July 7, 1942. S. E. SCHROEDER 2,288,847

WRINGER

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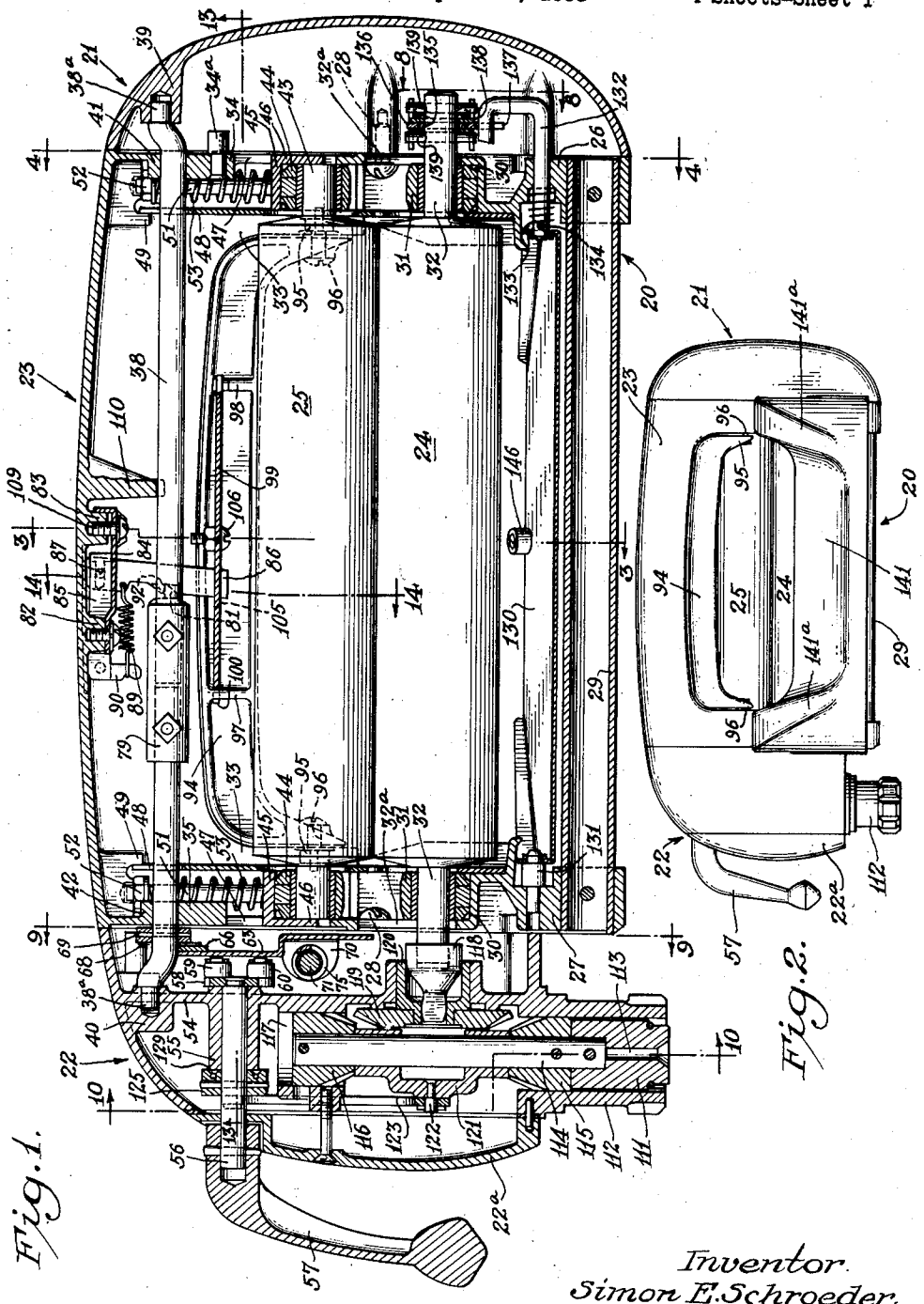


Fig. 1.

Fig. 2.

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Fig. 3.

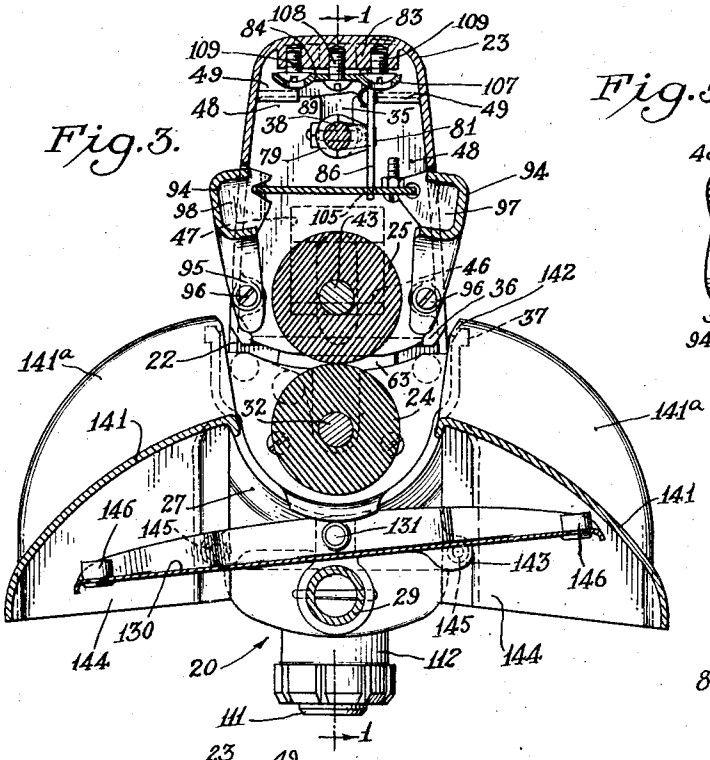


Fig. 4.

