Dec. 21, 1965 J. W. BRANDT 3,224,237

WRINGER

Filed Oct. 14, 1963

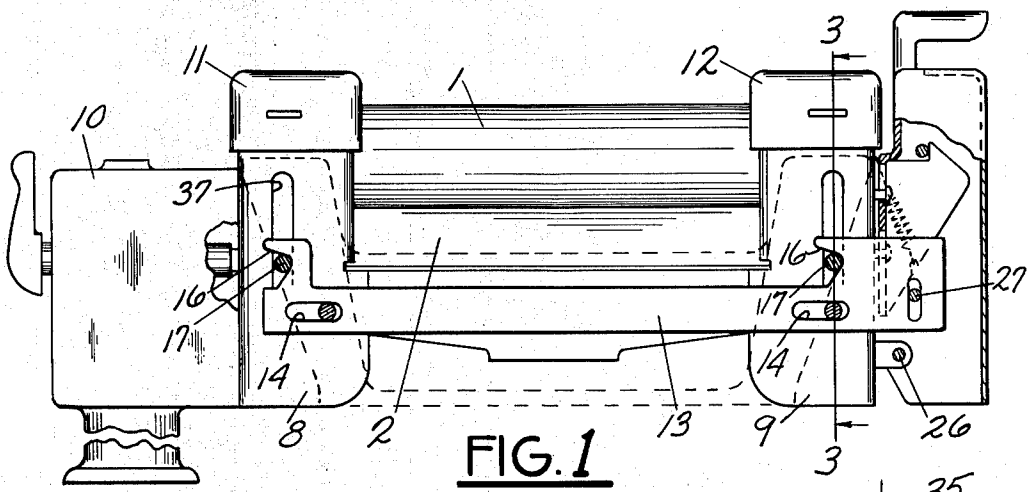


FIG. 1

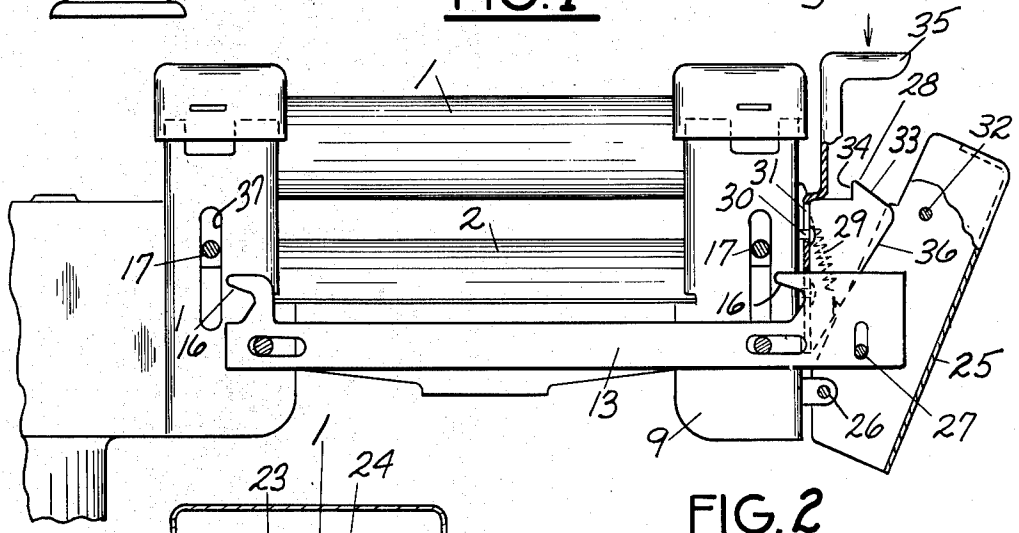


FIG. 2

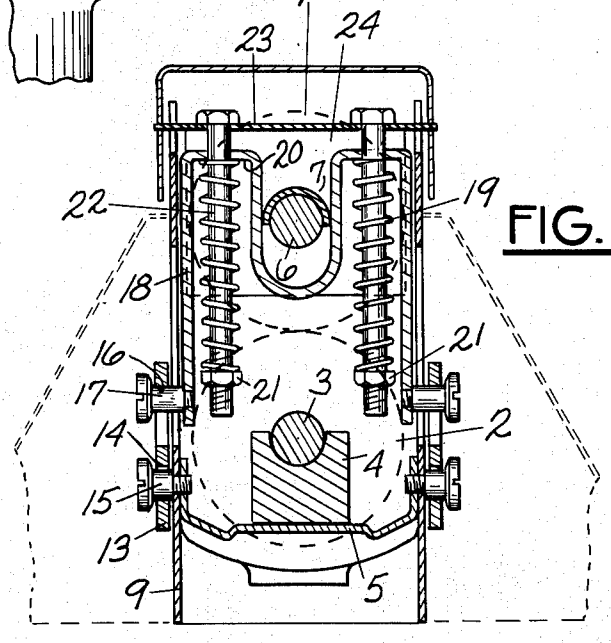


FIG. 3

INVENTOR.

