

(No Model.)

2 Sheets—Sheet 1.

H. C. SWAFFORD.
WASHING MACHINE.

No. 586,637.

Patented July 20, 1897.

Fig. 1

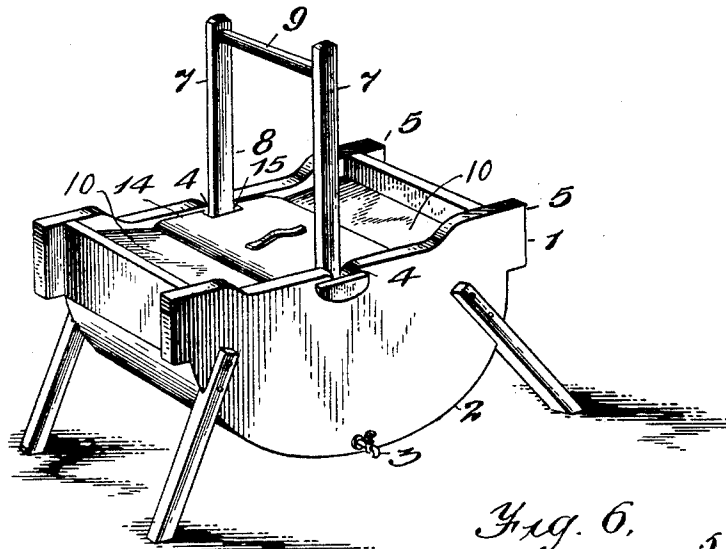
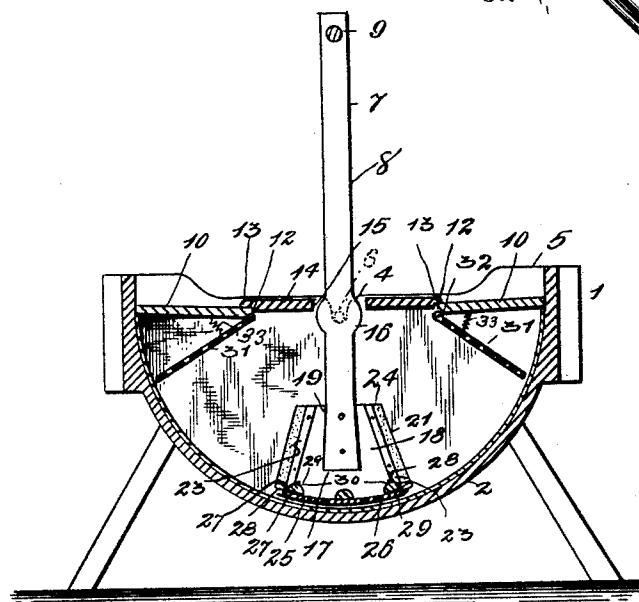
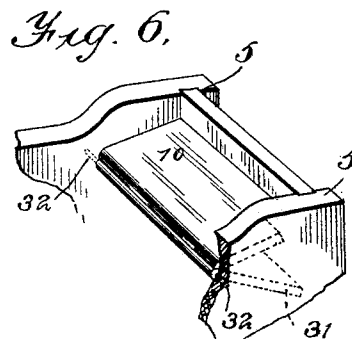


Fig. 2



Inventor.

Henry C. Swafford.
By H. B. Willson. Attorney

Witnesses

Edmund H. Staus.
Wm F. Doyle.

(No Model.)

2 Sheets—Sheet 2.

H. C. SWAFFORD.
WASHING MACHINE.

No. 586,637.

Patented July 20, 1897.

Fig. 3

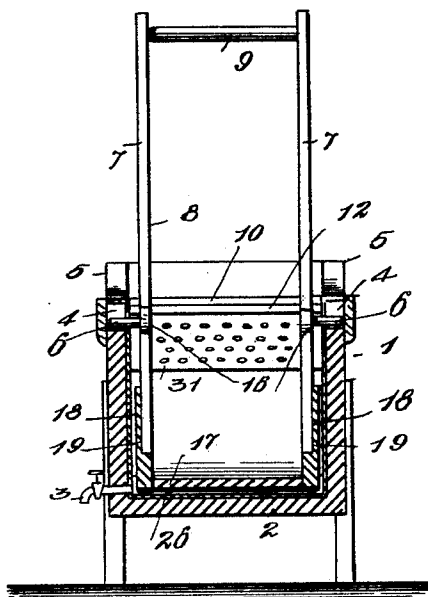


Fig. 4

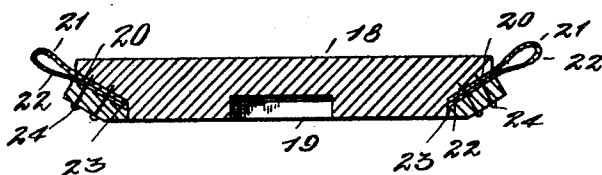
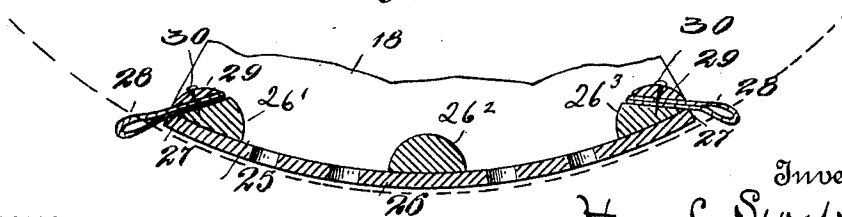


Fig. 5



Witnesses

Edmund H. Starnes.

