No. 874,066. PATENTED DEC. 17, 1907.

S. D. GRIFFITH.

ATMOSPHERIC CLOTHES POUNDER.

APPLICATION FILED SEPT. 3, 1907.

Fig. 1.

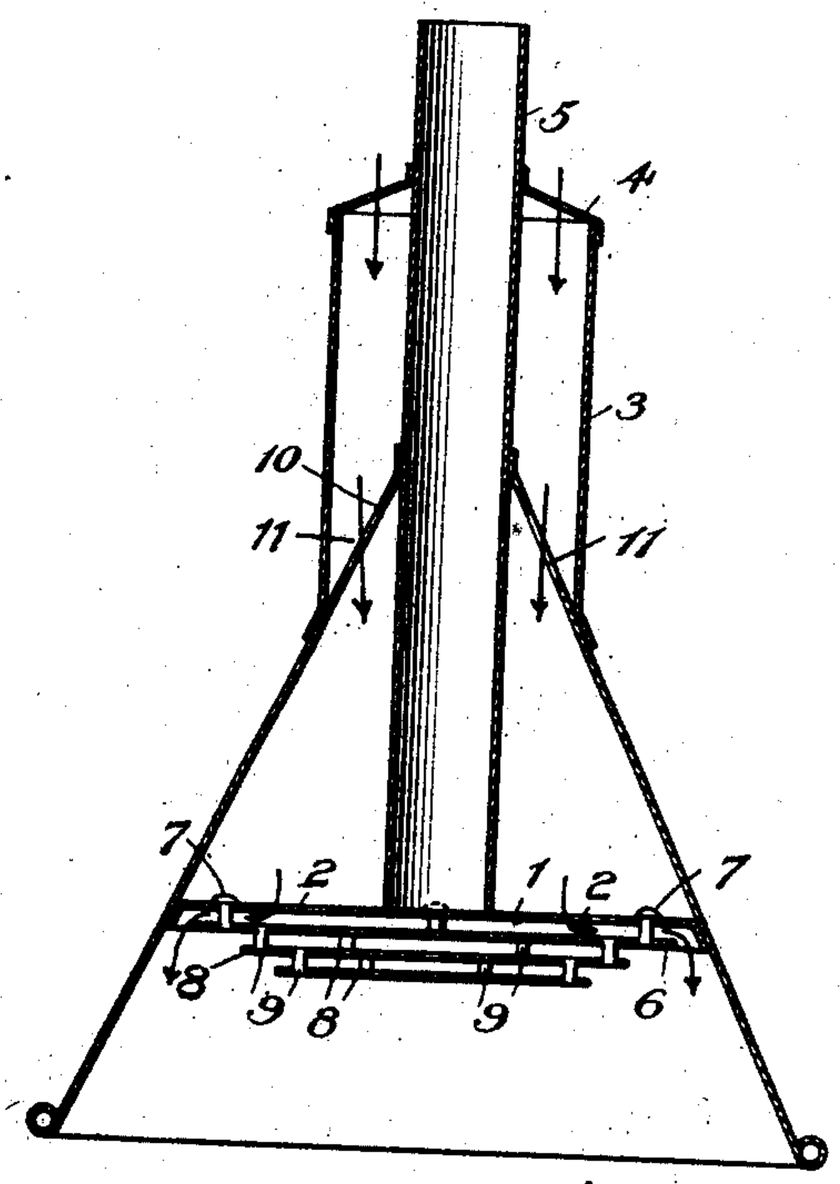


Fig. 2.

