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No. 750,419.

PATENTED JAN. 26, 1904.

E. V. ALLEN.
WASHING MACHINE.

APPLICATION FILED JUNE 18, 1903.

NO MODEL.

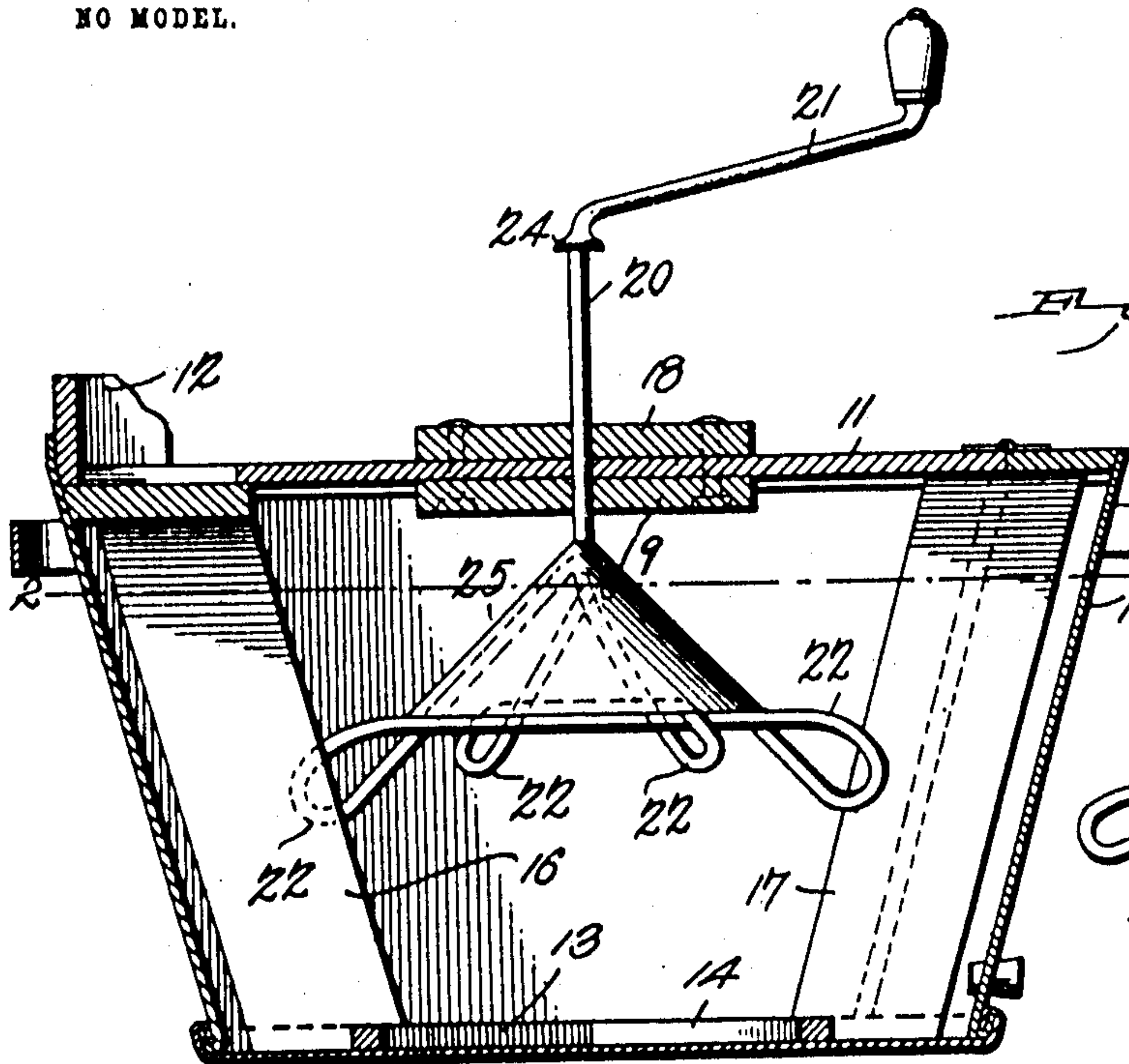


Fig. 1.

