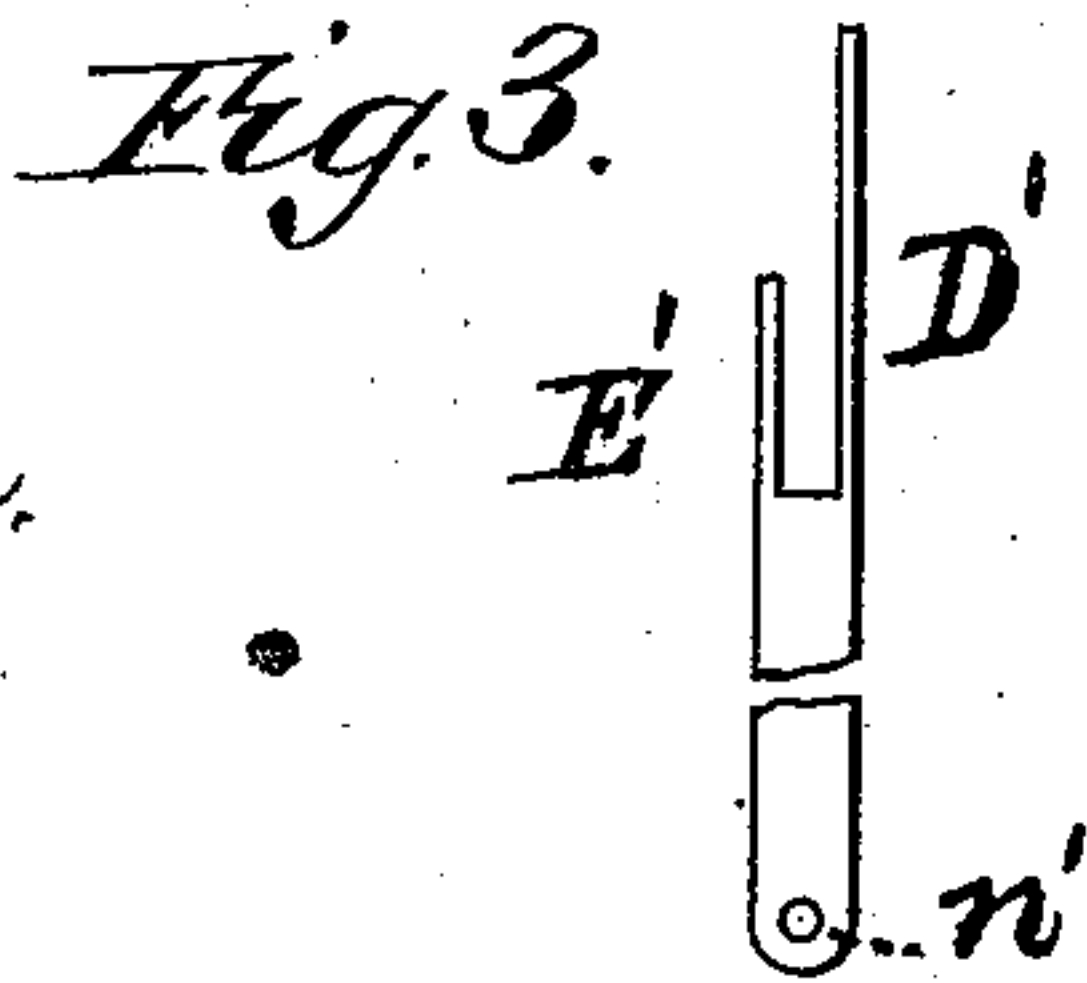
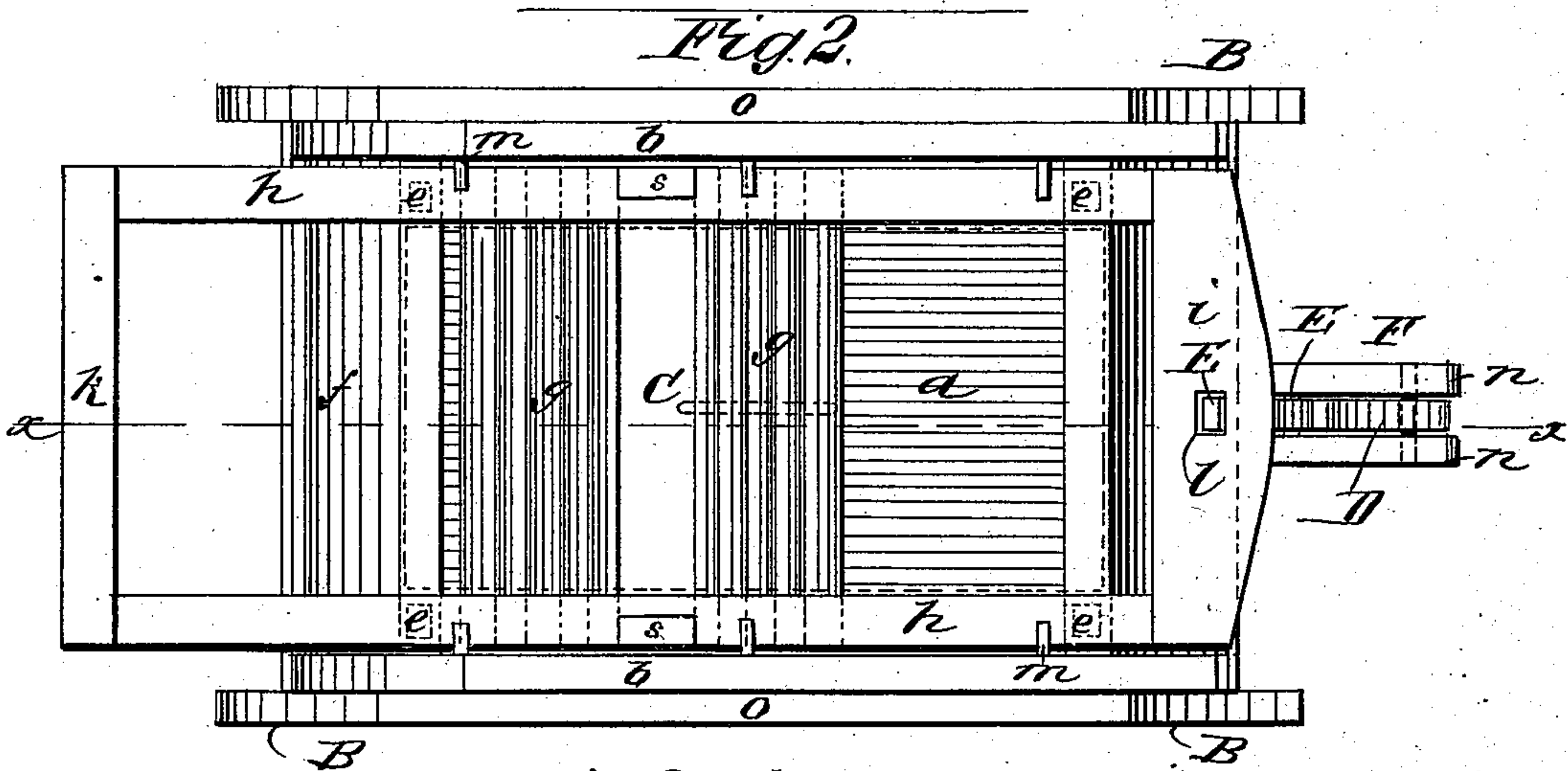