BY James W. Brandt

Ralph Hammar

Attorney

United States Patent Office 3,224,237 Patented Dec. 21, 1965

3,224,237

WRINGER

James W. Brandt, Erie, Pa., assignor to Lovell Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Oct. 14, 1963. Ser. No. 315,946
8 Claims. (Cl. 68—257)

This invention is intended to simplify the manufacture and improve the operation of open top wringers.

In the drawing, FIG. 1 is a front elevation of a wringer with the roll pressure applied, FIG. 2 is a front elevation with the roll pressure released, and FIG. 3 is a section on line 3—3 of FIG. 1.

The wringer has the usual upper and lower rolls 1 and 2. The lower roll has a shaft 3 journaled in bearings 4 mounted in pressure carrying relation at opposite ends of a bottom frame 5. The upper roll has a shaft 6 with opposite ends journaled in bearings 7. The bearings for the upper and lower rolls are within side stiles 8 and 9 fixed to opposite ends of the bottom frame 5. The side stile 8 is suitably secured to a wringer head 10 containing the usual driving mechanism for the lower roll shaft 3. The upper ends of the side stiles 8 and 9 are enclosed by caps 11 and 12 which are free to move up and down. There is no connection between the upper ends of the side stiles 8 and 9 and this type of wringer is accordingly known as an open top wringer.

The roll pressure is transferred to the wringer frame by two slides 13, one on each side of the frame. The slides have horizontal slots 14 receiving guide pins 15 fixed to the wringer frame. The guide pins conveniently may be shoulder screws with the inner ends screwed into the frame and with heads overlapping the outer side of the slides 13. At each end of the slides are inclined cam surfaces 16 cooperating with pins 17 fixed to the lower end of pressure member 18. The pins 17, like the pins 15, are conveniently shoulder screws. Associated with each pressure member 18 are trapped coil springs 19 arranged between the underside of flanges 20 on the pressure member 18 and nuts 21 on bolts 22 extending through top flange 23 on a carrier 24 for the bearing 7. The springs 19 act in the direction to hold the flanges 20 and 23 against each other. The spring pressure mechanism is duplicated at each end of the wringer.

In the pressure position, the inclined cam surfaces 16 are slid over the pins 17 so that the pressure members 18 are thereby rigidly fixed to the side stiles 8 and 9 of the wringer frame. As the slides are moved into this position, the pressure members 18 are cammed downward, thereby separating the flanges 20 and 23 as indicated in FIG. 3 and developing wringing pressure between the rolls. The springs 19 pull the flanges 23 of the bearing carrier 24 downward, thereby urging the upper roll 1 against the lower roll 2. As clothes go between the rolls, the upper roll bearing 7 is forced upward and this movement is resisted by the springs 19.

The mechanism for moving the slide 13 to the pressure position consists of a handle 25 pivoted at 26 on the outer end of the side stile 9 and connected to the outer ends of the slides 13 by a pin 27. In FIG. 2, the upper roll 1 is shown spaced above the lower roll 2 to indicate how the upper roll may be moved upward to remove material from the rolls. Normally, in the pressure release position, the upper roll would rest on the lower roll and the pins 17 would be opposite the cam surface 16. In this position, as the handle 25 is moved in a counterclockwise direction from the position shown in FIG. 2, the slides 13 are moved toward the left and the cam surfaces 16 slide over the pins 17 and cam the pins downward to the FIGS. 1 and 3 position, thereby developing the desired

pressure between the rolls. In this position, the slides 13 and the pins 17 are in fixed relation to the side stiles 8 and 9 of the wringer frame. The handle 25 is held in this position by a catch 28 mounted on the outer end of the side stile 9 and urged upward by a tension spring 29. The catch 28 is slidably mounted on the side stile by a headed pin 30 fixed to the side stile and extending through a slot 31 in the catch. As the handle 25 reaches the pressure applying position, a pin 32 on the handle rides up inclined surface 33 and drops behind latch surface 34, holding the handle in the pressure position. The force exerted by the pins 17 on the inclined cam surfaces 16 urges the slides 13 to the right and this movement is resisted by engagement of the pin 32 with the latch surface 34.

