Nov. 18, 1924.

1,515,917

R. P. WRIGHT

CLOTHES WRINGER

Filed March 28, 1918

Fig. 1.

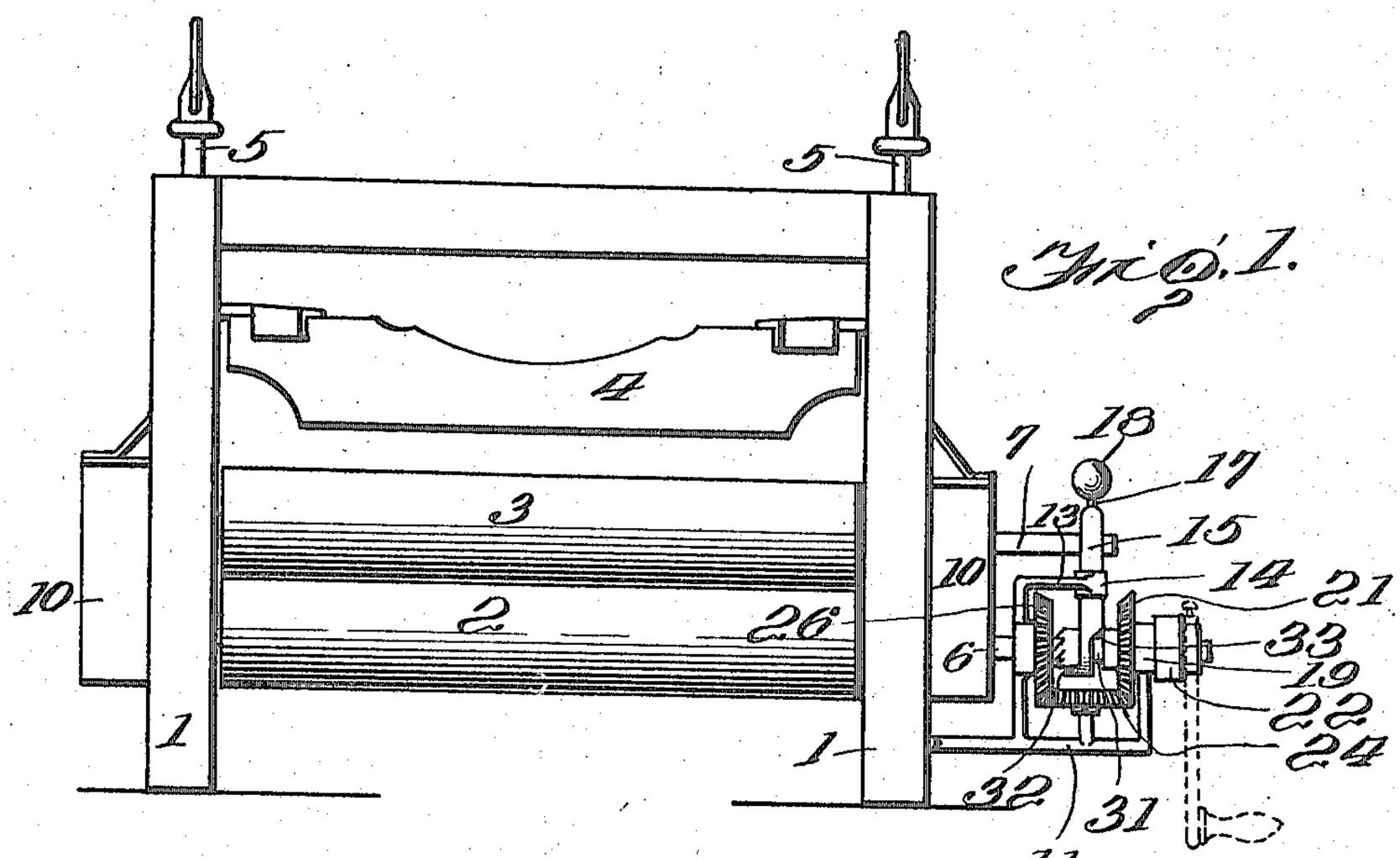


Fig. 2.

