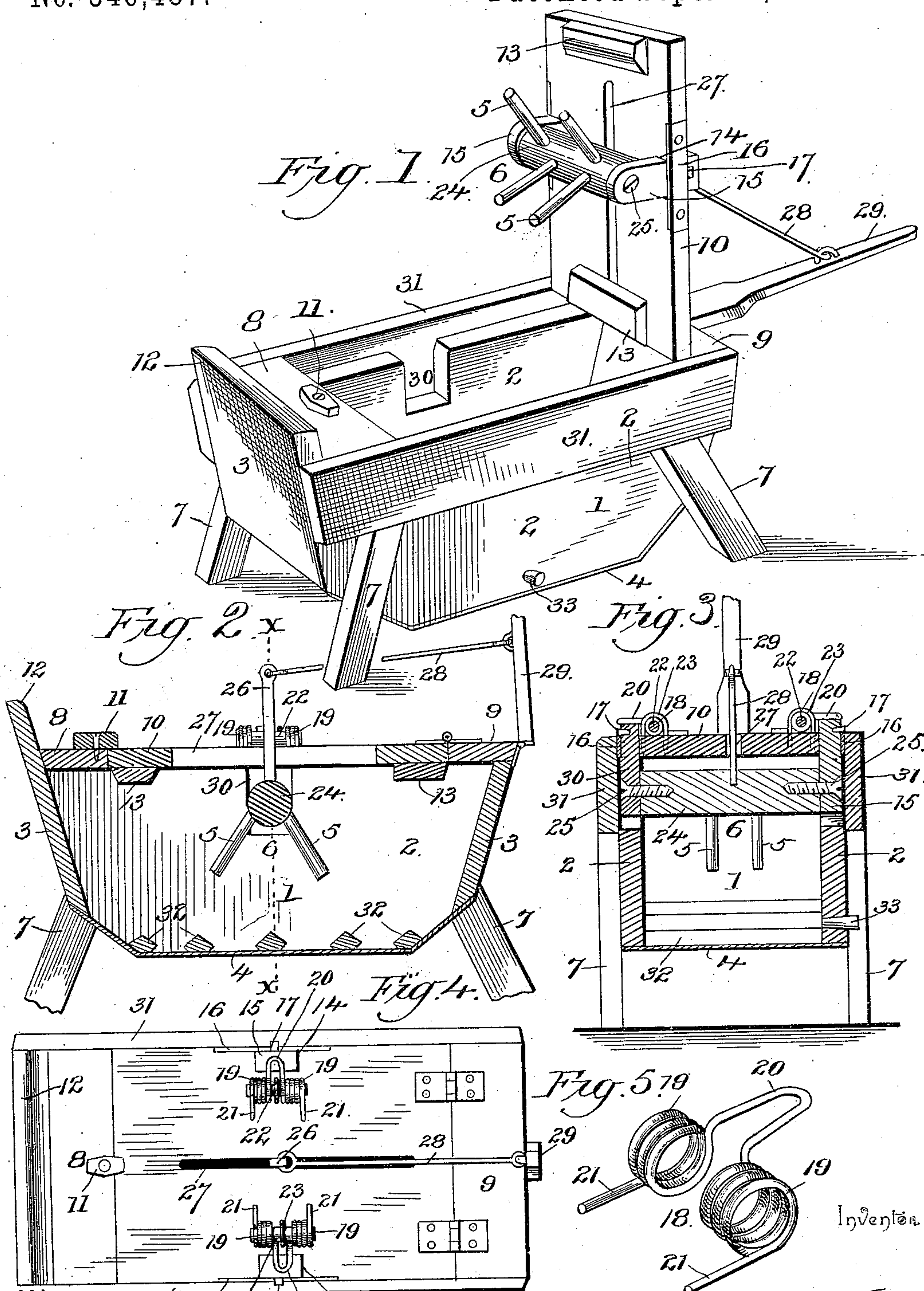


(No Model.)

W. HAAS.
WASHING MACHINE.

No. 546,487.

Patented Sept. 17, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HAAS, OF LYNDON, KANSAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 546,487, dated September 17, 1895.

Application filed April 29, 1895. Serial No. 547,536. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAAS, a citizen of the United States, residing at Lyndon, in the county of Orange and State of Kansas, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to washing-machines, and has for its object to improve that class of apparatus which comprise a suds-box and oscillatory rubber for agitating the clothing to be cleansed in the efficient working of the appliance.

The primary object of the invention is to equalize the pressure of the rubber upon the clothing and make provision for the conforming of the same to the bulk of clothing within the suds-box, said rubber being journaled at its ends in vertically-movable standards, which are mounted in suitable guides in the cover, so that when the latter is thrown up the rubber will be withdrawn from the suds-box and out of the way.

The improvement consists of the novel features and the peculiar construction and combination of the parts, which hereinafter will be more fully set forth and claimed, and which are shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the improved washing-machine having the cover open or thrown back. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a cross-section on the line X X of Fig. 2. Fig. 4 is a top plan view of the machine. Fig. 5 is a detail view of a spring for holding a side standard at the limit of its downward movement.