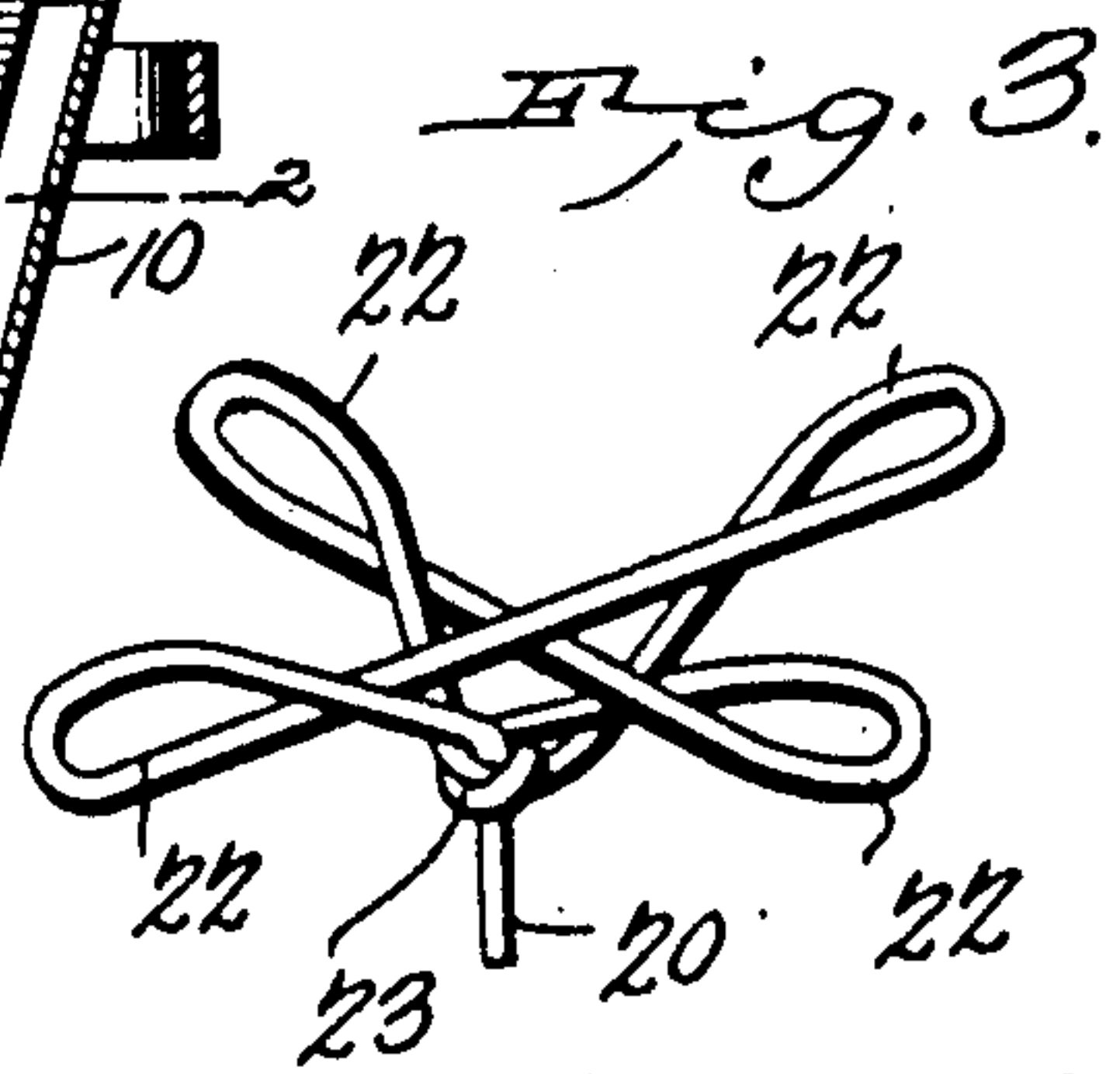


Fig. 3.

Fig. 4.