W. F. Doyle

Inventor

Henry C. Swafford.

By H. B. Wilson, Attorney

UNITED STATES PATENT OFFICE.

HENRY C. SWAFFORD, OF KALKASKA, MICHIGAN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 586,637, dated July 20, 1897.

Application filed December 19, 1896. Serial No. 616,250. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. SWAFFORD, a citizen of the United States, residing at Kalkaska, in the county of Kalkaska and State of Michigan, have invented certain new and useful Improvements in Washing-Machines; and I do 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.

My invention has relation to improvements in washing-machines, and the object is to produce a durable and efficient machine at the least possible cost.

To this end the novelty consists in the construction, combination, and arrangement of the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-numerals indicate the same parts of the invention.

Figure 1 is a perspective view of my improved washing-machine. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section. Fig. 4 is a horizontal section of one of the rubber-arms. Fig. 5 is a longitudinal section of the rubber. Fig. 6 is a detail perspective view of one of the transverse perforated plates.

1 represents the rectangular tub, provided with a semicircular bottom 2, and 3 represents a faucet located in the near side, communicating with the interior of the suds-tub near its bottom.

4 4 represent transverse recesses in the upper edges of the sides 5 5, which receive the bearing-studs 6 6 on the arms 7 7 of the rubber 8. The upper ends of these arms 7 7 are connected by a cylindrical rod 9, which forms a handle for operating the rubber.

10 10 represent inclined plates secured on top at each end of the machine, their inner transverse parallel edges 12 12 forming a seat for the rabbeted edges 13 13 of the removable cover 14, which is formed with recesses 15 15, to permit the passage of the circular hubs 16 16 of the arms 7 7 as well as the oscillating motion of said hubs.

The rubber 17 comprises the segmental side plates 18 18, formed with radial dovetail re-

cesses 19, which receive the dovetail ends of the arms 7 7.

The outer radially-inclined edges of the side plates 18 18 are beveled inwardly at 20, and a strip of heavy fabric 21—such as canvas, rubber, or the like—is folded lengthwise, so that its dovetailed end 22 projects beyond the outer face of said plate 18, to form a packing against the inner side of the suds-tub. This packing 21 is held in place by a batten 23, secured by screws 24 to the beveled edges of the plates.

The lower edges 25 25 of the plates 18 18 are curved to correspond to the shape of the bottom of the tub, and 26 represents a correspondingly-shaped transverse perforated plate secured at its outer edges to the curved edges 25 of said plates.

26', 26², and 26³ represent transverse ribs secured to the concave face of the perforated plate to stiffen it and to rub the clothes as the plate and ribs are reciprocated beneath said clothes. The transverse parallel edges 27 of this perforated plate 26 and the outer edges of the ribs 26' and 26³ are beveled inwardly and upwardly, as shown, and to each beveled edge is secured a folded packing fabric 28, the projecting folded edge of which bears against the inner surface of the semicircular bottom of the tub, said packing fabric 28 being detachably secured in place by a batten 29, held in place by screws 30.

31 31 represent two transverse perforated plates, mounted on shafts 32 32 and inclined to conform to the radius of the semicircular bottom. These perforated plates are held in operative position by the spiral springs 33 33, having their upper ends fixed to the inclined plates 10 10 and their lower ends fixed to said perforated plates.

The operation of my improved washing-machine is as follows: The tub is partially filled with suds and the soiled clothes placed therein and the handle 9 reciprocated in the usual manner, the clothes being rubbed by the transverse ribs on the plate 26 passing under the clothes. The packing fabrics 21 and 28 perform somewhat the office of deflecting-valves, for by pressing against the sides and bottom of the receptacle they cause the water to flow over the clothes lying upon

the segmental rubber. A certain portion of the clothes project beyond the longitudinal edges of said rubber, and in the manipulation of the machine these projecting portions
5 are alternately brought into contact with the yielding perforated boards 31 31, which serve to partially squeeze the water from the clothes each time the clothes come in contact with them.

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

A washing-machine comprising the rectangular tub provided with a semicircular bottom, inclined perforated plates 31 31, inclined
15 transverse top plates 10 10, and having bearing-recesses 4 4 in its sides 5 5, in combination with the removable cover, and the oscillating dasher comprising the parallel arms
20 7 7 connected at their upper ends by the

transverse handle-brace 9, the rubber-plates 18 18 having radial dovetailed recesses 19 19 to receive the correspondingly-shaped ends of the arms 7 7, and having radial inwardly-beveled edges 20, 20, the folded packing 21 25 secured to said edges by a batten 23, the transverse semicircular perforated plate 26 secured to the lower semicircular edges of the plates 18 18, and provided with ribs, the end ribs and edges of the plate 26, having inwardly and upwardly beveled edges, and the folded packing fabric 28 secured to said edges by a batten 29, substantially as shown and described.

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

HENRY C. SWAFFORD.

Witnesses:

GEORGE H. SHELDON,
CHAS. H. DE PUY.