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WRINGER ROLL DRIVE DEVICE

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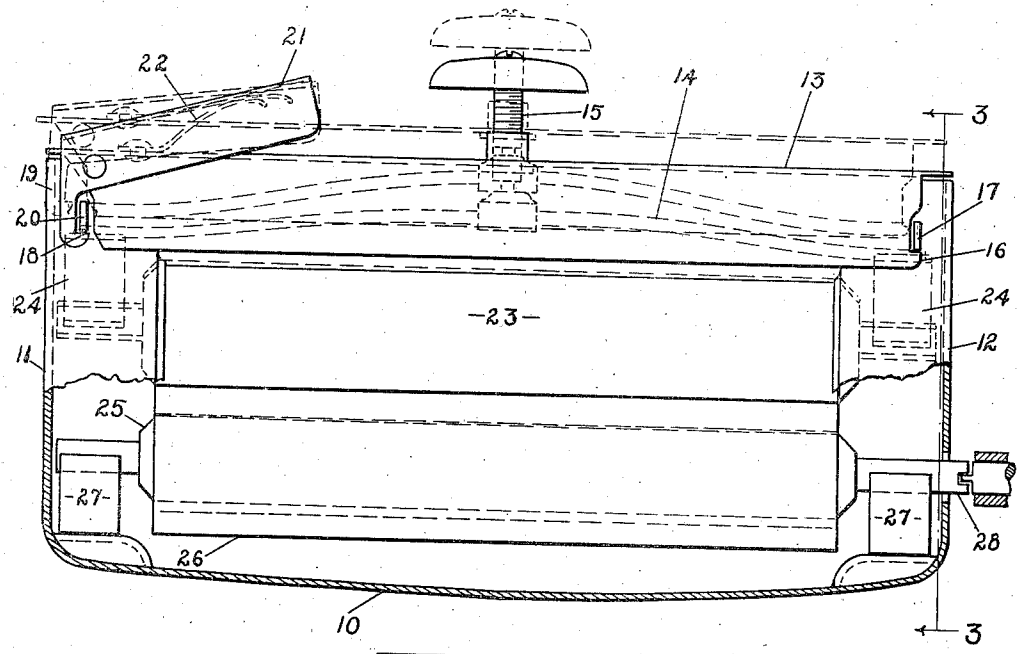



FIG. 1.

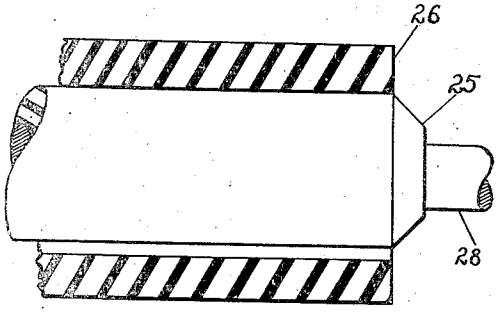



FIG. 2.

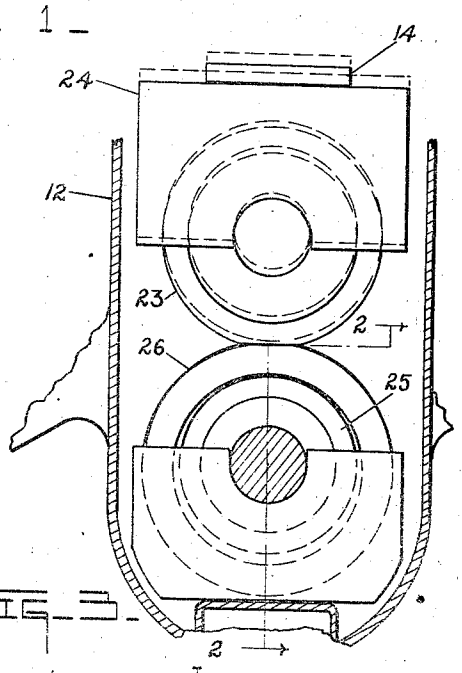



FIG. 3.

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## WRINGER ROLL DRIVE DEVICE

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1 Claim. (Cl. 68—253)

This invention is directed to wringer roll driving and stop mechanism and has for its principal object to provide a device capable of operating wringer rolls in such a manner that when the rolls are held in operative pressure relation they are normally rotated to wring garments whereas when the rolls are released from pressure relation the diving means is automatically rendered incapable of rotating the rolls.

Another object is to provide a roll driving mechanism wherein a separate member is interposed between the rolls of a wringer and frictional connection is made between said intermediate member and one of the rolls whereby when one roll is pressed toward the other, driving connection is established to rotate the rolls whereas when said pressure is removed the driving connection is broken.

A further object is to provide a wringer roll drive and stop mechanism, as aforesaid, operable exclusively in accordance with the pressure relationship between the rolls.

