

(No Model.)

2 Sheets—Sheet 2.

J. W. ANDERSON.
WASHING MACHINE.

No. 429,831.

Patented June 10, 1890.

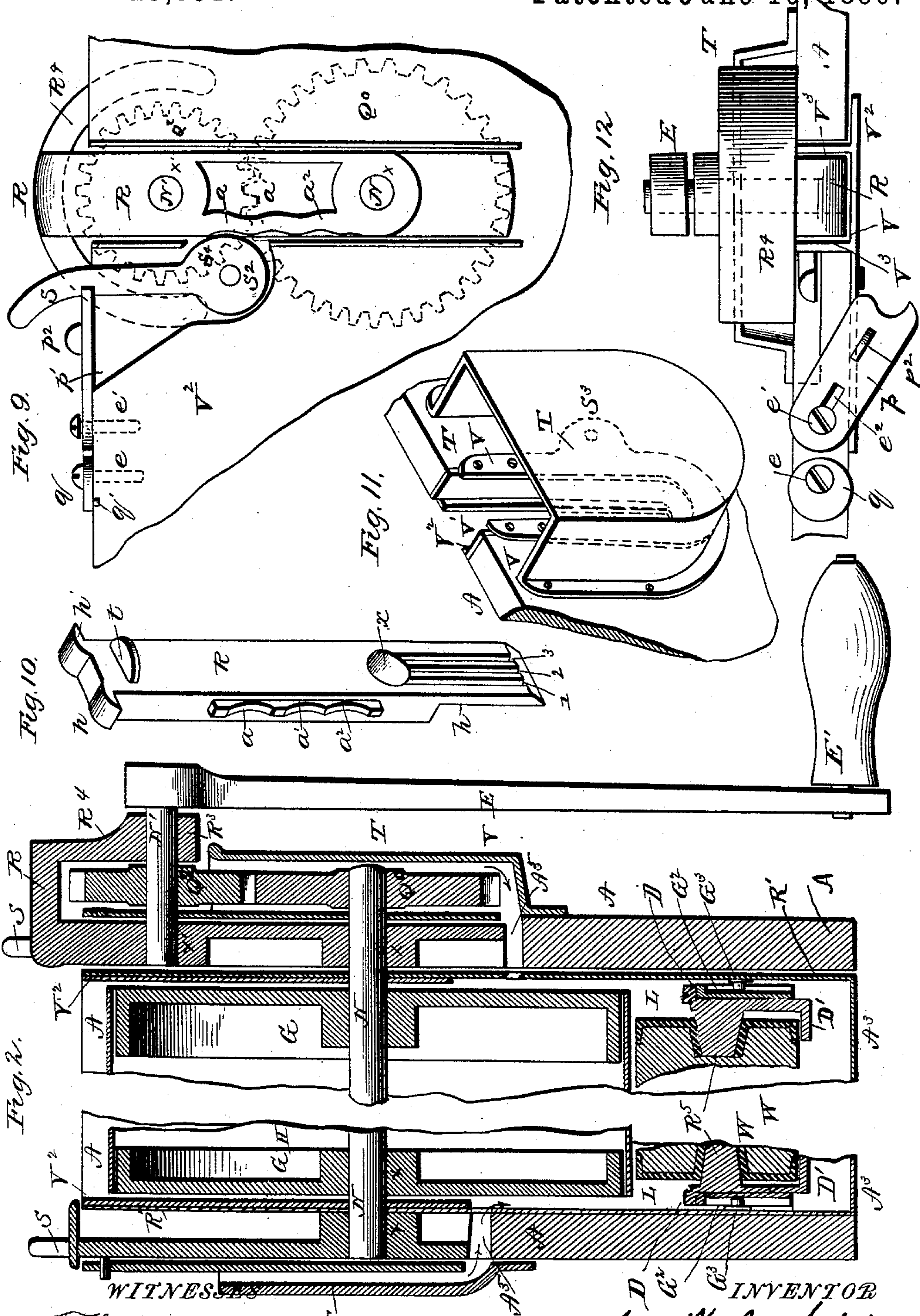


Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Fig. 13.

WITNESSES
F. L. Ourand
W. F. Becker.

