

(No Model.)

F. T. ROOTS.
CLOTHES POUNDER.

No. 305,335.

Patented Sept. 16, 1884.

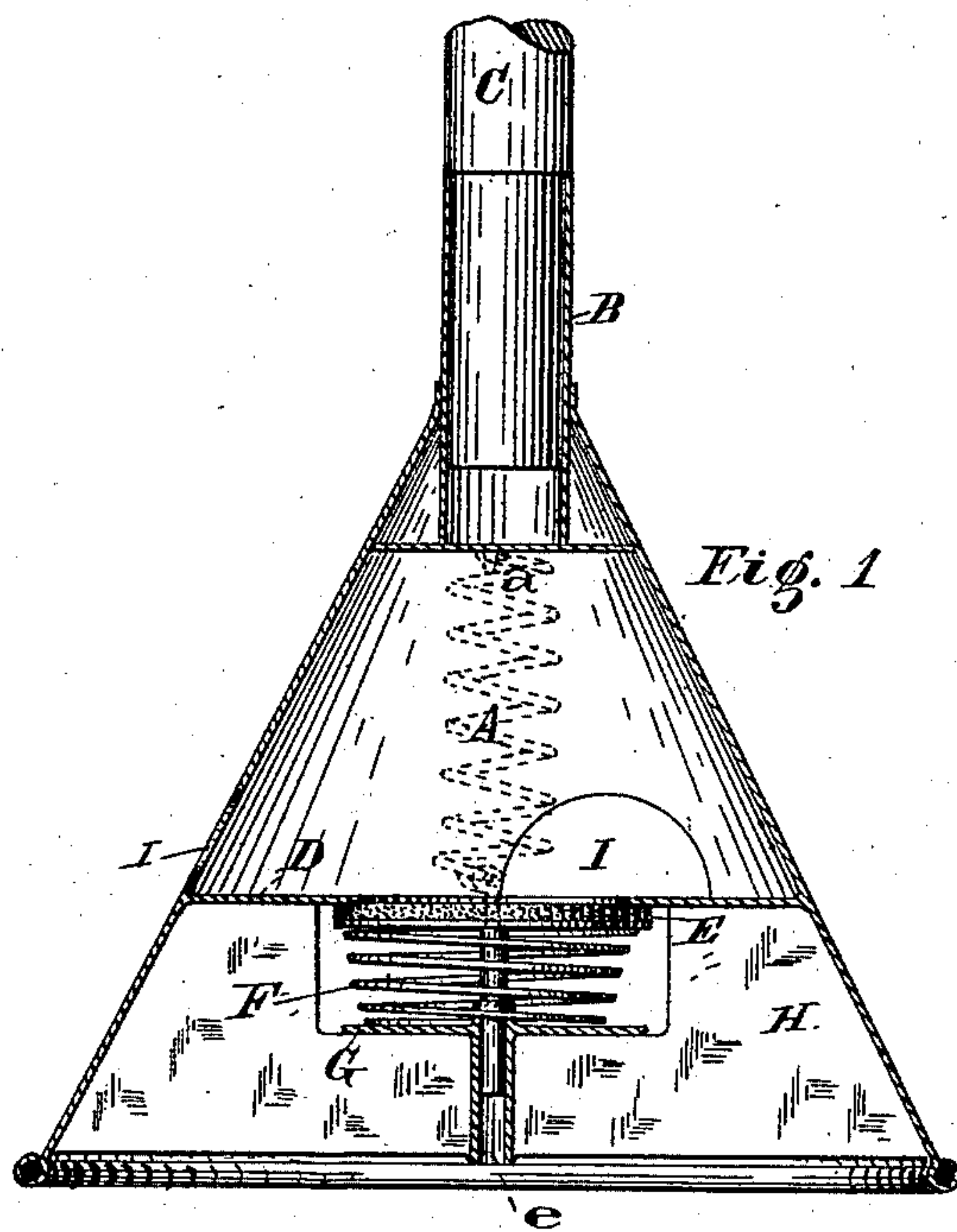


Fig. 1

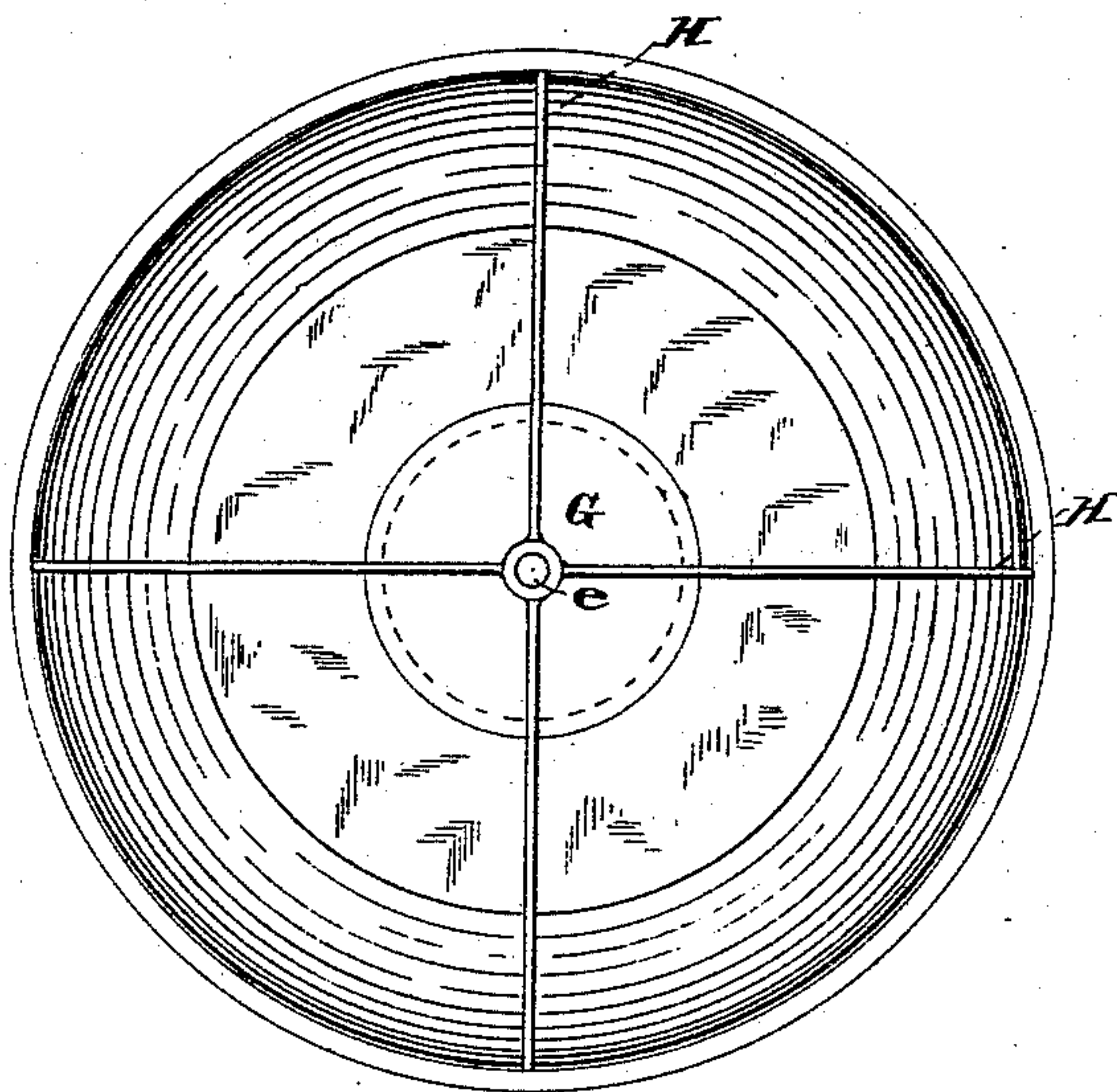


Fig. 2

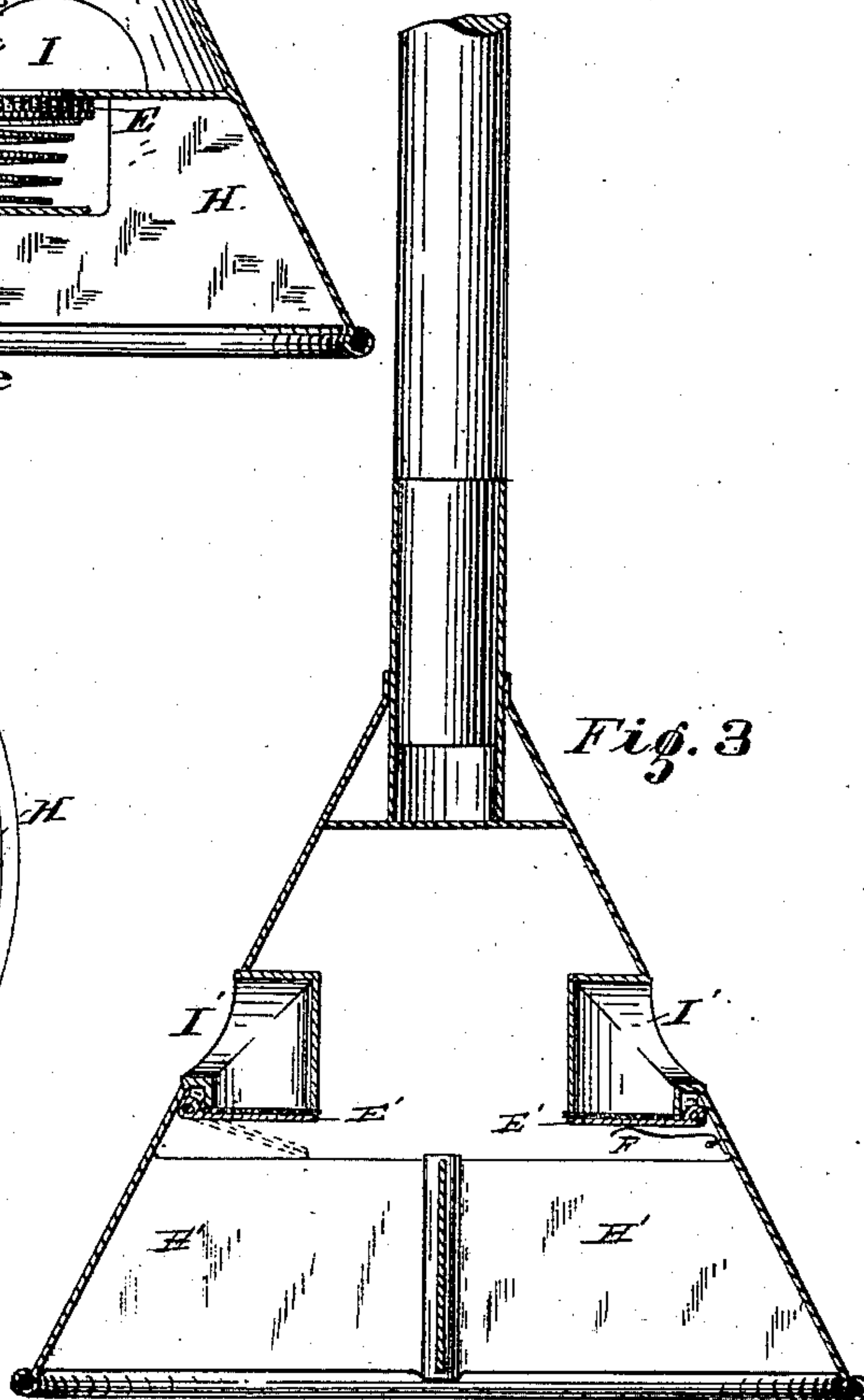


Fig. 3

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UNITED STATES PATENT OFFICE.

FRANCIS T. ROOTS, OF CONNERSVILLE, INDIANA.

CLOTHES-POUNDER.

SPECIFICATION forming part of Letters Patent No. 305,335, dated September 16, 1884.

Application filed April 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS T. ROOTS, a citizen of the United States, residing at Connorsville, county of Fayette, State of Indiana, have invented certain new and useful Improvements in Clothes-Pounders, of which the following is a specification.

