

May 2, 1933.

J. L. PERKINS

1,906,406

SAFETY WRINGER

Filed Dec. 9, 1931

3 Sheets-Sheet 1

Fig. 1.

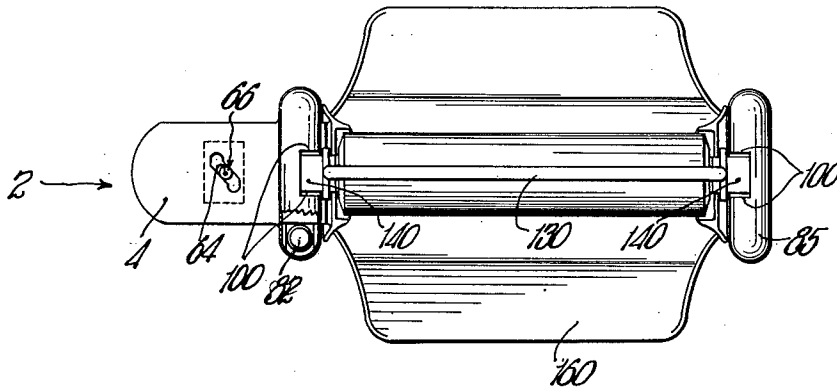


Fig. 2.

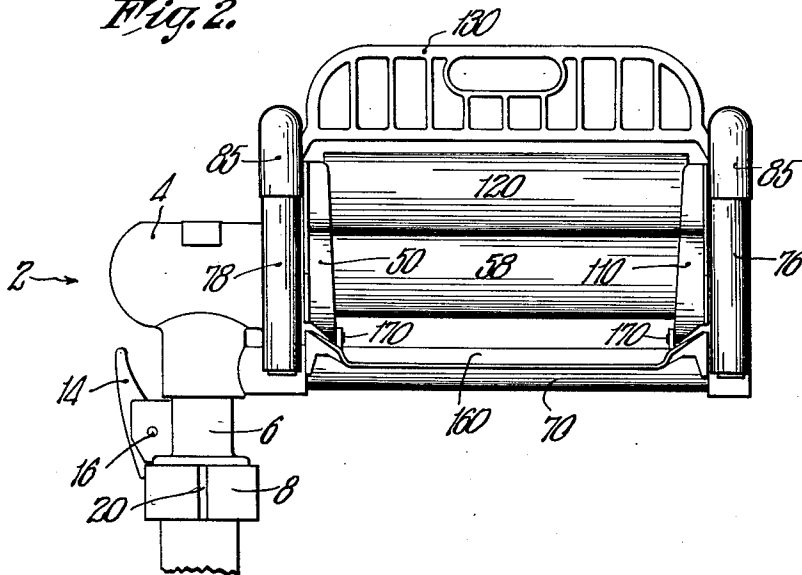
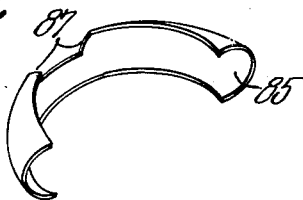


Fig. 3.