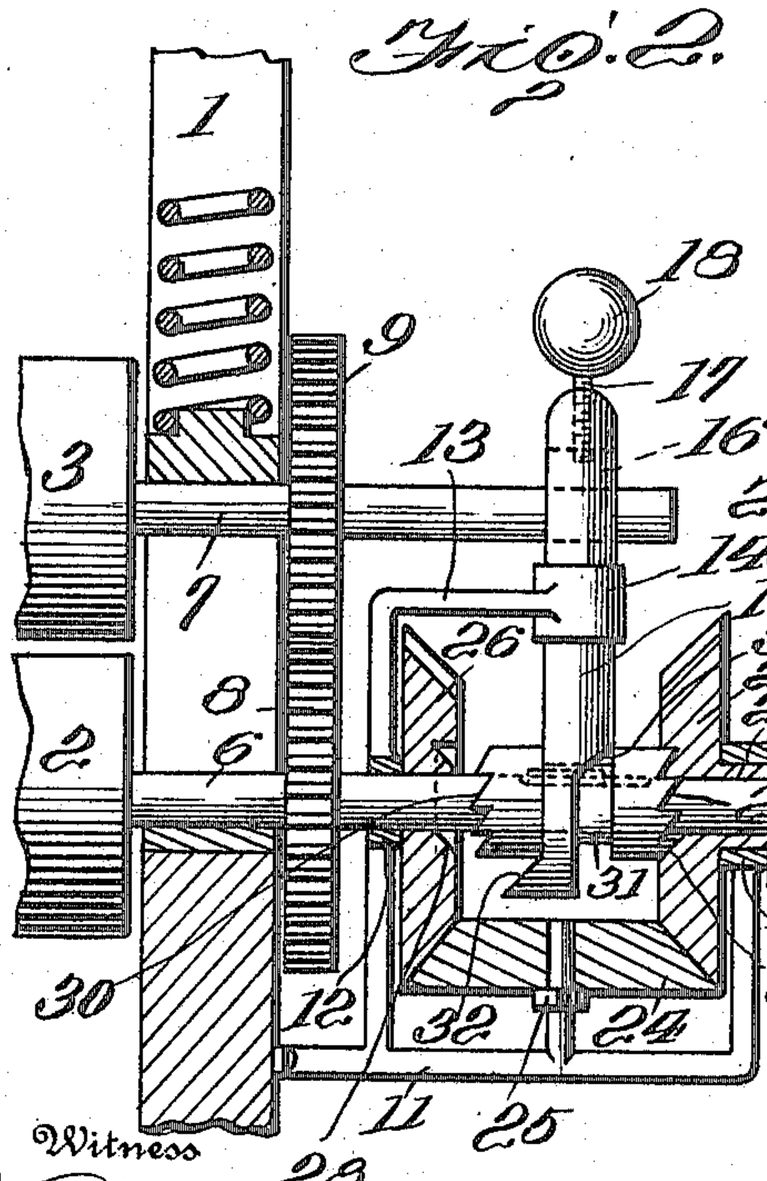
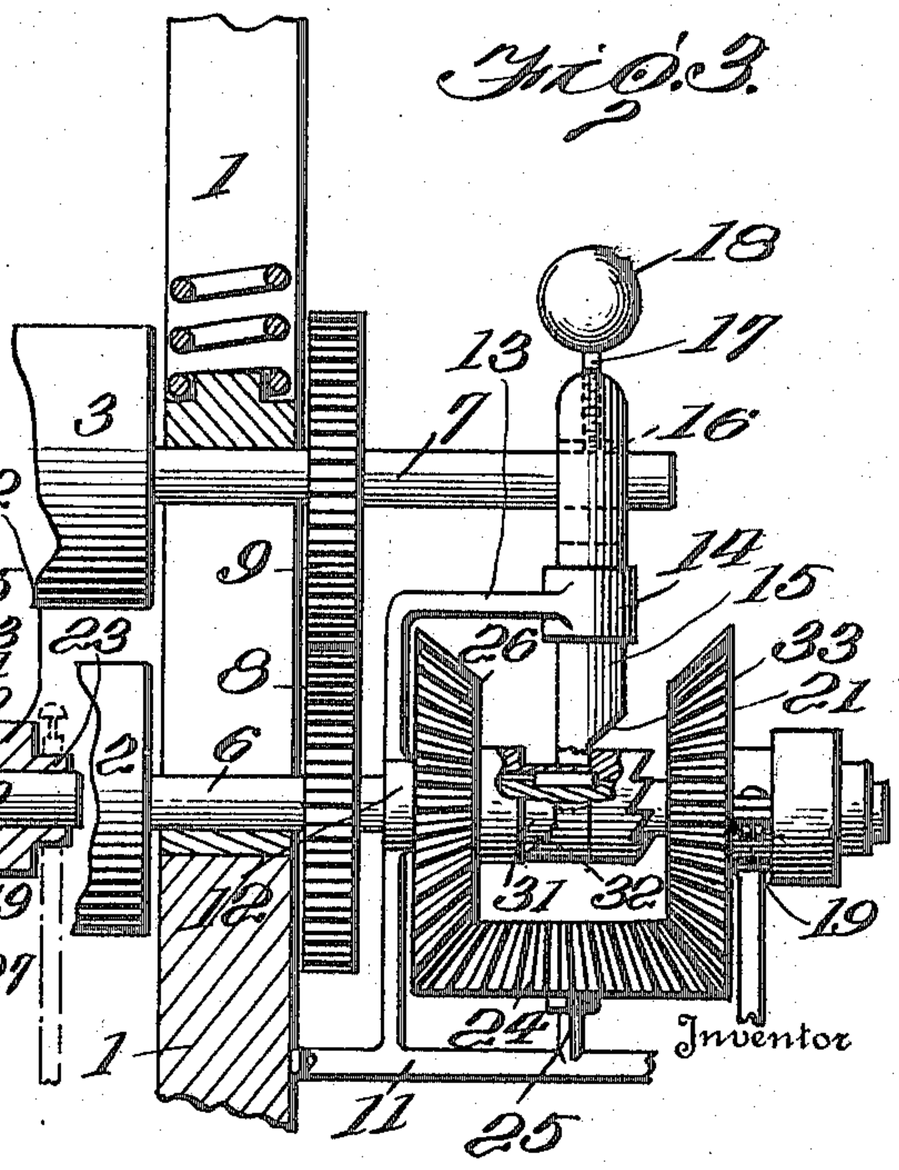


