Nov. 23, 1926. 1,607,947

J. M. DEAGLE

WRINGER

Filed July 20, 1925

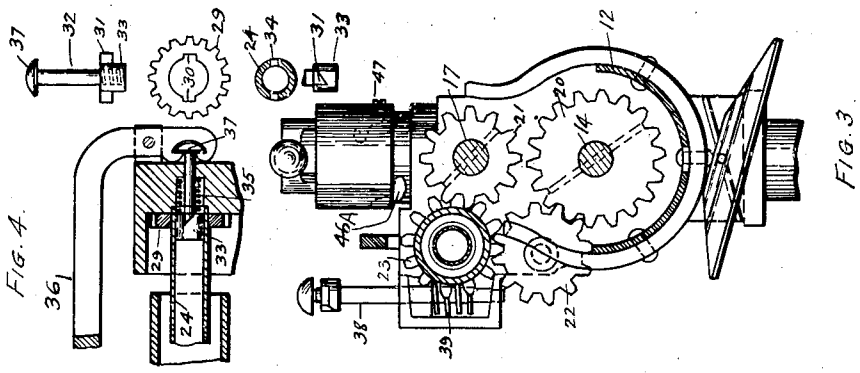


FIG. 4.

FIG. 3

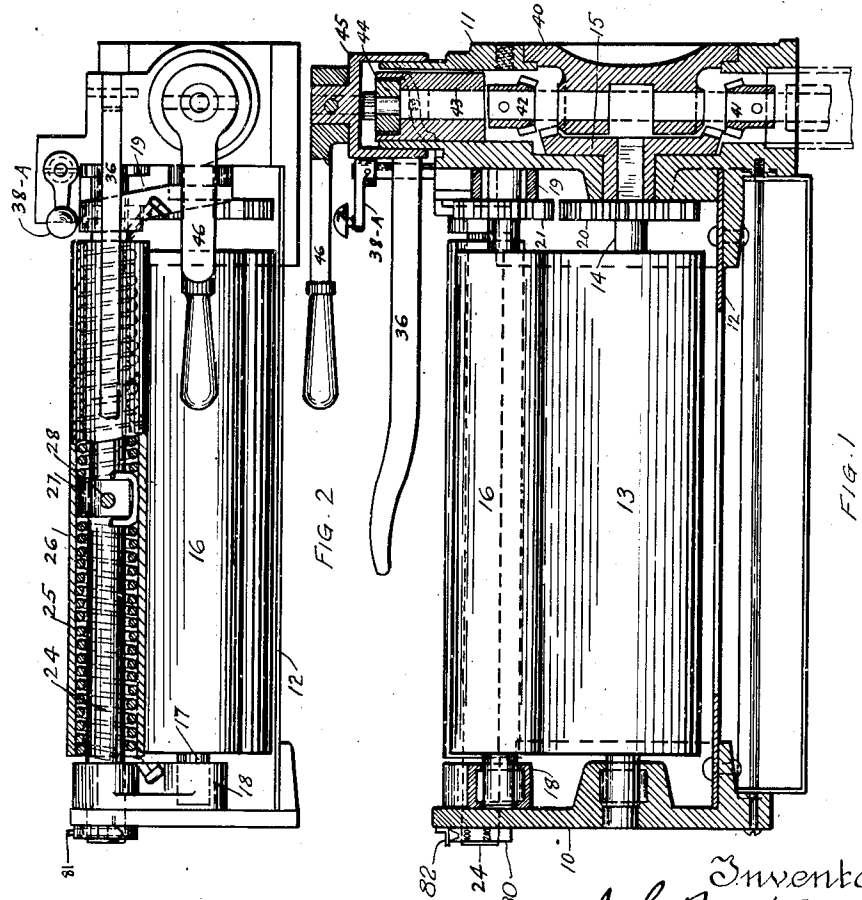


FIG. 2

FIG. 1

Inventor
John Martin Deagle
By E. J. Fetherstonhaugh
Atty

Patented Nov. 23, 1926.

1,607,947

UNITED STATES PATENT OFFICE.

JOHN MARTIN DEAGLE, OF CATARACT, ONTARIO, CANADA.

WRINGER.

Application filed July 20, 1925. Serial No. 44,895.

This invention relates to wringers as described in the present specification and illustrated in the accompanying drawings which form part of the same.