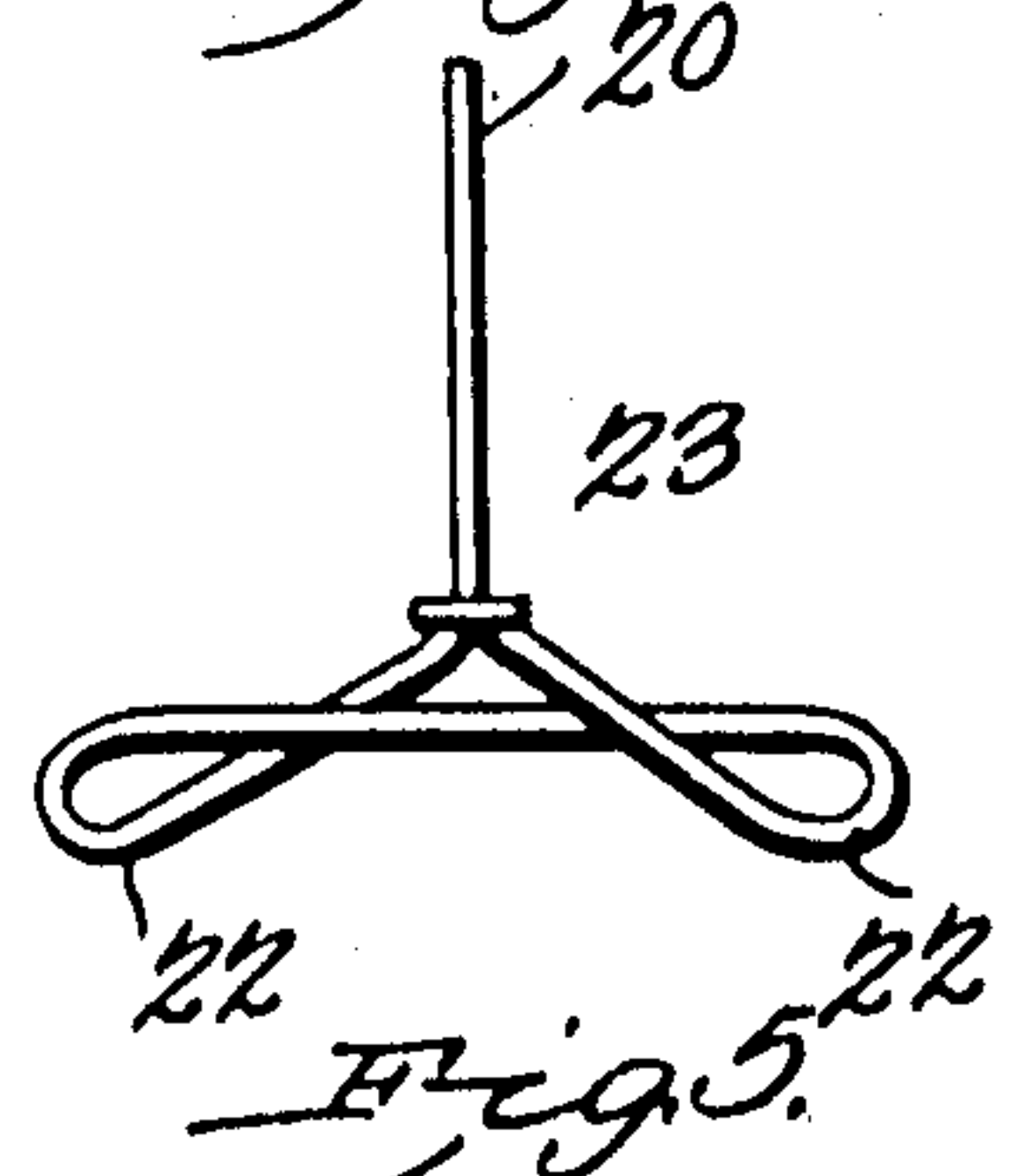


Fig. 5.

