

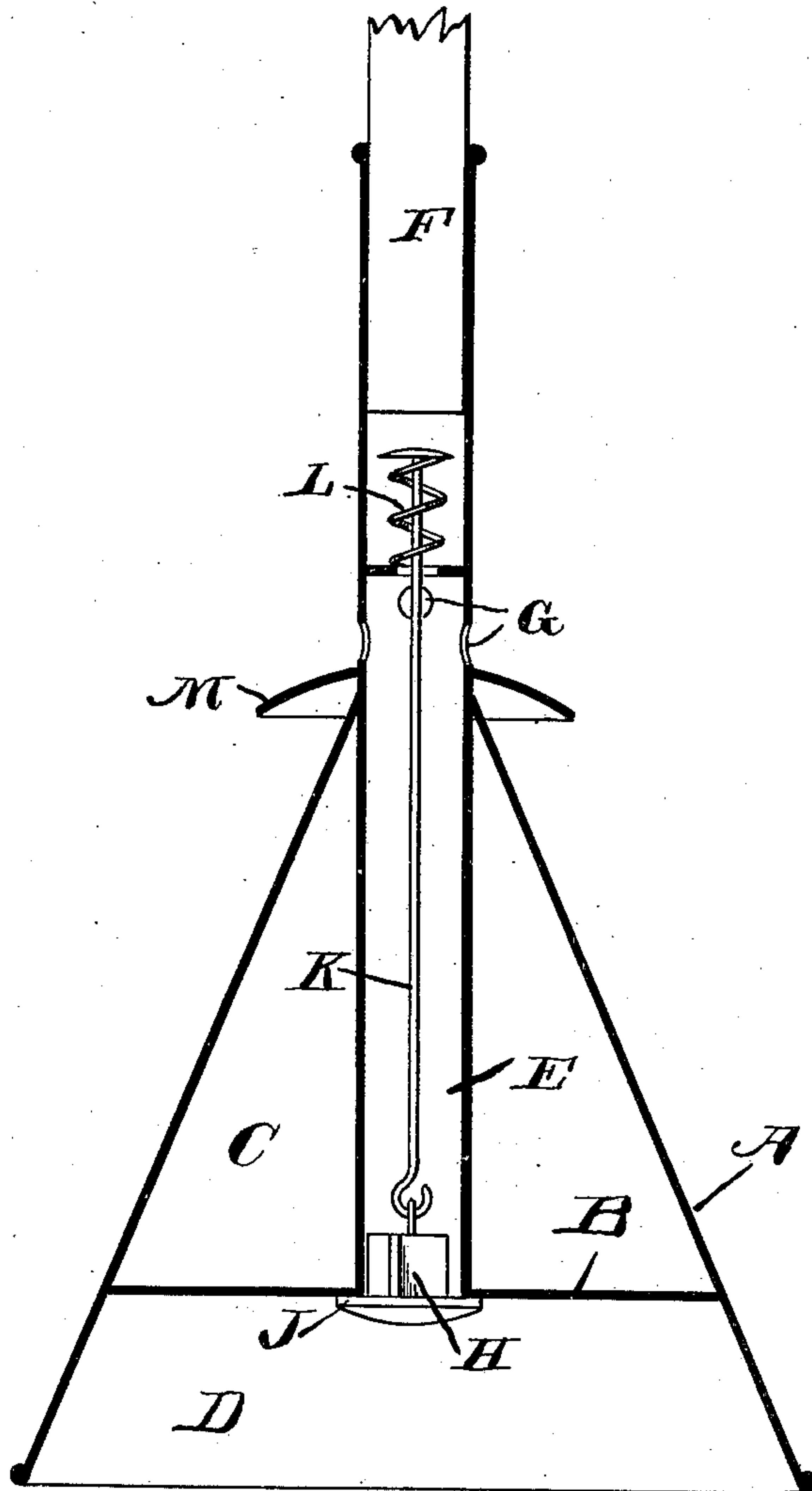
(No Model.)

H. T. LEMON.

ATMOSPHERIC CLOTHES WASHER.

No. 384,453.

Patented June 12, 1888.



Hamlin J. Simon.

INVENTOR.

WITNESSES:  
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# UNITED STATES PATENT OFFICE.

HAMLIN T. LEMON, OF RICHMOND, INDIANA, ASSIGNOR OF ONE-THIRD TO  
G. HARLAND LEMON, OF SAME PLACE.

## ATMOSPHERIC CLOTHES-WASHER.

SPECIFICATION forming part of Letters Patent No. 384,453, dated June 12, 1888.

Application filed July 30, 1887. Serial No. 245,717. (No model.)

*To all whom it may concern:*

Be it known that I, HAMLIN T. LEMON, of Richmond, Wayne county, Indiana, have invented certain new and useful Improvements in Atmospheric Clothes-Washers, of which the following is a specification.

This invention pertains to that class of clothes-washers comprising, generally, an inverted air-cup provided with a handle, the cup being intended to be reciprocated in the clothes and water.