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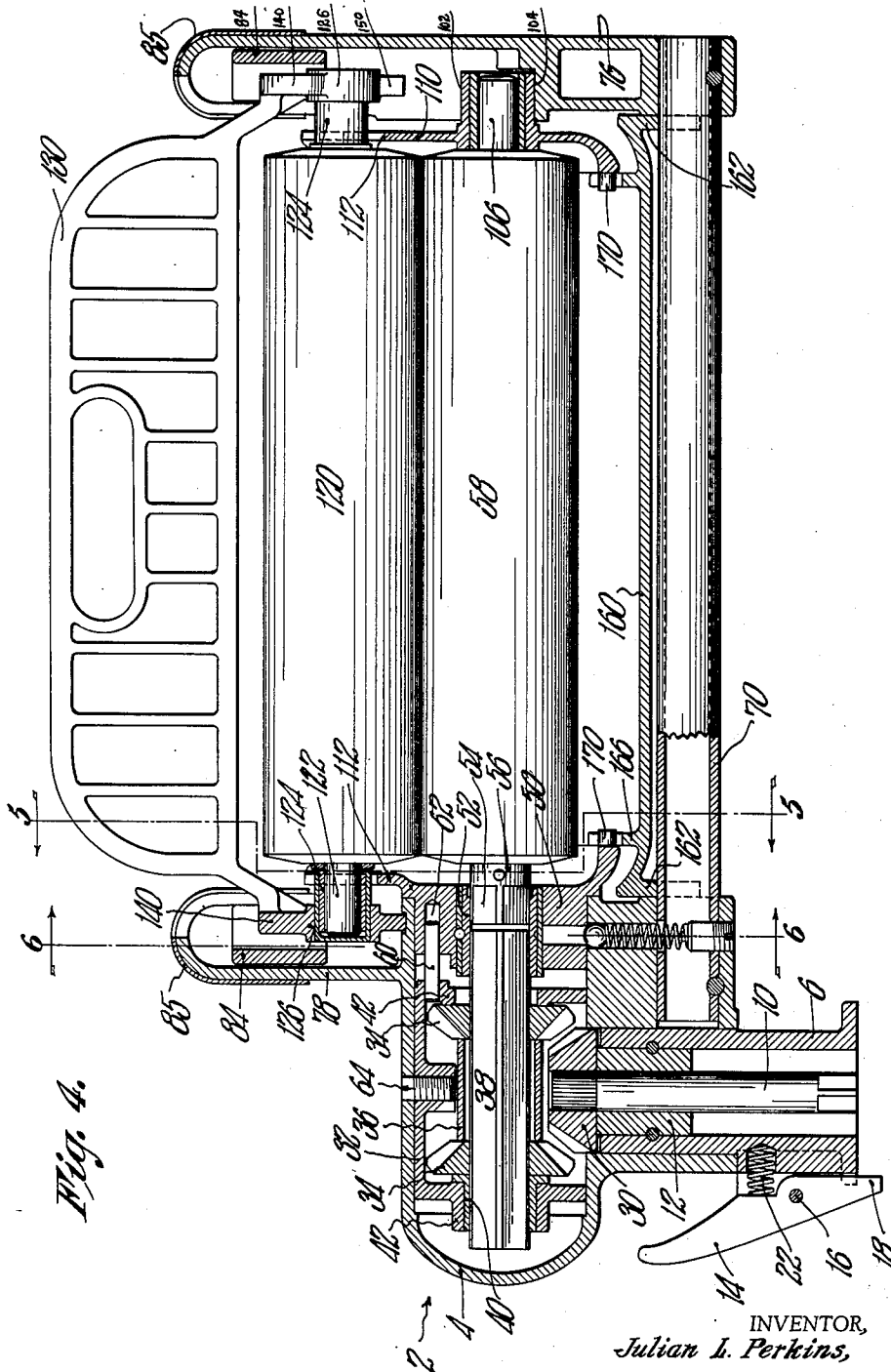
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3 Sheets-Sheet 2



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3 Sheets-Sheet 3

Fig. 5.

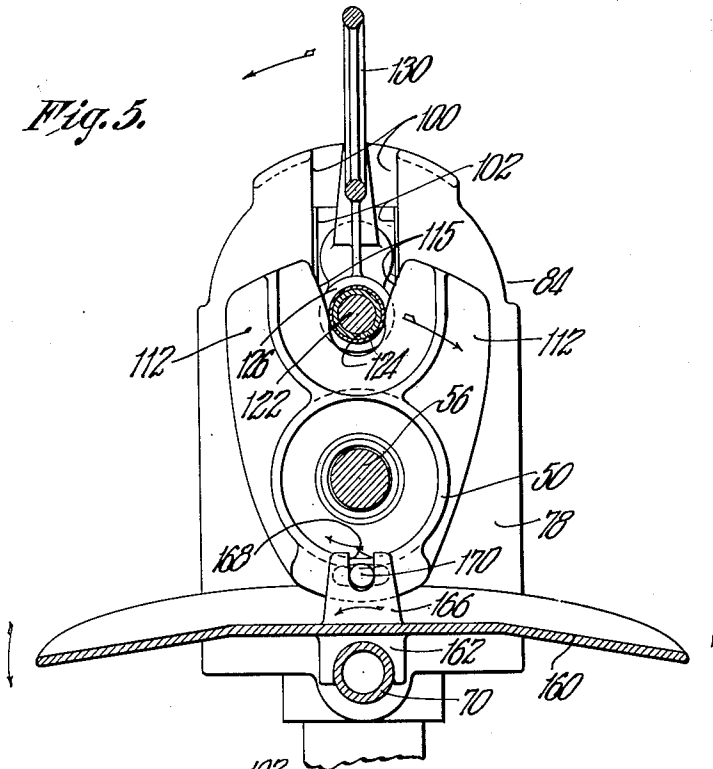
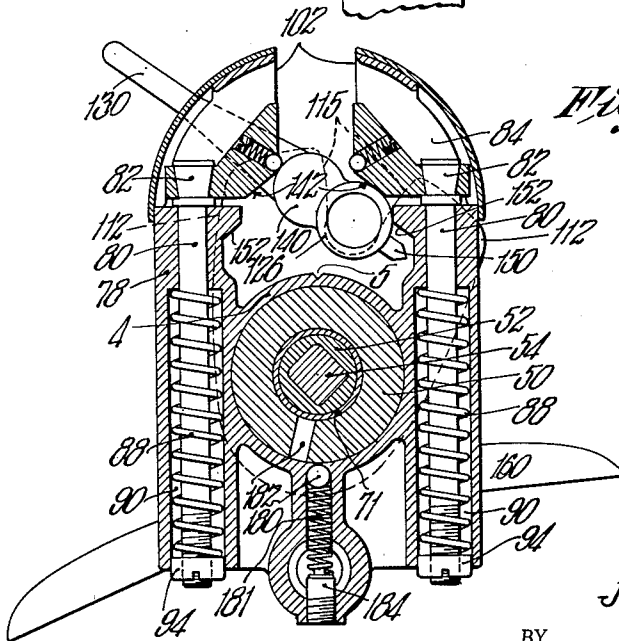


