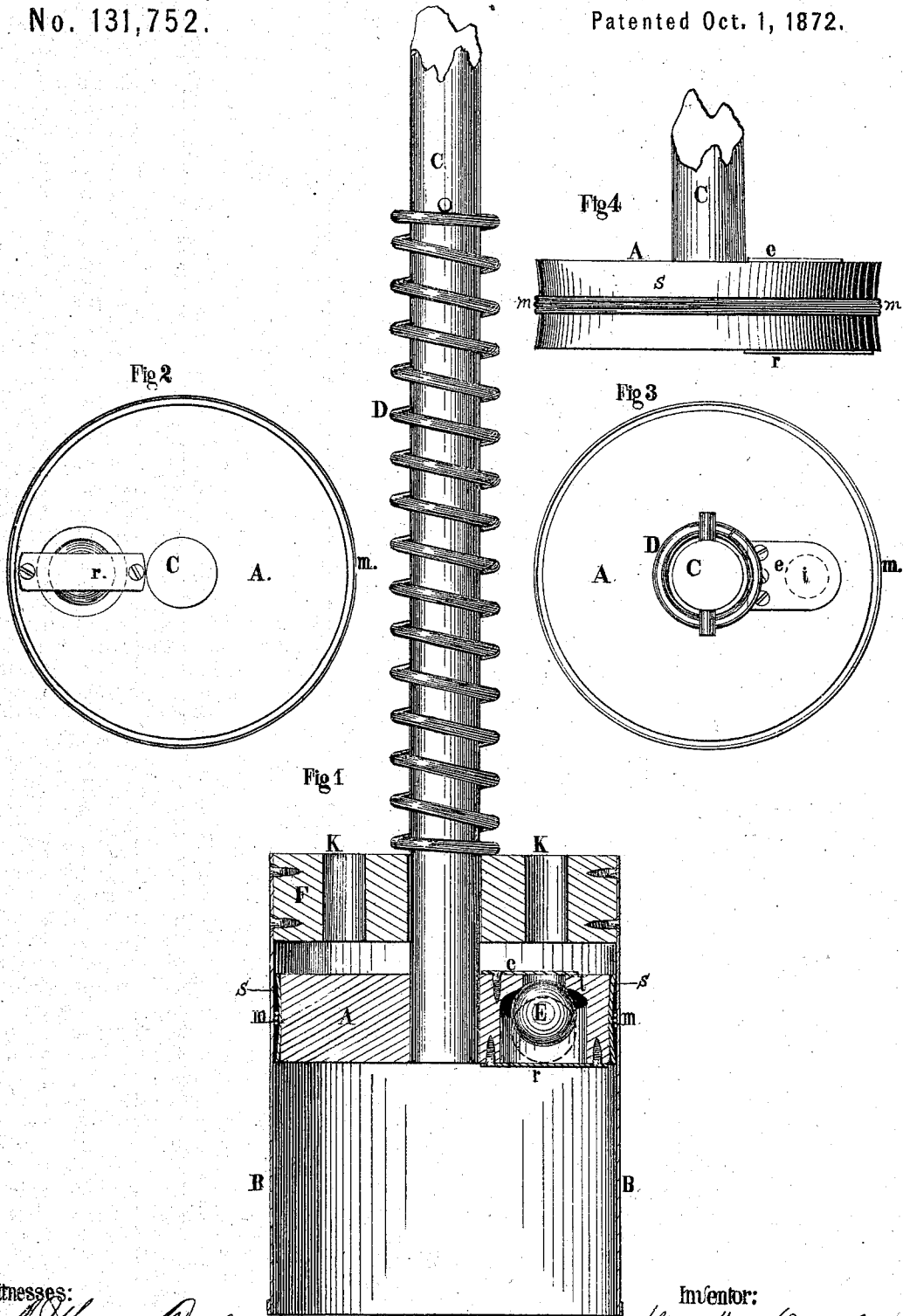


A. W. HALL.
 Improvement in Clothes-Pounders.
 No. 131,752. Patented Oct. 1, 1872.



Witnesses:
J. Martin Daly
Alex. M. Ford, Jr.

Inventor:
Alex. W. Hall by
Amstrong his Atty

UNITED STATES PATENT OFFICE.

ALEXANDER W. HALL, OF NEW YORK, N. Y.

IMPROVEMENT IN CLOTHES-POUNDERS.

Specification forming part of Letters Patent No. 131,752, dated October 1, 1872.