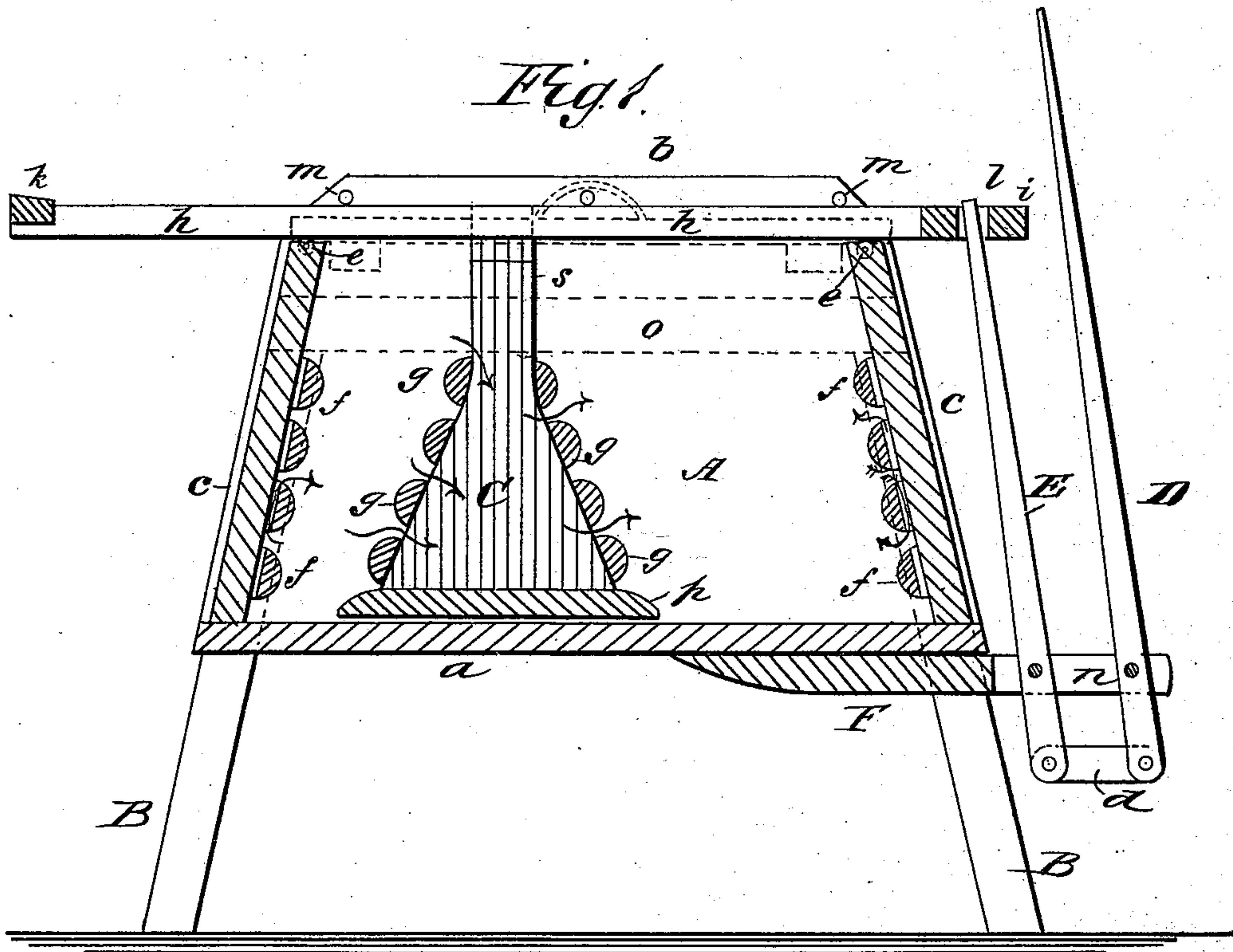