The invention consists essentially of the novel features pointed out broadly and specifically in the claims for novelty following a description containing an explanation in detail of an acceptable form of the invention.

The objects of the invention are to provide a wringer having means for regulating and indicating the pressure upon the rollers; to produce a strong and dependable wringer, easily operated, and positive of action; and generally, to supply a most serviceable machine that will accomplish the aforesaid purposes.

In the drawings, Figure 1 is a sectional side view through the center line of the wringer, showing parts in elevation.

Figure 2 is a plan view, showing the spring housing in section.

Figure 3 is a sectional view at right angles to the axis of the rollers, showing the rollers removed from their shafts.

Figure 4 is a sectional view showing the trip mechanism for releasing the tension in the roller spring, and various of its working parts.

Like numerals of reference indicate corresponding parts in the various figures.

The body or casing of the wringer consists of two end portions 10 and 11 rigidly secured together by means of a plate 12 riveted thereto. The portion 11 is adapted at the bottom to be mounted upon, and rotate on, a tubular shaft of a washing machine, or some other post or shaft.

13 is the lower roller rigidly mounted on a shaft 14. One end of the shaft rotates in ball bearings encased in portion 10 of the body; the other end is squared and fits into the sleeve of the gear 15.

16 is the upper roller, mounted vertically above the lower roller. It is rigidly secured to the shaft 17 which rotates in ball bearings encased in the rock arms 18 and 19.

The rollers have different diameters, preferably in the ratio of 3 to 2, in order to more easily feed the material through the rollers.

Upon the shafts 14 and 17 are rigidly mounted at one end, the spur wheels 20 and 21, respectively. The spurs 20 and 21 are never in engagement, and the rotation of the spur 20 is transmitted to the spur 21 through the agency of the two spurs 22 and 23, which are suitably mounted on the portion 11 of the body. These spurs have the same diameter as the spur 21, and the diameters of 20 and 21 must bear the same ratio one to the other, as the diameter of the roller 13 bears to that of the roller 16.

24 is a tubular shaft rotatably mounted in the casing of the wringer and the rock arms 18 and 19 are pivotally mounted upon the shaft 24. It will be seen, that the top roller 16 is free to automatically rise and fall as the material passes between the rollers.

A helical spring 25 encircles the shaft 24, and is enclosed in the spring housing 26. The collar 27 is rigidly mounted in the inside of the spring housing 26 by means of a pin 28. The spring 25 is suitably secured to the collar 27, and is wound in inverse directions on each side of the said collar. The ends of the spring have portions extending out and bearing upon the rock arms 18 and 19. This allows the rock arms 18 and 19 to rise or lower independently of one another; also the ends of the shaft 17, and therefore of the roller 16, are free to rise or lower independently of one another.

The gear 29 is rotatably mounted on the shaft 24. It has notches 30 adapted to be engaged by the fingers 31 of the plunger 32. The plunger 32 has an enlarged end portion 33 bearing in the inside of the shaft 24. Notches 34 are also provided in the shaft 24 to receive in engagement the fingers 31. When the plunger is in its operative position, as shown in Figure 4, the fingers 31 engage the notches 30 and 34. The plunger is held in its operative position by means of the spring 35 bearing at one end upon the portion 11 of the body, and at the other end, upon the portion 33 of the plunger. The shaft 24 extends some distance into the portion 11, and the fingers 31 are always in engagement with the notches 34. As the fingers are beveled off at their ends, the notches 30 of the gear 29 will be easily engaged upon the rotation of the crank 38A.

When the plunger is in its operative position, any rotation of the gear 29 will cause the shaft 24 to rotate and therefore wind the spring and increase its resiliency. The

pressure upon the rock arms 18 and 19, and therefore, the pressure upon the roller 16, will be increased accordingly.

A lever 36 pivots upon the body and has one end aadpted to receive the head 37 in the plunger. When the lever is forced downwardly, the plunger is pulled out of engagement with the gear 29, and the spring unwinds itself.

A pintle 38, operated by a crank 38A, is suitably mounted upon the body, and rigidly mounts a worm 39 at the bottom. The worm 39 engages the gear 29 by which the spring 25 is wound.

The portion 11 of the body is adapted to enclose the shaft of a washing machine or other drive shaft. A demountable bearing bracket 40 is suitably secured to the portion 11 and is adapted to rotatably mount the said shaft. 41 and 42 are gears adapted to be rigidly mounted upon the said shaft and so positioned thereupon to be held from engagement with, or to alternatively engage, the bevel gear 15.

