W. P. DUNGAN Jr.
Clothes-Pounder

No. 203,430. Patented May 7. 1878.

Fig. 1.

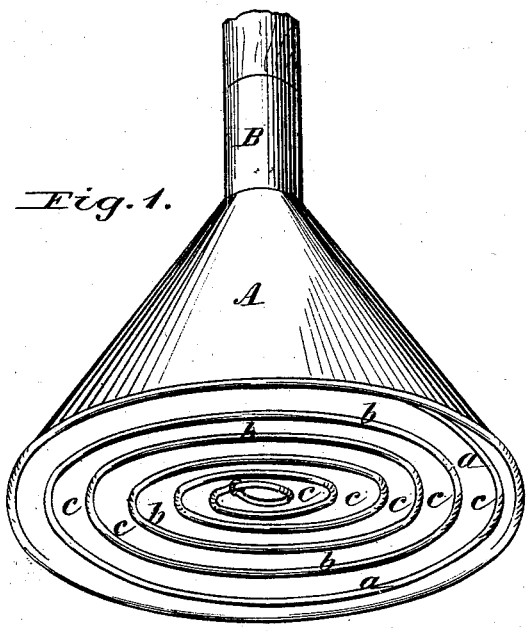


Fig. 2.

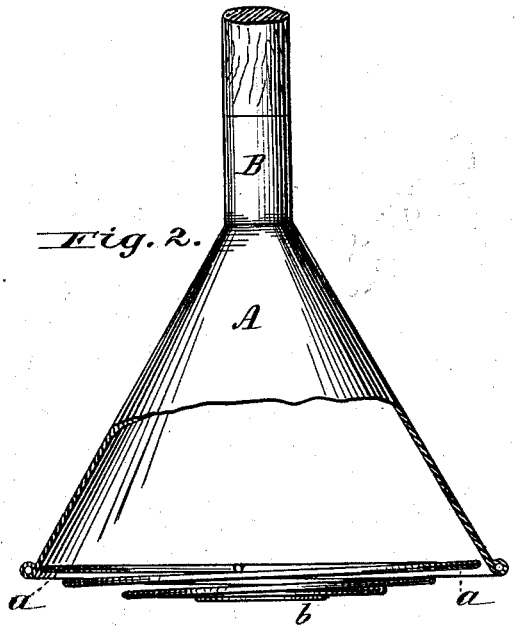
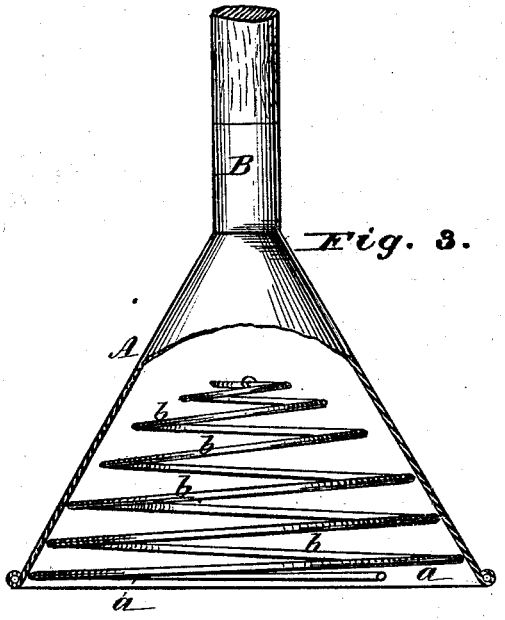


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM P. DUNGAN, JR., OF WATAUGA, TENNESSEE.

IMPROVEMENT IN CLOTHES-POUNDERS.

Specification forming part of Letters Patent No. **203,430**, dated May 7, 1878; application filed March 27, 1878.

To all whom it may concern:

Be it known that I, WILLIAM P. DUNGAN, Jr., of Watauga, in the county of Carter and State of Tennessee, have invented certain new and useful Improvements in Clothes-Pounders; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention in clothes-washers consists of a cone or cup washer, having an open coil-spring arranged horizontally across the mouth of the cone or cup, with its outer coil equal in diameter to that of the inner side of the base of the hollow cone or cup, connected at one side thereof, and having a bearing all around upon the inner surface of said cone or cup, at or near its edge, with its coils about half an inch apart, to form open coil-spaces, and terminating in the same plane in a small coil at the center, forming a cheap and effective clothes-washer.