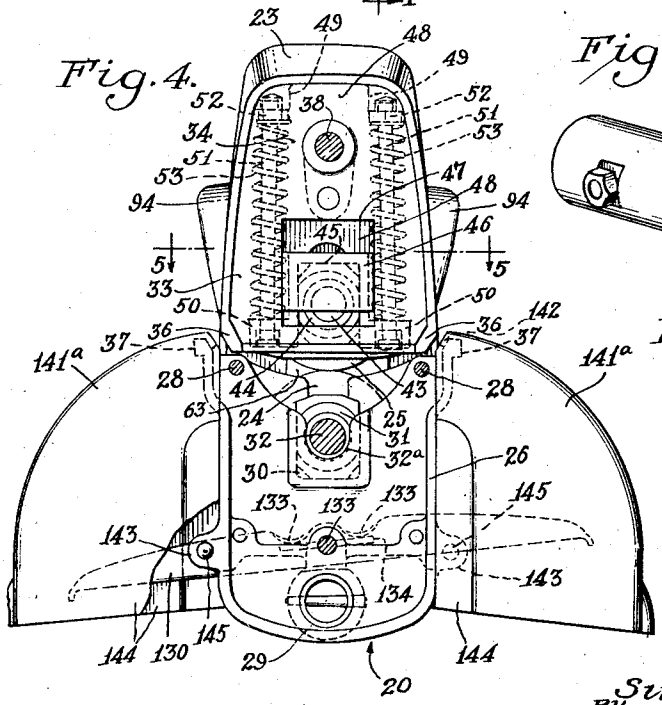


Fig. 5.

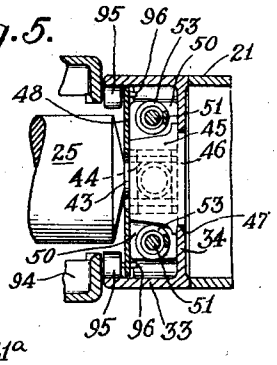


Fig. 6.

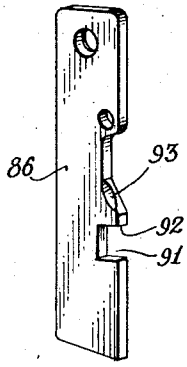


Fig. 7.

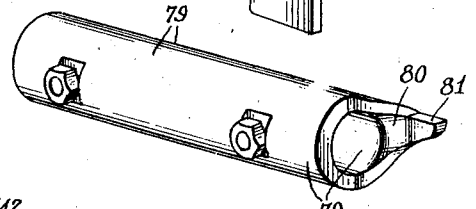
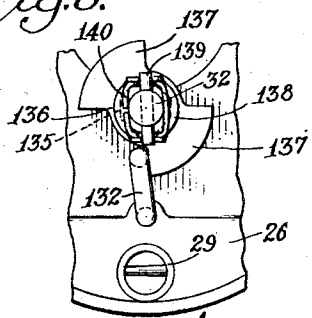


Fig. 8.



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Fig. 9.

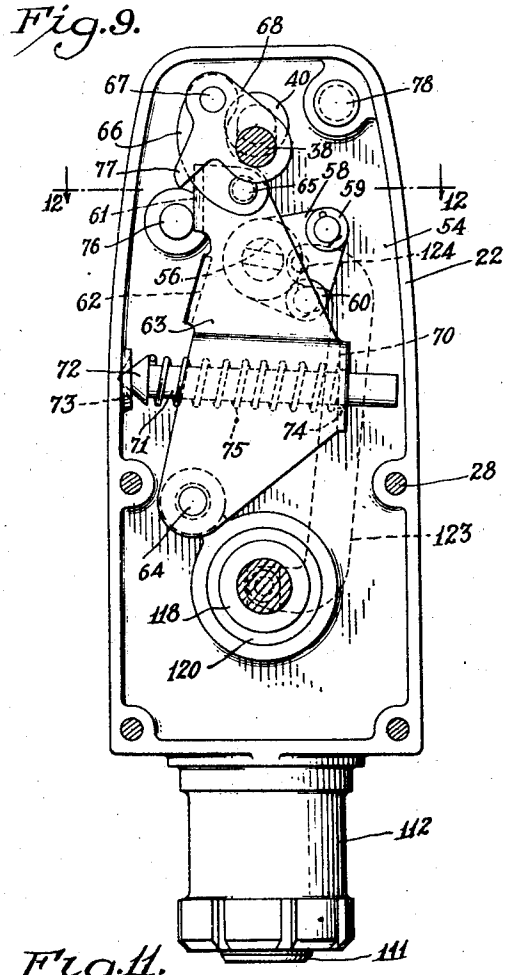


Fig. 10.

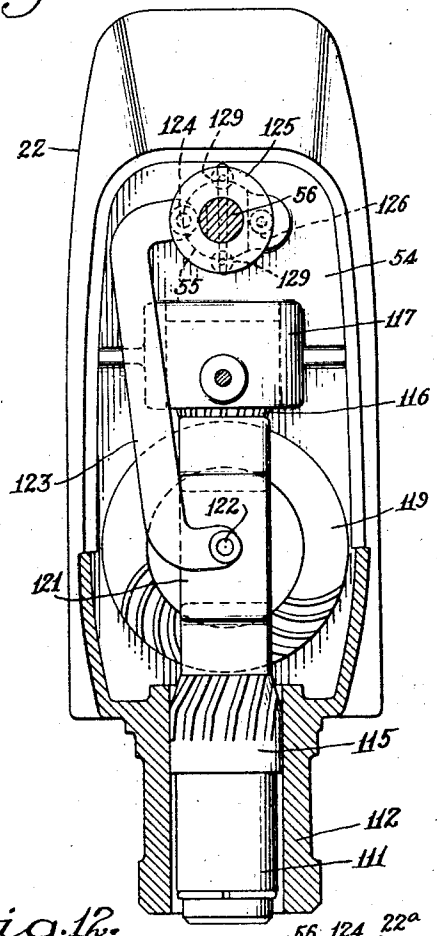


Fig. 11.