(No Model.)

J. BIDDISON.  
WASHING MACHINE.

No. 377,510.

Patented Feb. 7, 1888.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JEREMIAH BIDDISON, OF MOSCOW, IDAHO TERRITORY.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 377,510, dated February 7, 1888.

Application filed February 26, 1887. Serial No. 228,962. (No model.)

*To all whom it may concern:*

Be it known that I, JEREMIAH BIDDISON, of Moscow, in the county of Nez Perces and Territory of Idaho, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

The invention will first be described, and then specifically pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a central longitudinal sectional view and side elevation of my improved washing-machine, *x x* in Fig. 2 being taken as the line of section. Fig. 2 is a top plan view of my improved washing-machine. Fig. 3 is a side elevation of a modification in the form of the compound levers for operating the machine.

Referring to said drawings, A is the tub. B B are legs, upon which it stands. C is the pounder or scrubber. D and E are levers which operate the pounder, and F is a forked support for said levers. *a* is the bottom of the tub, *b b* its sides, and *c c* its ends. *d* is a link which connects the levers D and E. *e e* are rollers upon the upper edges of the ends *c*. *f* are corrugations or scrubbing-faces on the interior of the ends *c*. *g g* are similar scrubbers or corrugations on the pounder C. *h h* are longitudinal bars secured to the pounder C. *i k* are cross-bars at the ends of said bars *h*. *l* is a socket in the bar *i*. *m m* are pins in the sides *b b*. *n n* are the arms of the support F. *o o* are bars which connect the legs B. *p* is the base of the pounder C, and *ss* are supports at the sides of said base.

