

(No Model.)

J. H. HEY.  
CLOTHES WASHER.

No. 273,360.

Patented Mar. 6, 1883.

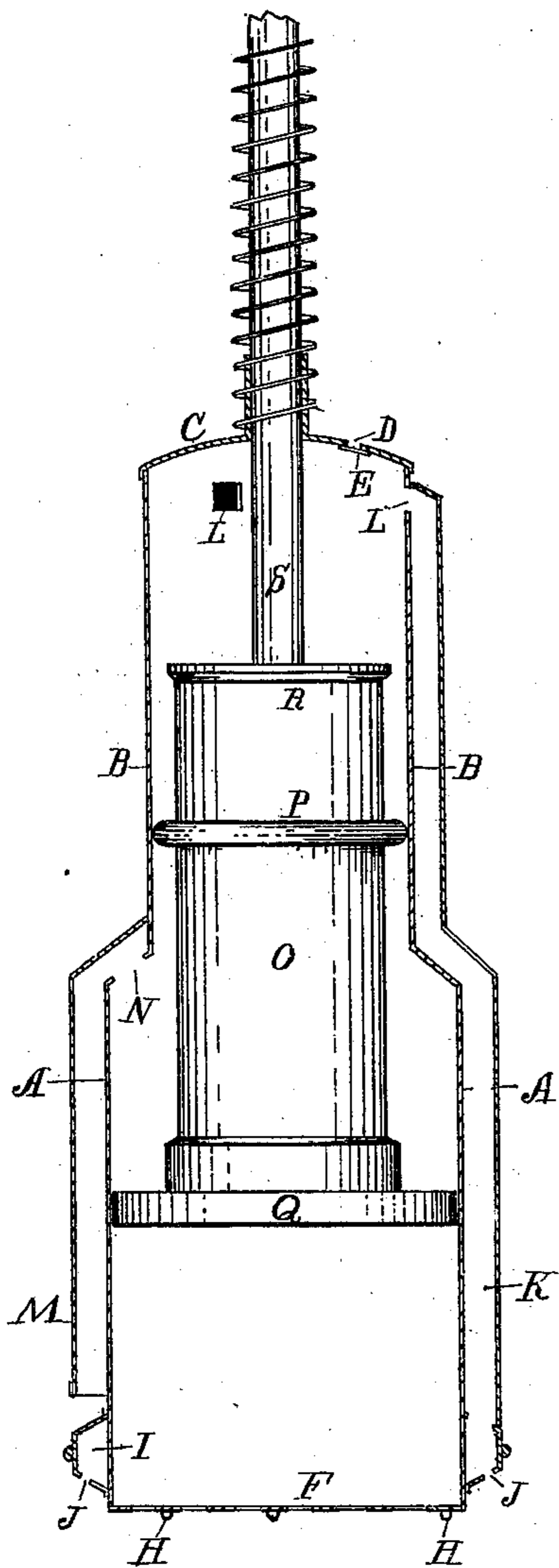


Fig. 1.