Fig. 6.



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SAFETY WRINGER

Application filed December 9, 1931. Serial No. 579,862.

This invention relates to improvements in wringer apparatus and is directed more particularly to improvements in wringers for use in connection with washing machines and the like.

The principal objects of the invention are directed to the provision of a wringer apparatus wherein driving and driven rolls are releasably held in operable engagement while means is provided to automatically release the rolls in case an operator's hand becomes caught between the rolls. This is accomplished by means of a novel combination and arrangement of parts which will be more fully hereinafter described.

Various objects and advantages of the invention will be more fully hereinafter referred to in connection with the accompanying description of the invention, which for purposes of disclosure is illustrated in the accompanying drawings, wherein

Fig. 1 is a plan view of a wringer apparatus embodying the novel features of the invention.

Fig. 2 is a side elevational view of the same.

Fig. 3 is a perspective view of a cap plate to show the construction thereof.

Fig. 4 is a longitudinal elevational view through the wringer shown in Figs. 1 and 2.

Fig. 5 is a transverse sectional view on the line 5-5 of Fig. 4, and

Fig. 6 is a transverse sectional view on the line 6-6 of Fig. 4.

Referring now to the drawings more in detail the invention will be fully described.

A head 2 is provided which includes a casing or housing 4 having a depending tubular support 6 which is adapted to rest on a support 8 (as shown in Fig. 2), so that the head and wringer apparatus may be supported thereby and swung on a vertical axis into various positions.

The support 8 may be a part associated with a washing machine or the like and will usually be hollow and will have a drive shaft extending upwardly therein, by the means of which the wringer apparatus is driven from the washing machine.

A drive shaft 10 is journaled in a bearing 12 of the tube 6. A latch 14 is pivoted in

the tube 6 as at 16 and is arranged so that its lower end 18 will engage with suitable notches such as 20 in the member 8 whereby the wringer apparatus may be held in various positions and against rotation relative to the member 8. A spring 22 between the member 14 and tube 6 tends to urge the upper end of the member 14 outwardly so that its lower end will be spring pressed into such notches as 20.

A driving member in the form of a pinion 30 is carried by the upper end of the shaft 10 and a cam member 32 is slidable and rotatable in the housing 4. A pair of driven members 34 in the form of gears are non-rotatable on a shaft 38 and are held in spaced relation by means of a sleeve 36. The shaft 38 is preferably non-round and is journaled in the cam 32 at its outer end by means of a bushing 40 so that it is rotatable relative to the cam. The gears 34 are held in spaced relation as stated by the sleeve 36 and bear against the bushings 40 and an inner end wall 42 of the cam.

A yoke member 50 is oscillatable in the inner end of the housing and a coupling 52 is rotatable therein, as shown clearly in Fig. 4. The shaft 38 is as stated preferably non-round to fit within a non-round bore of the coupling which it rotates. As will be seen the outer end of the shaft 38 is supported by the bearing 42 of the cam member, while its other end is supported by the coupling 52 which is rotatable in the member 50. The coupling 52 which has the non-round bore removably receives a nonround end portion 54 of a shaft 56 of a lower drive roll 58.

