

(No Model.)

2 Sheets—Sheet 1.

J. B. HERSHOCK.  
WASHING MACHINE.

No. 496,936.

Patented May 9, 1893.

Fig. 1.

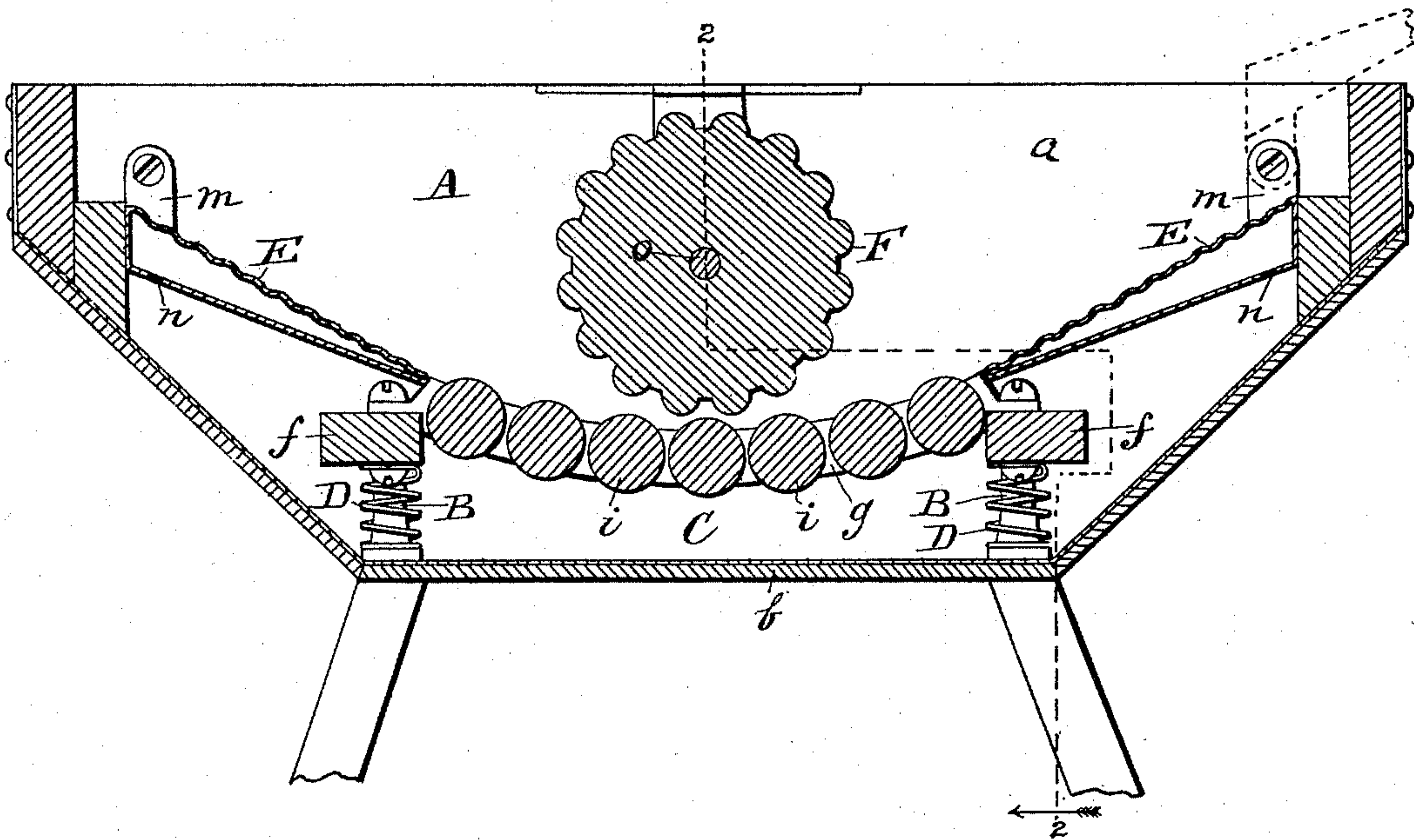
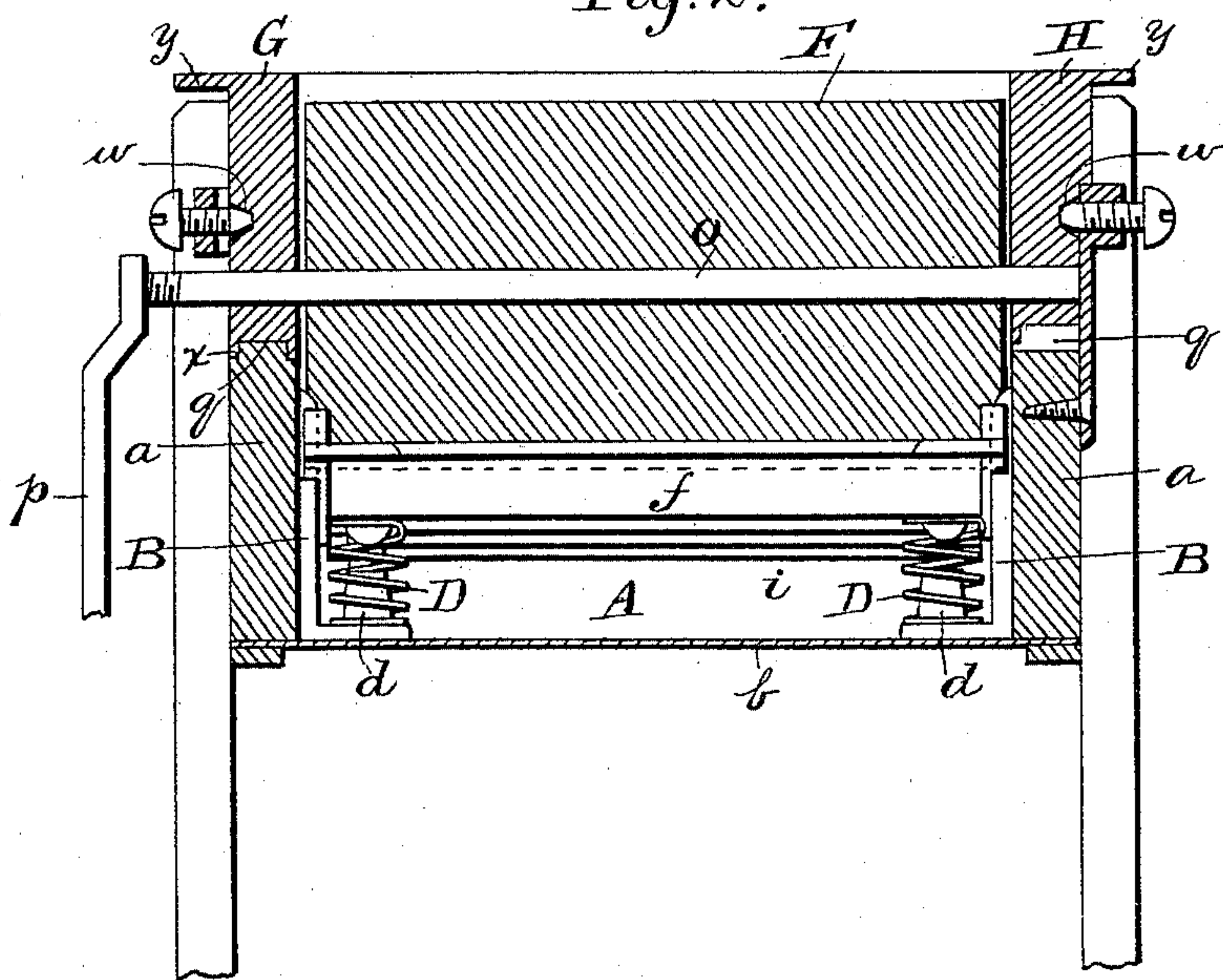


