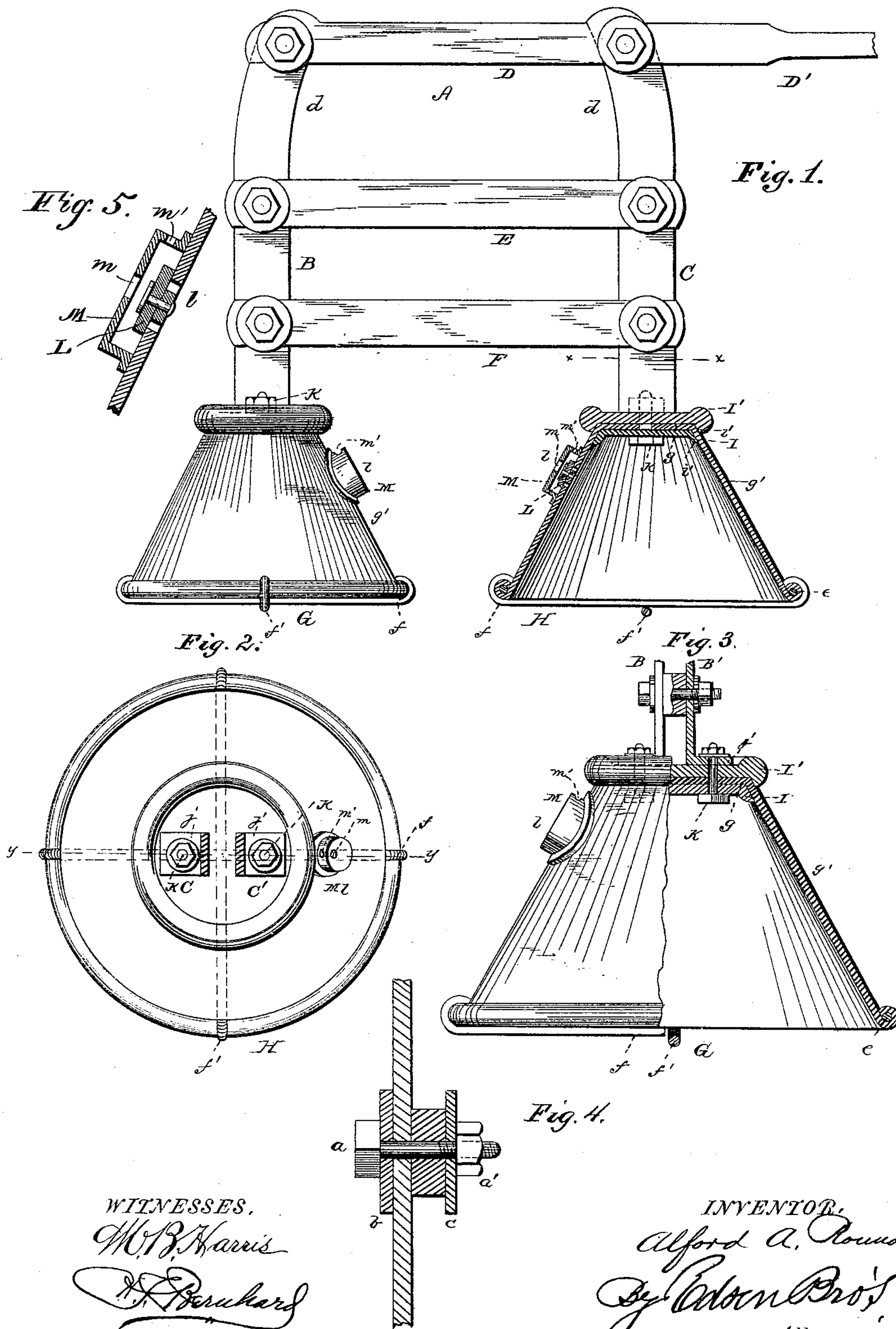


(No Model.)

A. A. ROUNDS.
WASHING MACHINE.

No. 403,614.

Patented May 21, 1889.



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALFORD ALBERT ROUNDS, OF YANKTON, DAKOTA TERRITORY.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 403,614, dated May 21, 1889.

Application filed September 22, 1888. Serial No. 286,065. (No model.)

To all whom it may concern:

Be it known that I, ALFORD ALBERT ROUNDS, a citizen of the United States, residing at Yankton, in the county of Yankton and Territory of Dakota, have invented certain new and useful Improvements in Washing-Machines; 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.

My invention relates to improvements in washing-machines; and it consists of the peculiar construction and combination of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

A further object of my invention is to provide an improved washing-machine which shall be exceedingly simple and strong of construction, efficient in operation, and cheap of manufacture.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved washing-machine. Fig. 2 is a horizontal sectional view on the line *x x* of Fig. 1, showing one of the cups in plan view on an enlarged scale. Fig. 3 is a vertical sectional view through the cup shown in Fig. 2 on the line *y y*, and Fig. 4 is a detail sectional view. Fig. 5 is an enlarged detail sectional view through a portion of one of the cups, showing the valve.