Fig. 3.



Witness

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UNITED STATES PATENT OFFICE.

REA P. WRIGHT, OF WASHINGTON, DISTRICT OF COLUMBIA.

CLOTHES WRINGER.

Application filed March 28, 1918. Serial No. 225,245.

To all whom it may concern:

Be it known that I, REA P. WRIGHT, a citizen of the United States, residing in the city of Washington, District of Columbia, have invented certain new and useful Improvements in Clothes Wringers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in clothes wringers, the object being to provide a reversing mechanism for reversing the pressure rolls on the abnormal separation thereof, said mechanism being so constructed that the mechanism will be returned to normal position when the rolls return to normal position, whereby the pressure rolls will be reversed when a thick bunch of clothes or the operator's wringer so as to force the clothes out from between the rolls, and as soon as the rolls are released by the clothes they will be rotated in the ordinary manner so that the clothes can be fed between the same.

Another object of my invention is to provide a reversing mechanism which is exceedingly simple and cheap in construction and one which can be readily attached to any wringer now in use.

Another and further object of the invention is to provide novel means for adjusting the reversing mechanism in order to enable the same to be set in operation when the rolls are separated a predetermined distance.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings—

Figure 1 is a side elevation of a clothes wringer of the ordinary construction showing the application of my improved construction of reversing mechanism thereto.

Figure 2 is an enlarged vertical section through a portion of a wringer and the reversing mechanism; and

Figure 3 is a similar view showing the gears in reversed position.

Like numerals of reference refer to like parts in the several figures of the drawings.