A pin 60 is carried by the cam member 32 which is slidable in a socket 62 of the member 50. A stud 64 extends upwardly from the cam 32 and works in a cam slot 66 in the housing, which slot, as in Fig. 1, has a part preferably disposed in an angular relation relative to the axis of the shaft 38. As the cam is oscillated in one direction or the other it will, by means of the stud and cam slot, be moved longitudinally. The cam is thus oscillated in one direction or the other to move longitudinally so that one or the other of the gears are brought into engagement with

the pinion 30 or when the pin is centrally of the slot as in Figs. 1 and 4, the gears 34 are out of engagement with the pinion or in a neutral inoperative position. By means of the pin 60 in the socket 62 of the member 50 the cam 32 is oscillated by oscillation of the member 50.

A support 70 preferably in the form of a rod or tube extends forwardly from the housing 4 and carries on its outer end a bracket support 76. This bracket 76 extends upwardly from the tube and corresponds to another similar bracket support 78 associated with the inner side of the housing 4. These brackets and tube support constitute what may be termed a wringer frame.

These brackets 76 and 78 are substantially identical so that one of them only need be described. Fig. 6 shows the bracket 78 in association with the housing 4. Bolts 80 at opposite sides of this bracket are slidably vertically therein and have tapering upper ends 82 which are preferably fixed in a cap 84. Springs 88 disposed in bores or channels 90 of the bracket are disposed between the upper ends of the bores and nuts 94 on the ends of the bolts. These springs are arranged to exert downward pressure to the bolts to thereby urge the caps 84 downwardly relative to the brackets. The tension of the springs may of course be varied within wide limits in order that the caps will be yieldingly held against upward movements for the purpose as will appear. Both brackets 76 and 78 have similar springs, bolts and caps associated therewith, and the caps may be referred to as receivers.

Vertically disposed slots 100 are provided in adjacent inner faces of the brackets 76 and 78 and likewise the caps 84 on their adjacent faces are provided with slots 102 which are in alignment with the slots 100. This is to allow the wringer roll 120 (to be described) to be dropped into the wringer apparatus or frame, as will appear. Cap plates 85 as shown in detail in Fig. 3 are provided with slots 87 to register with the slots 100 of the caps and these plates are arranged to be slipped onto the upper ends of the brackets 76 and 78 to conceal the caps as shown in Fig. 6.

A yoke member 110 has a hub 112 which is rotatable in a suitable bearing socket 104 of the bracket 76 and a lower or drive roll 58 has an outer end 106 of its shaft suitably journaled in said hub 102 of the yoke.

This yoke member 110 and a part of the member 50 which is oscillatable in the head have upwardly extending arms 112 which are formed to provide slots 115 (see Figs. 5 and 6) to receive the ends of a guard and a driven roll 120. This driven roll 120 has a shaft 122 journaled in suitable bearings 124 of hubs 126 carried at opposite ends of a roll carrier 65 or guard 120. The bearings 124 are receiv-

able in the slots 115 of the members 110 and 50. The guard 130 and upper roll 120 are associated in such a way that the guard may be used as a carrier to raise and lower the roll into and out of the wringer. When the upper roll 120 is removed from the wringer by means of the guard 130 the lower roll 58 may be removed from the wringer by withdrawing the shaft portion 54 from the coupling 52. As the lower roll is removed from the frame, the yoke 110 is carried upwardly thereby so that it is possible to remove both rolls and the yoke from the frame when desired. The roll and associated carrier may be called a roll-unit.

Cams 140 are associated with the hubs 126 of the guard 130 and are receivable in the slots 100 and 102 of the brackets 76 and 78 and caps 84 when the guard is dropped vertically into the wringer. Also as the guard is lowered, the bearings 124 are received in the slots 115 of the members 110 and 50. It will be here stated that the members 50 and 110 are in a neutral position when the roll 120 is removed from the wringer. The lower ends of the slots 102 of the caps 84 have diverging portions 142 as shown clearly in Fig. 6.

With the upper roll lowered into the wringer so that it rests on the lower drive roll and with the bearings 124 in the slots 115 of the yokes and the cams 140 in the slots 102 of the caps 84, the wringer may be operated. To set the wringer in operation the guard 130 is swung in one direction or the other from the neutral position shown in Fig. 5, or as to a position such as is shown in Fig. 6. As the guard is swung the bearings 126 bring up against one inclined face 142 of the caps, while the cams 140 bring up against the other inclined faces 142. The parts 140, 142 and 126 are so arranged that the guard is releasably held in tilted position for the ordinary operation of the wringer. In that way the upper roll 120 is releasably held in operative engagement with the lower roll 58. As the guard is tilted into an operative position, the yoke members 50 and 110 are oscillated and likewise the cam 32 is oscillated to engage one of the gears 34 with the drive pinion whereby the lower roll is driven.