In construction the sides of the tub are erected at a right angle with the bottom *a*, their ends inclining toward their upper edge, which is a few inches higher than the upper edge of the ends *c*. Said ends *c* incline inward, following the direction of the ends of the sides *b*. The ends *c* of the tub may be erected vertically on the bottom of the tub, if desired; but their inclination inward facilitates the pounding and rubbing of the clothes between the scrubbers *f* and *g* and assists the pounder in turning the clothes in the tub. The support F is constructed with arms *n n* at

its outer end, and is fastened beneath the bottom *a* and end *c* midway between the legs B. The levers D and E are pivoted near their lower ends between the arms *n n* of the support F, and their lower ends are connected by a link, *d*. To the interior of the ends *c* are secured, parallel with each other, scrubbers *f*, having a convex face, a small space being left between each of them and between the lowermost scrubber and said ends *c*. The legs B are secured to the sides *b*, so that they stand in line with the incline of the ends of said sides, and extend outward to brace the tub, their upper ends being connected by bars *o*, also secured to said sides. The upper edges of the ends *c* are channeled to receive rollers *e*, which turn on pivots located in the sides *b*.

The pounder C is constructed with a base, *p*, having a plane under surface and a convex upper surface. To the sides of this base are secured supports *s*, their lower part being broadened to correspond with the length of said base, which extend upward and form heads to engage the bars *h* centrally thereof. To the angular portion of the edges of these supports are secured, parallel with each other, scrubbers *g*, having a convex face, a small space being left between each of them and between the lowermost scrubber and the upper surface of the base of the pounder C. A space is also left between the uppermost one of the scrubbers *g* and the head of the supports. The bars *h* are placed parallel with each other, and their ends are connected by the cross-bars *i* and *k*, the bar *i* having constructed in it midway between its ends and sides a square socket, *l*, to receive the upper end of the lever E. The bars *h* are then secured upon the heads of the supports *s*. The pounder is then placed in the tub, the bars *h* resting upon the rollers *e* and the lever E fitting into the socket *l* in the cross-bar *i*. The pins *m* are passed through the sides *b*, confining said bars to a lateral movement on said rollers. The tub is then furnished with water and other cleansing material, the clothes are put in, and the cover shown by dotted lines near the top of Fig. 1 is set in place. The operator grasps the lever D and moves it back and forth, causing the lever E to move the frame composed of the bars *h*, *i*, and *k* at the same time, which causes



the pounder C to travel backward and forward in the tub and to pound and rub the clothes against and between the scrubbers *f* and *g*, as well as to turn the clothes about in the water to give it free access to them and thoroughly wash them. The interstices between and behind the scrubbers *f* and between, below, and above the scrubbers *g* permit the water to pass freely in any direction in the tub, as indicated by the arrows in Fig. 1. The water is prevented from splashing out of the tub by the presence of the cover.

The washing may be performed from the other end of the tub by grasping the cross-bar *k* and moving the frame composed of the bars *h*, *i*, and *k* and the pounder C backward and forward in the same manner as when the levers D and E are used.

My improved washing-machine is simple in construction, is easy of operation, and is less likely to get out of order than are any of the machines of its class. It does its work thoroughly, and enables a large washing to be disposed of at a great saving of time and labor over ordinary hand-work. Its operations are steady and uniform, the confinement of the bars *h* between the sides *b* and upon the rollers *e* preventing any wavering of the pounder from

side to side and limiting its movement to the plane of the bottom of the tub and between the ends thereof.

Instead of the double levers D and E shown in Fig. 1 I may also use the compound levers D' and E', constructed integrally with each other, and pivot them at *n'* to the arms *n*, the head of the lever E' engaging with the slot *l* in the bar *i*.

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

In a washing-machine, the combination, with the tub and a reciprocable pounder therein, of the frame *h i k*, provided with a mortise, *l*, in one of its cross-bars, centrally mounted upon the heads of the pounder and adapted to be reciprocated between the sides and over the ends of the tub, upright double levers E D, pivotally connected to a support projecting longitudinally from beneath the tub and adapted to be engaged with the mortise in said frame, as and for the purpose set forth.

JEREMIAH BIDDISON.

Witnesses:

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