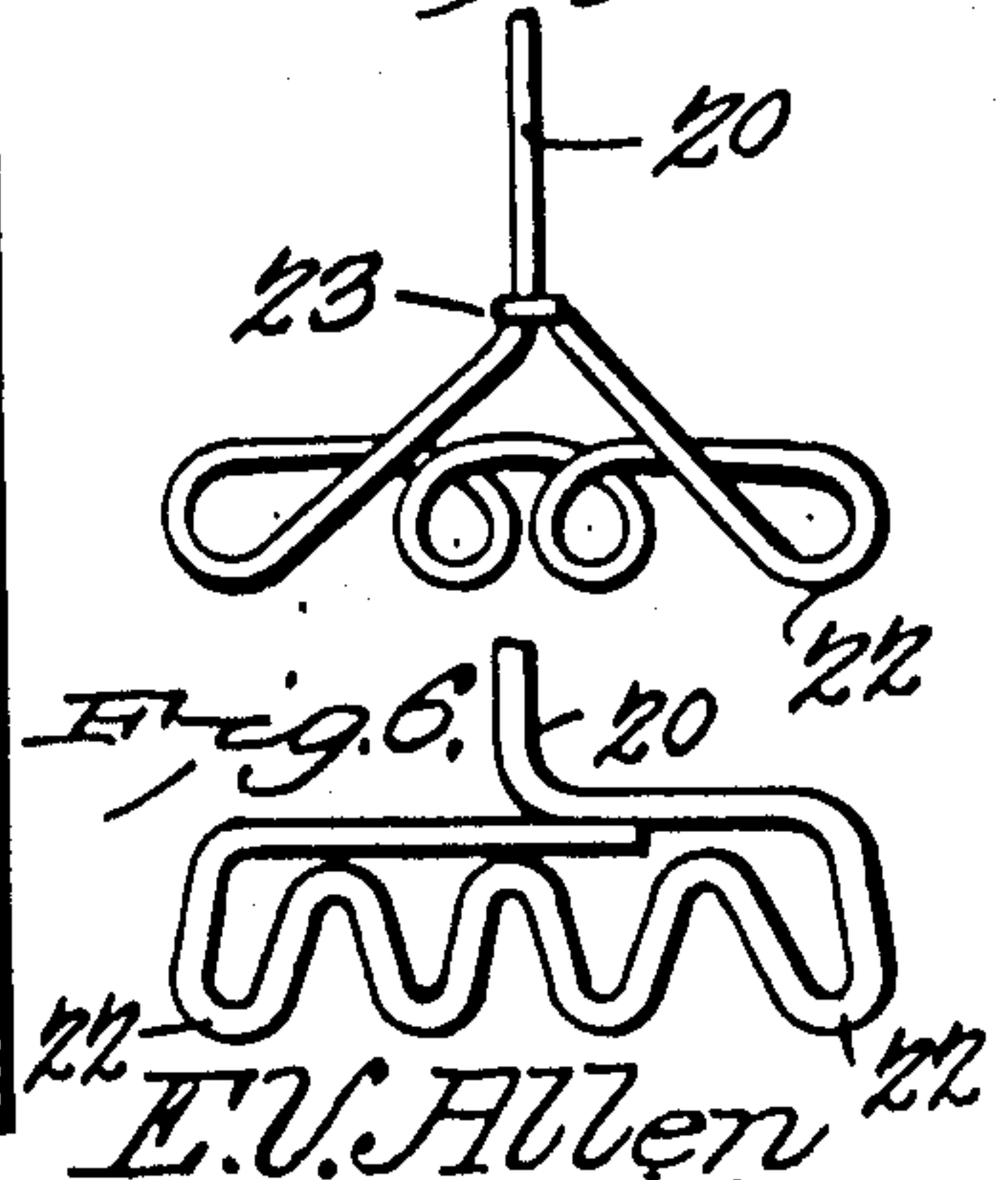


Fig. 6.