A circular block 43 is provided in the upper part of the portion 11 and is adapted to be loosely mounted upon the shaft of a washing machine or on the other drive shaft previously referred to. The top of the block is recessed to receive the washer 44 upon which the said drive shaft is supported.

A cap 45 pivotally mounting a handle 46 fits upon the upper part of the portion 11, and is held thereto by means of a set screw 47 engaging a groove 46A in said upper part; the set screw 47 projects into the block 43.

The groove is so formed that when the set screw travels from one end to the other of said groove, the block 43, and therefore the shaft mounting the gears 41 and 42, will assume three separate positions. The two extreme positions determine the direction of rotation of the rollers while the intermediate or neutral position, retains the rollers idle.

A graduated dial 80 is rigidly secured to the tubular shaft 24 by means of the pin 81; an index pointer 82, rigidly secured to the portion 10 of the casing projects over the dial. The dial is so graduated and adjusted upon the shaft 24, that when all pressure is released in the spring 25, the pointer is directly above the zero mark, and the pin 81 so disposed on the shaft that it will bear against the index pointer 82. The shaft can then only be rotated through less than 360 degrees as the pin will finally engage the pointer, the resiliency possible of imparting to the spring being, therefore, limited.

What I claim is:

1. In a wringer, a casing, a lower roller mounted in said casing, an upper roller and rock arms mounting said upper roller, a tubular shaft rotatably mounted in said casing and loosely mounting said rock arms, a helical spring wound in inverse directions from its centre length and having the ends thereof bearing upon said rock arms for resiliently urging said upper roller toward said lower roller and being rigidly secured to said tubular shaft at centre length thereof, shafts mounting said rollers, gears rigidly secured to said shafts and pinions therebetween, a spur gear rotatably mounted upon said tubular shaft and a worm meshing with said spur gear, a crank actuating said worm, a plunger having means adapted to engage corresponding means in said tubular shaft and spur gear for effecting operative engagement therebetween, and a lever pivotally mounted upon said casing and operatively connected with said plunger.

2. In a wringer, a casing, a lower roller mounted in said casing, an upper roller and rock arms mounting said upper roller, a tubular shaft rotatably mounted in said casing and loosely mounting said rock arms, a helical spring wound in inverse directions from its centre length and having the ends thereof bearing upon said rock arms for resiliently urging said upper roller toward said lower roller and being rigidly secured to said tubular shaft at centre length thereof, shafts mounting said rollers, gears rigidly secured to said shafts and pinions therebetween, a spur gear rotatably mounted upon said shaft and a worm meshing with said spur gear, a crank operating said worm, a plunger sliding in said tubular shaft and having fingers extending out therefrom engaging notches in said shaft and spur gear, a spring encircling said plunger for maintaining said fingers out of engagement with said notches, and a lever pivotally mounted upon said casing for operatively connecting said fingers with said notches.

3. In a wringer, a casing, a lower roller mounted in said casing, an upper roller and rock arms mounting said upper roller, a tubular shaft rotatably mounted in said casing and loosely mounting said rock arms, a helical spring wound in inverse directions from its centre length and having the ends thereof bearing upon said rock arms for resiliently urging said upper roller toward said lower roller and being rigidly secured to said tubular shaft at centre length thereof, shafts mounting said rollers, gears rigidly secured to said shafts and pinions therebetween, and means for winding and releasing and for gauging the resiliency imparted to said spring.

4. In a wringer, a casing, a lower roller mounted in said casing, an upper roller and rock arms mounting said upper roller, a tubular shaft rotatably mounted in said casing and loosely mounting said rock arms, a helical spring wound in inverse directions from its centre length and having the ends thereof bearing upon said rock arms for resiliently urging said upper roller toward said lower

roller and being rigidly secured to said tubular shaft at centre length thereof, shafts mounting said rollers, gears rigidly secured to said shafts and pinions therebetween, a graduated dial secured to said tubular shaft and an index finger secured to said casing and over said finger, a pin rigidly secured to said tubular shaft and adapted to engage said finger in limiting the rotation of said tubular shaft, and means for winding and releasing said spring.

Signed at Toronto, Canada, this 9th day of July, 1925.

JOHN MARTIN DEAGLE.