Fig. 2.



Witnesses

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Inventor

Jacob B. Hershock  
by *William B. Brown*  
his Attorney

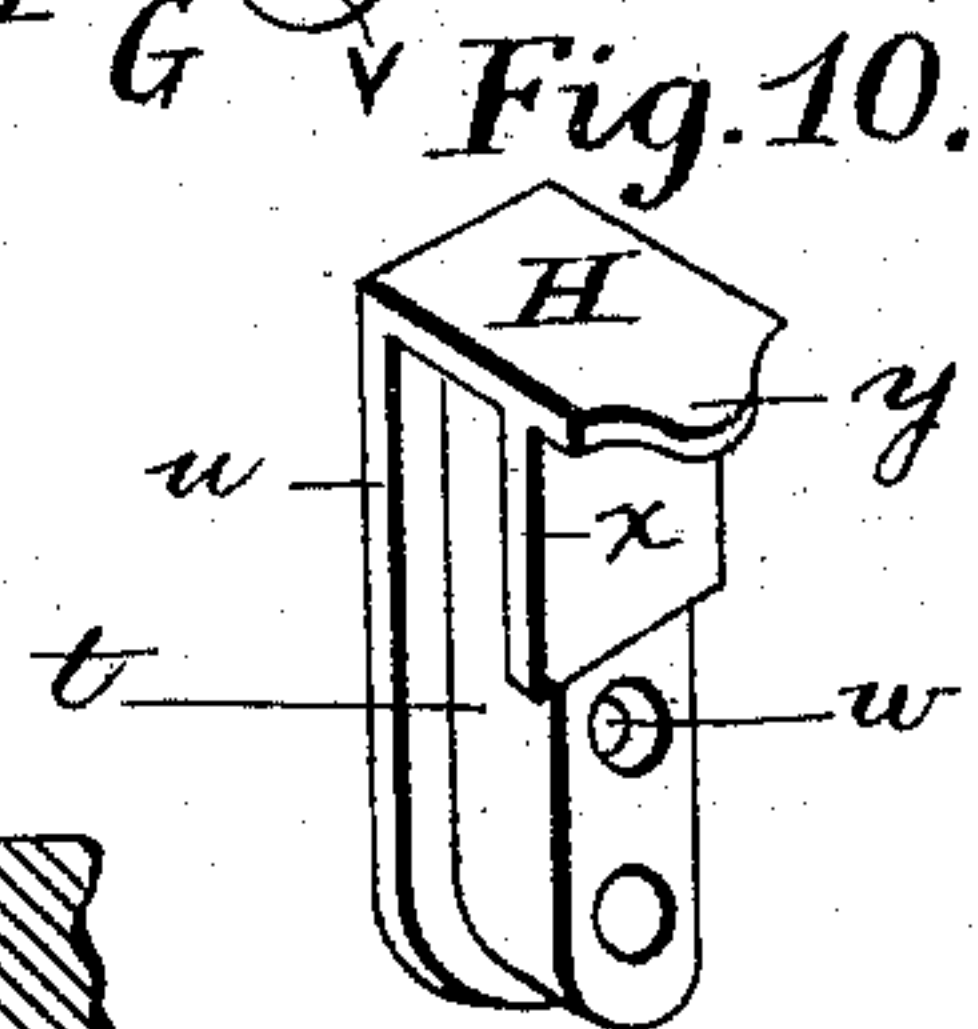
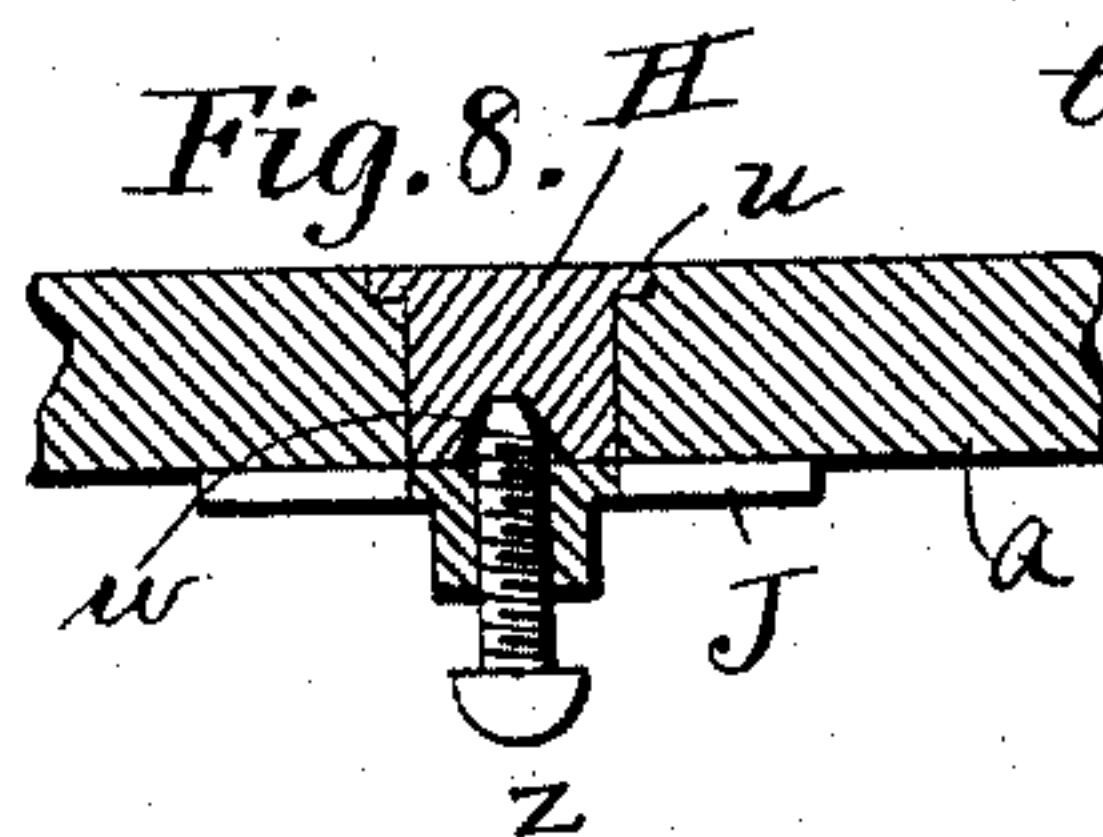