In the drawing 1 indicates a wringer frame which is provided with superimposed pressure rolls 2 and 3 over which is arranged pressure means 4 the tension of which is adjusted by pressure screws 5 in the ordinary manner. The pressure rolls 2 and 3 are carried by shafts 6 and 7 having meshing gears 8 and 9 so as to cause the rolls to be rotated in unison, said gears being preferably enclosed by gear casings 10.

Secured to one of the side bars of the wringer frame is a bracket 11 which is provided with a bearing 12 for the lower shaft 6, said bracket having an arm 13 provided with a bearing 14 in which is slidably mounted a clutch shifting member 15 provided with a slot 16 through which the shaft 7 is adapted to extend. The member 15 carries an adjusting screw 17 preferably provided with a ballshaped head 18 so that the same can be readily rotated or grasped by the operator for the purpose which will be hereinafter fully described.

The bracket is provided with a bearing 19 in which is revolubly mounted the sleeve portion 20 of a beveled gear 21 arranged around the shaft 6, said sleeve portion being formed integral with a pulley 22 over which is adapted to pass a drive belt. The pulley is provided with a collar 23 to which is adapted to be secured a crank 24 so as to allow the beveled gear 21 to be rotated either by hand or power, and while I have shown a pulley formed integral with the beveled gear 21, it is of course understood that a gear could be substituted therefor, so as to engage a driving gear without departing from the spirit of my invention.

A beveled gear 24 is revolubly mounted on a vertical bearing 25 of the bracket 11 and is adapted to engage the beveled gear 21 and a beveled gear 26 loosely mounted on the shaft 6 as clearly shown.

The beveled gears 21 and 26 are provided with female clutch faces 27 and 28 which are adapted to be engaged by the clutch faces 29 and 30 of a double male clutch which is keyed on the shaft 6 to slide thereon, the bore of the male clutch being preferably provided with a slot to receive the key fixed in the shaft, it is of course understood that this double male clutch can be slidably mounted on the shaft 6 of the pressure roll 2 in various ways without departing from the spirit of my invention.

The clutch shifting member 15 is provided with a slotted lower portion which is arranged within a central groove 31 formed in the double clutch member, said clutch shifting member having cam faces 32 and 33 so constructed that when the clutch shifting member 15 is in the posi-

tion shown in Fig. 2 the clutch face thereof is in engagement with the clutch face of the beveled gear 21 so as to lock said beveled gear to the shaft 6 whereby the pressure rolls 2 and 3 will be rotated in the direction to draw the clothes between the pressure rolls. As the upper roll 3 rises by the passage of an obstruction such as a thick bunch of clothes or the operator's hand the clutch member 15 is raised vertically within the bearing 14 so as to bring the cam face 32 into engagement with the wall of the groove 31 which moves the clutch member longitudinally on the shaft so as to throw the clutch face thereof into engagement with the clutch face 28 of the beveled gear 26 which locks said beveled gear 26 to the shaft 6, and as the beveled gear 21 is being driven the beveled gear 26 through the intermediate gear 24 will be rotated in a reversed direction so as to reverse the travel of the pressure rolls 2 and 3 which will force the obstruction drawn between the rolls backwardly so as to allow the upper roll to return to its normal position, and by such movement the double clutch will be returned to its normal position so as to lock the beveled gear 21 to the shaft 6 which will cause the pressure rolls to be rotated in the ordinary manner.

The adjusting screw 17 can be adjusted up and down in the member 15 so that the wringer can be set in order to enable the release to be actuated on the separation of the rolls at predetermined distances and as the shaft works in a slot formed in the member 15, the member 15 is free to move upwardly independent of the movement of the shaft whereby the gears can be shifted manually by grasping the knob of the screw and lifting the member 15 vertically.

In the operation of a wringer provided with a reversing mechanism, as herein shown and described, I have provided means for reversing the rotation of the pressure rolls automatically by the abnormal separation of the pressure rolls, but by the construction herein shown and described, the operator can reverse the rolls by simply grasping the head 18 of the screw 17 and raising upwardly thereon so as to operate the clutch shifting member, and it will be seen from this construction that mutual means are provided as well as automatic means for reversing the rotation of the rolls. By this particular construction of shifting mechanism for the double clutch the same can be adjusted so as to cause the mechanism to be set into operation on the passage of different thicknesses of the material.