Roll wringer mechanisms having means for releasing the pressure between the rolls are well known. However, under conditions of practical use the release mechanism is seldom used except in emergency, such as would appear when fingers are caught between the rolls, or hair or personal clothing are wrapped around them.

In the case of such emergency it is obviously necessary to instantly relieve the pressure between the rolls, but the danger of injury does not entirely disappear upon mere release of the pressure. In the event of hair or clothing being wrapped around the rolls, and in numerous other possible situations, release of the pressure, with continuation of rotation of the rolls only lessens the danger, but does not remove it.

In view of this it will be apparent that the ideal arrangement would provide means for instantly relieving the pressure between the rolls and simultaneously arresting rotation thereof, and it is to the end of providing a simple, effective means of arresting rotation of the rolls simultaneously with release of the pressure therebetween that I have produced the invention herein disclosed.

The invention is fully described and illustrated in the following description and accompanying drawing in which:

Fig. 1 is a side elevational view showing a wringer mechanism embodying my invention;

Fig. 2 is a fragmental sectional view taken on line 2—2 in Fig. 3; and

Fig. 3 is an enlarged sectional end elevational view taken on line 3—3 in Fig. 1.

Referring to the drawing, Fig. 1 discloses my invention as included in a roll wringer mechanism comprising a lower frame composed of a bottom transverse portion 10 and upright end portions 11 and 12 attached to the ends thereof.

A top frame member 13, carrying a spring 14 provided with an adjustment mechanism 15, is releasably attached to upright 12 by means of a hook 16 engaged under a lug 17 extending from the upright.

The opposite end of the top frame is held upon upright 11 by means of a hook 18 of a latching member 19 engaged under a lug 20 extending from the upright.

The latching member 19 is pivotally mounted on the top frame and is provided with a rearwardly extending portion 21 by means of which the latch may be manipulated to disengage hook 18 from lug 20. A spring 22 urges the hook to normally engage the lug from which position it is easily removed to release the top frame by slight manual pressure on portion 21.

The wringer mechanism includes an upper roll 23, the shaft of which is journalled at each end in bearing blocks 24. The bearing blocks are made vertically slidable in uprights 11 and 12 and the ends of spring 14 are disposed so as to lie upon the blocks.

It will be apparent that with the top frame positioned and held upon the uprights 11 and 12 as described, spring 14 is capable of exerting pressure upon the upper roll to force it downwardly whereas when the hook 18 is released the top frame is free to move upwardly responsively to the relaxing movement of the spring whereby the pressure on roll 23 is removed.

The lower roll portion of the wringer mechanism comprises dual elements, a roll 25 made from suitable material and a cylindrical member 26 preferably made from rubber or the like.

The cylindrical member is so proportioned as to have a wall of suitable thickness and to surround the roll with a suitable clearance space therebetween. The relationship is clearly indicated in Fig. 2.

The internal surface of cylinder 26 and the external surface of roll 25 are made to have suitable frictional characteristics to provide satisfactory operation under the conditions described.

It is to be noted that for practical use the cylinder 26 may be of any desired external diameter. For the purpose of illustration it is

herein shown as having substantially the same diameter as the upper roll 23 whereby the appearance of the mechanism as a whole is that of a conventional wringer.

The shaft of roll 25 is journalled in bearing blocks 27 which are stationarily supported in the ends of the lower frame structure, one end of the shaft being extended at 28 for the purpose of providing driving connection with a power source not shown.

Operation of the device is as follows:

With the top fame in lowered, attached position the upper roll 23 is held against cylinder 26 with sufficient pressure to bring about a frictional driving connection between the cylinder and roll 25 so that the roll mechanism as a whole operated substantially as would be the case were the lower roll of the conventional solid form.

Upon release of the top frame the roll pressure normally produced by spring 14 is relieved and the frictional contact between roll 25 and cylinder 26 is reduced to a point where there is not sufficient power transmitted to rotate cylinder 26 and thus the roll 25 rotates within the cylinder. Upon resetting of the top frame, normal operation of the roll mechanism is automaticaly resumed.

It is to be noted that the roll tensioning and release mechanism herein shown is for illustrative purposes only. The roll drive device described is obviously applicable to wringers having substantially any form of tensioning and release mechanism, and I do not wish to be limited to use with any particular form of wringer mechanism.

What I claim is:

In a clothes wringer, a lower frame, a releasable top frame, a power driven roll, an idler roll, spring means retained by said frames urging said rolls together in pressure relationship, a resilient thick wall cylinder member loosely enveloping the driven roll, said member being operable to establish driving relationship between the rolls only when the rolls are under pressure relationship, and safety frame release means whereby the frames may be quickly detached and roll pressure released whereupon the driving relationship between the thick wall cylinder and driven roll is automatically rendered inoperative.

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