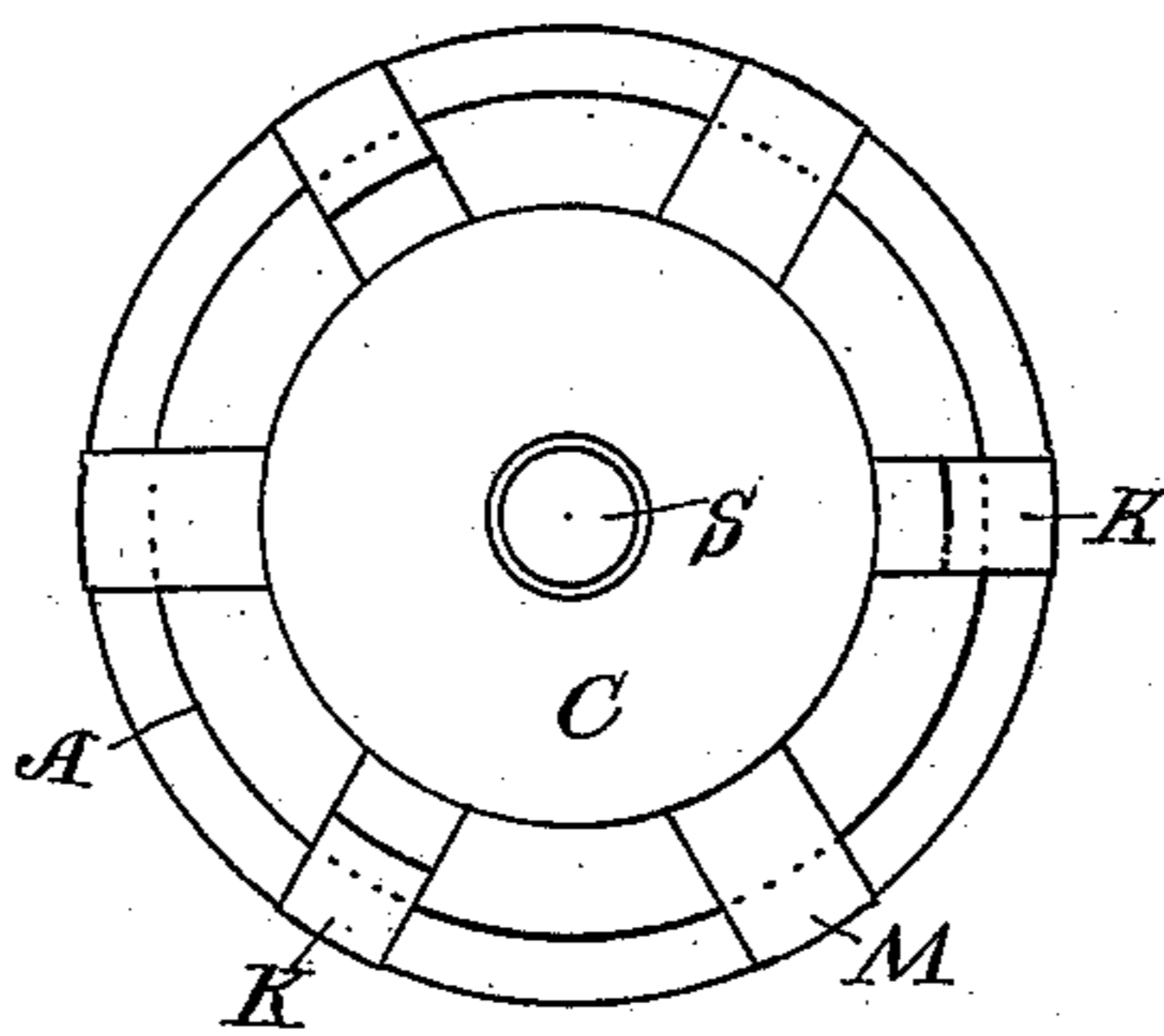


Fig. 2.