When the guard is thus swung to an operative position, the upper roll is of course driven by the lower roll. As the operator passes clothes between the rolls and the upper roll is moved upwardly, the hubs 126 and cams 140 of the guard bearing on the caps 84 elevates them against the action of the springs 88. In this way the upper roll, while it is releasably held in operative position, is yieldingly pressed against the lower roll for the wringing action so that the upper roll may move away from the lower roll against the action of the springs.

Should an operator have a hand or arm caught between the rolls so that it becomes

necessary to stop the wringer, it is an easy matter to engage the guard 130 with some part of the body so as to swing it towards its neutral position, shown in Fig. 5.

Slight pressure only is necessary to swing the guard from its tilted operative position shown in Fig. 6. Clothes or whatever happens to be between the rolls tend to cause swinging movements of the guard when it is pressed against so that it swings quickly and allows the upper roll to move upwardly. As the guard is moved towards a neutral position the upper roll is released from operable engagement with the lower roll.

As an added safety feature, forming a part of the invention the following is provided. Trips 150 are associated with the guard 130 and project preferably from the hub portions 126 thereof in a downward direction, as shown in Figs. 4 and 6. Stops 152 are associated with the brackets 76 and 78 against which the trips may strike when the upper roll is moved upwardly from the lower roll as it will when a hand or an arm which is thicker than the clothes becomes caught between the rolls.

That is, the parts are preferably so arranged that the upper roll 120, caps 84 and guard 130 may move upwardly and away from the lower roll to permit a predetermined amount or thickness of clothes to be passed between the rolls without the trips of the guard engaging the stops. Should however a relatively thick or non-yieldable object be inserted in the bite of the rolls, the rolls will be separated to the extent that the trips 150 will abut the stops 152. As the trips abut the stops when the guard and roll are moved upwardly beyond a certain limit the stops will act on the trips so that the guard will be instantly swung to its neutral inoperative position and oscillate the yokes one of which oscillates the cam to disengage the gears. At the same time the upper roll is of course released from operable engagement with the lower roll.

In this way should an operator become caught between the rolls, the rolls will be instantly and automatically released from operative engagement and the lower roll disconnected from the driving means. This is all to the end that the operator is adequately safeguarded against injury.

A notch 5 is provided in the inner end of the housing at the upper side thereof as shown in Fig. 6, which receives the end of the trip 150. When the guard is in the neutral position shown in Fig. 5, this tends to hold the guard against swinging movements from its neutral position so that the guard will not be accidentally jarred into an operative position.

A drain board 160 has saddles 162 resting on the support 70 so that it may rock thereon and has ears 166 provided with slots 168 for

receiving pins 170 of the members 110 and 50. As the members 50 and 110 are oscillated thereby between a neutral horizontal position shown in Fig. 5 and one or the other of tilted positions such as shown in Fig. 6.

The member 50 may be yieldingly held in a neutral position by the means shown in Fig. 6. A spring pressed member in the form of a ball 180 is carried in a suitable bore of the housing 4 and is pressed upwardly by a spring 181, the tension of the spring being adjusted by means of a screw 184. A socket 182 radially of the member 50 is in an inoperative neutral position. In this way since the member 50 is yieldingly held in an inoperative neutral position, the danger of the parts being jarred into operative engagement is obviated.

Detents in the form of balls 190 (see Fig. 6) may be provided which are urged forwardly by springs 191 in suitable bores in the caps so as to yieldingly hold the cams of the guard in releasable operative position. These are not necessary in all cases.

From the foregoing it will be observed that a driven wringer roll is releasably held in operative engagement with a drive roll in such a way that the holding means is automatically disengaged when the rolls are separated a certain distance.

It will be noted that the parts are so arranged that the upper roll is shifted circumferentially of the lower roll into operative engagement therewith wherein it is releasably locked. This is desirable so that the upper roll is slightly to the rear of the lower roll. That is, the axis of the upper roll is rearwardly of a vertical line passing through the axis of the lower roll. This enables the operator to see more readily into the bite of the rolls than would be possible in case the rolls' axes were in the same perpendicular plane. By the shifting of the upper roll, it rolls into engagement with the lower roll instead of being forced directly towards the lower roll which facilitates ease in the shifting operation.