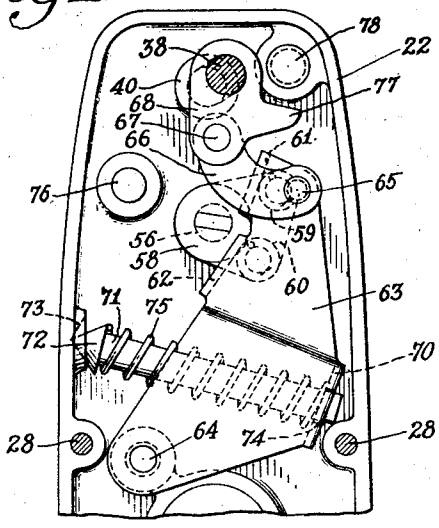
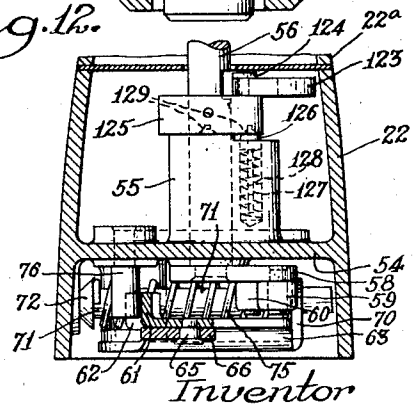


Fig. 12.



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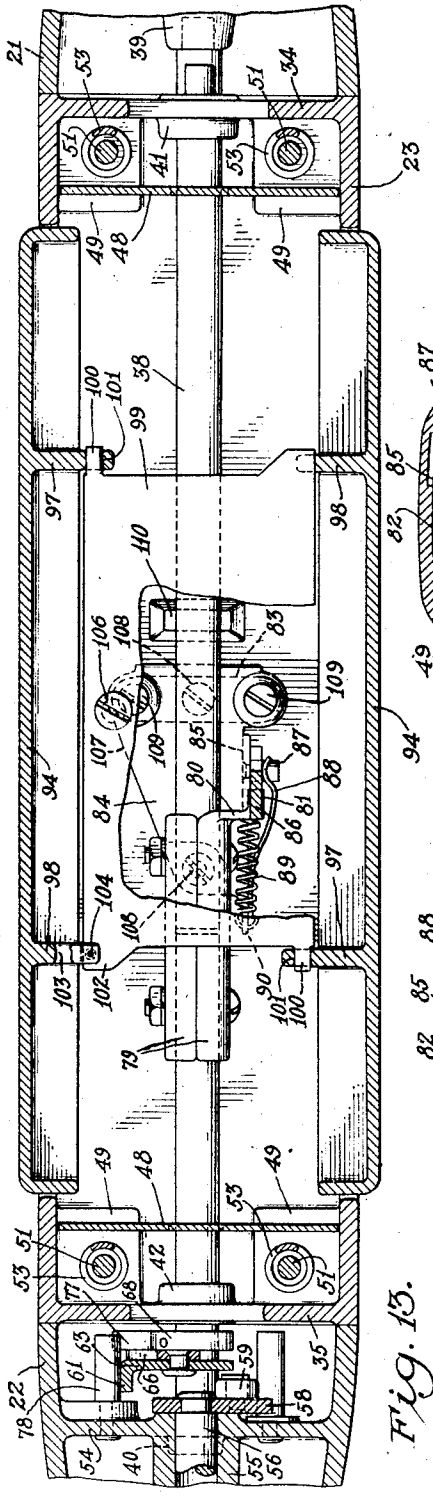


Fig. 13.

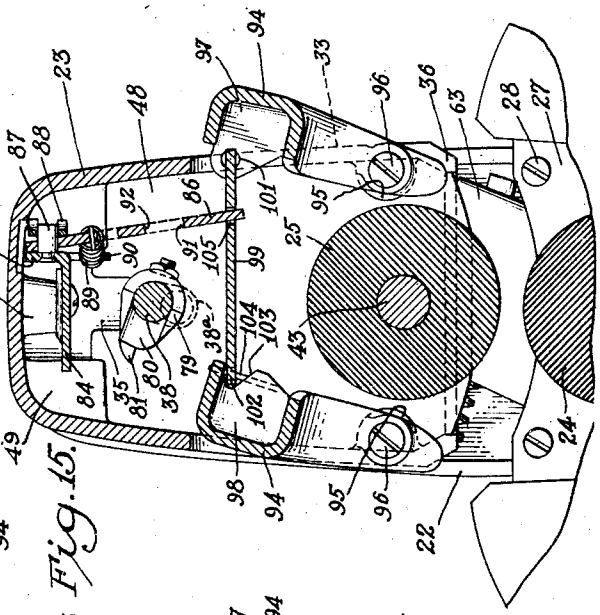


Fig. 15.

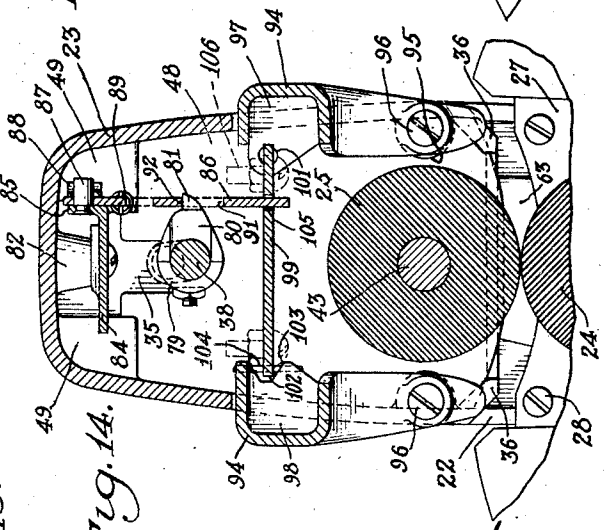


Fig. 14.

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UNITED STATES PATENT OFFICE

2,288,847

WRINGER

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Application April 20, 1938, Serial No. 203,016

15 Claims. (Cl. 68—253)

The invention relates to wringers and particularly to those used in connection with domestic laundry machines.

A general object of the invention is to provide a new and improved wringer structure having high operating efficiency, simple control mechanism, and an effective and responsive means for quickly releasing the rolls from their cooperative relationship.

Another object is to provide a new and improved wringer in which the wringer rolls are supported for relative movement into and out of operating contact by means arranged to permit relative movement of the rolls in a combined lateral and rectilinear direction with respect to the plane of the rolls when cooperatively engaged.

More specifically stated, another object is to provide, in a wringer having a roll supporting head pivotally mounted for swinging movement from a central operative position, improved means for establishing operative engagement between the roll carried by the head and a fixed roll which includes means for shifting the pivotal axis of the head to move the roll carried thereby bodily into engagement with the fixed roll, and quickly releasable latch means for maintaining the rolls against a shifting and swinging release movement.