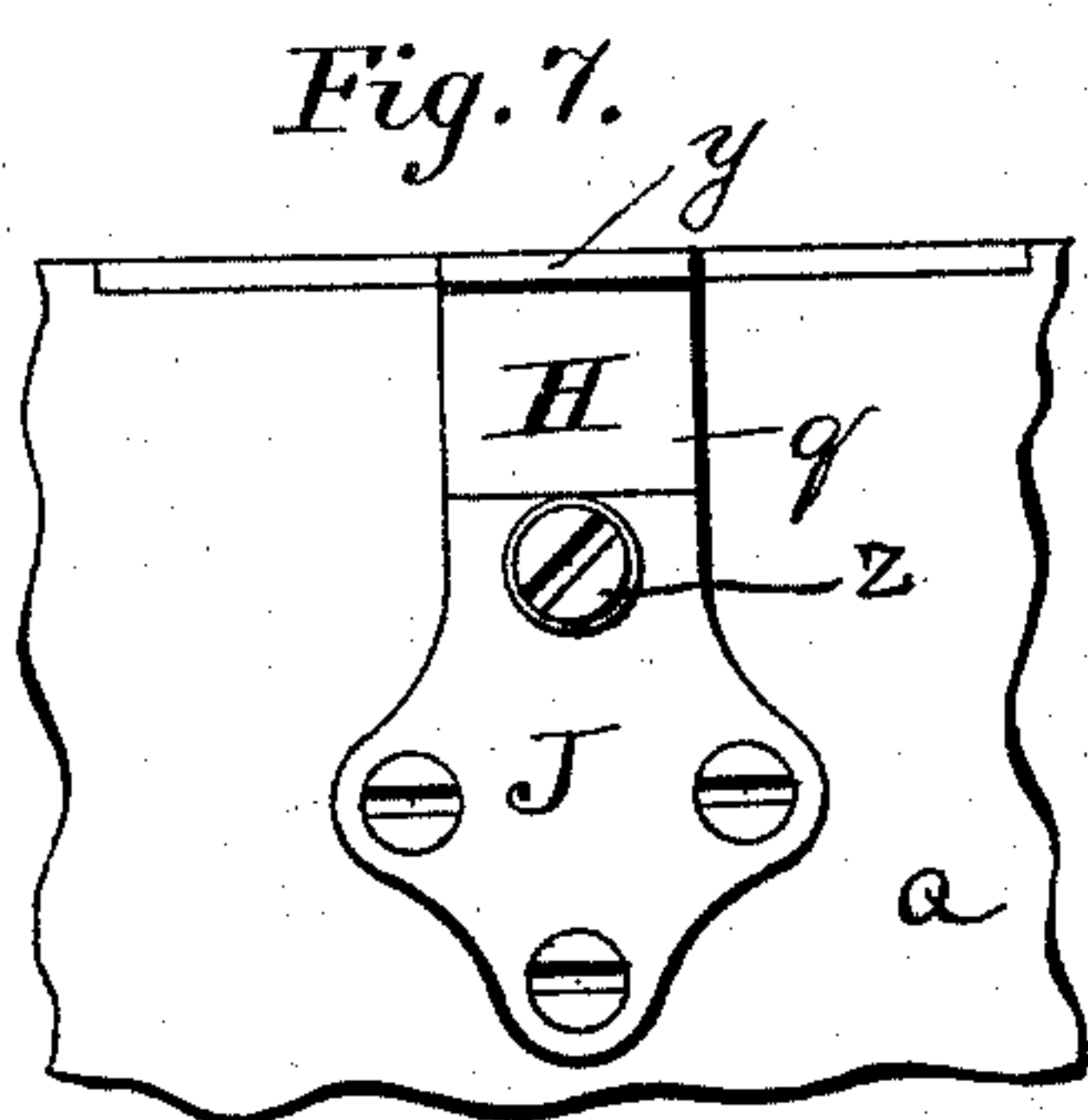
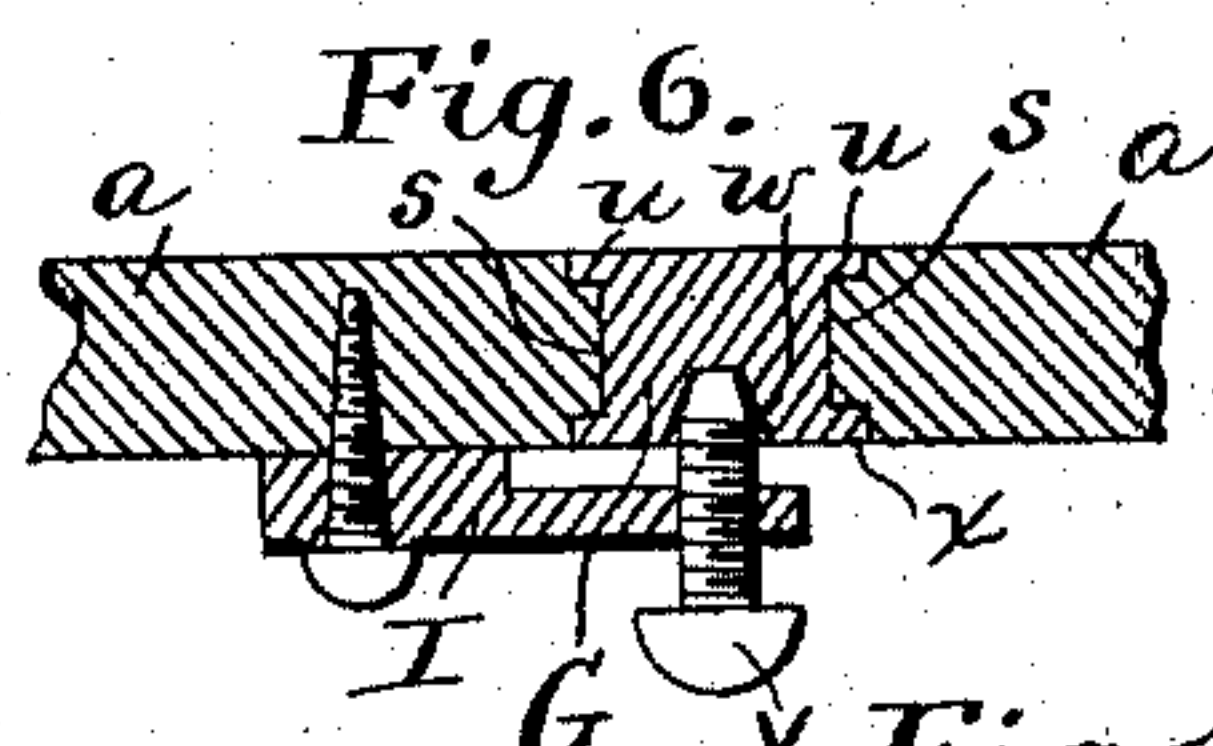
