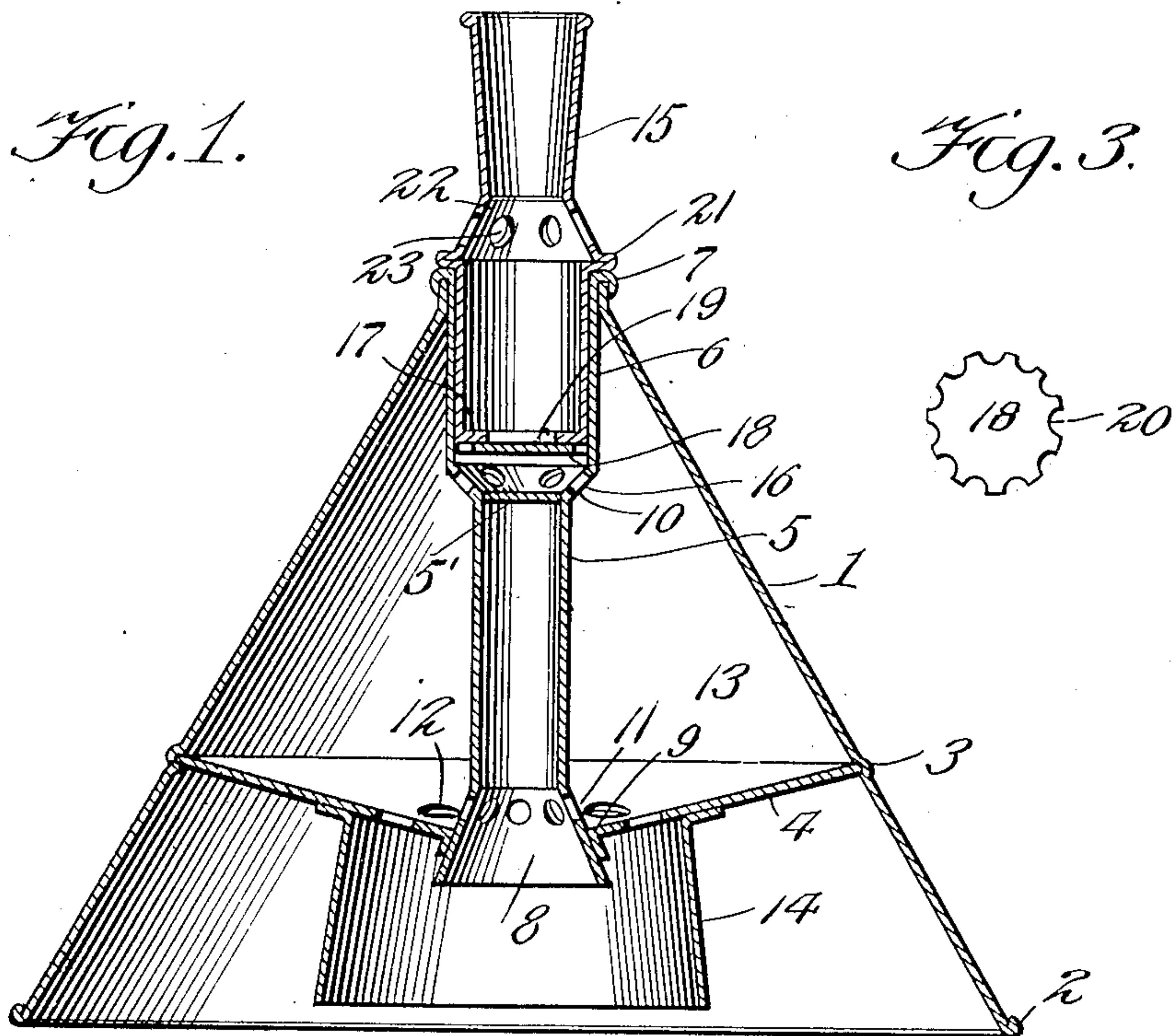


No. 887,626.