The pressure may be released at any time by pushing the catch 28 downward until the pin 32 clears the latch surface 34. For this purpose, a handle 35 is provided at the upper end of the latch. In case the slides do not move to the right when the latch surface 34 clears the pin 32, the lower end of the catch 28 is provided with a cam surface 36 which engages pin 27 and forces the slides 13 to the right. The cam surface 36 is ordinarily unnecessary.

When the slides are moved to the right so that the cam surfaces 16 are clear of the pins 17 as illustrated in FIG. 2, the pins 17 are free to slide upward in slots 37 in the side stiles, thereby permitting the required separation of the upper and lower rolls 1 and 2 to completely release the pressure and permit removal of material from between the rolls.

What is claimed as new is:

1. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted on opposite sides of the frame for movement lengthwise of the rolls, cam means engaged by lengthwise movement of the slides for locking the pressure members to the side stiles, a handle pivoted on one of the side stiles on an axis transverse to the slides, a connection between the handle and the slides for moving the slides lengthwise to and from the wringing pressure position, and a latch on said one side stile for holding the handle in the pressure position.

2. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted on opposite sides of the frame for movement lengthwise of the rolls, a pin and slot connection between each pressure member and the associated side stile permitting upward movement of the pressure members, cam means operated by lengthwise movement of the slides for blocking said upward movement of the pressure members, a lever pivoted on one of the side stiles, a connection between the lever and the slides for moving the slides lengthwise to and from the

blocking position, and a latch on said one side stile for holding the lever in the blocking position.

3. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted on opposite sides of the frame for movement lengthwise of the rolls, pins on each pressure member extending through vertical slots in opposite sides of the associated side stile, cam surfaces on the slides movable over the pins by lengthwise movement of the slides to move said pins downward and develop wringing pressure between the rolls.

4. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing within the side stile at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted by pressure carrying connections on opposite sides of the frame for movement lengthwise of the rolls, pins on each pressure member extending through vertical slots in opposite sides of the associated side stile, cam surfaces on the slides movable over the pins by lengthwise movement of the slides to cam said pins downward and develop wringing pressure between the rolls.

5. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing within the side stile at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted by pressure carrying connections on opposite sides of the frame for movement lengthwise of the rolls, pins on each pressure member extending through vertical slots in opposite sides of the associated side stile, cam surfaces on the slides movable over the pins by lengthwise movement of the slides to cam said pins downward and develop wringing pressure between the rolls, the cam surfaces being inclined in the direction to be moved off the pins under the forces of wringing pressure, a handle pivoted on one of the side stiles on an axis transverse to the slides, a connection between the handle and the slides for moving the slides lengthwise to the wringing pressure position, and a latch on said one side stile for holding the handle in the pressure position.

6. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing within the side stile at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, pins on the pressure members projecting on opposite sides of the frame, slides on opposite sides of the frame guided by pressure carrying means on the frame for movement lengthwise of the rolls, inclined cam surfaces on the slides engaging the pins upon lengthwise movement of the slides for camming the pins downward and locking the pressure members to the side stiles, a handle pivoted on one of the side stiles on an axis transverse to the slides, a connection between the handle and the slides for moving the slides lengthwise to and from the wringing pressure position, and a latch on said one side stile for holding the handle in the pressure position.

7. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing within the side stile at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted on opposite sides of the frame by pressure carrying means for movement lengthwise of the rolls, pins on the pressure members extending through slots in the associated side stile permitting upward movement of the pressure members in the pressure released condition, and inclined cam surfaces on the slides presented toward and engaging said pins upon lengthwise movement of the slides for camming the pressure members downward.

8. In a clothes wringer, a bottom frame with upstanding side stiles at each end of the bottom frame, an upper roll and a lower roll extending between the side stiles, a lower roll bearing mounted in pressure carrying relation at each end of the frame, an upper roll bearing within the side stile at each end of the upper roll, a carrier for each upper roll bearing slidably mounted in the adjacent side stile, a pressure member slidable in each side stile, spring means connecting the pressure member and bearing carrier in each side stile for resisting upward movement of the bearing carrier relative to the pressure member, slides mounted on opposite sides of the frame for movement lengthwise of the rolls, pins on each pressure member extending through vertical slots in opposite sides of the associated side stile inclined cam surfaces on the slides presented toward and movable over the pins by lengthwise movement of the slides to cam said pins downward and develop wringing pressure between the rolls, a handle pivoted on one of the side stiles on an axis transverse to the slides, a connection between the handle and the slides for moving the slides lengthwise to the wringing pressure position, and a latch on said one side stile for holding the handle in the pressure position.

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WALTER A. SCHEEL, *Primary Examiner.*

LOUIS O. MAASSEL, *Examiner.*