In conjunction with the foregoing, other objects reside in the provision of novel means for latching the rolls in operative relation, for holding the roll supporting frame sections against relative swinging movement, and for conditioning the wringer for use and establishing a roll driving connection by a single manipulable actuator.

Other objects and advantages will become apparent in the following description and from the accompanying drawings, in which:

Figure 1 is a longitudinal vertical section through a wringer embodying the features of the invention, the section being taken substantially along the line 1—1 of Fig. 3.

Fig. 2 is an elevational view of the wringer on a reduced scale.

Figs. 3 and 4 are transverse vertical sections through the wringer structure taken substantially along the lines 3—3 and 4—4 of Fig. 1 respectively.

Fig. 5 is a fragmentary sectional view taken along the line 5—5 of Fig. 4.

Figs. 6 and 7 are views in perspective of parts of the latching mechanism.

Fig. 8 is a fragmentary view of the drain pan shifting mechanism as seen from the plane of the line 8—8 in Fig. 1.

Fig. 9 is a transverse section taken along the line 9—9 of Fig. 1 showing the head shifting mechanism in elevation.

Fig. 10 shows the roll driving mechanism, the view being taken along the line 10—10 of Fig. 1.

Fig. 11 is a fragmentary view, similar to Fig. 9, showing head shifting mechanism in release position.

Fig. 12 is a horizontal sectional view through the head shifting mechanism taken as indicated by the line 12—12 of Fig. 9.

Fig. 13 is a horizontal sectional view through the upper portion of the wringer taken along the line 13—13 of Fig. 1.

Figs. 14 and 15 are vertical sectional views through the upper portion of the wringer taken as indicated by the line 14—14 of Fig. 1 and illustrating respectively the engaged and releasing positions of the latch means.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

In general, the exemplary form of wringer structure embodies a frame comprised of a fixed or base section 20 (Fig. 1) having spaced upstanding end members 21, 22 arranged to support therebetween a head or movable section 23. These frame sections 20, 23 each support one of a pair of cooperating wringer rolls 24, 25 respectively. The present wringer is of the type in which the head section is supported for swinging movement with respect to the base section, this movement being effective to carry the upper wringer roll to either side of a central or intermediate position in which the rolls are alined in a vertical plane.

In such a wringer the present invention provides means for supporting the head for rectilinear movement in addition to the swinging movement for the purpose of shifting the upper wringer roll into operative engagement with the lower roll while placing the rolls under yielding pressure. This means may desirably be actuated by the same manipulable member which is provided for shifting the reversing clutch of the roll driving means. The structure includes latching

means for holding the frame sections together with the wringer rolls in cooperative engagement, and the latching means may be quickly and easily disengaged in an emergency to permit separation of the rolls through a combined shifting and swinging movement.

With particular reference to Fig. 1, the end members 21 and 22 of the base section 20 are in the form of hollow castings having inner flat faces to which bearing brackets 26 and 27 respectively are fixedly secured as by screws 28. The brackets are the width of the associated castings and extend above and below the lower wringer roll 24. A spacer bar 29 extends between and is rigidly secured to the lower portions of the brackets 26, 27 to complete the base section assembly. Each of the brackets 26, 27 has an upwardly opening, centrally located pocket 30 to receive bearings 31 for the shaft 32 of the lower wringer roll 24, the end walls of the brackets being slotted, as at 32a, to permit the shaft ends to extend beyond the brackets.

The head 23 is a channel-shaped casting longitudinally dimensioned to extend between the end members 21, 22. At its ends, the head has depending arms 33 which include integrally formed end walls 34, 35 facing respectively the inner faces of the end members 21, 22. The arms extend downwardly substantially to the upper edges of the brackets 26, 27 and the lower side edge portions thereof are slightly inturned, as indicated at 36 (Fig. 4). The side walls of the brackets 26, 27, which in assembly are opposed to the inturned portions 36 of the arms 33, are outwardly offset, as indicated at 37, to receive the extremities of the arms therebetween as shown in Fig. 3. This telescoping relationship is used to maintain the frame sections in vertical alinement and to restrain the head section against swinging movement to either side of the base section.

For supporting the head, a shaft 38 has its ends 38a pivoted in bosses 39, 40 in the end members 21, 22, respectively. Between its ends, the shaft is offset, as may be seen in Fig. 1, to provide a longitudinal central crank portion upon which the head 23 is rotatably mounted by bearings 41, 42 on the end walls 34, 35 of the head. The shaft 38 thus supports the head for swinging movement relative to the base section and rotation of the shaft produces a vertical shifting movement of the head. The extent of offset or throw of the crank is sufficient to shift the head between an elevated position in which the arms will clear the brackets 26, 27 on the base section and a lowered position in which the arms are held between the upper portions 37 of the brackets 26, 27. A pin 34a on the end wall 34, extending endwise therefrom, may be used to limit the swinging movement of the head.

The upper roll 25 is supported for sliding movement longitudinally of the arms 33. With reference to Figs. 1, 4 and 5, the ends of the upper roll shaft 43 are journaled in bearings 44 which are seated in downwardly opening pockets in movable bearing supports 45. The supports include integral end plates 46 of substantial size which fit slidably in vertically elongated slots 47 in the end walls 34, 35 of the arms. The engagement between the end plate and its receiving slot guides the vertical sliding movement of each bearing support, and consequently of the upper roll. Guard plates 48, between the bearing assemblies and the ends of the upper roll, and through which the upper roll shaft extends, are fixed in place by frictional engagement with bosses 49 on the head and by other means to be presently described. These plates prevent outward movement of the upper roll and its bearings from the bearing supports.

Extending from each side of the bearing supports are ears 50 which are apertured to provide seats for the heads of bolts 51 extending inwardly of the arms along opposite sides thereof. The upper or inner ends of the bolts carry nuts 52 and compression springs 53 bear between the nuts and the ears 50. The upper or inner ends of the bolts beyond the nuts are seated loosely in recesses provided in the bosses 49. The parts are so arranged that the springs are not compressed, except when the upper wringer roll has been moved into operative engagement with the lower wringer roll by inward vertical shifting movement of the head.

