

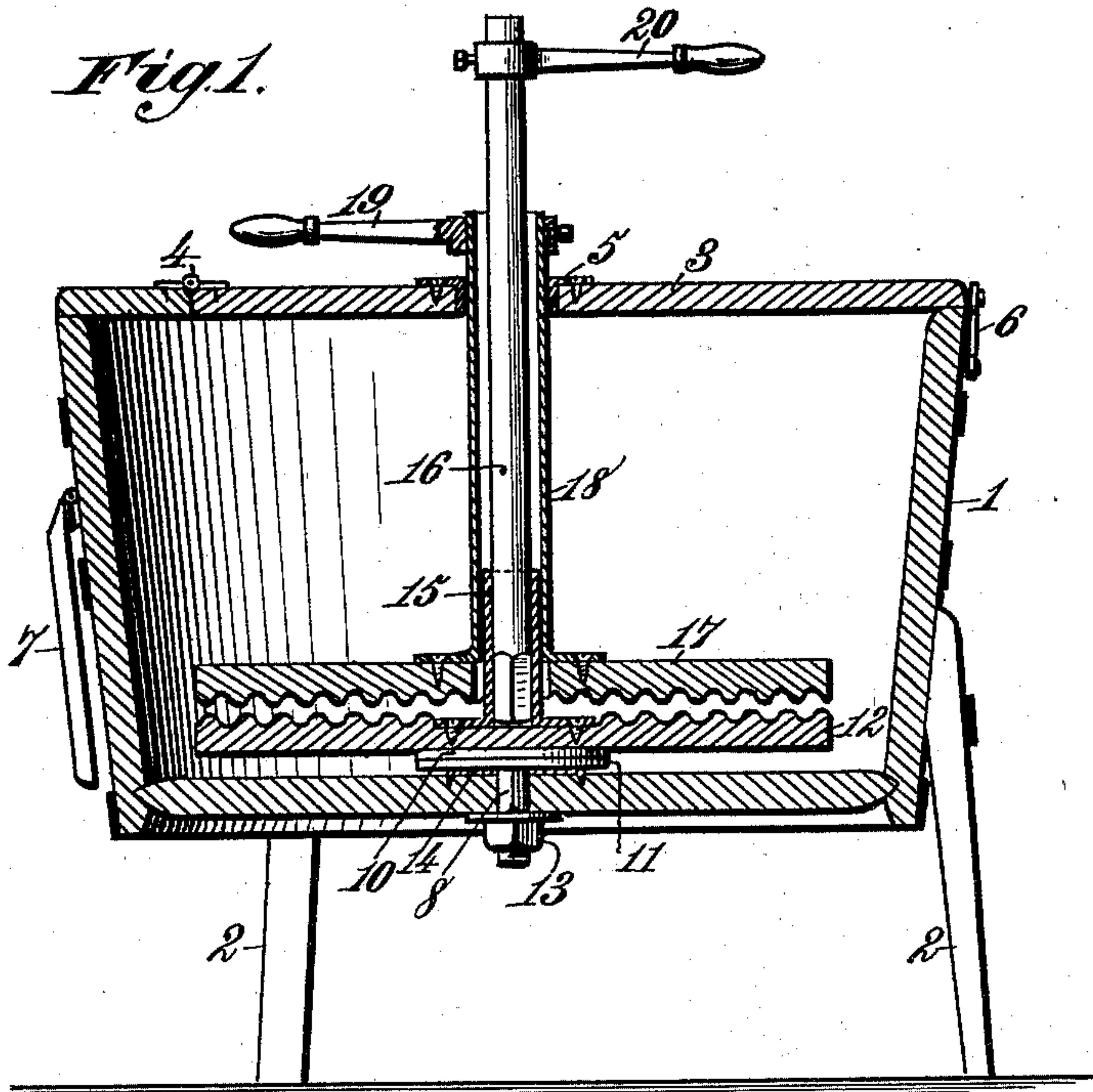
(No Model.)