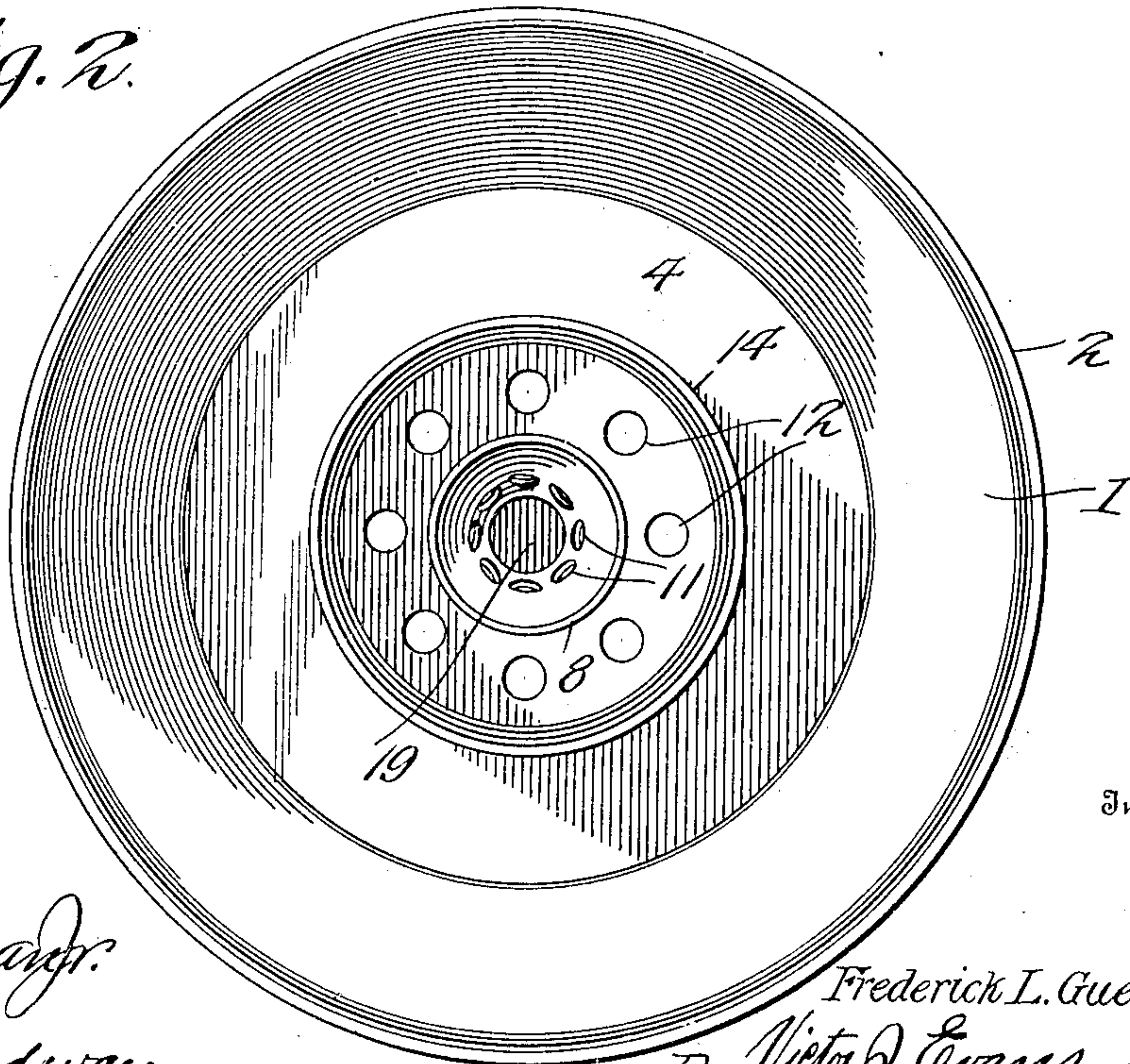
PATENTED MAY 12, 1908.

F. L. GUENTHER.  
CLOTHES POUNDER.

APPLICATION FILED MAY 18, 1907.



*Fig. 2.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

FREDERICK L. GUENTHER, OF ATHENS, OHIO.

## CLOTHES-POUNDER.

No. 887,626.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed May 18, 1907. Serial No. 374,325.

*To all whom it may concern:*

Be it known that I, FREDERICK L. GUENTHER, a citizen of the United States, residing at Athens, in the county of Athens and State of Ohio, have invented new and useful Improvements in Clothes-Pounders, of which the following is a specification.

This invention relates to washing devices of that type in which the clothes or fabrics are washed by a pounder element or in other words by an element that is worked up and down so as to produce currents of air through the washing fluid to cause the suds to thoroughly act on the fabrics.

The invention has for one of its objects to improve and simplify the construction and operation of devices of this class so as to be comparatively easy and inexpensive to manufacture, thoroughly effective and reliable in use and convenient to manipulate.

A further object of the invention is the provision of a washing device having means for causing air to be forced through the washing fluid so as to enable the suds to have a better effect on the clothes being washed.

With these objects in view and others as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing which illustrates one of the embodiments of the invention, Figure 1 is a central vertical section of the pounding element. Fig. 2 is a bottom plan view thereof. Fig. 3 is a plan view of the valve.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, 1 designates the funnel like body of the device which may be made of galvanized sheet iron, copper or the like and formed with a bead 2 for stiffening the lower large end thereof and with an internal groove 3 for receiving the horizontal conical shaped diaphragm 4. Extending axially of the body is a tubular air conducting duct 5 that has an enlarged cylindrical upper end 6 passing out of the smaller end of the body 1 and curled or flanged at 7 over the outside of the body thereby holding the upper end of the air conducting tube in fixed position. The lower end of the tube 5 is expanded at 8 into a mouth that fits in an open-

ing 9 in the diaphragm 4, the diaphragm thus coöperating with the body 1 to hold the tube rigidly in place. The tube 5 has an upper and a lower set of openings 10 and 11 that communicate with the chamber formed above the diaphragm 4 whereby air is delivered to the said chamber, and arranged in the diaphragm and located in a circle are openings 12 through which the air passes out of the chamber 13 to the bottom side of the diaphragm, there being an annular deflector 14 for directing the air downwardly from the openings 12 as well as from the air tube 5. In the tube is a partition 5' between the openings 10 and 11.