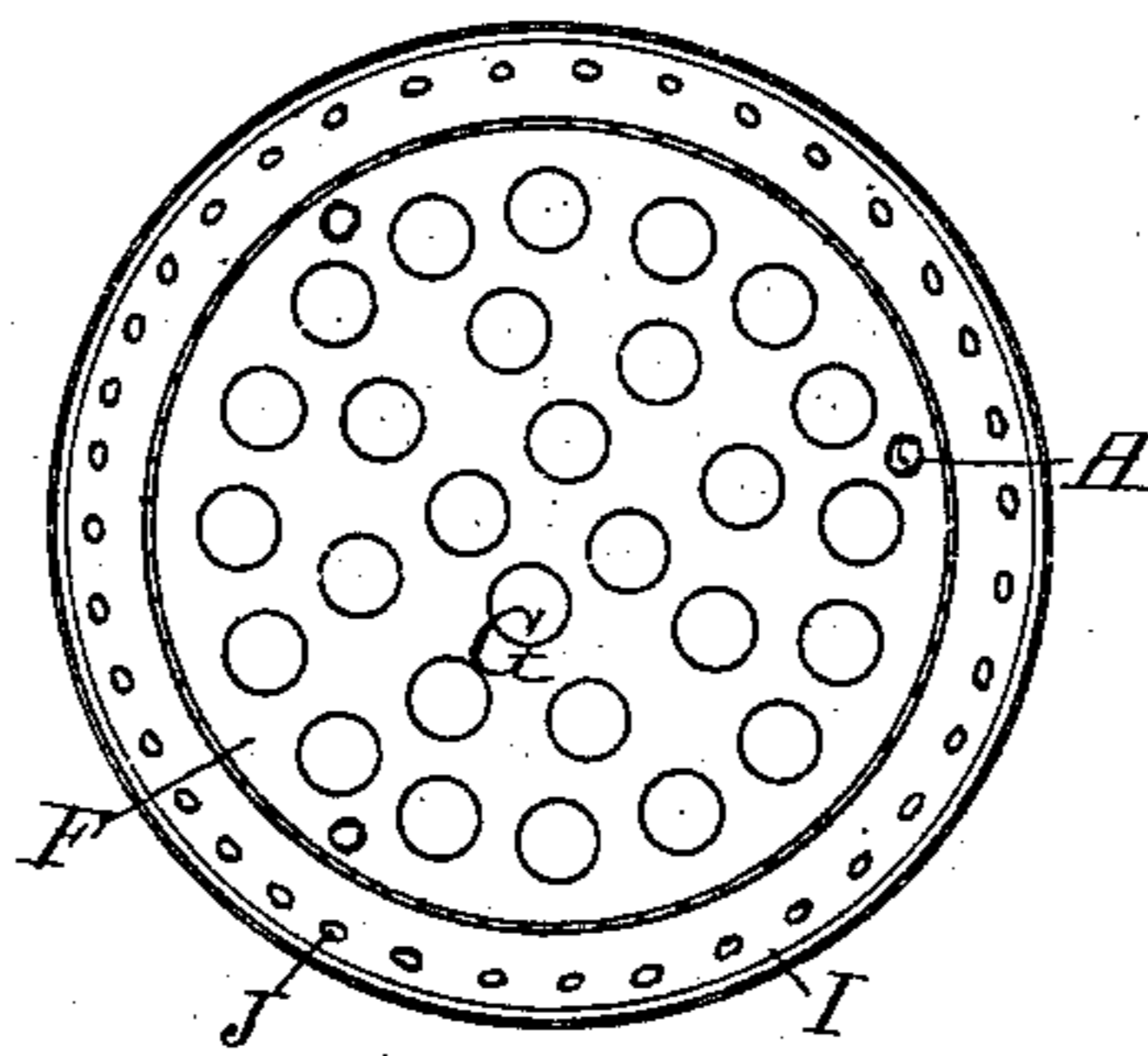


Fig. 3.

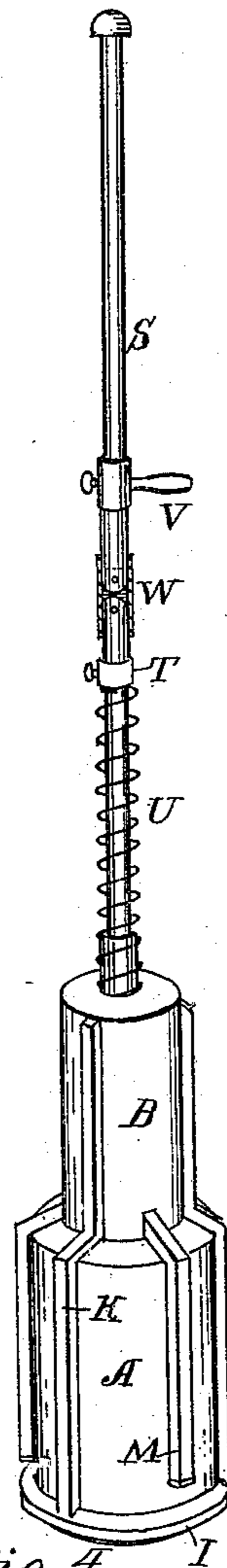


Fig. 4.

Witnesses:  
C. H. Jones.  
Robert Kirk

Inventor:  
J. H. Hey  
By O. S. Zerk  
att'y

# UNITED STATES PATENT OFFICE.

JAMES H. HEY, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO WILLIAM S. FORSHEE AND JAMES W. McMAKIN, OF SAME PLACE.

## CLOTHES-WASHER.

SPECIFICATION forming part of Letters Patent No. 273,360, dated March 6, 1883.

Application filed June 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. HEY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Clothes - Washers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a central vertical sectional view of the improved clothes - washer. Fig. 2 is a top view of the same. Fig. 3 is a view of the under side, and Fig. 4 is a perspective elevation of a complete device.

The object of my invention is to provide an improved clothes-washer, so arranged that by the manipulation of the same in washing, air, as well as the water, is used as an agent for removing dirt from the clothes; and it consists in providing a hollow cylinder with two series of exterior vertical pipes, in which one series extends entirely to the top of the cylinder and communicates with the interior, the lower ends being in communication with an annular perforated channel, and the other series of the vertical surface-pipes extending up to a point midway between the bottom and top of the cylinder, and also communicating with the interior of the cylinder, the lower ends being provided either with sprays or jets or entirely open. Within this cylinder is a plunger or double piston-head, one of the heads being designed to operate vertically within the cylinder, below the central apertures, and the upper piston-head operating between the upper and central openings, all of which will now be described in detail.