J. SHAFFER.  
WASHING MACHINE.

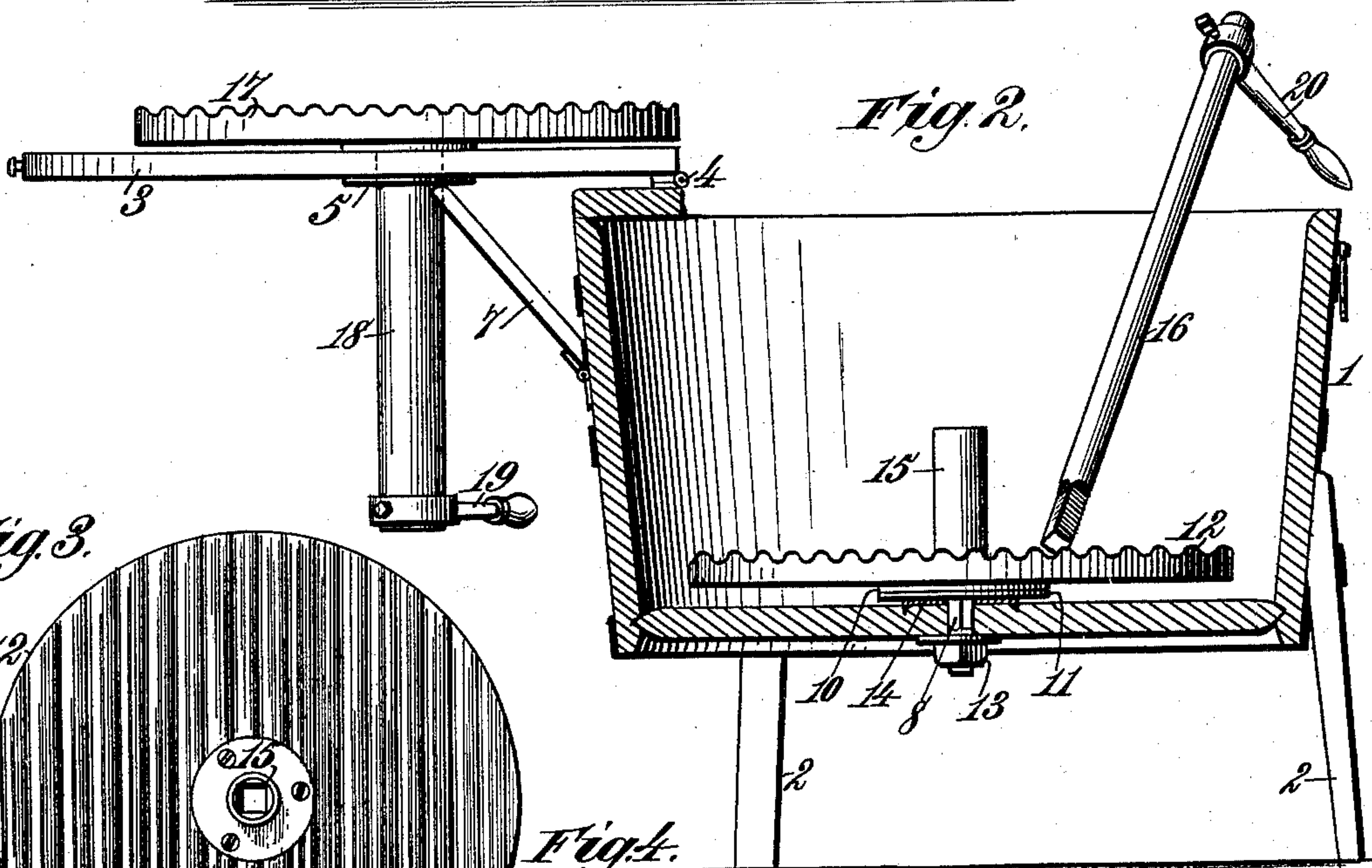
No. 504,946.

Patented Sept. 12, 1893.

