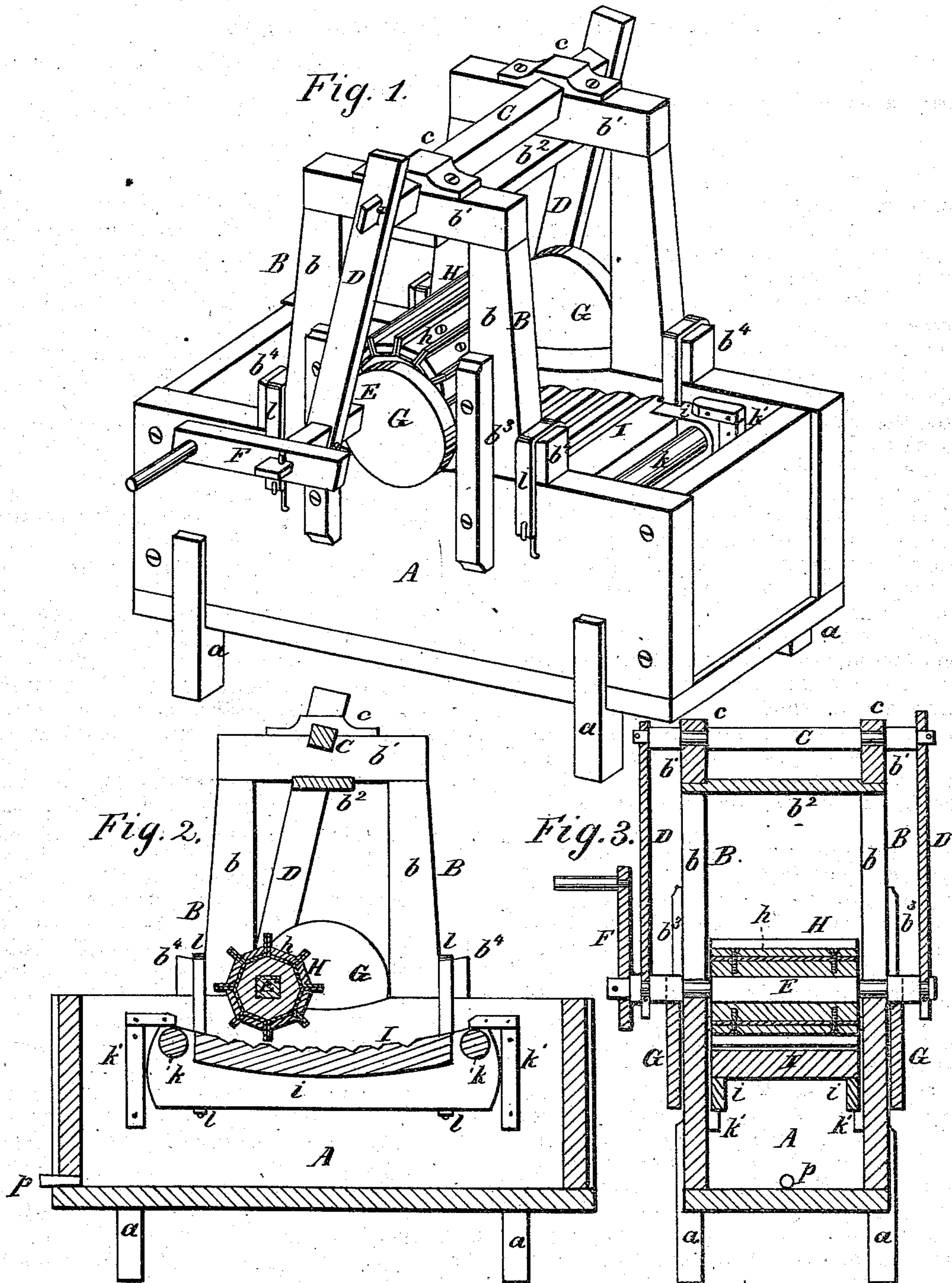


N. W. BREWER.
Washing-Machines.

No. 155,490.

Patented Sept. 29, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

NELSON W. BREWER, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **155,490**, dated September 29, 1874; application filed May 4, 1874.

To all whom it may concern:

Be it known that I, NELSON W. BREWER, of Williamsport, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object I have in view, and what I desire to secure by Letters Patent, is an improved washing-machine, whereby the same may be made more convenient in use and effective in result; and my invention therein consists in the novel construction and arrangement of the principle operative parts, as is more fully hereinafter explained.