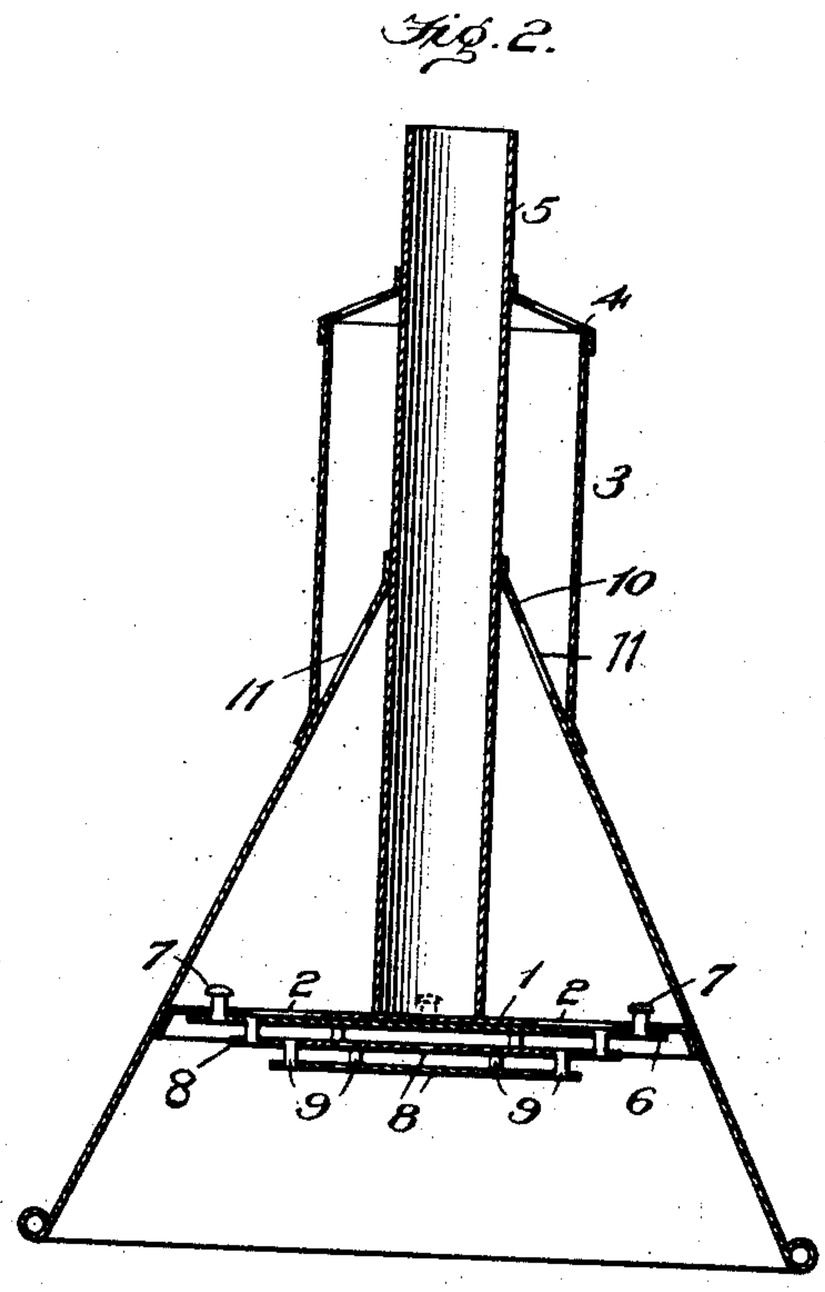


Fig. 3.