Snugly fitted into the upper enlarged end 6 of the tube 5 is a hollow socket member 15 for the reception of the lower end of a stick whereby the device is actuated. The lower end of the member 15 is cylindrical and extends into the enlargement 6 to a distance so much short of the annular bevel or shoulder 16 so that between the shoulder and bottom 17 of the member 15 is confined a bodily movable disk valve 18, there being a port 19 in the bottom 17. The valve 18 has peripheral scallops 20 as clearly shown in Fig. 3 for permitting air to pass by the valve in a downward direction. The member 15 has an annular bead 21 that rests on the flange 7 of the air tube 5 and in the frusto conical portion 22 are air inlet openings 23.

In practice, the device is provided with a stick that is inserted in the upper tapering portion of the member 15 and a vertical reciprocating motion is imparted to the device by means of this handle either manually or mechanically as desired. As the device is moved downwardly the air contained in the chamber 13 and spaced below the diaphragm becomes compressed and under expansion will aerate the washing fluid and cause the suds to pass through the fabrics being washed. On the downstroke the valve 18 will automatically seat against the bottom 17 of the member 15 so as to prevent the escape of air from the chamber 13. When the device is raised the valve 18 will drop to the shoulder 16 and permit air to be indrawn through the openings 23. This air passes down through the cylindrical portion of the member 15, port 19 and through the ports 20 of the valve, and openings 10 to the chamber 13, thence out of the chamber through openings 11 and 12. Then upon the succeeding downstroke the valve will immediately close



and the compressed air will again force the suds through the fabrics being washed. Thus by continued reciprocation of the device the clothes can be cleaned rapidly and effectively.

5 From the foregoing description taken in connection with the accompanying drawing the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the inven-  
10 tion appertains and while I have described a principle of operation of the invention together with the device which I now consider to be the best embodiment thereof I desire to have it understood that the device shown is  
15 merely illustrative and that such changes may be made when desired as are within the scope of the claims.

Having thus fully described the invention, what is claimed as new is:—

20 1. In a device of the class described, the combination of a hollow body, a diaphragm therein having apertures, a deflector on the bottom side of the diaphragm and surround-  
25 ing the apertures, an air conducting tube arranged in the body and passing through the diaphragm and provided with openings communicating with the space above the dia-  
30 phragm, said tube having air inlet openings, and a valve for controlling the passage of air through the tube, said valve being arranged to control communication between the tube and hollow of the body above the diaphragm.

35 2. In a device of the class described, the combination of an inverted funnel shaped body, a diaphragm therein having apertures, a deflector on the bottom side of the diaphragm, a hollow member extending into the body for receiving an operating handle and provided with air inlet ports, an air duct ar-  
40 ranged within the body, and a valve bodily movable in the duct and held in position by the member, said valve being arranged to control communication between the tube and hollow of the body above the diaphragm.

45 3. In a device of the class described, the combination of an inverted funnel shaped

body, a diaphragm therein bulged down-wardly and provided with apertures, there being a chamber above the diaphragm, an air conducting tube secured at its upper end 50 on the body and on the diaphragm at its lower end and having openings communicating with the chamber above the diaphragm, a shoulder on the tube, a hollow member extending into the tube and having a ported 55 opening disposed adjacent the shoulder to form a valve seat, a valve disposed between the seat and shoulder, ports for admitting air to the said member, and a deflector on the bottom side of the diaphragm for directing 60 the air from the chamber above the latter in a downward direction.

4. In an apparatus of the class described, the combination of an inverted conical body, a diaphragm mounted therein, there being a 65 chamber above the diaphragm, a central vertical air conducting tube having a cylindrical enlargement at its upper end and rigidly secured to the body and a conical enlargement at its lower end fitted in an opening in the dia- 70 phragm, there being openings in the tube communicating with the chamber above the diaphragm and also an annular shoulder at the lower end of the cylindrical enlargement; a member fitted into the cylindrical enlarge- 75 ment and provided with a ported bottom forming a valve seat and having a socket for receiving an operating handle, air inlet ports in the said member, a bodily movable disk valve disposed between the shoulder and said 80 seat for controlling the passage of air through the tube, and an annular deflector on the bottom side of the diaphragm for directing the air downwardly from the chamber above the diaphragm. 85

In testimony whereof, I affix my signature in presence of two witnesses.

FREDERICK L. GUENTHER.

Witnesses:

JOHN M. COX,

ANDREW J. DAVIES.