In order to enable others skilled in the art to construct and use my invention, I now proceed to describe the same in connection with the drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a central vertical longitudinal section; and Fig. 3 is a central vertical cross-section.

Like letters denote similar parts in each figure.

In the drawing, A represents a rectangular box provided with four legs, *a*, which are dovetailed into grooves let into the sides of the box A, near each of its ends. These legs *a* can be removed at any time, thus increasing the portability and convenience for storage of the machine. Mounted on the top of each side of the box A are two frames, B, each composed of the uprights *b* and the cross-beams *b*¹. The frames B are connected with each other by the transverse stay-piece *b*², into which the cross-beams *b*¹ are let. To hold the frames B more firmly, the strengthening guide-pieces *b*³ are fastened vertically to the exterior of the uprights *b* and to the sides of the box A, and the uprights *b* are widened at their bases to form the toes *b*⁴. A rocker-bar, C, rests transversely on the beams *b*¹. The bar C, being round in cross-section at the points where it rests on the beams *b*¹, which are scored out to receive it, is held in position by the cap-pieces *c*, fastened over it and to the beams *b*¹, forming bearings, in which said bar can have a rotary motion. The ends of the rocker-bar C extending

beyond the frames B are tenoned, so that connecting-rods D, mortised in their upper extremities, may be fitted over them, the tenons before mentioned projecting sufficiently to allow for a key through it when the rods D are put on. The lower ends of the rods D are scored out to fit over the journals of a shaft, E, which runs transversely between the uprights *b* of the frames B, the score being sufficiently deep to allow for a key through its horns when placed over the journals of the shaft E. The shaft E is provided with a crank, F, at one extremity, and is given a lateral rolling motion by means of two eccentric wheels, G. These eccentric wheels G have each a mortise in their periphery, which fits rigidly over the shaft E at such points that the wheels G will revolve between the strengthening-guides *b*³ before mentioned. These wheels G have their axes of eccentricity in the same plane, so that their action is mutual. A rotating motion is given to the shaft E by means of the crank F. The eccentric wheels G keyed to this shaft cause it to move laterally at the same time between the uprights *b*, and the connecting-rods D keep the shaft E from rising. The sides of the box A are scored out slightly between the uprights *b* to allow for the lateral motion of the shaft E, which, it will be seen, moves backward and forward through the arc of a circle while revolved on its own axis by means of the crank F. A cylinder, H, whose length is somewhat less than the interior width of the box A, is fixed on the shaft E, and rectangular strips of rubber of the same length as the cylinder H are placed upon it and held there by battens *h*. The strips of rubber being wider than the battens *h*, and the latter being placed a short distance apart, the longitudinal edges of the rubber strips will project between the longitudinal edges of the battens. A cross-section of the cylinder H, with the rubber and battens upon it, therefore, would show the appearance of a cogged wheel. Within the box A and beneath the cylinder H is a wash-board, I, corrugated on its top and shaped to correspond with the line of lateral movement of the cylinder H, which while rotating moves, also, through the arc of a circle, as before said. The wash-board I is let into two longitudinal pieces, I, of somewhat greater

length than the board I and somewhat deeper, and which rest against the interior sides of the box A. Rollers *k* are placed between the ends of the pieces *i* in the same plane as the wash-board. Rubber springs *l* secured to the outside of the box A pass over the toes *b*⁴ at the base of the uprights *b* down into the interior of the box, and are secured to the lower edges of the pieces *i*, near their extremities. As the springs *l* pass between the sides of the box and the pieces *i* the latter are scored out in their wake so the wash-board may move freely. Metallic springs may be substituted for the rubber springs *l* and the same result obtained. Knee-pieces *k'* are secured on the interior of the sides of the box A, between which the wash-board moves in its vertical motion, and by the arms of which its upward motion is limited. The box A is further provided with a hole and plug, *p*, to allow the water to be drawn off at any time. Now, if clothes be placed in this washer upon the

wash-board, the cylinder H, when turned, will rub back and forth over them, and the clothes will be held close against it by the springs *l*.

Having thus described my invention, what I claim as new is—

1. In a washing-machine, the combination of eccentric wheels G, guide-pieces *b*³, and the cylinder H, substantially as described and shown.

2. In a washing-machine, the combination, with the cylinder H and eccentric wheels G, of the guide-pieces *b*³, connecting-rods D, rocker-bar C, and wash-board I, the several parts being constructed and arranged substantially as described and shown.

This specification signed and witnessed this 27th day of April, 1874.

NELSON W. BREWER.

Witnesses:

C. D. BREWER,

C. W. HILL.