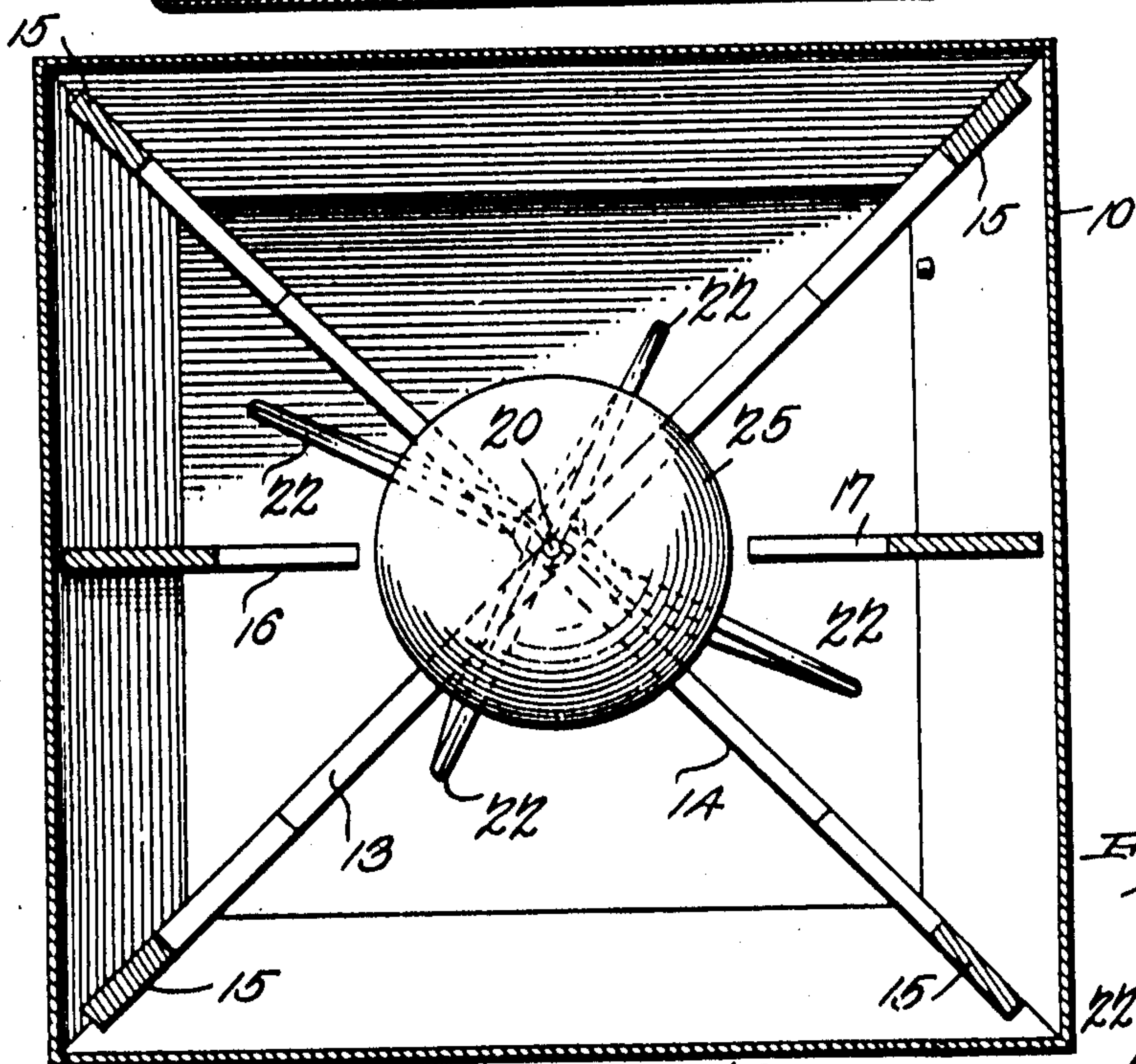


Fig. 2.

Witnesses
C. H. Woodward

by

C. H. Woodward
Attorneys

Inventor,
E. V. Allen

UNITED STATES PATENT OFFICE.

ELMER VICTOR ALLEN, OF HIAWATHA, KANSAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 750,419, dated January 26, 1904.

Application filed June 18, 1903. Serial No. 162,126. (No model.)

To all whom it may concern:

Be it known that I, ELMER VICTOR ALLEN, a citizen of the United States, residing at Hiawatha, in the county of Brown and State of Kansas, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to machines for washing clothes, and has for its object to simplify and improve devices of this character and to produce a device wherein a combined rubbing, pounding, and "suction" action is produced; and the invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims following.

In the drawings illustrative of the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a vertical sectional elevation. Fig. 2 is a plan view in section on the line 2 2 of Fig. 1. Fig. 3 is an inverted perspective view of the improved agitator with the conical hood detached. Figs. 4, 5, and 6 illustrate modifications in the construction of the agitator.

The receptacle for the clothes is represented at 10 and may be of any suitable shape or size, either circular, square, oblong, or other shape and with vertical or inclined sides, but will preferably be substantially square with inclined side walls, with the top having a central aperture provided with a hinged cover 11 and wringer-bracket 12 of the usual construction. The side and bottom will preferably be of galvanized sheet metal and the top closure of wood of suitable size and strength. The receptacle will be supported upon any suitable stand or provided with legs of desired length; but as these form no part of the present invention they are not illustrated. Disposed within the receptacle upon its bottom are radiating rub-bars 13 14, preferably extending diagonally from corner to corner and extending vertically from the ends of the rub-bars, and spaced from the walls of the receptacle are ribs 15, as shown.

Within the receptacle and extending between its top and bottom are stop-plates 16 17, preferably oppositely disposed and spaced between the ribs 15 and extending inwardly toward the center of the receptacle, as shown in

Fig. 2. The plates 16 17, like the ribs 15, are spaced from the side walls of the receptacle, so that the water can freely circulate around therein.

Attached upon opposite sides of the cover member 11 are reinforcing-cleats 18 19, through which the agitator-rod 20 is mounted for longitudinal movement and for oscillation. The outer end of the rod is bent into a handle member 21, while the inner end is formed into oppositely-extending radiating wings, the wings constructed by bending the rod into loops 22 and returning the terminal inwardly and connecting it to the rod, as at 23, adjacent to the wings. As many of the wings may be formed as required; but generally four will be employed for an ordinary washer.