When the wringer is not in operative condition, the head is elevated with respect to the frame, in which position the head is freely swingable to either side of the central position in which the frame sections and the wringer rolls are alined. The wringer is placed in operative condition by rotation of the shaft 38 to move the head inwardly of the base section, by which movement the rolls 24, 25 are brought into operative contact and the upper roll is caused to shift inwardly of the arms 33 to compress the springs 53. Quickly releasable means may be conveniently associated with the shaft 38 to latch the frame sections and the rolls in their cooperating relationship. Moreover, the same actuator which is manipulable by the user to rotate the shaft and condition the wringer for operation may also be utilized to control the drive for the wringer rolls. These relationships are, in the present instance, embodied in the following construction.

Referring to Figs. 1 and 9 particularly, the end member 22 is somewhat larger than the opposite end member 21 and, for convenience in the assembly of parts, has a detachable end plate 22a sealed thereto against an interposed gasket. The end member 22 has a vertical transverse partition 54 between and parallel to its inner and outer faces. Near its upper end the partition has a horizontal, longitudinally extending bearing 55 for an actuator shaft 56 dimensioned to extend outwardly through and beyond the plate 22a to receive a hand lever 57. The end of the shaft 56 extends beyond the inner face of the partition 54 and has a crank plate 58 rigidly affixed thereto and extending laterally thereof.

A pair of spaced antifriction rolls 59, 60 are mounted on the crank plate 58 in eccentric relation to the shaft 56, and these rollers are adapted for engagement respectively with inturned flanges 61, 62 (Fig. 9) formed on the side and adjacent to the freely swinging end of a toggle plate 63. This plate is supported near its lower end by a pivot 64 on the partition 54 for movement on a horizontal axis in a plane parallel to the partition. Near its upper end, the toggle plate 63 is pivotally connected, as at 65, with a toggle link 66 which, in turn, is pivoted, as at 67, to the outer end of an arm 68. The arm is rigidly connected, as at 69 (Fig. 1), with the offset portion of the crank shaft 38.

Between the flange 62 and the pivot 64, the plate 63 has an inturned flange 70 located on the opposite side of the plate from the flanges 61, 62. A pin 71, having a head 72 engageable with a recess 73 in a side wall of the end member 22, extends loosely through an aperture 74

in the flange 70, and a spring 75 bearing between the head and the flange holds the head in its associated recess. The spring also urges the toggle plate 63, together with the parts associated therewith, in that direction of its swinging movement which is effective to swing the crank shaft 38 so that its offset portion is above the shaft axis. The head 72 and its receiving recess are shaped to permit free rocking movement of the pin.

The relationship of the parts is as follows, reference being had to Figs. 9 and 11. When the wringer is in its inoperative condition with the head in its elevated position, and the wringer rolls separated, the operating parts are urged by the spring 75 generally into the position shown in Fig. 11. In this position, the toggle plate 63 is swung to dispose the flanges 61 and 62 in engagement with the rollers 59, 60 respectively. The crank shaft 38 has been swung by the extended arm 68 and toggle link 66 to a position in which the head is elevated with respect to the base section of the frame. Manipulation of the hand lever 57, to rotate the shaft 56 in either direction, will move the head inwardly of the frame. Thus, rotation of the shaft 56 in a clockwise direction will, through the engagement between the roller 60 and flange 62, swing the toggle plate 63 in a counterclockwise direction, closing the toggle and imparting clockwise rotation to the crank shaft 38 to move the offset portion thereof to its lowermost position. If the shaft 56 is rotated in a counterclockwise direction, the same result obtains, except that the toggle plate 63 is moved by engagement of the roller 59 and flange 61.

When the plate 63 has been swung to the limit of its movement, as determined by engagement between the flange 61 and a stop pin 76, the parts will occupy substantially the position shown in Fig. 9, in which the offset portion of the crank shaft 38 extends downwardly and the head occupies its innermost position. As this setting operation takes place, the spring 75 becomes additionally stressed or compressed and the force is available to shift the head to its elevated position. Incidentally, the return movement of the parts to their released position, as shown in Fig. 11, may be limited by such means as a finger 77 extending from the arm 68 for engagement with a stop pin 78.

A preferred form of quick release means for maintaining the wringer assembly in operative condition is best shown in Figs. 1, 3, 13, 14 and 15. For convenience in assembly, the crank shaft 38 is preferably formed in end-to-end sections which are suitably joined rigidly together by such means as a pair of semi-cylindrical coupling members 79 (Figs. 7 and 13). One of the members has a radially extending end portion 80 which terminates in an axially parallel finger 81 having an angular camming side and an opposite flat engaging face as best shown in Fig. 7. The preferred assembly locates this finger approximately midway between the ends of the head. A pair of longitudinally spaced bosses 82, 83 extend downwardly from the head to support a plate 84 having a longitudinally extending side flange 85 turned toward the head. A trigger 86 is supported by a pivot 87 from the flange 85 to extend therefrom toward the open face of the head and past the plane of movement of the finger 81. A leaf spring 88 (Fig. 13), secured to the flange 85 at a point spaced from the trigger pivot 87, has a bifurcated end which straddles the pivot and bears against the side face of the trigger 86. The tension of the spring 88 normally urges the trigger into a center position determined by its flatwise abutment with the flange 85, as shown in Fig. 14, but permits the trigger to be moved in either direction crosswise of the plane of the flange, or transversely of the wringer head.

A coil spring 89, connected to the trigger and to a finger 90 projecting outwardly in the plane of the flange 85, exerts a tension which swings the trigger in the direction of the latching finger 81. As shown in Fig. 6, the trigger 86 has a notch 91 arranged to provide a shoulder 92 for engagement by the flat face of the latching finger 81 when the finger has rotated with the crank shaft to a position in which the wringer head is in its innermost position. Since the latching finger 81 always approaches this position of engagement from the same direction, a portion of the trigger immediately above the shoulder 92 is cut-away to form a camming surface 93 over which the camming side of the latching finger may ride into engagement with the shoulder, and in doing so swing the trigger out of its path. The cut-away portion which forms the surface 93 is of sufficient size to permit the finger to pass the trigger when the trigger is swung to a position between the finger and the shaft 38.

