within said recesses and resting on the downwardly extending arms, a cross-bar in the upper portion of said central rectangular guide-way and extending into said recesses over the upper ends of said springs, and a tension device comprising an adjusting screw engaging said cross-bar for the purpose of compressing said springs.

In testimony whereof, I hereunto affix my signature.

WILLIAM V. ORR.