The suds-box 1 may be of any required size and pattern and in plan elevation is oblong and comprises side pieces 2, ends 3, and a bottom 4, the latter being of zinc or galvanized iron and secured in any desired manner to the lower edges of the side pieces 2 and the ends 3, and this bottom curves slightly in its length to conform approximately to the sweep of the arms 5 of the oscillatory rubber 6. The sides and ends of the suds-box are preferably wood and are secured together at their meeting edges in any preferred manner whereby a water-tight joint is attained. The suds-box is supported upon legs 7, by means of which it is held above the floor or other place upon

which the machine is placed when in operation. Similar end bars 8 and 9 are attached to the side pieces 2, and the cover 10 is hinged at one end to the bar 9, and is held in closed relation by means of a turn-button 11, provided on the bar 8. A wringer-board 12 projects vertically from one end of the suds-box and is adapted to have a wringer of ordinary construction applied thereto in the usual manner.

The cover 10 is adapted to close upon the upper edges of the side pieces 2 and has end cleats 13, which are adapted to come between the side pieces 2 and prevent any lateral movement of the cover when closed, and this cover has vertically-extending notches 14 in its edges to form guides for vertically-movable standards 15, which are held therein by straps or plates 16, extending across the open sides of the said notches and secured at their ends to the cover beyond the end walls of the said notches.

The standards 15 are limited in their downward movement by pins 17, which extend transversely through the upper portions thereof, and which pins have their ends projecting to engage with the cover beyond the walls of the notches, thereby forming stops. Springs 18 are provided to hold the standards 15 at the limit of their downward movement, and these springs are each formed from a single length of wire bent to form side coils 19, a middle loop 20, and side arms 21, the said arms 21 projecting in a diametrically-opposite direction to the middle loop 20 and adapted to engage with the top side of the cover and the middle loop with the upper end of the respective standards 15, whereby the desired result is attained. A short rod or pin 22 extends through the side coils 19 of each spring and is secured in any desired manner to the cover, preferably by means of a staple 23, which is driven over the said pin or rod at a middle point thereof and into the cover. This staple occurs between the side coils and passes through the middle loop, thereby serving to prevent lateral derangement of the spring after the parts have been properly assembled. The middle loop has its outer portion in a higher plane than its arms 21, so as to obtain a firm purchase upon the upper end of its respective standard 15.

The rubber 6 comprises a roller or cylinder 24 and a series of arms 5, the latter extending in opposite directions from the lower side thereof, and this roller or cylinder, which is preferably of wood, is journaled at its ends to the lower portions of the standards 15 by means of lag or wood screws 25, passing through suitable openings formed transversely in the standards 15 and having their inner ends fitted into the extremities of the said roller or cylinder. A short lever 26 is firmly attached at its lower end to the roller or cylinder at a middle point and projects in an opposite direction to the arms 5 and through a longitudinal slot 27 in the cover 10 and is connected at its upper end by means of a rod 28 with an operating-lever 29, having a hinge or pivotal connection with the end bar 9, and by means of which the said rubber is rocked upon its bearings in the operation of the machine. It will be seen that the standards 15 are oppositely disposed, and provision is had for their free vertical movements by having notches 30 formed in the upper edges of the side pieces 2, which receive the lower portion of the said standards 15 when the cover is closed, and these notches 30 act in conjunction with the notches 14 to guide the standards 15 in their vertical movements and prevent any binding thereof in the operation of the machine. Side strips 31 are attached to the upper portions of the side pieces 2 and extend across the notches 30 and close the latter at their outer sides, and these strips 31 extend the full length of the suds-box and have their upper edge portions projected above the top edges of the side pieces 2, so as to come flush with the top of the cover when the latter is closed. By this construction the suds-box is strengthened and braced and lateral joints between the cover and the suds-box are obviated, thereby preventing the splashing of the suds-water upon the floor or the person operating the machine.

By providing the short lever 26 and connecting the same with the operating-lever 29 provision is had for a greater sweep of the rubber-arms 5, and the said rubber can be operated with less exertion than would be possible if either of the said levers were dispensed with. By having the standards 15 independently adjustable they will yield and adapt themselves to the bulk of clothing contained within the suds-box, and when the washing is light the arms 5 will operate in proximate relation to the bottom 4, so as to

engage with and thoroughly agitate the clothing to be cleansed, and when the bulk of clothing increases the rubber will yield, so as to adapt itself to the increased quantity of clothing to be operated upon. The bottom will be provided on its inner side with a series of transversely-disposed slats or bars 32 to form a roughened surface to materially assist in the process of washing, and the suds-box will have a lateral discharge-opening for the escape of the dirty water, and which is normally closed by a plug 33.

The machine herein described is simple and capable of performing the required work in a comparatively short space of time, and the operating parts, being attached to the cover, are removed from the suds-box simultaneously with the opening or throwing upward of the cover.

Other objects and advantages are apparent, and it will be understood that various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

In a washing machine, the combination with the suds box having oppositely-disposed notches in the upper edges of its sides, and a cover provided in its edges with notches to correspond with the notches in the said sides, of side standards operating in the notches of the cover and adapted to enter the notches in the sides of the suds box when the cover is closed, and guided in their vertical movements by the combined action of the walls of the notches in the cover and the said sides, the upper ends of the standards projecting beyond the top of the cover, a rubber journaled to the lower ends of the said standards, means for rocking the said rubber on its bearings, and coil springs having oppositely-projecting extensions to engage, respectively, with the top ends of the standards and the upper side of the cover, said springs being arranged exterior to the cover and supported thereby, substantially in the manner set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM HAAS.

Witnesses:

CHARLES R. GREEN,
J. H. BUCKMAN.