The trigger is normally held in position for engagement by the finger 81 by means which is also operable to shift the trigger transversely to release its holding engagement with the finger. This means is arranged for convenient actuation from either side of the wringer head by the user in an emergency. Thus, each side of the wringer head supports a release bar 94 which is shaped to follow the contour of and fit within the opening formed by the side edges of the head and the depending arms 33, as may be seen clearly in Fig. 2. The release bars are mounted for swinging movement relative to the head by such means as ears 95 (see Fig. 5 particularly) which are engageable by smooth ends on self-tapping screws 96, or the like, at the extremities of the release bars. It will be noted that the ends of the screws extend through the guard plates 48 to restrain these plates against movement outwardly of the arms.

The horizontal portions of the release bars are inwardly facing channel-shaped members (Fig. 14), and, as shown in Fig. 13, have a pair of longitudinally spaced, inwardly extending, transverse flanges 97, 98. The opposed release bars are connected by a loosely supported release plate 99 (Figs. 13 and 14) which extends on a horizontal plane between, and is connected with, the two pairs of flanges 97, 98 by such means as projections 100 on the plate engaging apertures 101 in the flanges 97 and ears 102 at the opposite ends of the plate disposed in notches 103 in the flanges 98. To prevent accidental disengagement of the parts, it is preferred that the plate 99 be held against withdrawal from at least one of the flanges as, for example, by a pin 104 carried by a flange 98 and extending through an ear 102.

As shown in Fig. 14, the release plate 99 has a slot 105 adapted loosely to receive the lower end of the trigger 86. The length of the slot is longer than the width of the trigger and the slot is preferably arranged so that the trigger, when disengaged from the finger 81, will be swung by the spring 89 into a position in which the cam surface 93 is squarely in position for engagement by the finger 81 as the shaft 38 is ro-

tated to effect operative association of the rolls. The release plate 99 carries means, such as transversely extending bolts 106 (Figs. 1 and 14), for limiting the outward swinging movement of each release bar relative to the head.

The operation of the latching mechanism is as follows: As the shaft 38 is rotated to depress the head and engage the wringer rolls, the finger 81 engages the cam surface 93 to swing the trigger about its horizontal axis. Substantially as the head reaches its innermost position, the finger 81 enters the trigger notch 91, the engagement being assured by the spring 89. When the rotating force applied to the shaft 38 by the user is released, the finger 81 engages the shoulder 92 to latch the head in its innermost position. The parts then assume the relationship seen best in Fig. 14. Should an emergency arise, the user strikes or presses inwardly on either of the release bars 94, which shifts the release plate 99 and the trigger 86 transversely in one direction or the other, thus releasing the engagement between the finger 81 and the shoulder 92. The force exerted on the shifting mechanism by the tensioning springs 53 and by the toggle spring 75 instantly rotates the shaft 38 to its original position, thereby elevating the head and freeing the arms 33 from their interengaging position between the offset portions 37 of the brackets 26, 27, to release the head for swinging movement in either direction. The position assumed by the parts upon inward movement of a release bar may be seen in Fig. 15. The release bars are returned to their normal position (shown in Fig. 14) by the centering force exerted thereon by the spring 88 through the trigger 86 and release plate 99.

It is to be noted that the latching mechanism is relatively quite sensitive, since the trigger 86 and finger 81 engage with an edge-to-edge relationship. Hence it is only necessary to move the trigger transversely through a distance slightly greater than its thickness to effect the disengagement. Moreover, the parts are so related that the resulting leverage system permits the shaft 38 to be held by the application of a relatively light force requiring little effort on the part of the user to overcome.

Since the position of the trigger with respect to the path of movement of the finger 81 is rather critical, the original position of the trigger may be conveniently adjusted as follows: One end of the trigger supporting plate 84 is of substantial width as indicated at 107 in Fig. 13. The boss 83 which underlies this end of the plate is correspondingly dimensioned (see Fig. 3). Screws 108 secure the plate 84 to the bosses 82 and 83 on the longitudinal center line of the plate. On either side of the screw 108 at the wide end of the plate, the boss carries headed screws 109 (Fig. 3) which underlie the plate and provide adjustable abutments for determining the plane of the plate relative to the head and the transverse position of the outwardly extending trigger. Intermediate support for the shaft 38 may be provided by a lug 110 rigid with the head and arcuately recessed to receive the shaft.

The drive for the wringer rolls is, in the present embodiment, controlled by the hand lever 57. The wringer drive, as shown in Figs. 1 and 10, embodies a coupling 111 shiftably and rotatably housed in a vertical post 112 formed on the end section 22, and by which the wringer is conveniently supported. Power to drive the wringer is transmitted to the coupling by a suitable wringer drive shaft (not shown) adapted for sliding engagement with an axial opening 113 in the coupling. Pinned to the coupling and extending axially upward of the post is a shaft 114 which immediately above the coupling, and at its upper end, has gears 115, 116 respectively affixed rigidly thereto. The upper gear 116 is disposed in a slidable bearing 117 formed on the partition 54. The lower wringer roll shaft 32 extends through its bearing and the associated bracket into the end member 22, and is connected through a universal coupling 118 with a gear 119 journaled, as at 120, on the partition 54 and disposed for selective engagement with the gears 115, 116. A yoke 121 has spaced ends surrounding the shaft 114 adjacent to the gears 115 and 116, and the base portion of the yoke is pivotally connected, as at 122, with one end of a yoke shifting link 123. The other end of the link 123 is pivoted eccentrically, as at 124 (Fig. 10), to a disk 125 which is rigidly connected to the shaft 56 adjacent to the end of its bearing 55. The arrangement is such that when the shaft 56 is swung by the hand lever 57 in one direction, for instance in a clockwise direction looking at Fig. 10, the gears 115 and 116 are shifted upwardly to carry the gear 115 into engagement with the gear 119. Opposite movement of the hand lever 57 effects engagement between the gears 116 and 119. Thus, if the wringer is in an inoperative condition, movement of the hand lever 57 to establish driven movement of the rolls in a desired direction will also be effective to condition the wringer for operation, the shaft 38 being rotated in the same direction regardless of the direction of movement of the hand lever 57. After the wringer has been latched in its operative condition, the hand lever may be returned to neutral to stop the roll drive, or moved to its opposite position to drive the rolls in a reverse direction without disturbing the operative condition of the wringer.