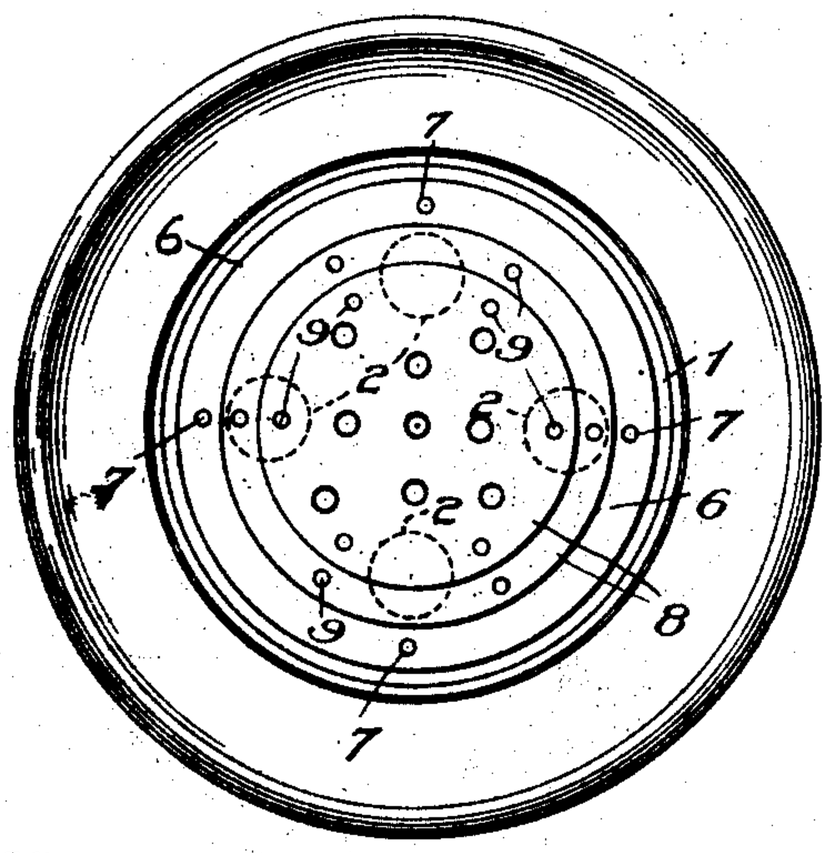
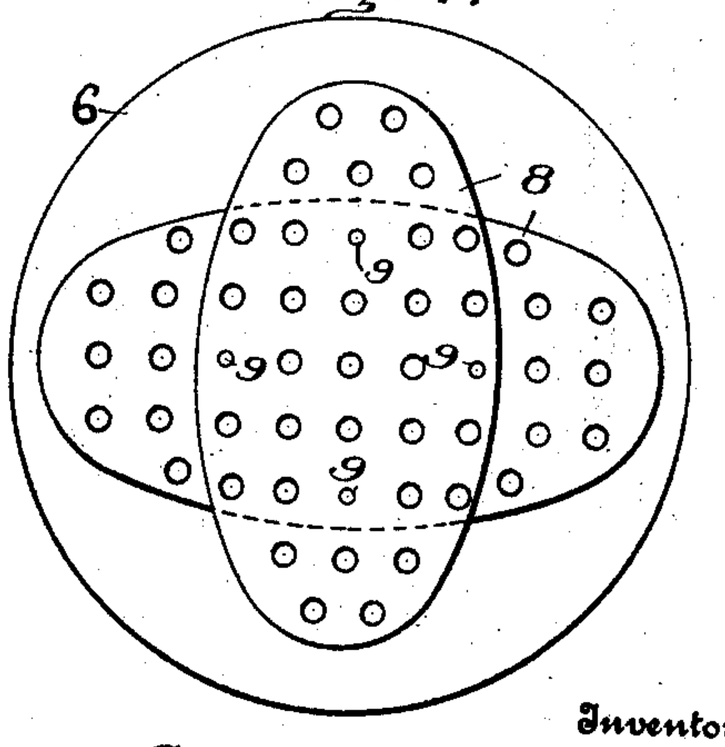


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL DORSEY GRIFFITH, OF CURWENSVILLE, PENNSYLVANIA.

ATMOSPHERIC CLOTHES-POUNDER.

No. 874,066. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed September 3, 1907. Serial No. 391,254.

To all whom it may concern:

Be it known that I, SAMUEL DORSEY GRIFFITH, a citizen of the United States, residing at Curwensville, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Atmospheric Clothes-Pounders; and I do hereby 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.

For washing clothes by a pounding and atmospheric operation in which a cup-shaped plunger is employed having a disk-valve depending from a perforated partition in the cup for controlling the inlet of the air therein at each upward movement of the cup, it is found that while the disk valve is effective for closing the inlet of the air and to cause the air in the cup to be forced through the clothes by the pounding action, the disk-valve is liable to be uncertain in its opening function to allow the cup to be filled with air.