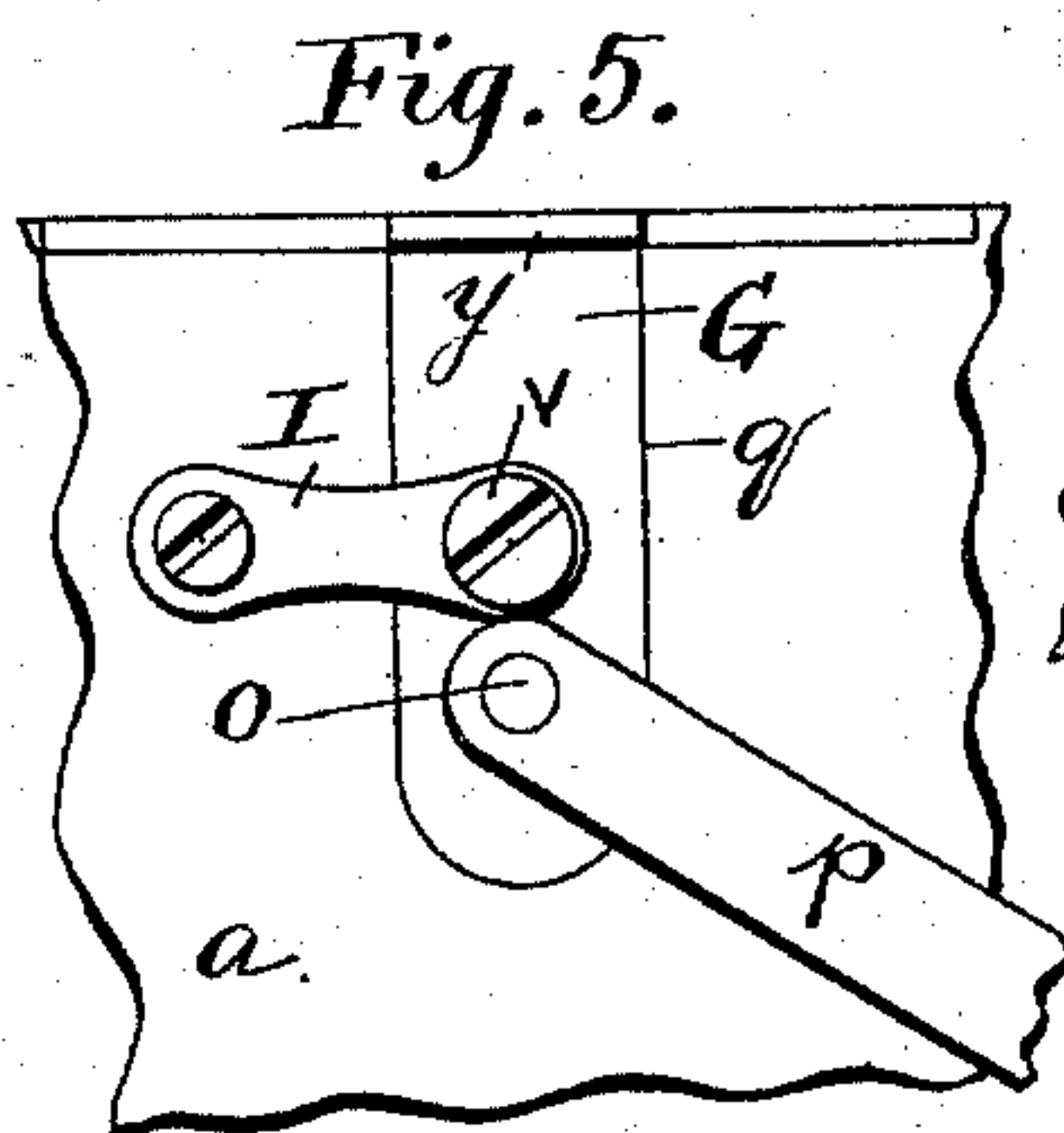
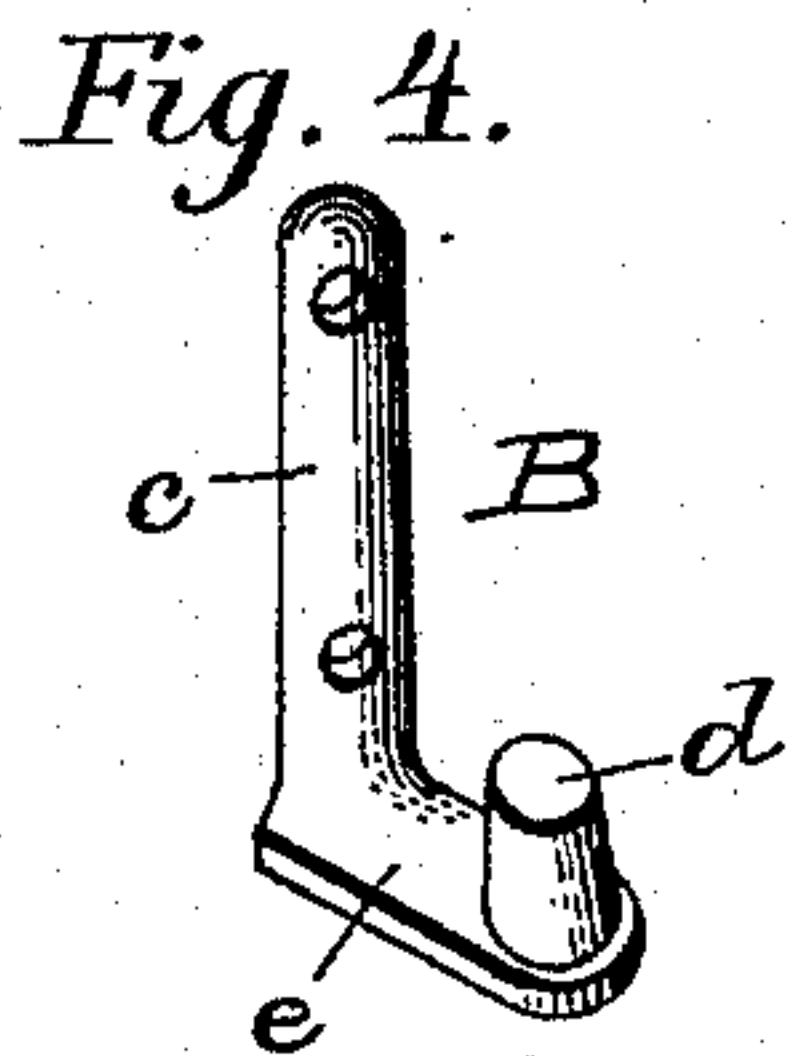
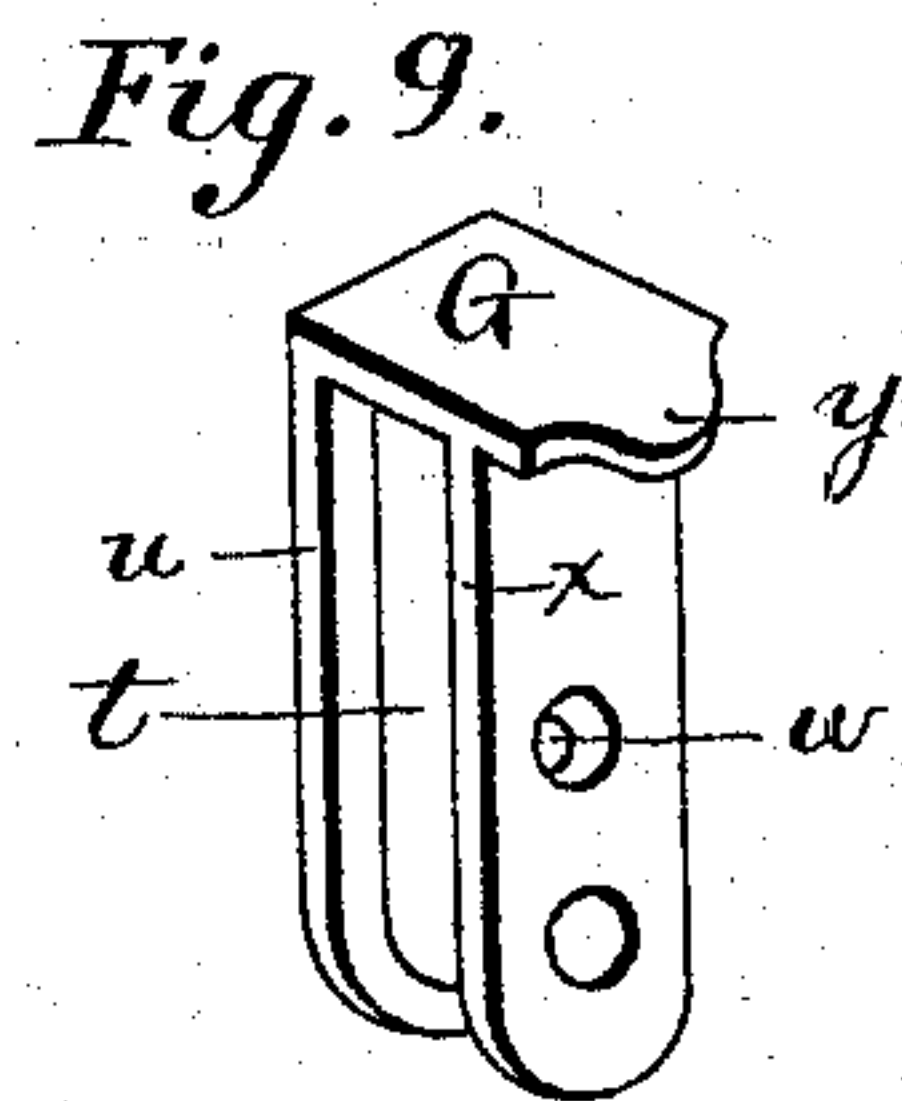
