

No. 612,907.

Patented Oct. 25, 1898.

J. W. MACDONALD.
WASHING MACHINE.

(Application filed Sept. 27, 1897.)

(No Model.)

Fig. 1

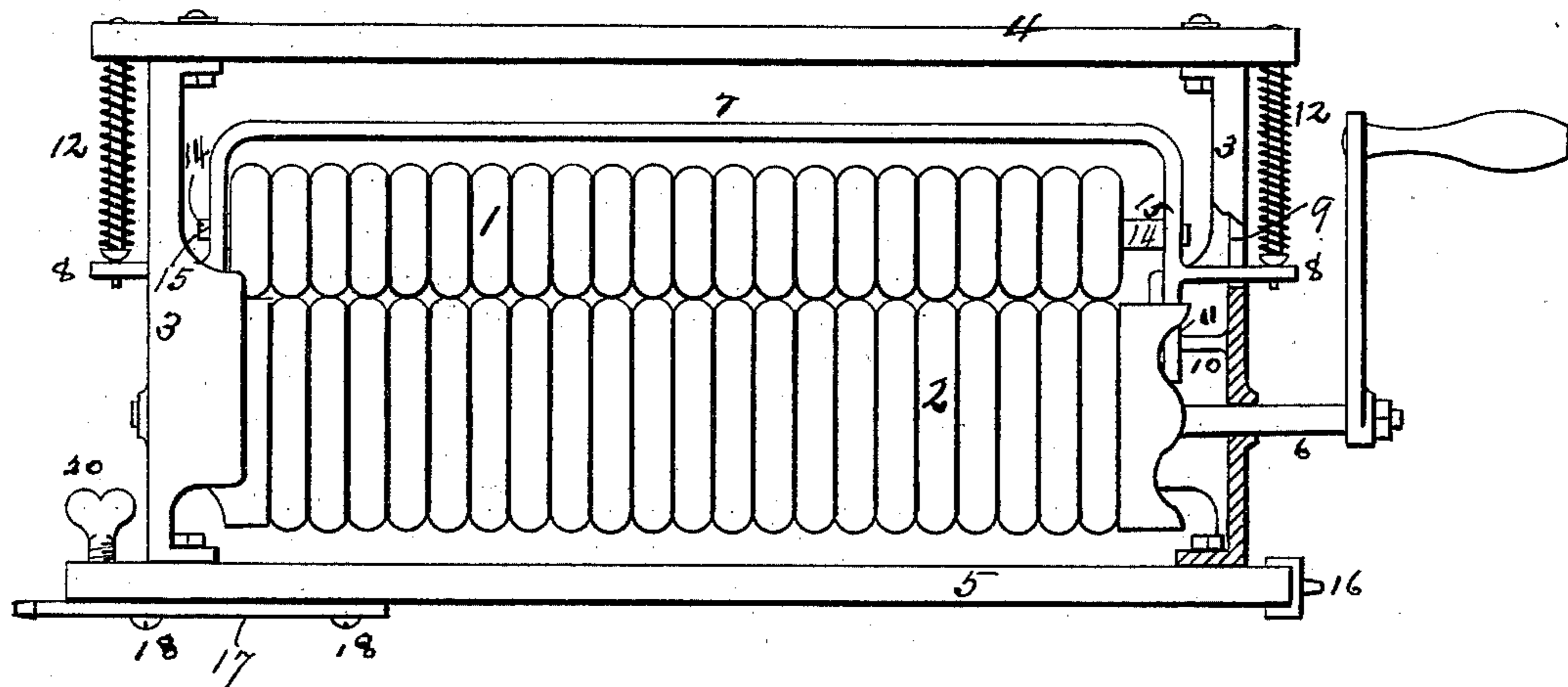
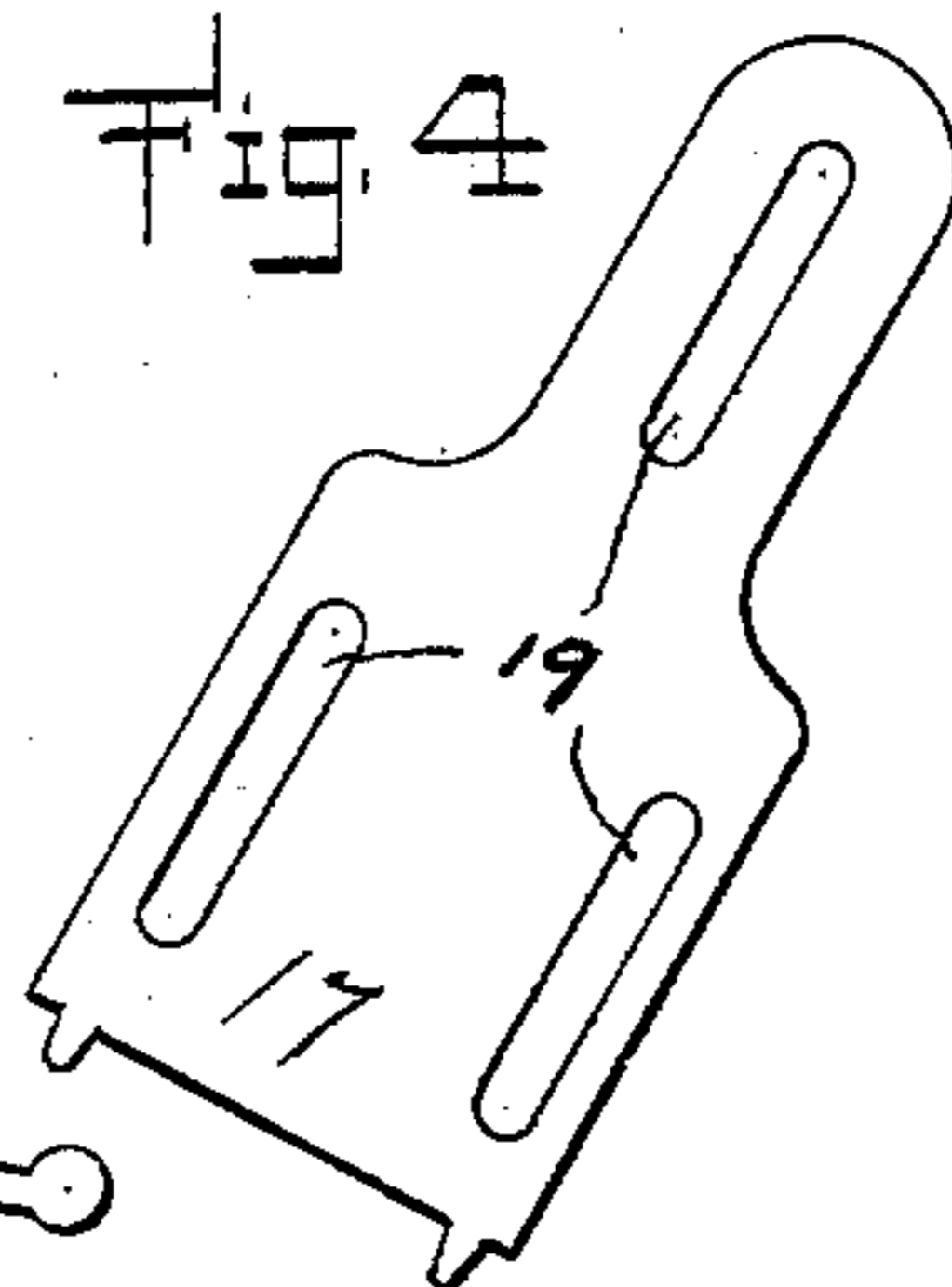
