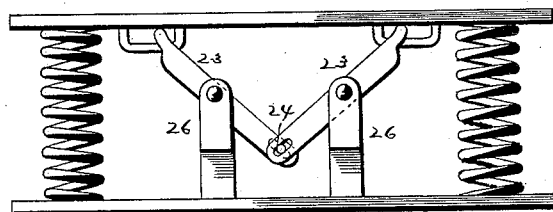
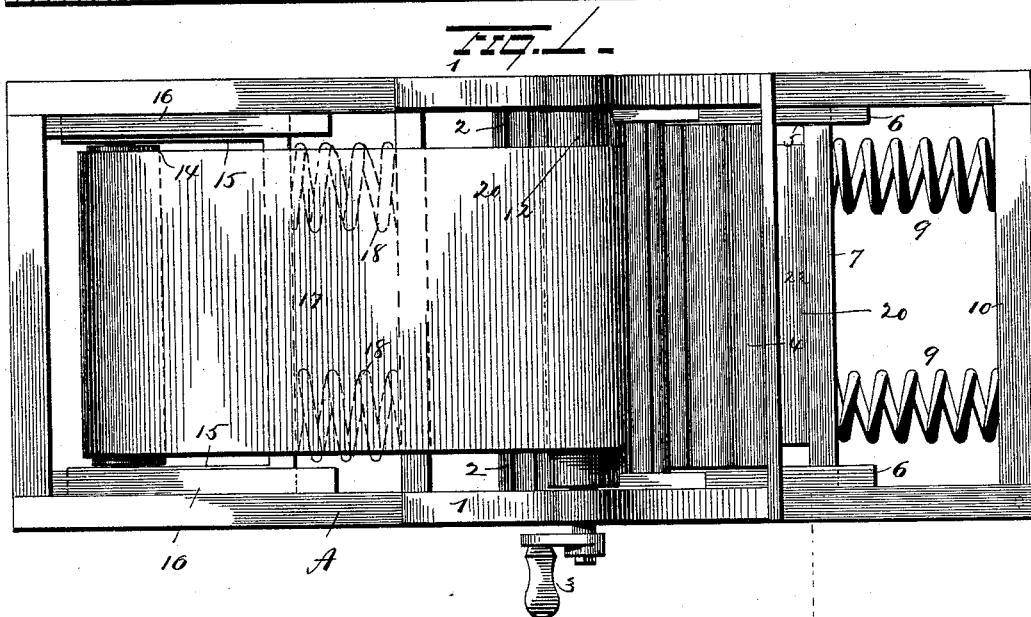
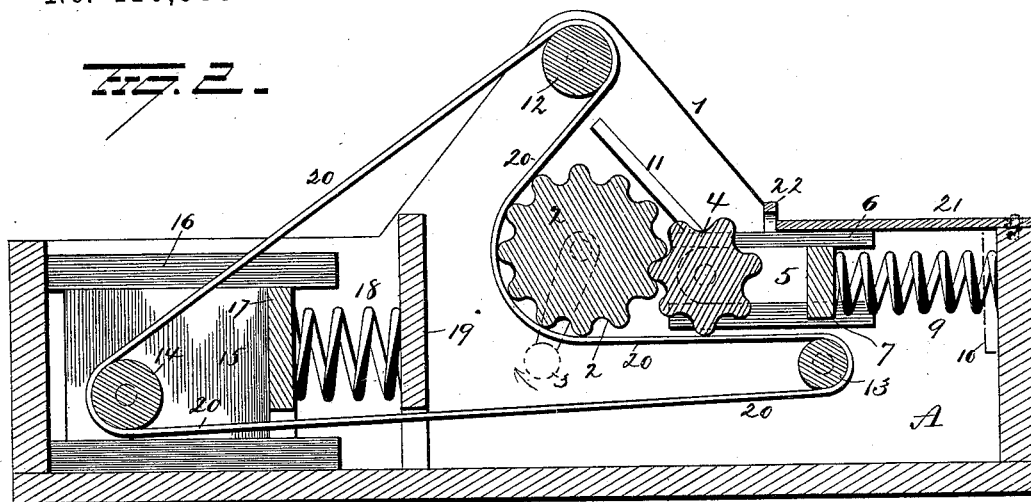


(No Model.)

H. W. KRIETE.
WASHING MACHINE.

No. 410,980.

Patented Sept. 10, 1889.



Witnesses
E. A. Nottingham,
G. F. Downing.

FIG. 3.

Inventor
Henry W. Kriete
By his Attorney
H. A. Seymour

UNITED STATES PATENT OFFICE.

HENRY W. KRIETE, OF CHARLESTON, SOUTH CAROLINA, ASSIGNOR TO LAURA FRANCES KRIETE, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 410,980, dated September 10, 1889.

Application filed April 25, 1889. Serial No. 308,544. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. KRIETE, of Charleston, in the county of Charleston and State of South Carolina, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it apper-

10 tains to make and use the same. My invention relates to an improvement in washing-machines.

The object is to provide a machine which will thoroughly and effectually wash clothes without rubbing or tearing them; and with this end in view it consists in washing-rollers and an endless belt employed in combination with spring devices for regulating the tension of the belt and also the contact of the

20 rollers. It still further consists in certain novel features of construction and combinations, of parts, as will be hereinafter fully described, and pointed out in the claims.