I claim:

1. The combination in a clothes wringer having upper and lower pressure rolls provided with shafts, the upper one of said shafts being movably mounted, of gears loosely mounted on the lower one of said shafts provided with clutch faces, a double clutch member slidably mounted on said last mentioned shaft and a shifting member for said clutch member actuated by the shaft of the upper pressure roll when vertically moved for locking one of said gears to the lower pressure roll shaft.

2. The combination in a clothes wringer having co-acting pressure rolls, one of said rolls being movably mounted in respect to the other pressure roll, means for driving one of said pressure rolls in one direction and means for reversing the rotation of said roll by the abnormal separation of said movable roll.

3. The combination in a clothes wringer having pressure rolls carried by shafts, one shaft being movably mounted in respect to the other shaft, of gears loosely mounted on one of said pressure roll shafts, one of said gears being provided with a driving member, a loosely mounted gear meshing with the first mentioned gears and means keyed on said shaft actuated by the abnormal separation of said rolls for locking the other of the first mentioned gears to said shaft for causing said shaft to be rotated in a reverse direction.

4. The combination in a clothes wringer having pressure rolls, one of said rolls being movably mounted in respect to the other roll, driving gears for one of said rolls and means actuated by the movable roll for causing said rolls to be rotated in one direction when in normal position and in a reversed direction when in abnormal position.

5. The combination in a clothes wringer having pressure rolls carried by shafts, of a bracket secured to said clothes wringer having a bearing for one of said shafts, spaced gears loosely mounted on said shaft, means to rotate one of said gears, an intermediate gear meshing with said spaced gears, a clutch member keyed on the last mentioned shaft, and a vertically movable member having means for shifting said clutch member upon said shaft into engagement with either of said spaced gears to cause said pressure rolls to be rotated in either direction.

6. The combination in a clothes wringer having pressure rolls provided with shafts, one of said rolls being movably mounted in respect to the other roll, of a pair of gears loosely mounted on one of said shafts provided with clutch faces, a double clutch member keyed on said shaft to move longitudinally thereon and adapted to cooperate with either of said clutch faces, an intermediate gear meshing with said gears and a shifting member actuated by the abnormal separation of said rolls having inclined faces cooperating with said clutch

member for locking one of said gears to said shaft.

7. The combination in a clothes wringer having a pair of superposed pressure rolls, one of said rolls being movably mounted in respect to the other, a continuously rotating gear loosely mounted on the shaft of one of said rolls, a second gear loosely mounted on said shaft, an intermediate gear meshing with said gears and means actuated by the movable roll for locking either of said loosely mounted gears to the shaft.

8. The combination in a clothes wringer having pressure rolls carried by shafts, said shafts having meshing gears, one of said rolls being movably mounted in respect to the other, a pair of gears on one of said shafts for driving one of said rolls in opposite directions, a member for locking either of said gears to said shaft, and means controlled by the position of said movable roll for causing said member to lock one of said gears to said shaft when in normal position and to the other gear when in abnormal position.

9. A clothes wringer comprising a frame having superposed pressure rolls, one of said rolls being movably mounted in respect to the other, a bracket secured to the frame of said wringer having a bearing to receive the shaft of one of said rolls, a gear loosely mounted on said shaft having a driving member connected thereto, a second gear loosely mounted on said shaft having a driving connection with the first mentioned gear and means actuated by the abnormal separation of said rolls for locking one of said gears to said shaft for causing said shaft to be rotated in either direction.

10. The combination with a clothes wringer having a pair of superposed pressure rolls, one of said rolls being movably mounted in respect to the other, of a pair of gears loosely mounted on the shaft of one of said rolls provided with clutch faces, of a double clutch member keyed on said shaft and an intermediate gear meshing with the first mentioned gears, a shifting member for said double clutch member, said shifting member being connected with said movably mounted roll for moving said clutch member in position to lock either of said gears to said shaft.

In testimony whereof I hereunto affix my signature.

REA P. WRIGHT.