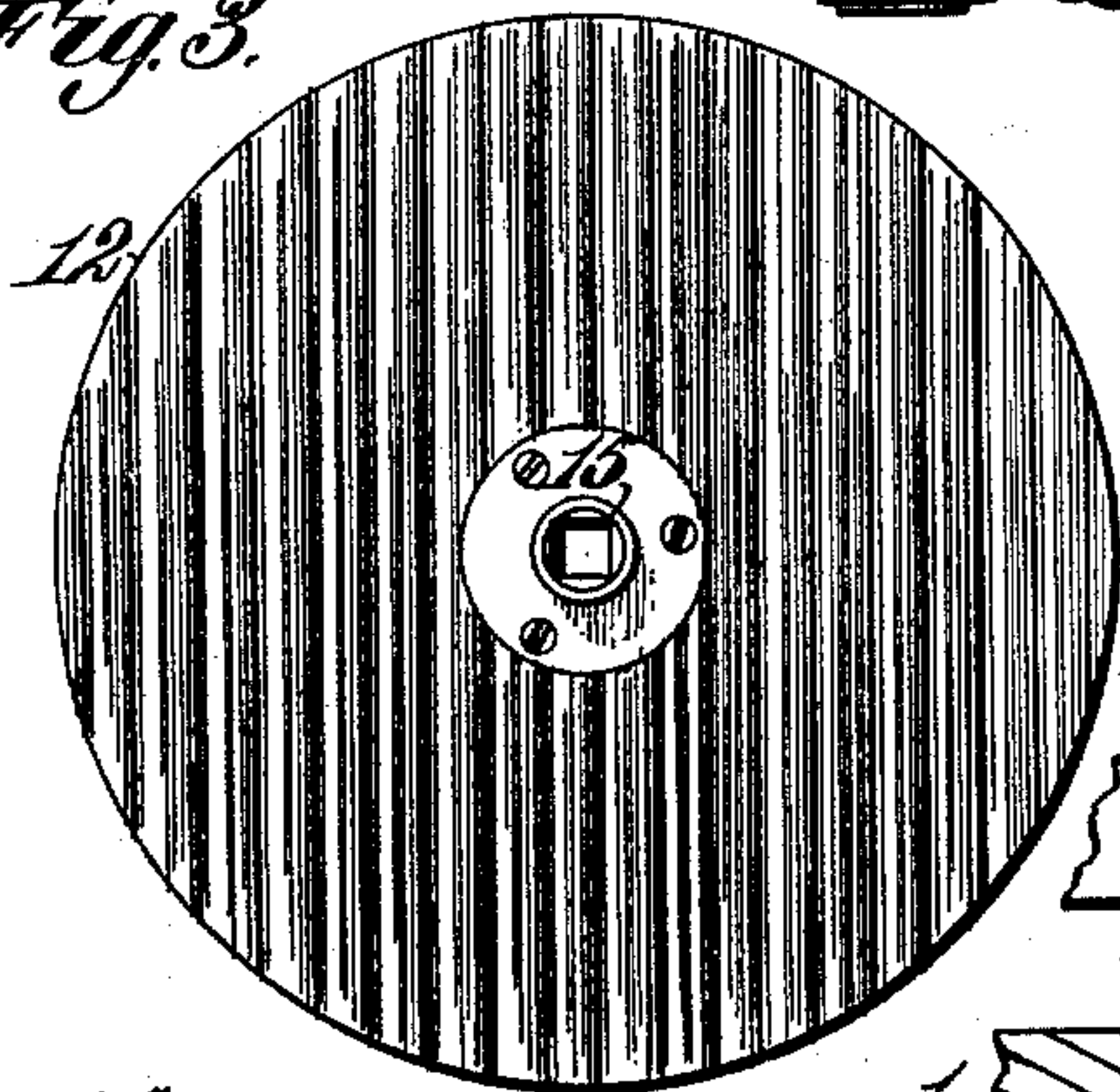
*Fig. 1.*



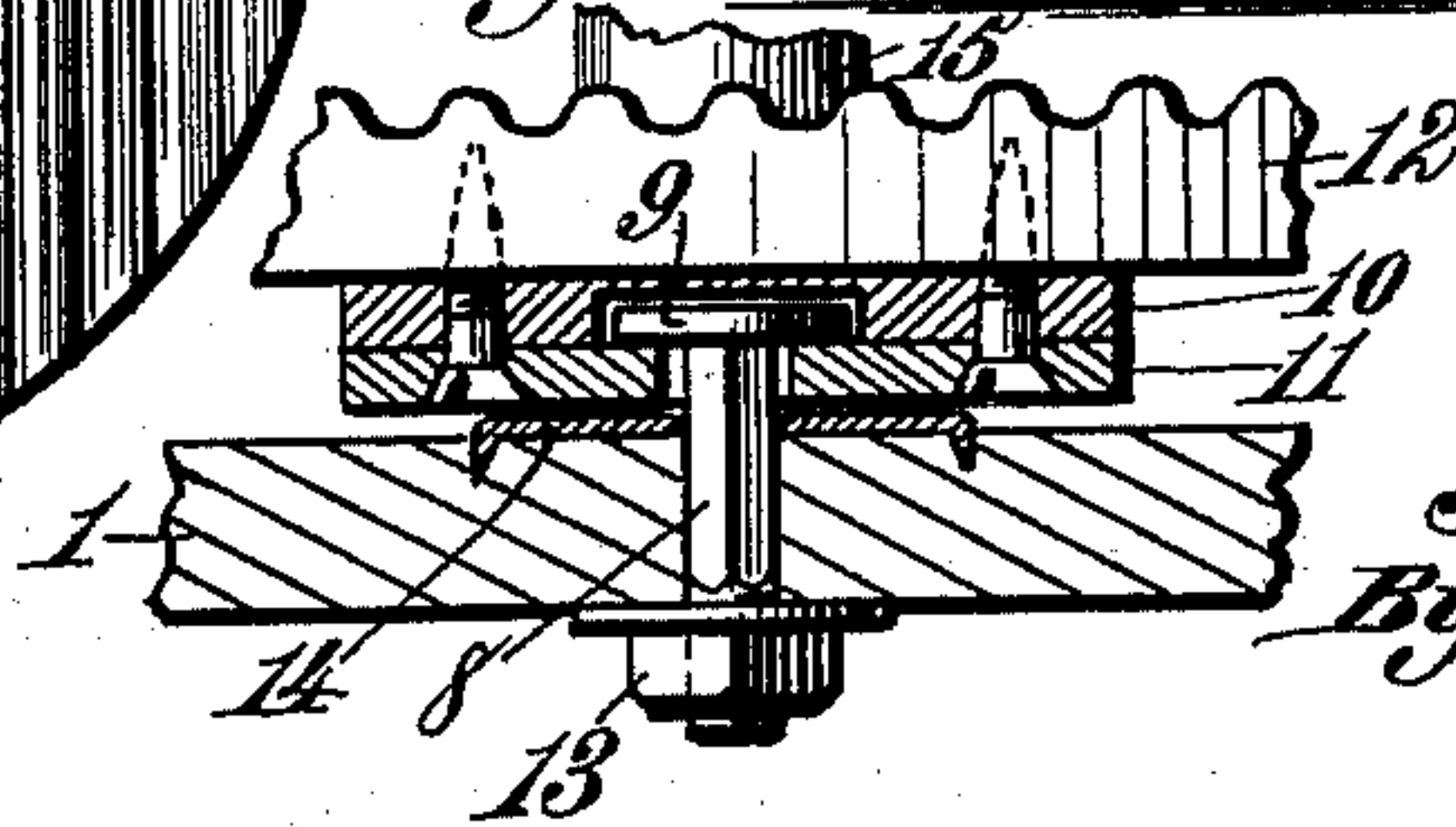
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JOHN SHAFFER, OF SINGER'S GLEN, VIRGINIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 504,946, dated September 12, 1893.

Application filed May 27, 1893. Serial No. 475,685. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SHAFFER, a citizen of the United States, residing at Singer's Glen, in the county of Rockingham and State of Virginia, 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 appertains to make and use the same.

This invention relates to washing machines, and has for its objects to provide a device the operative mechanism of which will be simple, and which will thoroughly eradicate dirt from the clothing by oppositely rotating rubbers, and to provide means for rotating the rubbers.

A further object of the invention is to provide a mechanism that will readily permit the insertion and withdrawal of the clothing, and which will at the same time be so constructed that the danger of the clothing being caught in the mechanism while it is rotating will be reduced to a minimum.

These objects I accomplish in the manner and by the means hereinafter more fully described and set forth in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section with the parts in operative position for washing. Fig. 2 is a similar view with the shaft for the lower rubber removed and the top thrown open. Fig. 3 is a detail showing the rubbing surface of the lower rubber. Fig. 4 is a detail sectional view of the swivel connection between the lower rubber and the tub bottom.

Like numerals of reference indicate corresponding parts in the several views.