25 In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a longitudinal section, and Fig. 3 is a modification.

A represents a water-tight box in which my improved machine is preferably placed, though it might be placed in an ordinary wash-tub, if desired. A frame 1 extends upward from the center of this box, forming continuations of its sides, and in said frame or, if preferred, in the sides of the box, a large corrugated roller 2 is revolvably supported. This roller is provided at one end with a crank 3, by means of which it is turned during the process of washing. A similar-shaped but shorter and smaller roller 4 is journaled in side blocks 5 5, which are normally held backward sufficiently to keep this roller 4 in contact with large roller 2. Said side blocks 5 5 are supported by guides 6 6, and a cross-piece 7 joins the two blocks at its ends. Two or more spiral springs 9 9 are inserted between this cross-piece 7 and a similar piece 10, or else the forward end of the box, and by their tensile action the blocks with the roller 4 are forced yieldingly back as far as they are permitted to go without obstruc-

tion, and still capable of being forced forward, according to the amount of clothes being washed.

Guard-flanges 11 11, over the large roller prevent the articles being placed between the rollers from getting in contact with the journals, where they would become damaged and stop the machine, or impede its movement.

There is a roller 12 journaled in the top of the frame, one 13 in the lower and forward end of the box, and yet another 14, located near the rear end, which requires a little fuller explanation, though it may be now remarked in a general way that it is supported and held in proper position precisely as is the smaller corrugated washing-roller 4, previously described. To particularize, this roller 14 is journaled in slide-blocks 15 15, and the latter are held by guards 16 16, while the blocks are connected by cross-piece 17, and spring 18 18, inserted between this cross-piece and a similar but stationary piece 19, forces the slide-blocks with their roller backward as far as the endless belt 20 will admit. This belt 20 may be differently made to suit the trade—such, for instance, as of canvas, or, perhaps better, of wooden strips joined together by links. This, however, is not material, and I do not wish to be limited to any particular form of belt; but this belt 20 is passed around the top roller 12, then back of and under large corrugated washing-roller 2, from contact with which it receives its motion, from this point over roller 13, and then over spring-cushioned rollers 14.

A lid or cover 21 is pivoted on the box to form a table for the support of the clothes. This cover may be swung over the end of the box or back out of the way at pleasure, and a guard 22, between this cover and the rollers 2 and 4, serves as a kind of partition.

In operation, the clothes to be washed are dropped between the corrugated rollers 2 and 4, the crank being turned in the direction indicated by the arrow. The garments are carried down into the water and then squeezed between the rollers, and so on as long as they are dirty, the belt always keeping them between the rollers or else in contact with them.

Now, to take them out the crank is turned in the opposite direction and the clothes are thrown out of the machine into the water.

In the modification, in addition to the cross-pieces and spiral springs which hold the rollers in position, the springs are re-enforced by a pair of balance-levers 23 23, which are loosely joined at their adjacent ends by means of a pintle 24, and they have a loose sliding connection at their outer ends with one of the cross-pieces. These balance-levers are fulcrumed about midway between their ends on blocks 26 26. By means of these levers the pressure is exerted on the entire roller, even if the clothes happen to work to one end, as they most always do.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the particular construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a washing-machine, the combination, with a corrugated washing-roller journaled in fixed bearings, and a corrugated washing-roller mounted in yielding bearings, and idle-rollers, one of said idle-rollers being mounted in yielding bearings, of an endless belt passing around the idle-rollers and partially around the washing-roller mounted in fixed bearings, substantially as set forth.

2. In a washing-machine, the combination, with a pair of corrugated washing-rollers, and idle-rollers, of an endless belt passed around the idle-rollers, and spring-cushions for one of the corrugated rollers and one of the idle-rollers, substantially as set forth.

3. In a washing-machine, the combination, with a box and frame, of a pair of corrugated rollers mounted therein, a spring-cushion for forcing one of said rollers toward the other,

idle-rollers, an endless belt passing around the idle-rollers and bearing against one of the corrugated rollers, and a spring-cushion for one of the idle-rollers, whereby the endless belt is maintained under tension, substantially as set forth.

4. In a washing-machine, the combination, with a water-tight box, a frame projecting from the top of the box, and a pair of corrugated washing-rollers, one of which has a spring-cushion back of it, of an idle-roller in the top of the frame, one in the bottom and forward end, and a spring-cushioned one in the rear end, and an endless belt passed over the idle-rollers and in contact with one of the corrugated rollers, substantially as set forth.

5. In a washing-machine, the combination, with a water-tight box, a frame, and a pair of corrugated washing-rollers, one of said rollers being journaled in spring-cushioned slide-blocks, of idle-rollers, one of which is journaled in spring-cushioned slide-blocks, an endless belt, and a pivoted cover, substantially as set forth.

6. In a washing-machine, the combination, with a box, corrugated and idle rollers, of an endless belt, and spring-cushions consisting of cross-pieces, springs, and balance-levers between these springs, substantially as set forth.

7. In a washing-machine, the combination, with corrugated washing-rollers, idle-rollers, and an endless belt passing around said idle-rollers and bearing against one of the corrugated rollers, of guard-fingers projecting over one of the corrugated rollers, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HENRY W. KRIETE.

Witnesses:

O. C. SIRES,

J. V. CROSKEYS.