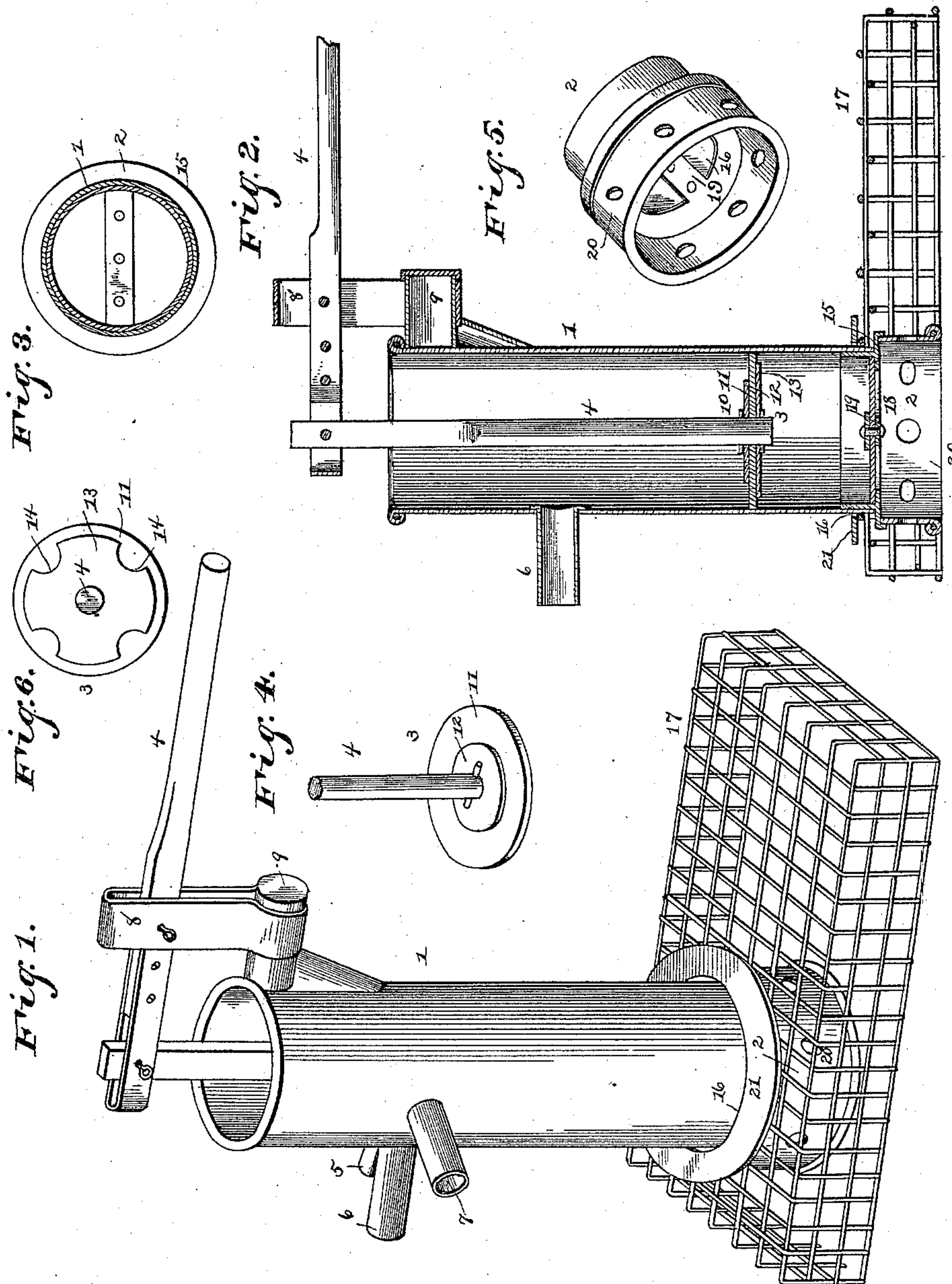


(No Model.)