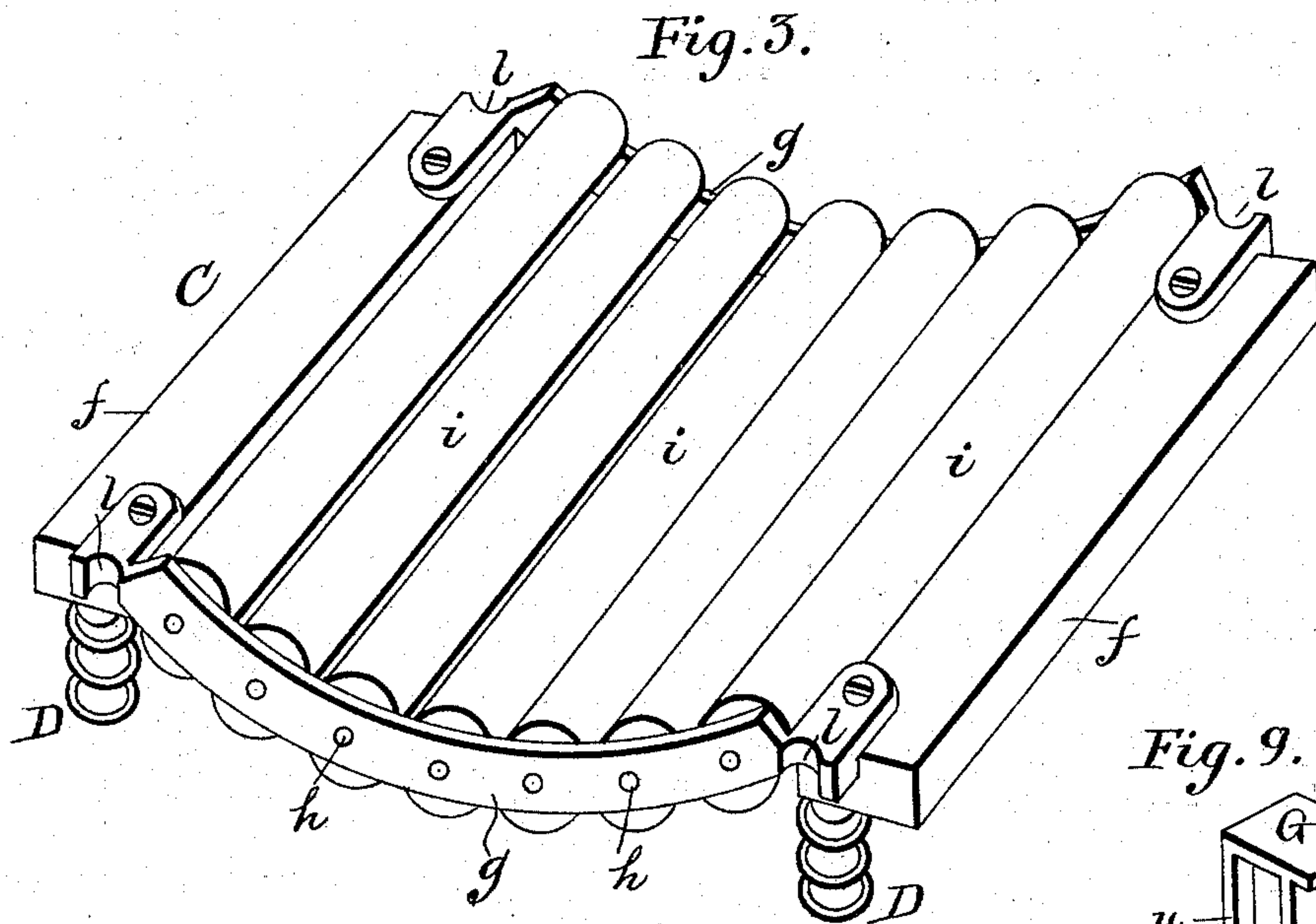
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2 Sheets—Sheet 2.