What I claim is:

1. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with a roll receiver, a second-roll separable from said frame receivable in said receiver, means associated with said receiver and second-roll permitting the said roll to shift circumferentially of and into operative engagement with said first-named roll for releasably locking the same in said operative position and means operable by separating movements of said roll to release said locking means.

2. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with a roll receiver, a second-roll separable from said frame receivable in said receiver, means associated with said re-

ceiver and second-roll permitting the said roll to shift circumferentially of and into operative engagement with said first-named roll for releasably locking the same in said operative position, the receiver being yieldably mounted on said frame to permit separating movements of the rolls and means operable by separating movements of said roll to release said locking means.

3. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with roll receivers at opposite ends thereof, a second roll unit including second roll separable from said frame receivable in said receiver, means associated with said receivers and second-roll for releasably locking said roll in operative engagement with said first-named roll, the said receivers being yieldably mounted at opposite ends on said frame to permit separating movements of the said rolls and means operable by separating movements of said roll to release said locking means.

4. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with spaced roll receivers, a second-roll unit separable from said frame receivable in said receivers, and means associated with said receivers and second-roll unit permitting the said roll to shift circumferentially of and into operative engagement with said first-named roll for releasably locking the same in said position and means operable by separating movements of said roll to release said locking means.

5. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with roll receivers at opposite ends thereof, a roll-unit separate from said frame for inserting in and withdrawing from said receivers, means associated with said receivers and roll-unit to permit said roll to shift circumferentially of and into operative engagement with said first-named roll and to releasably lock the same in said position, engageable driving connections for one of said rolls including a shiftable member and connections between said member and roll unit whereby said member is shifted to engage said connections as the second roll is shifted to said operative position and means operable by separating movements of said roll to release said locking means.

6. A wringer apparatus comprising in combination, a frame having a rotatable roll and provided with roll receivers at opposite ends thereof, a roll-unit separate from said frame for inserting in and withdrawing from said receivers, means associated with said receivers and roll-unit to permit said roll to shift circumferentially of and into operative engagement with said first-named roll and to releasably lock the same in said position, engageable driving connections for one of said rolls including a shiftable mem-

ber and connections between said member and roll unit whereby said member is shifted to engage said connections as the second roll is shifted to said operative position, the said roll unit including a manually engageable roll carrier and roll shifting member and means operable by separating movements of said roll to release said locking means.

7. A wringer apparatus comprising in combination, a frame having a rotatable roll, roll-receivers movably mounted at opposite ends thereof having receiving slots therein, a second-roll unit including a roll and a manually engageable roll carrier, the opposite ends of which are removably receivable in said slots, the said slots and ends of said unit being formed so that the unit may be yieldably locked therein with the said second-roll in operative engagement with said first-named roll and means operable by separating movements of said roll to release said locking means.

8. A wringer apparatus comprising in combination, a frame having a rotatable roll, roll-receivers movably mounted at opposite ends thereof having receiving slots therein, a second-roll unit including a second-roll and a manually engageable roll-carrier, the opposite ends of which are receivable in said slots, the said slots and ends of said unit being formed to permit said second roll to shift circumferentially of and into operative engagement with said first-named roll and to releasably lock said rolls in operative engagement and means operable by separating movements of said roll to release said locking means.

9. A wringer apparatus comprising in combination, a frame having a rotatable roll, roll receivers movably mounted at opposite ends thereof having receiving slots therein, a roll unit including a second-roll and a manually engageable roll carrier, the said slots and ends of said unit being formed to permit said second roll to shift circumferentially of and into operative engagement with said first-named roll and to releasably lock said rolls in operative engagement, driving mechanism including a shiftable part for operatively connecting said mechanism to one of said rolls which is operatively engaged by said roll-unit when in said receivers so as to be actuated as said second-roll is shifted to operative position and means operable by separating movements of said roll to release said locking means.

10. A wringer apparatus comprising in combination, a frame having a roll rotatable therein, receivers at opposite ends of said frame, a roll-unit including a carrier and a relatively rotatable second-roll, an oscillatable member, the said receivers and member and opposite ends of the roll-unit being provided with engageable parts to permit the second-roll to be shifted circumferentially

of and into operative engagement with said first-named roll and to releasably lock said rolls in operative engagement, driving mechanism including a shiftable member for operatively connecting one of said rolls to said mechanism, the said member being actuated by said oscillating member, and means operable by separating movements of said roll to release said locking means.