W. P. NORRIS.  
WASHING MACHINE.

No. 470,399.

Patented Mar. 8, 1892.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIE PETTINGILL NORRIS, OF WAYNE, MAINE.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 470,399, dated March 8, 1892.

Application filed July 20, 1891. Serial No. 400,094. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIE PETTINGILL NORRIS, a citizen of the United States, residing at Wayne, in the county of Kennebec and State of Maine, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to provide a simple and inexpensive washing-machine, designed to be placed in a tub with clothes and adapted to force water through the latter, and thereby remove all dirt and stains.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention. Fig. 2 is a central vertical sectional view. Fig. 3 is a horizontal sectional view. Fig. 4 is a detail view of the plunger-head. Fig. 5 is a similar view of the valve-casing. Fig. 6 is a reverse plan view of the plunger-head.

Referring to the accompanying drawings, 1 designates a cylinder, having attached to its lower end a valve-casing 2 and adapted to receive a plunger 3, which is operated by a lever 4 and lifts water in the cylinder and discharges the same through nozzles 5, 6, and 7. The nozzles are arranged at one side of the cylinder and discharge water over clothes in different directions, and the middle nozzle 6 is the longest, and it discharges water further than the other two, and distributes the same more evenly. The operating-lever is fulcrumed in a bracket 8, extending vertically from an arm 9 of the cylinder and arranged diametrically opposite the nozzles. The plunger is pivoted to the operating-lever, and is provided at its lower end with a head 10, composed of an elastic disk 11 and top and bottom supporting-plates 12 and 13, the former having about one-half the diameter of the elastic disk, and the latter being nearly as large as the disk 11, and provided with curved recesses 14 to permit the plunger to descend readily and to allow water to pass

freely above the plunger. The valve-casing is cylindrical and fits within the lower end of the cylinder and is provided with an annular flange 15, and it swivels the cylinder within a circular opening 16 of a rectangular guard 17. The valve 18 consists of an elastic plate or disk secured to a cross-bar 19, extending diametrically across it, and its seat is formed by the inner edge of the annular flange 15. The cylinder is supported upon a depending perforated flange or band 20, which is secured to the valve-casing and rests upon the bottom of a tub and permits water to pass freely to the cylinder. The guard is constructed of wire and is provided with sides, and it forms a shield for the valve to keep the clothes away from the lower end of the cylinder and to insure a constant supply of water. The circular opening 16 of the guard, which is constructed of wire, receives the lower end of the cylinder, which is adapted to be turned therein to direct the water discharged from the nozzles to any side of the tub, and the circular opening 16 is surrounded by a ring 21.

The washing-machine is simple, strong, and efficient, and is adapted to direct streams of water to any portion of a tub; and it will be seen that clothes are prevented collecting around the lower end of the cylinder and interfering with the supply of water, and that streams of water may be continually forced through the clothes, whereby all dirt and stains are readily removed. The nozzles extend radially from the cylinder and are arranged in the same horizontal plane and are adapted to direct streams of water over a large surface of clothes within a tub without changing the position of the cylinder. By turning the cylinder water may be discharged over the entire surface of the clothes in a short time.

The valve-casing is detachable and enables the pump-cylinder to be readily removed from the wire guard when the operation of washing has been completed.

What I claim is—

In a washing-machine, the combination of the wire-guard composed of sides and a top provided with a circular opening, a pump-cylinder having its lower end arranged in the opening and provided intermediate its ends with discharge-nozzles arranged at an angle

to one another, the removable valve-casing  
provided with a valve and arranged within  
the guard and fitting the lower end of the  
pump-cylinder and swiveling the same to the  
5 guard, whereby the pump-cylinder may be  
rotated to direct the water to different parts  
of the boiler, a plunger, and means for oper-  
ating the same, substantially as described.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in 10  
presence of two witnesses.

WILLIE PETTINGILL NORRIS.

Witnesses:

J. C. STINCHFIELD,  
J. R. CRAM.