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Witnesses

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Albert O. Blackwood

Inventor  
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# UNITED STATES PATENT OFFICE.

JACOB B. HERSHOCK, OF WILMINGTON, DELAWARE.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 496,936, dated May 9, 1893.

Application filed May 25, 1892. Serial No. 434,301. (No model.)

*To all whom it may concern:*

Be it known that I, JACOB B. HERSHOCK, of Wilmington, in the county of Newcastle and State of Delaware, have invented certain new and useful Improvements in Washing-Machines, of which the following is a specification.

The present invention consists in improvements upon the class of washing machines wherein there is a rotary ribbed cylinder co-operating with a shallow concave bed upheld by springs and composed of rollers and ribbed feed boards. This class of washing machines is illustrated by the patents of Abraham Huffer, No. 17,377, dated May 26, 1857, No. 18,642, dated November 17, 1857, and No. 246,777, dated September 6, 1881.

The present improvements are illustrated in the accompanying drawings, wherein—

Figure 1, is a central vertical longitudinal section of the machine. Fig. 2, is a cross-section thereof in a plane indicated by the line 2—2 in Fig. 1. Fig. 3, is a perspective of the roller bed. Fig. 4, is a perspective view of the bracket. Fig. 5, is a view of a portion of one side of the machine. Fig. 6, is a horizontal section thereof. Fig. 7, is a view of a portion of the other side of the machine. Fig. 8, is a horizontal section thereof. Figs. 9, and 10, are perspective views of the bearings.