If the quick release mechanism is actuated while the wringer rolls are being driven, the driving connection will be interrupted by return of the clutch mechanism to its neutral position. This results from the fact that when the hand lever 57 and its shaft 56 have been rotated to establish a driving connection through the clutch, one or the other of the antifriction rollers 59 or 60 is located immediately adjacent to its associated flange 61 or 62 on the toggle plate 63. Upon actuation of the quick release mechanism, the swinging movement of the toggle plate rotates the shaft 56 to its neutral position, thus disengaging the driving gears.

The several positions of the hand lever 57 may be indicated by suitable indexing means. As shown in Fig. 12, such means may comprise a plunger 126 (Fig. 12) seated in an axially parallel bore 127 in the bearing 55 and urged outwardly by a spring 128 for engagement with any one of a series of properly located recesses 129 in the disk 125.

The present wringer structure embodies a positive and efficiently acting drain pan assembly for shifting the drain pan properly in accordance with the driven movement of the wringer rolls. A drain pan 130 (Fig. 1), arranged to extend a substantial distance beyond either side of the wringer frame, is pivotally supported on the base section beneath the lower roll. The support at one end comprises a pin 131 carried by the bracket 27. At its other end, the drain pan is mounted on the longer end of a U-shaped shift-

ing lever 132 which is journaled in and extends through the bracket 26. The end wall of the drain pan has an outturned nib 133 (Fig. 4) disposed on either side of the lever 132 for engagement by a pin 134 fixed to the lever so that rocking movement of the lever will tip the drain pan in one direction or the other. The end of the lower wringer roll shaft, which extends through and beyond its bearing and support, carries a loosely fitting collar 135, the peripheral surface of which is angular to provide a seat for the hub of a shifting member 136 having radial fingers 137 (Fig. 8) extending therefrom. The fingers are arranged to engage the shorter end of the lever 132. In opposition to the side faces of the collar and encircling hub are friction disks 138, each of which is fixed for rotation with the shaft 32 by connection with a pin 139 carried by the shaft. A spring 140 (Fig. 8) is interposed between one of the pins 139 and the friction disk adjacent thereto to exert a force for holding the friction disks in close abutment with the sleeve and hub assembly. Rotation of the shaft 32 in either direction will carry one or the other of the fingers 137 into engagement with the shorter end of the shifter lever 132 to swing said lever in a direction corresponding to the direction of rotation of the lower roll and tilt the drain pan 130 accordingly.

The lower portion of the lower roll and the brackets 25 and 27 are preferably concealed by feed boards 141 which are assembled on the wringer frame in a simple and convenient manner. In this embodiment, each feed board is a unitary casting arranged, as shown in Figs. 2 and 3, to cover the lower portion of the wringer and extend for a substantial distance beyond each side of the base section. Each side portion of the feed board extends upwardly, as at 141a, in concealing relation to the brackets 26 and 27, and the upper edge of each of said portions terminates in a downwardly extending lip 142 (Fig. 3) arranged to hook over the upper edge of the offset 37 on the bracket. Near the bottom of each side of the brackets, an ear 143 extends outwardly to be adjacent to the inner face of the side wall 144 of the feed board. The ears carry rounded heads 145 for engagement with appropriately formed recesses in the side walls. The feed boards may, therefore, be assembled on the wringer frame merely by hooking the lips 142 over the bracket portions 37 and then springing the side walls of the feed board into engagement with the heads 145. To avoid shock and noise incident to contact between the feed board and drain pan as the latter shifts, a buffer may be interposed as by mounting a rubber member 146 adjacent to each outer edge of the drain pan.

From the foregoing, it will be evident that a novel wringer structure has been provided which is simple in construction, efficient in operation, and possesses a high factor of safety for the protection of the user. In order to condition the wringer for operation, it is only necessary for the user to swing the hand lever 57 in one direction or the other according to the direction in which the rolls are to be driven. This single operation brings the wringer rolls into operative engagement, applies a yielding pressure thereto, and latches the mechanism in operative condition. At the same time, the clutch mechanism is shifted to establish a roll driving connection. The torque force resulting from the cooperating wringer rolls, and which would tend to swing the head with respect to the fixed section of the frame, is resisted by the interengaging relationship of the head and base sections. When the wringer rolls are latched in operative relation, the hand lever 57 may be manipulated as desired to establish either driving connection or to stop roll movement. If the safety release mechanism is actuated while the wringer is in operation, the clutch mechanism is shifted to its neutral position and the head is freed to move upwardly and to swing to either side of the frame. This combined movement of the upper wringer roll provides an unusually large clearance between the disengaged rolls, yet there is no possibility that the user may be injured by the movement of the head immediately upon release thereof.

I claim as my invention:

1. A wringer comprising, in combination, a frame having spaced end members, a head, wringer rolls journaled in said frame and head respectively, a shaft extending between and supported by said end members, said shaft having an intermediate offset crank portion, means for supporting said head on said crank portion for swinging movement relative to said frame to move said rolls away from and into a position of approximate operative relation, means for rotating said crank portion of said shaft to shift said head toward said frame and effect operative engagement of said rolls, means for applying pressure to said rolls when engaged, and latch means engageable to hold said shaft against reverse rotation.

2. A wringer comprising, in combination, a frame having spaced end members, a head, wringer rolls journaled in said frame and head respectively, a shaft extending between and supported by said end members, said shaft having an intermediate offset crank portion supporting said head for swinging movement relative to said frame, means for rotating said crank portion of said shaft to move said head toward said frame and effect engagement of said rolls including a manipulable actuator connected with said shaft, means for applying pressure to said rolls when engaged, and means automatically engageable when said head reaches substantially an innermost position relative to said frame for latching said head in that position.

3. In a wringer, the combination of a frame having base and head sections, means for mounting said head section on said base section for rectilinear and swinging movement relative thereto, a roll mounted in each section, means for applying pressure to said rolls when the head section is centered with respect to the base section and is rectilinearly near to said base section to engage the rolls, and quickly releasable means for holding the frame sections in such relationship.

4. In a wringer, the combination of a wringer frame embodying two relatively movable sections, wringer rolls journaled in said frame for relative movement into and out of cooperative wringing engagement, and means for moving one of said frame sections through a combined swinging and rectilinear movement to place said rolls in cooperative engagement.