This invention relates to that class of washing-machines known as "clothes-pounders" or "compressed-air" washers, and consisting of a hollow vessel or pounder-cup, open at its lower end and provided at its upper closed end with a handle. In this class of washers, as originally constructed, it was found that upon the downward thrust of the pounder the water and clothes in the tub would enter the lower open end of the pounder, thereby expelling the air from within the pounder-cup, so that upon attempting to raise the pounder for another stroke a vacuum or partial vacuum would be created within the pounder-cup, and a portion of the clothes within the tub would be lifted by suction and cause a splashing of the water contained in the tub. A partially-successful attempt to remedy this defect was made by providing the upper end of the pounder-cup with air vents or apertures closed by inwardly-opening valves, so that during a downward stroke the pounder-cup would have the character of a tight vessel and force air through the clothes in the tub; but during an upward movement the pressure of air upon the valves would open them, and by supplying air to the vacuum within the vessel establish equilibrium, so that there would be no suction upon the clothes which had been crowded into the cup by the downward thrust; but this effort to avoid splashing has been found in practice to be only partially successful, for the reason, among others, that the faces of the valves would become wet and stick to the valve-seats, and not open promptly at the commencement of the upward movement of the pounder.

The object of this invention is to overcome the objections above stated; and to this end the invention consists in providing the pounder-cup with a water-chamber, (one or more,) securing an upwardly-closing valve within and near the lower open end of the pounder-cup to close a valve-opening in the bottom of said water-chamber, and providing the side walls

of the water-chamber, just above its bottom, with open ports, whereby water will be admitted to the water-chamber above the valve during the downward stroke of the pounder, and open said valve during the momentary interval between the downward and upward movements of the pounder, thus supplying the vacuum at the commencement of the upward movement and avoiding all suction, all of which will be fully understood from the following description of the accompanying drawings, in which—

Figure 1 is an axial section of a device provided with my improvements. Fig. 2 is an inverted plan view of the same. Fig. 3 is an axial section of a modified form of my invention.

Similar parts throughout the various views are indicated by similar reference-letters.

Referring first to Figs. 1 and 2, A is a cone-shaped cup provided at its tapered end with the customary socket, B, to receive the handle C. The socket-piece rests upon a transverse partition, *a*, which serves to brace it in position. Within the cup A is a partition, D, which divides the conical cup horizontally and forms the bottom of what I shall term a "water-chamber." The partition is centrally perforated. This perforation is closed by a spring-actuated valve, E. The partition D, instead of being a perforated disk, as shown, may be an inverted hollow truncated cone. The spring F, which normally holds the valve to its seat, is compressed between the valve and a disk, G, which is secured in a recess formed in the transverse strengthening ribs or vanes H. The valve is guided in its movements by a rod secured to its under side, which has vertical play in a tube, *e*, to which the inner ends of the vanes H are secured. Above the partition D the side of the cup is perforated at I, to admit water in the water-chamber when the cup A is forced down in the tub or vessel containing the clothes. In the dotted line in Fig. 1 I have shown a spiral spring within the water-chamber, united to the top side of the valve and to the partition *a*, and stretched between the two to hold the valve to its seat by the pulling action of the spring. This may be used in place of spring F, or, if desired, in conjunction with it. The valve E may be made

of rubber, leather, or any suitable material, and the valve may be made of any suitable form, without varying the principle of my invention, as its location with relation to the bottom of the cup A and the relief-ports I is the essential feature of my invention.

In the form shown in Fig. 3 the dividing-partition D is omitted, and short elbow-tubes I' are extended inward and downward to a short distance above the vanes H', thus forming independent water-chambers. The lower ends of these tubes or water-chambers are provided with valves E'. The operation of this device is the same as that shown in Figs. 1 and 2.

It will be seen that when in use the valves E or E' will be held firmly closed when the cup is pressed down, forcing the clothes down beneath it, and that when it has reached the limit of its downward thrust, the water, having rushed in through the ports in the side of the cup, will press down upon the upper side of the valves, so that the weight of water and the pressure of air will open the valves and release the clothes from the bottom of the cup. The pounder is thus easily lifted up.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a clothes-pounder consisting of a hollow open-bottomed vessel, A, provided with a water-chamber (one or more) having in its side walls open ports, just above the bottom, and in its bottom a horizontal valve-opening, which is closed by an upwardly-closing spring-pressed valve, substantially as described.

2. In a clothes-pounder, the combination, substantially as before set forth, of the hollow open-bottomed vessel A, the water-chamber formed by the side walls of the vessel, and the partition D, the open ports for said water-chamber, just above the partition D, the valve-opening in the bottom of said chamber, and the upwardly-closing spring-pressed valve for closing the opening in the bottom of the water-chamber.

FRANCIS T. ROOTS.

Witnesses:

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GEORGE W. REHL.