The washing machine comprises a water box A, supported on suitable legs, and having sides *a a* and bottom *b*. Secured to the sides of the box, just above the bottom, are four metallic brackets B, one at each corner. Each of the brackets has a vertical stem *c*, along the side of the box, which constitutes a guide (as will hereinafter appear), and a vertically-extending stud *d* on a horizontal stem *e* extending inwardly just above the bottom *b* of the box.

The concave roller bed C, is composed of a frame having end rails *f f*, and two downwardly arched metallic side rails *g g*, which are provided with apertures constituting bearings for the bosses *h h* of the rollers *i i* which extend between the rails *g g*. Each side rail *g* is at each end provided with a vertical recess *l* which co-operates with one of the fixed guides *c*. When placed in the water box, the roller bed is elastically supported on the bottom thereof by coiled springs D, one at each

corner of the roller bed. Each spring D, is secured at its upper end to near one end of one of the end rails *f*, and its lower end rests on the stem *e* of one of the brackets B, surrounding the stud *d*. In this manner the springs are held in proper position. The fixed guides *c*, maintain the roller bed in proper position and prevent it being moved longitudinally within the water box when the washing machine is in use. At the same time the guides *c* do not interfere with the removal and insertion of the roller bed in the water box.

At each end of the water box is an inclined ribbed feed and scrub board E. Each board E is composed preferably of galvanized sheet iron. Each board has upwardly projecting ears *m m*, by means of which it is pivoted to the sides *a* of the water box near one end. The upper end of the feed board is below the upper edge of the water box, so that the water will not run up the feed board and splash over the end of the box; and the lower end of the feed board rests upon one end rail *f* of the roller bed. The feed boards are independent of the roller bed, and can be turned up out of the way (as shown in dotted lines in Fig. 1), when it is desired to remove the roller bed from the box. Since the feed boards are thus entirely distinct and separate from the roller bed, the handling of the latter is greatly facilitated.

Each feed board is preferably hollow, with perforations or apertures *n* in the bottom plate. Vapor and steam from the hot water enter the interior of the feed board through these apertures, and thereby maintain the feed board hot, thus aiding the washing.

The rotary ribbed roller F, is carried by an axle *o*, having an operating crank *p*, exterior to the water box, and journaled in bearings G, H, at the sides of the box. To enable the roller bed to be removed, the roller F, must also be removable, and to enable this to be done the bearings G, H, are made removable.

The present invention, as regards the removable bearings, is an improvement upon the patent of Butler Edgar, No. 130,848, dated August 27, 1872.

The bearing G, fits in a vertical open-mouthed slot *q*, in one side *a* of the box A. This slot has tongues *s*, on either side, which



fit in grooves *t*, in the sides of the bearing G. The inner flange *u* constituting the inner side walls of the grooves *t*, closes the slot *p* on the inside and prevents the escape of water. The bearing G, is maintained firmly in place in the slot by a provision consisting of a link I, pivoted at one end to the exterior of side wall *a* and carrying a screw stud *v* at its outer end which enters an aperture *w* in the bearing G and seats against the bearing. By screwing this stud up tight, the outer flange *x* (constituting the outer side walls of the grooves *t*) is forced tightly against the outer face of side wall *a*, of the box, thus rendering the same water tight. This bearing G, is the one through which the end of shaft *o*, extends to which the crank handle *p* is attached. The link I, it will be noted, does not interfere with the crank handle. An outwardly-projecting ear *y* on the bearing G, affords a handle for lifting the bearing G, out of the slot *q*. The bearing G, extends clear to the bottom of the slot *q*, so that the flange *x* prevents leakage at the bottom of the slot as well as at its sides. The slot *q* for the other bearing H, is rendered water tight by means of a provision consisting of a plate J, secured to the outer face of the side wall *a*, covering the lower part of the slot. The bearing H, is similar in its construction to bearing G, except that the lower part of outer flange *x* is cut away, and the bearing H, need not extend to the bottom of the slot *q*. The screw stud *z* (corresponding to the screw stud *v* of bearing G) extends through the plate J, and seats into a hole *w* in bearing H. The bearing is

thus held tightly in place and prevented from being accidentally lifted.

To remove the roller F, with its bearings G, H, it is only necessary to unscrew the screw studs *v z* far enough to clear the apertures *w* in the bearings.

I claim as my invention—

1. In a water box, the roller bed removably mounted therein, and the removable roller, in combination with the feed boards located wholly within the water box independent of the roller bed and each pivotally connected with the box at one end thereof and extending therefrom when in operative position to the roller bed, substantially as set forth.

2. The fixed brackets within the water box, having guides *c* for the roller bed, and holding studs *d* for the springs of the roller bed, in combination with the roller bed having grooves or recesses *l* fitting said guides *c*, and having springs D, at each corner which fit over said studs *d*, substantially as set forth.

3. The slotted side wall, and the bearing G, entering the slot in said side wall, and having outer flange *x*, in combination with the pivoted link I, and the screw-stud extending through said link and seating against said bearing G, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JACOB B. HERSHOCK.

Witnesses:

HENRY C. CONRAD,  
THOMAS GIFFIN.