The rod 20 will preferably be provided with an exterior stop 24 to limit its downward movement, which will thus prevent the wings from striking the bars 13 14, while the locking-loop 23 will be spaced from the cover member a sufficient distance to permit the rod to be moved longitudinally to a considerable extent, and thus employ the radiating wings as a "pounder," as hereinafter explained.

The wings 22 will preferably be extended sufficiently to overlap the plates 16 17, as shown, so that the rod 20 will not make a full revolution, but be limited by the engagement of the protruding wings with the top plates, as will be obvious. By this simple means clothes will be violently agitated back and forth and thrown against the projecting plates and the water likewise violently agitated and thrown forcibly against the ribs 15 and plates 16 17, and thereby prevented from forming into mere rotating masses, but will be broken into oppositely-moving and opposing currents, which will effectually detach the dirt from the clothes. The clothes will at the same time be engaged by the wings 22 and rubbed over the bars 13 14 and against the bars or ribs 15 and plates 16 17, as will be obvious.

Inclosing the wings 22 is a conical shield 25, preferably of galvanized sheet metal and not extending as far as the lower ends of the wings 22, but leaving the latter protruding below the lower edge of the shield, as shown. The shield thus serves to confine the water when

the rod 20 is moved vertically to enable the device to be effectually employed as a pounder, the wings 22 serving as impact devices to engage the clothes, and the shield 25 producing a suction and drawing the clothes upwardly when elevated and gathering the water and driving it forcibly through the clothes when depressed. By this simple arrangement first a rubbing action upon the bars 13 14 and against the bars 15 and plates 16 17 takes place, caused by the oscillating movement of the rod when the wings are raised to the upper part of the clothes-receptacle, causing the wings to rapidly move the clothes back and forth through the water without pounding, the rubbing on the ribs occurring when the wings are depressed and rotated, then a pounding action, caused by forcibly moving the rod vertically downward, and the alternate suction and propulsion action by utilizing the hood 25, as above described. The actions thus enumerated may be independently employed and will be found very convenient and efficient in treating different kinds of garments, some requiring one treatment and some another. Some garments, for instance, require the relatively harsh and violent action of the pounding and rubbing, while others of more delicate texture require only the relatively mild suction and propulsion action of the hood member, so that all kinds and qualities of garment may be efficiently treated in the same machine and without change of structure or alteration or adjustment of parts.

In Figs. 4, 5, and 6 slight modifications are shown in the manner of constructing the radiating wings, Fig. 4 representing the rod 20, formed with two of the looped wings, Fig. 5 representing the winged loops in the form of return-bends, and Fig. 6 representing a plurality of corrugations or open loops; but these modifications would not be a departure from the principle of the invention, as the operation and results produced would be substantially the same in all.

Garments or parts of garments requiring special treatment may be fastened to the loops of the agitator and be thereby more efficiently agitated or "rubbed" against the protruding parts.

The different actions of the agitator will thus operate differently on different kinds of dirt, as well as on different kinds of garments.

Having thus described the invention, what I claim is—

1. In a washing-machine, an agitator comprising a rod extended at one end into a handle and with the other end provided with radiating laterally-extending wings formed by bending the rod into oppositely-disposed loops with the extremity of the rod returned and fastened to the body thereof between the loops and handle portion, substantially as specified.

2. In a washing-machine, an agitator comprising a rod extended at one end into a handle and with the other end provided with radiating wings formed by bending the rod into oppositely-disposed loops with the extremity of the rod returned and fastened to the body thereof between the loops and handle portion, and a conical hood partially inclosing said wing members, substantially as specified.

3. In a washing-machine, a receptacle for the clothes, a cover member removably connected to said receptacle, in combination with an agitator formed of a rod longitudinally movable through said cover member and extended into a handle exteriorly of the cover and with its opposite end provided with radiating wings formed by bending the rod into oppositely-disposed loops, with the extremity of the rod returned and fastened to the rod between the wings and cover member, and a conical shell connected to the rod and partially inclosing said wings, substantially as specified.

4. A washing-machine comprising the clothes-receptacle, oppositely-disposed stop-plates within the receptacle and extending toward the center thereof and spaced from the side walls of the receptacle, and an agitator mounted for oscillation between said plates and having laterally-extending wings adapted to alternately engage said plates, and vertical ribs disposed between said stop-plates and spaced from the walls of the receptacle to change the direction of the water-currents.

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

ELMER VICTOR ALLEN.

Witnesses:

J. F. MEISENHIMER,

H. W. GASKILL.