Referring to the drawings, in which like letters of reference indicate corresponding parts in all the figures, A designates the frame of my improved washing-machine, which, unlike other machines of the pounder class, is not pivoted or mounted centrally on a pivot-bolt that is supported in a fixed or stationary frame, but is adapted to be pressed down upon the fabrics or clothes by resting the hand upon the top bar thereof. This frame consists of two pairs of vertical bars, B B' and C C', and three horizontal bars or braces, D E F, all of which are firmly and securely united in the manner presently described, to render the frame very rigid and strong. These bars are preferably made of flat metal, and at the points where they cross or lap aligned openings are made, through which are passed a headed bolt, *a*, having a nut, *a'*, elastic washers *b c* being interposed between the bars, the

nut, and bolt-head, which washers are compressed when the nut is screwed home and serve to hold the parts firmly and securely in place.

The vertical bars B B' and C C' are curved inwardly toward one another, as at *d*, and to the extreme upper curved ends of these bars is secured the arm D, one end of which is extended a suitable distance at D' to form a lever, by means of which the frame can be operated. The horizontal bars E F are arranged below and parallel with the lever D and with one another, and they serve to brace and strengthen the frame.

G H designate the two inverted cups, which are secured to the lower extremities of the vertical bars of the frame. Each cup is made in the form of a truncated cone, with the broad lower end thereof open and the upper end closed, said cups being preferably made of sheet metal, with the lower edge protected by a wire, *e*, that is secured in place by bending the metal upon itself, transverse wires *f f'* being arranged across the open ends of the conical cups, as shown. Each of the inverted conical cups is further provided with two packing-disks, I I', one of which, I, is placed within the cup and bears against the inner face of the closed end *g* thereof, and the other, I', is placed against the outside of said closed end. These packing-disks correspond in diameter to the end *g* of the cup, and they each have an annular flange or ledge, *i i'*, respectively, which laps over the joint between the end *g* and the conical shell *g'* of each cup. The annular flange *i'* of the exterior packing-disk, I', fits over the exterior face of the joint between the end and side wall of the cup, and in addition to protecting the same from injury it imparts a neat finish thereto.

The lower ends of each pair of vertical bars B B' and C C' are extended below the lower horizontal bar, F, and the bars B and B' and C and C' are each provided with a right-angled foot, as at *j j'*, the feet of the two bars of each pair being bent in opposite directions. These horizontal feet *j j'* of each pair of bars of the frame A rest on the exterior packing-disk, I', of the cup, and through said feet and the two packing-disks I I' are passed bolts K K', as clearly shown in Fig. 3, to

firmly and securely unite the several parts together. Each cup is further provided with an air-port, *l*, which is formed in the inclined wall *g'* thereof, at a point near the closed upper end, *g*, and this port is alternately opened and closed by a valve, *L*, which preferably consists of two or more disks suitably united together by a rivet, as clearly shown in the right-hand cup, *H*, of Fig. 1, and which is confined in a case, *M*, that is fixed exteriorly to the cup and has two ports, *mm'*. If preferred, however, the escape-port and valve may be dispensed with and the cup made impermeate, so as to force or press the air in said cup through the fabrics when the cup is forcibly depressed on said fabrics, as will be readily understood.

The operation of my improved washing-machine is as follows: The frame and cups are placed in a tub or receptacle containing the clothes or fabrics and water and one hand of the operator is placed on the middle of the lever-bar *D* to firmly press the cups against the fabrics. The lever is now raised or lowered to throw one end of the frame upward and the other end downward, and the descending cup is firmly pressed against the clothes or fabrics, and the air therein is expelled through the port *l*, the pressure of the air moving the valve sufficiently to allow the air to escape. The motion of the lever is now reversed to depress the other cup, when the same action takes place and the ascending cup draws a portion of the fabrics or clothes with it for a limited distance, owing to the suction between the cup and the fabric, until the weight of the fabrics overcomes the force of the suction. This operation is repeated until the fabrics have been properly cleansed.

By placing one hand on the frame a rest or

support is provided for the operator and the cups are firmly pressed against the fabric and very little manual labor is required to operate the machine.

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

1. A washing-machine consisting of a series of horizontal parallel bars, *E F*, and a handle-bar, *D*, a pair of vertical bars, *B C*, rigidly secured to the ends of said horizontal bars and having their lower ends extended below the horizontal bar *F*, the lower extremities of each pair of vertical bars *B C* being bent to form the feet *jj*, and the inverted cups *G H*, bolted to the feet of said vertical bars, all arranged and combined substantially as and for the purpose specified.

2. A washing-machine consisting of a series of horizontal bars, *E F*, and a handle-bar, *D*, a pair of vertical bars, *B C*, rigidly secured to the ends of said horizontal bars and having their lower ends extended below the horizontal bar *F*, the lower extremities of each pair of vertical bars *B C* being bent to form the feet *jj*, and the inverted cups *G H*, each cup having two packing-disks, *I I'*, which are provided with flaring annular rims that overlap the joint between the head and shell of the cup on both the interior and exterior surfaces of said cup, and bolts which pass through the feet *jj*, the packing-disks, and the head of the cup, substantially as described.

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

ALFORD ALBERT ROUNDS.

Witnesses:

H. R. LOCKE,
E. T. WHITE.