11. A wringer apparatus comprising in combination, a frame having a roll rotatable therein, driving mechanism including a shiftable member for connecting said mechanism to said roll, receivers yieldingly mounted in spaced relation on said frame, an oscillatable member connected to said shiftable member, the said receivers and oscillatable member being provided with slots, a roll unit including a second-roll and a carrier having end portions receivable in the slots of the receivers and oscillatable member, the said slots and portions being arranged so that said second-roll may be shifted circumferentially of and into operative engagement with said first-named roll to releasably lock said rolls in operative engagement and oscillate said oscillatable member whereby the driving mechanism is operatively connected to one of said rolls and means operable by separating movements of said roll to release said locking means.

12. A wringer apparatus comprising in combination, a frame, a drive roll rotatable therein, relatively shiftable driving and driven gears, a shiftable member for shifting and engaging said gears, an oscillatable member for shifting said member having a receiving slot therein, receiving caps at opposite ends of said frame having receiving slots therein, a roll-unit separate from said frame including a second-roll and a carrier and having end parts receivable in the slots of said caps and oscillatable member, the said slots and parts being formed so that the second roll may be shifted circumferentially of and into operative engagement with said first-named roll to releasably lock said rolls in operative engagement and oscillate said oscillatable member and means operable by separating movements of said roll to actuate said locking means.

13. A wringer apparatus comprising in combination, a frame, a drive roll rotatable therein, relatively shiftable driving and driven gears, a shiftable member for shifting and engaging said gears, an oscillatable member for shifting said member having a receiving slot therein, receiving caps at opposite ends of said frame having receiving slots therein, a roll-unit separate from said frame including a second-roll and a carrier and having end parts receivable in the slots of said caps and oscillatable member, the said slots and parts being formed so that the second roll may be shifted circumferentially of and into

operative engagement with said first-named roll to releasably lock said rolls in operative engagement and oscillate said oscillatable member and means to lock said shiftable member in inoperative position and means operable by separating movements of said roll to actuate said locking means.

14. A wringer apparatus comprising in combination, a frame, a roll therein, engageable driving connections including an oscillatable shifting member for engaging and disengaging said connections, receivers at opposite ends of said frame being yieldingly mounted at their opposite ends thereon having slots on their inner faces and cam surfaces at opposite sides of said slots, a relatively rotatable carrier and second roll, parts at the ends of said carrier receivable in said slots, the said slots, cam surfaces and parts being arranged to permit the carrier to be tilted when in said slots to move said second roll circumferentially of said first roll into operative position and adapted to releasably lock said carrier and roll in said position, an oscillatable member provided with a slot receiving said carrier, connections between said oscillating member and said first-named oscillating member, connections between one of said rolls and said driving connections, and engageable releasing means associated with said frame and carrier adapted when the second-roll has moved away from the first roll a predetermined distance to release said carrier from the receivers and move it to inoperative position and actuate said oscillatable member.

15. A wringer apparatus comprising in combination, a frame, a roll therein, engageable driving connections including an oscillatable shifting member for engaging and disengaging said connections and adapted to removably receive a roll carrier, receivers at opposite ends of said frame yieldingly mounted at its opposite ends thereon and provided with vertically disposed slots and cam surfaces associated therewith, a roll carrier having a second roll associated therewith, said carrier having cams associated therewith receivable in said slots and the carrier being tiltable therein to an operative position wherein the cams and cam surfaces releasably hold the carrier in said position, trips on said carrier and stops on said frame adapted for engagement as the carrier and second roll move away from said first-named roll to move said carrier to inoperative position, connections between one of said rolls and said driving connections.

16. A wringer apparatus comprising in combination, a frame, a roll therein, engageable driving connections including a reciprocable and oscillatable shifting member for engaging and disengaging the same, means associated with said frame and shifting member to bring about reciprocating shifting

movements thereof as it is oscillated, an oscillatable member connected to said shifting member provided with a slot, receivers yieldingly mounted at their opposite ends to opposite ends of the frame provided with slots the sides of which terminate in downwardly and outwardly extending cam surfaces, a carrier having a second roll rotatable therein having cams and hubs receivable in said slots, the said slots, cams and hubs being arranged to permit the carrier to be tilted to an operative position wherein the hubs and cams are releasably held by said receiver and the oscillatable member is oscillated to actuate said shifting member, a trip on said carrier engageable with a stop provided on said frame as the carrier is moved in one direction a predetermined distance whereby the carrier is tilted to inoperative position and released and connections between one of said rolls and said driving connections.