Referring to the accompanying drawings, A represents a shell or cylinder of suitable diameter and length, having attached thereto permanently at the upper end a cylinder, B, of equal length, but preferably of smaller diameter. The upper end is provided with a permanent cap or head, C, having therein one or more perforations or vents, D, provided with a valve, E. The lower end has a cast or stamped head, F, having a number of perforations, G, over the entire surface. This may be attached to the cylinder either by soldering, by screwing thereon, or in any other suitable manner. Small studs H on the exposed surface serve as feet or rests for the device when not in use.

On the lower end of the cylinder A, on the

outside, is an annular chamber or channel-way, I, either semicircular in section or semi-hexagonal, as shown in Fig. 1, and the lower face is provided with a series of perforations, J.

K represents a tubing or conduit-pipe connecting below with the annular channel I and extending to the upper end of the cylinder, where the cylinder is provided with an aperture, L. Three or more of these pipes are arranged vertically equidistant from each other around this cylinder.

M represents a pipe or water - conduit secured vertically to the lower enlarged cylinder, A, open at the lower end or provided with perforations or jets, the upper end of which terminates at the juncture of the cylinders A, B, and communicates with the interior of the cylinders by the aperture N. Three or more of these conduit - pipes are arranged around this cylinder at points midway between the conduit-pipes K.

O represents the plunger, of even length with the upper cylinder, B, and slightly smaller in diameter, to permit an elastic ring, P, to be placed thereon. This elastic ring serves as a packing for the plunger, and when in operation the ring rolls on the plunger. The lower end of the plunger has a head, Q, adapted to work loosely within the cylinder A, so that in operation a small quantity of water is permitted to pass above the head Q. In this event the aperture N and conduit - pipes M permit the water above the head to escape. The upper end of the plunger O has an annular flange, R, to prevent the packing-ring P from working off.

To the plunger is attached permanently the handle S, which passes through the opening in the cap C. At a suitable distance above the cap C the handle is provided with an adjustable collar, T, and a spiral spring, U, is interposed between the collar and head C, so that the handle and plunger will, in operation, be automatically raised to its highest limit. A movable handle, V, is secured to the rod S, whereby the operator is enabled to adjust said handle to any convenient height.

W represents a movable ferrule or thimble designed to embrace the centrally-jointed or hinged handle or rod S for convenience in transportation.

The operation is as follows: The washer is

placed on the clothes in the tub and pressure exerted downward on the handle or plunger. This causes air to enter the aperture D on the upper end of the cylinder B. When the  
 5 plunger is raised by the action of the spring U the valve E closes, causing the air within the cylinder B to be forcibly expelled through the conduit-pipes K and ejected out through the perforations of the annular channel-way I.  
 10 In the course of operation the water is drawn up into the cylinder A by the head Q and expelled through the perforated head F, the water and air being alternately injected into and through the clothes with great force, thereby  
 15 facilitating the washing operation.

What I claim as new is—

1. A clothes-washer having the upper end of the cylinder provided with an inlet and valve, and also a suitable outlet, with a conduit-pipe leading therefrom to the bottom of  
 20 the cylinder, and also having within a packed head or plunger, whereby the water will be expelled from the cylinder as the plunger descends, and air will be expelled from the periphery of the lower end of the cylinder when  
 25 said plunger returns or is raised, substantially as shown.

2. In cylinders A B of unequal diameters, the

alternating conduit-pipes K, arranged vertically around the periphery and communicating with the interior at their upper ends, and the annular perforated channel-way I, communicating with the pipes K, substantially as  
 30 and for the purpose herein set forth.

3. The cylinders A B, having the aperture D and valve E at the upper end, and the perforated head F at the lower end, in combination with the plunger O, having the head Q, packing-ring P, and the rod or handle S, having the spring U, substantially as herein set  
 35 forth.

4. In a washer, the cylinders A B, having the perforations L N, vertical tubes K M, annular perforated channel I, and perforated bottom F, in combination with the plunger O, head Q, packing-ring P, handle or rod S, and  
 40 spring U, all operating substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand, this 31st day of  
 50 May, 1882, in the presence of witnesses.

JAMES H. HEY.

Witnesses:

J. S. ZERBE,  
 O. J. BAILEY.