INVENTOR
John W. Anderson
Theophilus Weaver
his Attorney

UNITED STATES PATENT OFFICE.

JOHN W. ANDERSON, OF LANCASTER, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 429,831, dated June 10, 1890.

Application filed February 18, 1889. Serial No. 300,287. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ANDERSON, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Clothes-Washing Machines, of which the following is a specification.

My invention relates to washing-machines employing a yielding roller-bed in combination with a main roll, all peculiarly constructed and mounted, as will be hereinafter described, and pointed out in the claims.

I attain the objects of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical sectional view of my machine and the bed and works in elevation; Fig. 2, a cross-section of machine at both ends, with shafts in perspective view; Fig. 3, a vertical elevation of part of cast side frame of bed with spiral spring attached; Fig. 4, a longitudinal section of one of the rollers broken off, its bushing, side frame with journal-stud cast thereon, and guide-stud on box; Figs. 5, 6, and 7, respectively, represent detail views of the socket for attaching the spiral spring, the spiral spring, and the attaching-plate of said spring; Fig. 8, a cross-sectional view of the spring-bed with the spiral spring attached; Fig. 9, an interior view of the interlocked bearing of adjustable main roll; Fig. 10, a perspective view of a main-roll bearing detached; Fig. 11, a perspective view of water-return casing on suds-box at main-roll bearing; Fig. 12, a top view of main-roll mounting, of bearing, locking-lever, and winch.

Similar letters denote the same parts in all the views.

Letter A denotes the suds box or tank having a sheet-metal bottom A^3 and provided with supports R^0 , secured to the wood-work A, as shown. Said metal part A^3 extends up inside of the wood-work and forms the lining R' . The form of the suds-box is rectangular and has a concave bottom.

In the suds-box is mounted a spring-bed having cast side frames $D D'$, correspondingly formed with flanges on the inside at both ends and united by wash-boards H, secured to basal flanges by wood-screws a , inserted

through holes in the flanges into the ends of said boards. At the middle portions of said frames there are cast upon them large conical studs R^5 , upon which are supported five plain rollers $W W' W^2$, the middle one being situated directly beneath the main roll G, which is journaled in the sides of the suds-box in adjustable and removable bearings. The spring-bed is supported removably upon the fixed sockets Q by means of the spiral springs N, attached to the under side of the bed near its ends. The cast frames $D D'$, made curved about their middle, are made with seats D^3 near their ends, to which are attached the sockets P, corresponding with the sockets Q below. The sockets P are made hollow at their oblique bases and adapted to fit against said seats D^3 and come horizontally on their under sides, having the slots P' in their sides, into which slots are inserted the extensions O of the spring holding-plates O^2 . Said sockets have the holes P^3 , into which a screw K passes in attaching both said socket and the plate O^2 as the screw is driven home into the board H. The end of the spiral spring N^0 is provided with the upturned end N^6 , which is inserted in hole P^2 in said socket and is secured therein by said plate O^2 binding on the wire of the said spring, thus interlocking the spring against undoing. The end N^6 also passes through the hole o' , bringing the plate in right position, so that the spring is kept in the erect position shown. The lower ends of said springs N^0 are made to rest in the cast sockets Q, secured on the insides of the suds-box by the wood-screws Q' . At the middle of side frames $D D'$ are formed thereon the vertical slots G^2 , on the side next the suds-box. On the sides of the latter are affixed the studs G^3 , which register with said slots, while the springs N^0 permit the bed to play up and down and its ends to rock. When said bed is lifted out of the suds-box, said slots, being open beneath, disengage from the studs, allowing the bed to be lifted off the sockets Q, and then the spring-bed may be set on a floor, resting on the springs N^0 as supports. The rollers $W W' W^2$ have at each end the cast bushing L, integrally united with the ferrule L' and the conical bearing L^2 , serving as a casing in the