Referring to the said drawings, the numeral 1 indicates a tub of the ordinary construction, mounted upon legs or supports 2 in the usual manner. A top 3, hinged to the tub at 4, is centrally apertured, as shown, and provided with a wear plate 5, screwed or otherwise secured thereto, to receive the wear from the shaft revolving the rubber, as hereinafter described.

A hook 6 of any suitable construction is provided for securing the top 3 in its closed position.

Upon one side of the tub is hinged a sup-

port 7, adapted to drop down against the tub, as shown in Fig. 1, or to be lifted into position to support the top and its accompanying parts when open.

The tub bottom has a square hole centrally therethrough to receive a squared shaft 8 having a cap 9 formed on its upper end, adapted to loosely fit into a recess in the plate 10. A plate 11 fitting against the plate 10 retains said cap in place therebetween. These plates are fastened together and to the lower rubber 12 by screws, as shown in detail in Fig. 4, thus forming a swivel connection between the tub bottom and the lower rubber which permits the latter to rotate freely. A nut 13 on the lower end of shaft 8 prevents its withdrawal from the tub bottom. A plate 14 in the bottom of the tub receives the wear due to the rotation of the lower rubber.

Fastened to the upper surface of the lower rubber 12 by any suitable means is a centrally located sleeve 15, squared interiorly at its lower end, as shown in Fig. 3, to receive the squared end of the shaft 16, whereby the said lower rubber may be rotated. The upper rubber 17 is centrally apertured to pass down over the sleeve 15, and has attached thereto a hollow shaft 18, which projects up freely through the wear plate 5, and carries on its upper end a detachable handle 19. A handle 20 is also attached to the shaft 16 for rotating the lower rubber 12.

As shown in Fig. 3 the rubbing surfaces of the rubbers are provided with flutings or corrugations running from side to side of the same, this construction being found most advantageous, especially with respect to the upper rubber, as by turning the same so that the corrugations will run up and down when the top is lifted, the water and suds thereon will more readily drain back into the tub.

The operation of my device is as follows:—The parts being in the operative position shown in Fig. 1, when it is desired to insert clothing to be washed, the shaft 16 is completely withdrawn from its sleeve 15, and the upper rubber drawn up toward the top 3 of the tub until it is completely disengaged from the sleeve 15, whereupon the catch 6 being unhooked, the top 3 with the upper rubber and its shaft may be turned over to the position shown in Fig. 2. In order to prevent too



much strain being imposed upon the hinges 4 of the top, the hinged support 7 is lifted and receives and carries the weight of the top and its accompanying parts, as shown in Fig.

- 5 2. The clothes are then inserted, the lid swung back into place and fastened, the upper rubber let down until it rests upon the clothing, and the shaft 16 inserted into the sleeve 15. By reciprocating the handles 19  
10 and 20 an alternately rotary movement in opposite directions is imparted to the rubbers 12 and 17. After the clothing has been sufficiently rubbed and washed the same may be removed from the tub in the manner herein-  
15 before described.

An important function of the sleeve 15 is that it admits of the ready insertion of the shaft 16 after the clothing has been placed in the tub, which would otherwise be liable to  
20 be greatly hindered were the lower rubber simply apertured to receive the shaft; and it also reduces to a minimum the liability to tear the clothing while the rubbers are being rotated.

- 25 In order to remove the lower rubber from the tub it is only necessary to unscrew the nut 13 from the shaft 8, whereupon the rubber and its shaft may be readily withdrawn.

Having thus described my invention, what

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

1. In a washing machine, the combination with the tub, and the rubbers independently rotatable with respect to each other and to the tub, of a hollow rotating shaft attached to the upper rubber, a hollow sleeve attached to the lower rubber and adapted to project into the hollow shaft, and a removable shaft adapted to be inserted into the hollow sleeve to rotate the latter and its rubber, substantially as described.

2. In a washing machine, the combination with the tub and the independently rotatable rubbers, of a hollow shaft attached to the upper rubber, passing loosely through the lid of the tub, and vertically movable together with its attached rubber, a hollow sleeve attached to the lower rubber and adapted to project into the hollow shaft, and a removable shaft adapted to be inserted into the hollow sleeve to rotate the latter and its rubber, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN SHAFFER.

Witnesses:

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L. A. ARMENTROUT.