My improvements in this class of clothes-washers will be readily understood from the following description, taken in connection with the accompanying drawing, which is a vertical diametrical section of an atmospheric clothes-pounder, illustrating my improvements.

In the drawing, A indicates a conical cup of the form commonly employed in this class of clothes-washers; B, a horizontal diaphragm, disposed a short distance upward from the lower edge of the cup; C, the upper chamber of the cup, the same being completely sealed so as to be air-tight, the intention being that this chamber shall simply add to the buoyancy of the implement; D, the lower chamber of the cup, open, of course, below, the roof of this chamber being formed by the diaphragm B; E, a vertical axial tube reaching from the chamber D upward some distance beyond the apex of the cup; F, the usual handle, secured in the socket formed by the upper end of the tube E; G, side openings in the tube E at a point just above the apex of the cup, these openings permitting the free inflow of air to the tube from the surrounding atmosphere; H, an ordinary wing-valve seating upwardly in the lower end of the tube E, and serving, when the valve is in its upward or closed position, to seal the lower end of the tube, this valve having sufficient mass to cause it to tend to open by inertia when the implement is rapidly lifted; J, the face upon the valve, the same being formed of vulcanized india-rubber, or other equivalent material, capable of withstanding the action of hot soapsuds and capable of closing and seating itself against the surface forming the valve seat; K, a rod disposed axially within the tube E, and having

its lower end hooked to the valve by means of an open hook, and having its upper end provided with a head; L, a spiral spring surrounding the upper end of the rod and engaging between the head upon the rod and an inwardly-projecting flange in the tube, this spring acting compressively and having just sufficient strength to cause the upward seating of the valve when the implement is rapidly moved downwardly; and M, a horizontal crowning-shield encircling the tube just below the openings G.

Normally the valve H is closed and the chamber D full of air. When the implement is pushed downwardly into the clothes and suds, the air in the chamber becomes compressed and finally expands and finds its way in currents outwardly through the clothes being acted upon. On the upstroke of the implement the valve will open by inertia and air will flow through the openings G and downwardly through the tube and into the chamber D, thus again filling that chamber with air for use in the future stroke.

By grasping the valve and pulling it downward, thus severely compressing the spring, the valve may be unhooked from the rod and removed. Then, by removing the handle from its socket, the rod and spring may be withdrawn entirely from the tube, thus permitting the ready cleaning or repair of the parts. The tension of the spring should be sufficient to support the valve and still permit it to open by inertia, and the tension of the spring may be adjusted when it has been removed by stretching it or compressing it into a new condition of tension, after which the parts may be restored to place.

During the downstroke of the implement there is an upward splashing of suds at the outside of the cone, and the tendency of this splashing is to run up the cone and, if unprevented, find its way into the openings G, whence it would descend into the air-tube and form an undesired load upon the valve, thus causing the valve to improperly open and at the same time nullify to a certain extent the function of the tube as an air-tube. The crowning-shield M, disposed below the openings G, serves to intercept this upward splash before it can



reach the openings G, and causes the splash of suds deflected by the shield to return downward upon the outside of the cone.

It is to be noticed that while the desire is, 5 in this general class of clothes-washers, that air alone shall pass into the central tube, still the suds and water and dirt will to some extent find their way into the tube. In my construction the valve is located below the open- 10 ings G, and the spring is located above those openings, the spring being neatly housed clear above the point where suds and dirt can reach or clog it. Furthermore, the tension of the spring requires delicate adjustment. Once se- 15 cured, it should not be liable to disturbance. In my construction the valve can be readily detached when the washer is to be cleaned, and the spring may remain safely housed in its position. If the removal of the valve involved 20 the removal of the spring, the detached spring would become liable to frequent handlings, &c., quite apt to disturb its delicate adjustment.

I claim as my invention—

25 1. In an atmospheric clothes-washer, the combination, substantially as set forth, of an inverted cone provided with a downwardly-open air-chamber at its bottom, an air-tube disposed axially within said cone and having

its lower end in communication with said air- 30 chamber and having its upper end prolonged beyond the top of the cone to form a handle-socket and provided with side openings above the cone and below the handle and with an inwardly-projecting flange disposed above said 35 side openings and below the handle, a valve seating upwardly at the lower end of said tube, a rod reaching upwardly from said valve through the tube and above said flange and provided with a head at its upper end, and a 40 spring engaging the lower side of said head on the rod and the upper side of said supporting-flange within the tube and adapted to hold said valve closed and to permit it to open upon the upstroke of the implement. 45

2. In an atmospheric clothes-washer, the combination, substantially as set forth, of a cone, A, having diaphragm B and bottom chamber, D, tube E, provided with openings G, valve H, rod K, having its lower end de- 50 tachably hooked to said valve, and spring L, supporting said rod in its upper position and disposed above said openings G.

HAMLIN T. LEMON.

Witnesses:

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