roller when pressed to the seat made for it in the roller. The studs R^5 conform to and nearly fill said bearings, and they being large cause some frictional resistance to said rollers while at work in washing. The fluted roll G is worked back and forth by aid of the winch E on the shaft N' , which is intergeared with the roll-shaft N , provided with the pinion Q^0 , meshing with the drive-pinion Q^2 . The shaft N' has its bearings X' in the adjustable block R , and the shaft N has its bearings X in opposite blocks $R R'$, which blocks are provided with the grooves 1, 2, and 3 on their exterior sides. These grooves, together with the water-ways A^5 in the suds-box, are for returning into the suds-box the water that may leak out at said bearings X . An exterior shield or casing T , attached to the suds-box below the water-ways A^5 , is adapted, as shown, for said purpose. The levers S , pivoted at S^2 in cut-aways or recesses in the sides of the box A , are formed with the eccentric part S^4 , adapted to engage the notches $a a' a^2$ when the said blocks $R R'$ are adjusted; and the arms of said levers are raised and locked in place by the plate p , as shown, Fig. 1. Said stop-plate p is pivoted at e' , and has the slot e^2 to permit the plate to be retracted for disengaging its notched front end from its bite on the lever. The eccentric q , pivoted, as shown in Fig. 12, is first adjusted to release said plate. When said blocks $R R'$ are adjusted to elevate the main roll, as desired, each block is secured in place by the lever S at each end of the roll, and by said plates p adjusted to engage said lever, and each of said eccentrics q secured in adjusted position by the pivotal screws e , as shown in Fig. 12. The eccentric q has its under side provided with the lug q' , (shown in Fig. 9,) for fixing it in position, and the plate p has on its upper side the catch p^2 for handling it. As described, the block R has on it the bearings $X X'$, for the shafts $N N'$, respectively keyed to the gears $Q^0 Q^2$, arranged to constantly intergear. Said block R has at its top the segment R^4 , which is to reach down outside of the suds-box parallel to the inside part thereof. The wheel Q^2 is supported between said parallel parts upon the axle N' , which axle has secured to its outer end the winch E , having the handle E' . The main roll G may therefore be adjusted below the level of the top of the suds-box and below the level of the suds in the box without causing overflow of the suds, the waste water at the bearings of the shaft N being returned into said box, as described.

I claim—

1. In a washing-machine, the combination

of the roll G , the blocks $R R'$, formed with bearings for the roll's shaft, provided with lateral notches $a a' a^2$, the pivoted levers S , formed with parts S^4 , adapted to interlock with said notches, and of the pivoted plates p , formed with catches at their front ends for reliably engaging them in the interlocking positions, substantially as and for the purposes set forth.

2. In a washing-machine, the main-roll-supporting block R , secured adjustably in a vertical recess in the side A of the suds-box, and having its top formed with a parallel abutment R^4 , extended down outside of said side, in combination with driver-wheel Q^2 , supported between said parallel parts upon the axle N' , to which it is keyed and which is journaled through said parallel parts, and has on it the winch E , exterior to said segment, and with the wheel Q^0 , arranged upon the roll's shaft N and meshing with said driver, substantially as and for the purposes set forth.

3. In a roller washing-machine, the roller-support in cast frames $D D'$, having cast thereon the large tapering journal-studs R^5 , for supporting thereon the rollers to work retardedly, substantially as shown and described.

4. In a washing-machine, in combination with the cast side frames $D D'$, the sockets P , each formed with a slot P' and a hole P^2 , the spring N^0 , having its upturned end N^6 inserted in said hole, the plate O^0 , inserted between the helices of said spring, and its stem O inserted in said slot, and the screw K , driven into the board H through said parts for securing said spring and plate interlocked in the socket attached by the screw, substantially as and for the purpose set forth.

5. In combination with the roller-bed formed of rigid side frames $D D'$, the boards H , secured to said frames, the rollers $W W' W^2$, journaled on studs R^5 , cast on said frames, the springs N^0 , secured to the under side of said frames by the plates O^2 , held in the sockets P by screws K , and with the fixed studs G^3 , traversing the slots G^2 in said frames, substantially as set forth.

6. In a washing-machine having the side frames $D D'$, formed with the journal-studs R^5 thereon, in combination with rollers having on each end the bushing L , integrally united with the ferrule L' and the taper bearing I^2 , and pressed firmly onto the ends of the wood-work of the roller, substantially as and for the purposes set forth.

JOHN W. ANDERSON.

In presence of—

H. C. BRUBAKER,

I. C. ARNOLD.