5. In a wringer, the combination of two relatively movable frame sections, each having a wringer roll journaled therein adapted to cooperate in pressure relation, means supporting said frame sections for relative swinging movement from an unalined position into an alined position, in both of which positions said rolls are separated, and for shifting movement to

carry said rolls into said cooperative relation, and means for latching said sections together with said rolls in cooperating relation.

6. In a wringer, the combination of a frame having a base and a head pivotally mounted on said base, wringer rolls journaled in said frame, means for shifting the pivotal axis of said head relative to said base to place said rolls in cooperative relation, and means for applying pressure to said rolls.

7. A wringer comprising, in combination, a fixed frame having a head pivotally supported thereon, wringer rolls in said frame and head respectively, means for shifting said head to move said rolls into cooperating engagement including pressure applying means rendered effective by said engagement, means for driving said rolls including a shiftable reversing clutch mechanism, and a single manually manipulable means for actuating said clutch mechanism and the means for shifting said head to establish a cooperating engagement of said wringer rolls.

8. A wringer comprising, in combination, a fixed frame, a head, a crank shaft journaled on said frame and supporting said head for pivotal movement relative to said frame, said shaft upon rotation thereof being adapted to advance or retract said head with respect to said frame, rolls carried respectively by said frame and head and adapted to be widely separated when said head moves pivotally and to be operatively engaged or disengaged when said head is advanced or retracted, pressure applying means effective when said rolls are engaged to maintain them under operative pressure, means for driving said rolls including a clutch mechanism arranged to be moved selectively from a neutral position to establish a roll driving connection in one direction or the other, actuating means for said mechanism, means connected with said actuating means for rotating said shaft in a direction to advance said head regardless of the direction of drive established by manipulation of said actuating means, means for latching said shaft in a head advanced position, a shiftable member engaging the latching means, and means connected with said member and presented for actuation by the user for shifting said member to release the latching means and permit return of said head to its retracted position and return of said clutch mechanism to its neutral position.

9. A wringer comprising, in combination, a fixed frame, a head, a crank shaft journaled on said frame and supporting said head for pivotal movement relative to said frame, said shaft upon rotation thereof being adapted to advance or retract said head with respect to said frame, rolls carried respectively by said frame and head and adapted to be operatively engaged or disengaged when said head is advanced or retracted, means for applying operative pressure to said rolls, means for driving said rolls including a clutch mechanism manipulable from a neutral position selectively to establish a roll driving connection, actuating means for said mechanism, means connected with said actuating means for rotating said shaft in a direction to advance said head regardless of the direction of drive established by manipulation of said actuating means, means for latching said head in its advanced position, and means connected with the latching means for actuation by the user to release the latching means and permit return of said head to its retracted position and return of said clutch mechanism to its neutral position.

10. A wringer comprising, in combination, a fixed frame, a head, means for supporting said head for pivotal movement relative to said frame, means for shifting the pivotal axis of said head to advance or retract said head with respect to said frame, rolls carried respectively by said frame and head for operative engagement or disengagement as said head is advanced or retracted, pressure applying means effective to maintain the rolls under operative pressure, means for driving said rolls including a clutch mechanism, actuating means for said mechanism, means operable by said actuating means and connected with the axis shifting means for advancing said head, and releasable latch means for holding said head in an advanced position independent of subsequent manipulation of said actuating means.

11. In a wringer, the combination of a frame having wringer rolls journaled therein, disengageable means for driving said rolls, releasable means for applying pressure to said rolls, a single control member manipulable by the user, means connecting said control member with the roll driving means and with the releasable means for establishing the roll drive and effecting application of roll pressure, quick release means for latching the rolls in operative relation under such pressure and releasable to relieve such pressure and disengage the roll driving means, and lost motion means permitting independent operative control of the roll driving means when the rolls are under pressure.

12. A wringer having, in combination, a frame, rolls carried by said frame for operative engagement or disengagement, pressure applying means effective to maintain the rolls under operative pressure, means for driving said rolls including a disengageable connection, actuating means for establishing or interrupting said connection, means operable by said actuating means for moving said rolls into operative engagement under pressure, and releasable latch means for holding said rolls in such operative condition independent of subsequent manipulation of said actuating means.

13. A wringer having, in combination, a frame including a fixed section and a head section, means for releasably latching said sections together, wringer rolls journaled in said frame and arranged for operative engagement when the frame sections are latched and for spaced disengagement when the frame sections are unlatched, pressure applying means effective when said frame sections are latched to maintain the rolls under operative pressure, means for driving said rolls including a clutch mechanism arranged to be moved selectively from a neutral position to establish a roll driving connection in one direction or the other, actuating means for said clutch mechanism, and means operable by said actuating means for latching said frame sections together and effecting the application of pressure to said rolls, said actuating means being independently manipulated when said frame sections are latched.

14. A wringer having, in combination, a frame, wringer rolls journaled in said frame and arranged for movement into and out of operative engagement, means for releasably holding said rolls in operative engagement, means for applying pressure to the operatively engaged rolls, means for driving said rolls including a clutch mechanism arranged to be moved selectively from a neutral position to establish a roll driving

connection in one direction or the other, actuating means for said mechanism, means operable by said actuating means for establishing said rolls in operative engagement under pressure regardless of the direction of drive established by manipulation of said actuating means, and means movable by the user for operating the holding means to release said rolls for movement out of operative engagement and for returning the clutch mechanism to its neutral position.

15. A wringer having, in combination, a frame including a fixed section and a section movable relatively thereto into and out of operative association, wringer rolls mounted in said frame, means for maintaining said rolls in wringing engagement when said frame sections are in operative association, and quickly releasable means for latching said frame sections in operative association including a crank shaft journaled in said fixed section, the movable section being mounted on the crank portion of said shaft for movement upon rotation thereof toward and away from said fixed section, interengaging means on said sections controlled by the rotative position of said shaft, spring means compressed when said shaft is rotated to move the frame sections together to a position in which said interengaging means is engaged to hold said frame sections operatively associated, said spring means being arranged to exert its force in a direction to rotate said shaft reversely and move said frame sections apart, the strength of said spring means being such as to hold said frame sections in separated relation, and releasable latching means engaged by rotation of said shaft to such rotative position for holding said shaft against rotation by the force of said spring means.

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