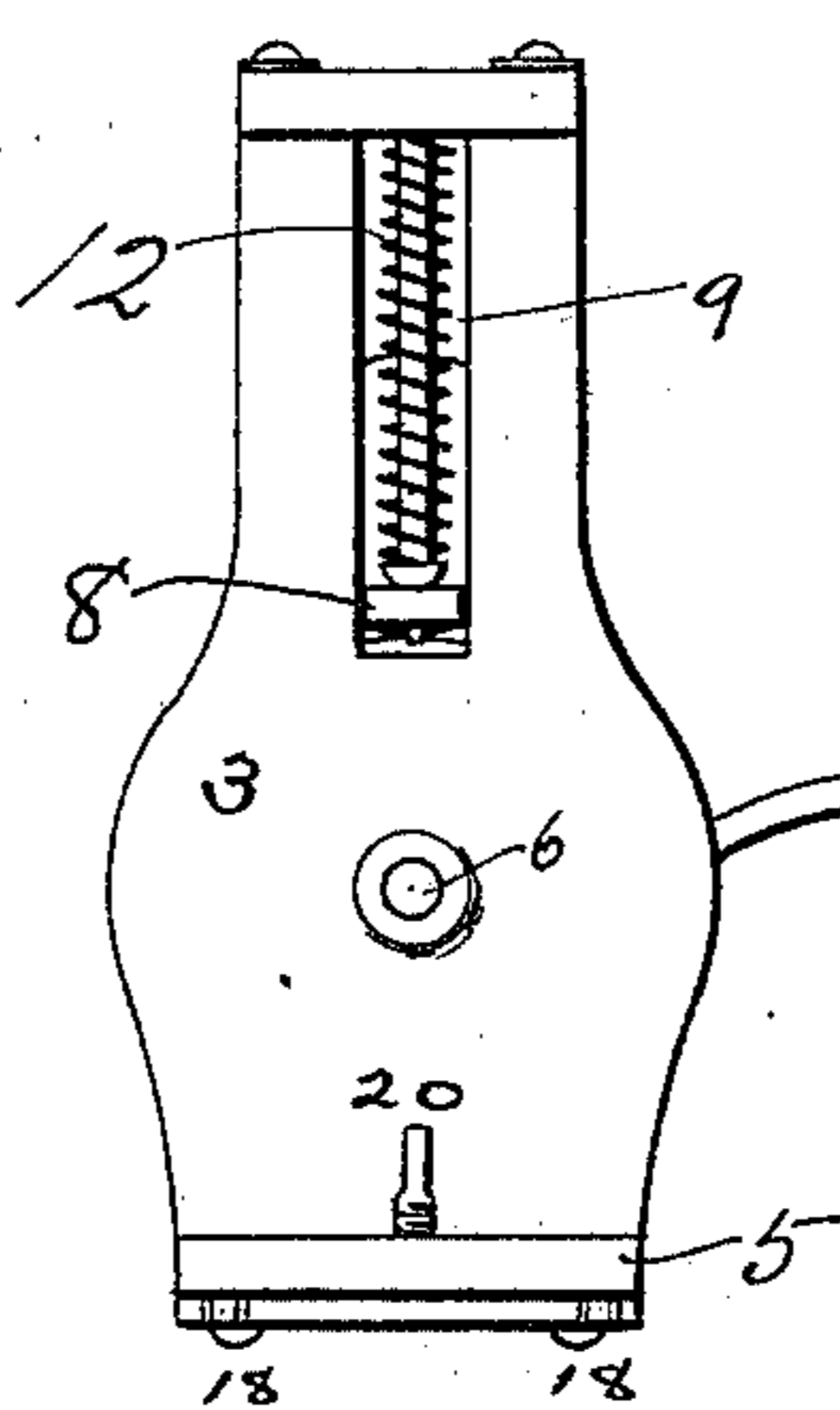
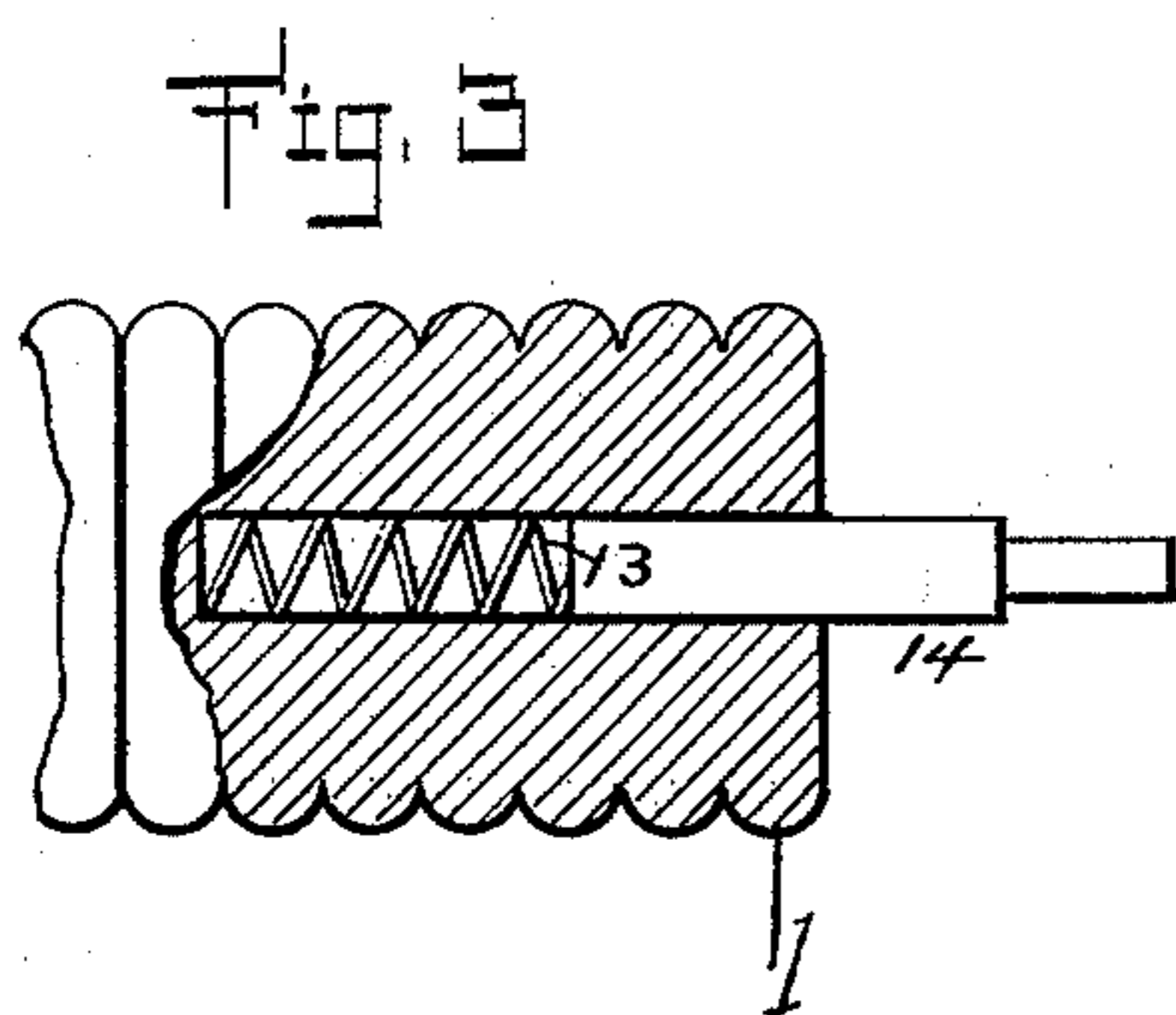