My improvement is directed to means whereby this objection is overcome and the disk-valve is rendered certain in its opening function; and also by which the valve is caused to have an active pounding and agitating function upon the clothes, the valve for this purpose being provided with one or more depending plates movable with it; and in the claims appended hereto I will set out the parts and combination of parts wherein my improvement resides in connection with the accompanying drawings, wherein—

Figure 1 shows in vertical section an atmospheric clothes washing pounder having my improvement, the air controlling valve being in open position. Fig. 2 is an identical view—the air controlling valve being in closed position. Fig. 3 is a bottom view of the cup-pounder. Fig. 4 is a bottom view of the plate-valve having oval formed depending plates.

A cup preferably funnel shaped, has a diaphragm partition 1, having a plurality of openings 2, and a cylinder 3, rising from the cup and terminating in a perforated cap 4, centrally to which, is fixed a tube 5, which extends to and is fixed to the cup-partition and forms the socket for the handle by which the cup is used with a pounding action in a wash-tub containing clothes and soap-suds.

A plate-valve 6, is suspended within the cup-chamber from the partition by headed pins 7, and has a diameter adapted to inclose the openings in the partition and is movable preferably with its suspending pins for opening and closing the openings in the cup partition to admit air into the cup as it is raised and to cause the air to be forced into and through the clothes as the cup is driven upon them. For this purpose the valve suspending pins preferably pass through holes in the partition and the opening movement of the valve is limited by the heads of the pins resting upon the partition. Appended to and depending from this plate-valve is one or more plates 8, 8, of less area than the valve, one below the other and preferably the lower ones of decreasing area, each suspended from and movable together with the valve. That is to say, the depending plates may each have a fixed relation to the valve and to each other by their suspending pins 9, 9. These depending plates may be of any suitable form but each preferably having curved edges so as not to injure the clothes. They may be of oval form crossing each other at right angles, but of whatever form they each have a separate pounding action upon the clothes and a separate suction action thereon in the lifting movements of the cup, and in this way the action of each plate reinforces the pounding function of the cup and facilitates the washing and cleansing operation of the clothes. These valve depending plates have also a releasing function for the plate-valve, that is, they render it certain by a pulling action on the valve, caused by the water to open it on the lifting movement of the cup. This is important because the flat sealing surface of the valve would be liable to adhere, when closed, to the flat sealing surface of the cup-partition; and, to counteract the tendency of the valve to stick, each of its depending plates is, in its lifting action on the water, caused by the water to have a pulling function aided by their weight, upon the plate-valve, so that it is caused to open at every lift of the cup to insure a full supply of air through the cylinder into the cup to be forced through the clothes. The depending plates—I prefer to perforate—as giving a better suction action on the clothes. To give firmness and strength to the handle supporting socket it is braced at its connection with the partition by a conical stay 10, which has openings 11, for the passage of air through the cylinder to the cup.

An important feature of the valve is the depending plates of flat pounding surfaces of unequal area one below the other so as to give a step-like or successive pounding action on the clothes and on the air.

I claim:

1. In a clothes pounder, a cup having a perforated partition, a plate-valve suspended from said partition for vertical movement to open and to close the air inlet openings therein, and including a depending plate suspended from, and movable with and of less area than the valve.

2. In a clothes pounder, a cup having a perforated partition, a plate valve suspended from said partition for vertical movement to open and to close the air inlet openings therein, and including a plurality of depending separated plates suspended one below the other movable with the valve and the lower one of relatively less area.

3. In a clothes pounder, a cup having a perforated partition, a plate-valve suspended from said partition for vertical movement to open and to close the air inlet openings therein and including a plurality of depending separated plates suspended one below the other from and movable with the valve, the depending plates being perforated and the under or lower one of relatively less area to the intervening plate.

4. In a clothes pounder and in combination with the pounding cup having a perforated partition, a valve for controlling the air inlet openings in the partition suspended therefrom and consisting of a plurality of separated plates fixed and movable together to open and close the partition openings—the upper plate having the greatest area and the under plates having relatively succeeding decreasing areas.

5. In a pounding washer, and in combination, a pounding cup having a perforated diaphragm partition, an imperforate plate suspended from the bottom and adapted to control its perforations, and a plurality of perforated plates depending from and movable with said imperforate plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL DORSEY GRIFFITH.

Witnesses:
A. E. H. JOHNSON,
ANNE B. JOHNSON.