By this arrangement of the spring the coils nearest the center yield upward when pressing upon the clothes, while the outer coil forms the bearing upon the inner wall of the cone or cup, thus giving an equal pressure upon the spring when the cone-washer is forced down, and preventing the clothes from rushing up too far in the center of the cone or cup, avoiding all danger of cutting, tearing, or catching into the clothes. While so much surface of the coils of wire comes in contact with the clothes its action will be to keep the clothes down, soften and loosen the dirt, and rub the clothes to some extent, yet preserving the sucking action of the cone or cup and the compression of the air therein, and forcing it down through the spaces between the coils through the clothes. The spring thus arranged also serves, by its reaction, the purpose of aiding to lift the washer, which function has hitherto been performed by conical springs or spiral springs variously arranged in connection with the tube of an inner movable cone. The spring, as I arrange and connect it, forms, in fact, a series of horizontal circular wire strands and intervening spaces in the same horizontal plane, which aid materially in the advantageous action of the device.

Referring to the drawings, Figure 1 represents my improved clothes-washer, with its bottom or mouth coil-spring and intervening spaces; Fig. 2, a sectional elevation, showing the coil mouth spring in its normal position, as in Fig. 1; and Fig. 3, a vertical section, showing the central coils of the spring pressed up into the cone by the action of the latter upon the clothes, and the outer coils bearing upon the walls of the cone.

I take a tin funnel, cone, or cup, A, about eight inches in diameter at its base, and solder at its apex or upper end a tube, B, one inch in diameter, extending about half an inch into the apex, where it is soldered and closed to make it fast and the cone air-tight, and into its outer end the handle is inserted. I then take a spring, coiled like a watch balance-spring, only of round wire of suitable size, and wire the mouth of the cone or cup with one end, or start it from the wired edge, and form the outer coil *a* of a diameter equal to that of the inner diameter of the cone at or near its mouth, so as to form a bearing thereon, and terminate the coils in the center, with the spaces between them about a half inch wide, forming a series of circular strand-coils, *b*, and spaces *c* on the same horizontal plane, as shown in Figs. 1 and 2, the several coils, except the outer one, having a spring-action when pressed upon the clothes, so as to give an equal pressure, (notwithstanding the spring may only be secured at one side of the mouth of the cone or cup,) because of the annular bearing formed by the outer coil *a* upon the inner wall of the cone.

The effect and advantage of this construction and combination are to cause the coils to yield in the center, as shown in Fig. 3, sufficiently to assist, by their reaction, in raising the cone after it has been pressed down, thus relieving the lifting labor, and yet holding the clothes down and preventing them from being forced up into the cone or cup too far.

The wire-coil strands prevent all cutting, tearing, or catching into the clothes, and their action is such as to rub the clothes slightly, to soften and loosen the dirt, and in this par-

ticular to aid the sucking action of the washer, and to allow the air which is compressed in the hollow cone or cup to be forced down through the spaces *c* between the spring-coils into and through the clothes when under pressure, making a cheap and very effective hand-washer for clothes.

By the arrangement of this coil-spring in the position and way stated, a very large quantity of air is compressed within the cone.

In using such horizontal coil-surface working-spring with a cylindrical cup, there must, of course, be an annular bearing formed at the wired edge to form a seat for the outer coil of said spring; or the outer coil may be soldered all the way round.

In Fig. 3 the central coils of the spring are shown as being pressed up into the cone when the latter is forced down upon the clothes, and the outer coils are thereby carried in and rest against the walls of said cone.

I have stated that a conical spiral spring has been used with a cone cup-washer; but in such case the apex of the spring is connected to the apex of the cone, and the base of the cone-spring extends down below the base of the cup, and without connection therewith, so that when pressed upon the clothes the coils of the spring will be compressed within the cup, thus practically only acting with its lower and largest coil upon the clothes. The distinctive difference between this and my improvement consists in having a spring in which the coils are all in the same plane with the base of the cone, to form a series of wire rings, all acting upon the clothes at once and yielding upward at the center or inner coils, whereby each coil has an independent action upon the clothes, braced and acting from a connection with the base of the cone, and in which action the inner coils open within the cone and recede from the clothes while under pressure, instead of being compressed under such pressure. The simultaneous action of all the coils upon the clothes as the cone is forced down upon them, I find to be very effective in giving a sort of surface-rubbing action by the yielding of the several separate inner coils over the clothes as they are pressed upon them.

I claim—

As a new manufacture, a clothes-washer consisting of a cone or cup and a wire spring, the coils of which are arranged in the same plane with and across the mouth of the cone, and attached thereto at its outer end, and terminating in a yielding center, whereby all the coils of the spring act at the same time, and the central coil yields under pressure, as specified.

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

WILLIAM P. DUNGAN, JR.

Witnesses:
JOHN M. BARRETT,
J. G. BRIDGES.

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