Fig. 2

Fig. 4

Fig. 3



Witness:
J. P. Duncan
John Cole.

Inventor
J. W. MacDonald

UNITED STATES PATENT OFFICE.

JOHN W. MACDONALD, OF PITTSBURG, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 612,907, dated October 25, 1898.

Application filed September 27, 1897. Serial No. 653,135. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. MACDONALD, of the city of Pittsburg, in the State of Pennsylvania, have invented certain new and useful Improvements in that Class of Washing-Machines Known as Roller-Washers, of which the following, taken in connection with the drawings hereto attached, is a description.

In the accompanying drawings, Figure 1 is a general view in outline, partly in section, showing my improvement. Fig. 2 is a view of one end thereof. Fig. 3 is a detail sectional view of one end of the reciprocating roller on an enlarged scale. Fig. 4 is a view of the device for attaching the machine to the vessel in which it is to be used.

The said machine is formed of two circumferentially-beaded wooden rollers 1 and 2, of different diameters, running within a framework composed of two housings 3, held in position by connecting-plates 4 and 5. The larger one of the said rollers is placed below and parallel with the smaller one and has fitted to each end thereof a cam-wheel, each of which carries a shaft 6, journaled in bearings in the housings 3. Said small roller is journaled to a yoke 7, which is somewhat longer than said roller and is provided with arms 8 at each end thereof, set parallel with the length thereof, which arms pass through vertical openings 9 in the housings 3 and act to guide said yoke in its varying movements, as well as to receive the pressure of the springs for adjusting said small roller. Said housings are provided with guides 10, against which a depending portion 11 of the yoke 7 works. Upon the outside of the housing 3 and fitted loosely to arms 8 and extending up through openings in the connecting-plate 4 are spindles carrying springs 12. In each end of the small roller a central opening is formed to receive a spiral spring 13 and a loosely-fitting shaft 14, journaled in bearings 15 in the yoke 7 for supporting said roller, said springs and shafts being of such length that when the small roller is in position within the yoke 7 the springs will be slightly compressed, and said yoke being of greater length than the small roller it will permit of a longitudinal movement of said roller on its supporting-shafts. At one end of the lower connecting-plate 5 is a lug 16, adapted to fit into a plate upon the

side of the vessel in which the washer may be used, and upon the under side of the opposite end of said plate is a slide 17, carrying similar lugs and held in place by screws 18, that pass through the slotted openings 19. A thumb-screw 20 holds the slide 17 in position.

To put the washer into use, the end having a fixed lug is adjusted to the plate upon the side of the vessel and the slide 17 moved out, so as to allow the lug thereon to enter the plate upon the opposite side of the vessel, the thumb-screw 20 turned to the place, and the washer made fast. Rotary motion is given the lower roller by means of a crank, and as the upper roller is held down on and in contact with the lower roller by the springs 12 it also will rotate, and as the depending parts 11 of the yoke 7 come in contact with the revolving cam-wheel upon the lower roller a longitudinal reciprocating motion also will be given the small roller.

It has been found in the operation of washers having longitudinal reciprocating rollers that when unevenly-folded garments are operated upon the positive action of the unyielding parts of the machine tends to rend and injure the materials. To avoid this difficulty, the shafts in the present device which support the longitudinal reciprocating roller are arranged to work against spiral springs placed in each end of said roller, so that in the operation of the machine the positive longitudinal movement that would otherwise be given the small roller is greatly reduced by the yielding of the springs, and as the materials of varying folds are passed between the rollers the yielding of the said springs will give a soft and easy action to the upper roller that will prevent the tearing of the materials operated upon. As garments of different thickness are passed between the rollers the upper roller will be raised accordingly, together with the yoke 7, to which it is journaled, and the latter being acted on by the springs 12 said roller will be forced down, and thus adjusted, said roller being guided in this upward and downward movement, as well as in its longitudinal movement, by the arms 8 of the yoke 7 working through the vertical openings 9 in the housings 3.

What I claim, and desire to secure by Letters Patent, is—

1. In a roller washing-machine having a large lower roller, a small upper roller, a yoke to which said small roller is journaled and housings for supporting said parts, in combination with springs centrally chambered in each end of said small roller held in position by shafts for supporting said roller, the said springs being adapted to yield to the longitudinal movement of said small roller on its supporting-shafts between its bearings in said yoke as shown and described.

2. In a roller washing-machine having a large lower roller, a small upper roller, springs

centrally chambered in each end of said small roller held in position by shafts for supporting said roller, in combination with a longitudinally-reciprocating yoke provided with fixed guiding-arms, the latter being adapted to receive the pressure of adjusting-springs as shown and described and for the purpose set forth.

JNO. W. MACDONALD.

Witnesses:

T. P. DUNCAN,
JOHN COLE.