To all whom it may concern:

Be it known that I, ALEXANDER W. HALL, of New York, county of New York, and State of New York, have invented certain Improvements in Clothes-Pounders, of which the following is a specification:

I will here premise, generally, that the object of my invention is to wash clothes with the least possible rubbing and wear of them, while doing the work quickly and thoroughly; and that it consists in constructing a pounder composed of a hollow cylinder and a head which closes up one end of it, so as to make a cup, and through the head is passed a handle, and the cup when in use is placed bottom upward in a tub or other vessel containing the clothes to be washed. Within the cup is placed a piston which is attached to the handle, and so provided with packing and valves that it shall act both as a force and suction pump, and, therefore, when the piston is forced up it fills the cup with the water or suds, which is forcibly drawn out through the texture and fiber of the clothes in the tub, and when it is forced downward the water or suds is forced to escape out under the edge of the cup through and amongst the clothes in agitated and irregular jets and currents, and of course communicates similar motion to the clothes themselves. The cup obviously may be moved about into different parts of the tub at the will of the operator.

The first part of my said invention relates to the combination of the cup with its head and the piston with its packing, more fully described hereinafter. The second part of my invention relates to the construction of a ball-valve in the piston, in the manner and for the purposes hereinafter more fully described. The third part of my invention relates to a combination of the said piston, ball-valve, and a common air-valve, seated upon the upper side of the piston, the office of which is either to admit or exclude the air, as may be required in the operation of the pounder. The fourth part of my invention relates to the arrangement of a spiral spring seated upon the handle, before mentioned, in combination with the said cup, valves, piston, and handle. So arranged and combined, it co-operates with said devices in producing the desired action on the cloth-

ing to be washed, as will be hereinafter explained.

In the accompanying drawing, Figure 1 represents a vertical central section of the cup and piston; Fig. 2 represents a bottom view of the piston; Fig. 3, a plan view; and Fig. 4, a side elevation thereof.

B is the hollow cylinder; F, the head; and K K, vertical holes in the head F for the passage of air through it; D, the spring; and C, the handle. A is the piston. It is made with a slight groove extending horizontally around its periphery, and one or more bands of leather, India rubber, or any other suitable material is wrapped around the whole periphery, and strongly confined by cords of twine, *m*, or other suitable ligatures just over the groove, and this packing acts as a double-cup valve. *e* may be a common-leather valve, as shown. E is the ball seen in Fig. 1 as occupying its chamber which has been cut out of the material of the piston; and *i* is the opening leading from the chamber through the upper surface of the piston, where it is opened and closed by the valve *e*. *r* is a small strip of wood or metal, merely wide enough to prevent the ball E from falling out of its chamber. The chamber should be of such form and size that, when not acted upon by the water or suds, the ball will lie upon the bottom of it, as shown by the broken line in Fig. 1, and the air may pass up around the ball and through passage *i*, but, on the contrary, when acted upon by the water or suds from below, it will be forced into its seat, as shown, and close the passage. The ball of course should be made so heavy that the air in its passage out of the cup through the opening *i* would not lift it and hold it up in its seat, and thus stop the opening, but it should be so light that the water or suds would, at any time, lift it up and hold it in its seat. In Fig. 1 the piston A is elevated nearly to the head F. Now, if the cup be inserted into the suds and clothes, while it is in this position, the ball E will lie on the bottom of its chamber, and the air in the cup will pass by it and escape through opening *i* and valve *e*, and then the water will force the ball E into its seat, so that no water can pass by it, so that when the piston shall be forced downward in the cup the water or suds must all be driven

out before it, in the manner before described. But when the piston is again raised it will of course create a vacuum below it (so far as air is concerned) which will be filled by the water or suds which will rush in under the edge of the cup, and, in doing so, will create a commotion in the tub and among the clothes, as before stated. The spring D, when the pounder is not in use, holds the piston A up against the head F, and in use, the force with which it resists compression is sufficient to enable the operator to have the cup well settled among the clothes and filled with suds before the piston begins to descend and thus expel the water, and after the downward stroke has been completed it, by its rebounding force, assists in raising the piston, and at the same time holds the cup down.

I am confident that with an intelligent use of this machine clothes may be cleaned with comparatively little expenditure of time and labor, without resorting to either rubbing or boiling, which are both more or less destructive.

What I claim as my invention is—

1. The combination of the cup B, composed of a hollow cylinder of uniform diameter from one end to the other, and the perforated head F with the piston A provided with the packing S S and *m m*, all constructed substantially as and for the purpose described.

2. The combination of the ball-valve E, the described chamber having the opening *i*, and the piston A, each constructed and all arranged substantially in the manner and for the purpose described.

3. The combination of the ball-valve E and its chamber, having the opening *i*, air-valve *e*, and the piston A, each constructed and the whole arranged substantially in the manner and for the purpose described.

4. The combination of the spring D and the handle C with the combination of devices specified in the first clause of claim, substantially as set forth.

ALEX. W. HALL.

Witnesses:

H. T. MORRIS,
J. M. GAZZAM.