17. A wringer apparatus comprising in combination, a frame, engageable driving connections including a reciprocable and oscillatable shifting member for engaging and disengaging the same, means associated with said shiftable member and frame to bring about reciprocating shifting movements of the member as it is oscillated, oscillatable members mounted in spaced relation in said frame provided with slots in the upper sides thereof, a roll rotatable in said oscillatable members, receivers adjacent said oscillatable members yieldingly mounted on said frame provided with slots the sides of which slots terminate in diverging cam faces, a carrier having a second roll rotatable therein, connections between one of said rolls and driving connections, parts associated with said carrier receivable in said slots adapted to permit tilting movements of said carrier to operative position and oscillate said oscillatable member and arranged to releasably lock said carrier in said position.

18. A wringer apparatus comprising in combination, a frame, engageable driving connections including a reciprocable and oscillatable shifting member for engaging and disengaging the same, means associated with said shiftable member and frame to bring about reciprocating shifting movements of the member as it is oscillated, oscillatable members mounted in spaced relation in said frame provided with slots in the upper sides thereof, a roll rotatable in said oscillatable members, receivers adjacent said oscillatable members yieldingly mounted on said frame provided with slots the sides of which slots terminate in diverging cam faces, a carrier having a second roll rotatable therein, connections between one of said rolls and driving connections, parts associated with said carrier receivable in said slots adapted to permit tilting movements of said carrier to operative position and oscillate said oscillatable

member and arranged to releasably lock said carrier in said position, a trip on carrier and a stop on said frame arranged for engagement as the carrier moves a predetermined distance to move said carrier to inoperative position.

19. A wringer apparatus comprising in combination, a frame, engageable driving connections including a reciprocable shifting member to engage and disengage the same, slot and pin connections associated with said frame and shifting member to bring about reciprocable shifting movements thereof as it is oscillated, spaced yokes oscillatable in said frame provided with carrier receiving slots, a roll rotatable in said yokes connected to said driving connections, receivers adjacent said yokes yieldingly mounted on said frame adjacent said yokes having slots for receiving a carrier the sides of which are formed to provide cam surfaces, a carrier having a roll rotatable therein, end portions associated with said carrier receivable in said slots adapted to permit said carrier to be tilted to operative position and oscillate said yokes and arranged to co-operate with said cam surfaces to releasably lock the carrier in said position, trips on said carrier and stops on said frame engageable thereby as the carrier moves a predetermined distance to move said carrier to inoperative position.

20. A wringer apparatus comprising in combination, driving mechanism for a roll including a shiftable member to engage and disengage the same, a frame having a rotatable roll therein, receivers associated with the frame, a roll and carrier unit separate from the frame receivable in the receivers, said receivers being provided with means arranged to permit the unit therein to be moved between inoperative and operative positions and to releasably lock said unit in the receivers with the rolls in operative relation, connections between the unit and shiftable member operable by movements of the former to engage and disengage the said driving mechanism, and releasing means operable by separating movements of said rolls when in operative relation to release said locking means and move the unit to inoperative position and thereby shift the shiftable member to disengage said driving mechanism.

21. A wringer apparatus comprising in combination, driving mechanism for a roll including a shiftable member to engage and disengage the same, a frame having a rotatable roll therein, receivers associated with the frame, a roll and carrier unit separate from the frame receivable in the receivers, said receivers being provided with means arranged to permit the unit therein to be moved between inoperative and operative positions and to releasably lock said unit in the receivers with the rolls in operative relation, connections between the unit and shiftable mem-

ber operable by movements of the former to engage and disengage the said driving mechanism, pressure means for said rolls when releasably locked in operative engagement, and releasing means operable by separating movements of said rolls when in operative relation to release said locking means and move the unit to inoperative position and thereby, shift the shiftable member to disengage said driving mechanism.

22. A wringer apparatus comprising in combination, driving mechanism for a roll including a shiftable member to engage and disengage the same, a frame having a rotatable roll therein, receivers associated with the frame, a roll and carrier unit separate from the frame receivable in the receivers, said receivers being provided with means arranged to permit the unit therein to be moved between inoperative and operative positions and to releasably lock said unit in the receivers with the rolls in operative relation, connections between the unit and shiftable member operable by movements of the former to engage and disengage the said driving mechanism, and releasing means operable by separating movements of said rolls when in operative relation to release said locking means and move the unit to inoperative position and thereby shift the shiftable member to disengage said driving mechanism, the said last named means including engageable parts associated with the unit and frame.

In testimony whereof I affix my signature.
JULIAN L. PERKINS.