(No Model.) 2 Sheets—Sheet 1.

J. W. RHOADES.

WASHING MACHINE.

No. 327,824. Patented Oct. 6, 1885.

Fig. 1.

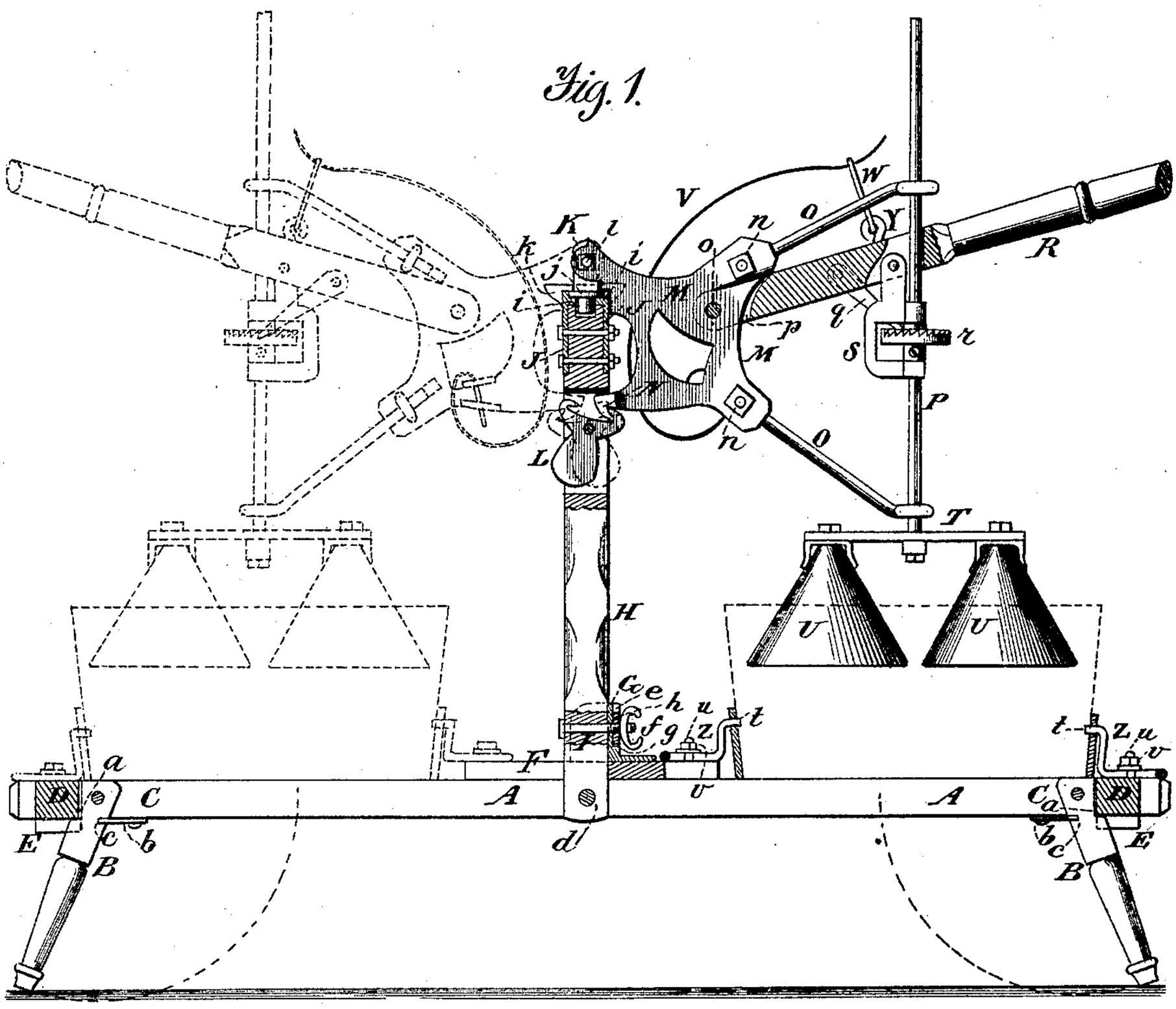
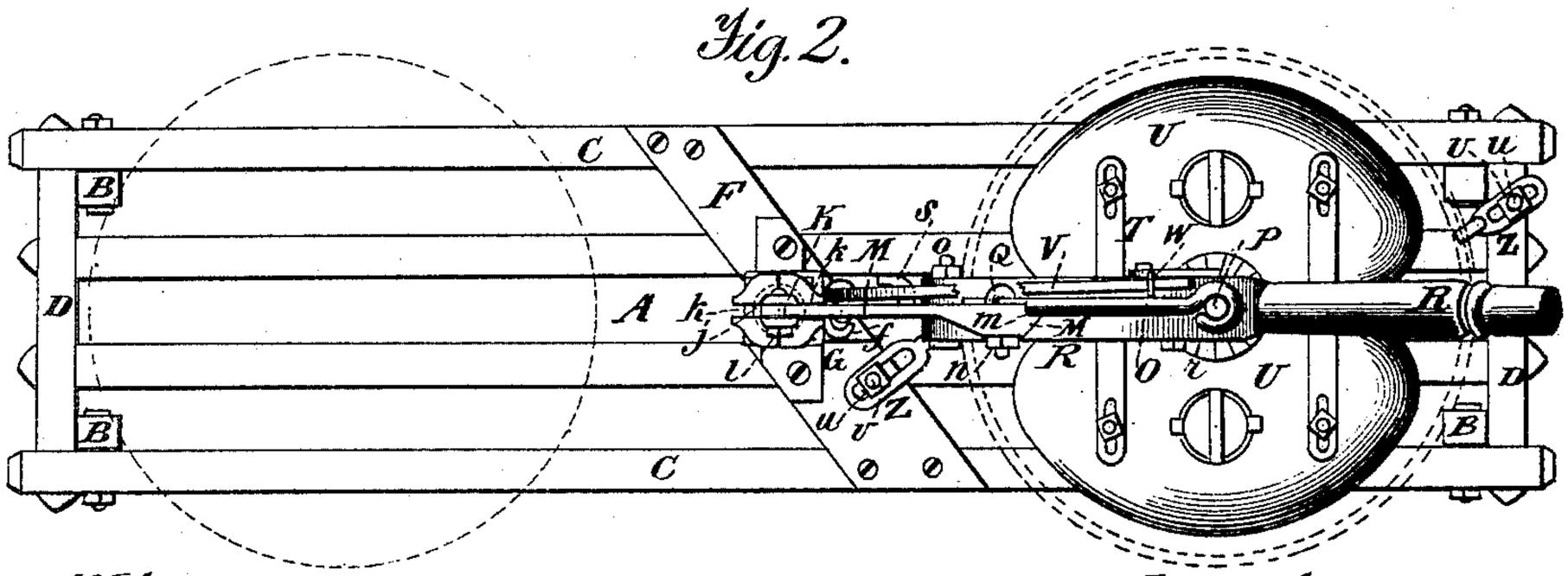


Fig. 2.



Witnesses.
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Franklin H. Hough

Inventor.
James W. Rhoades,
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Attorney.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

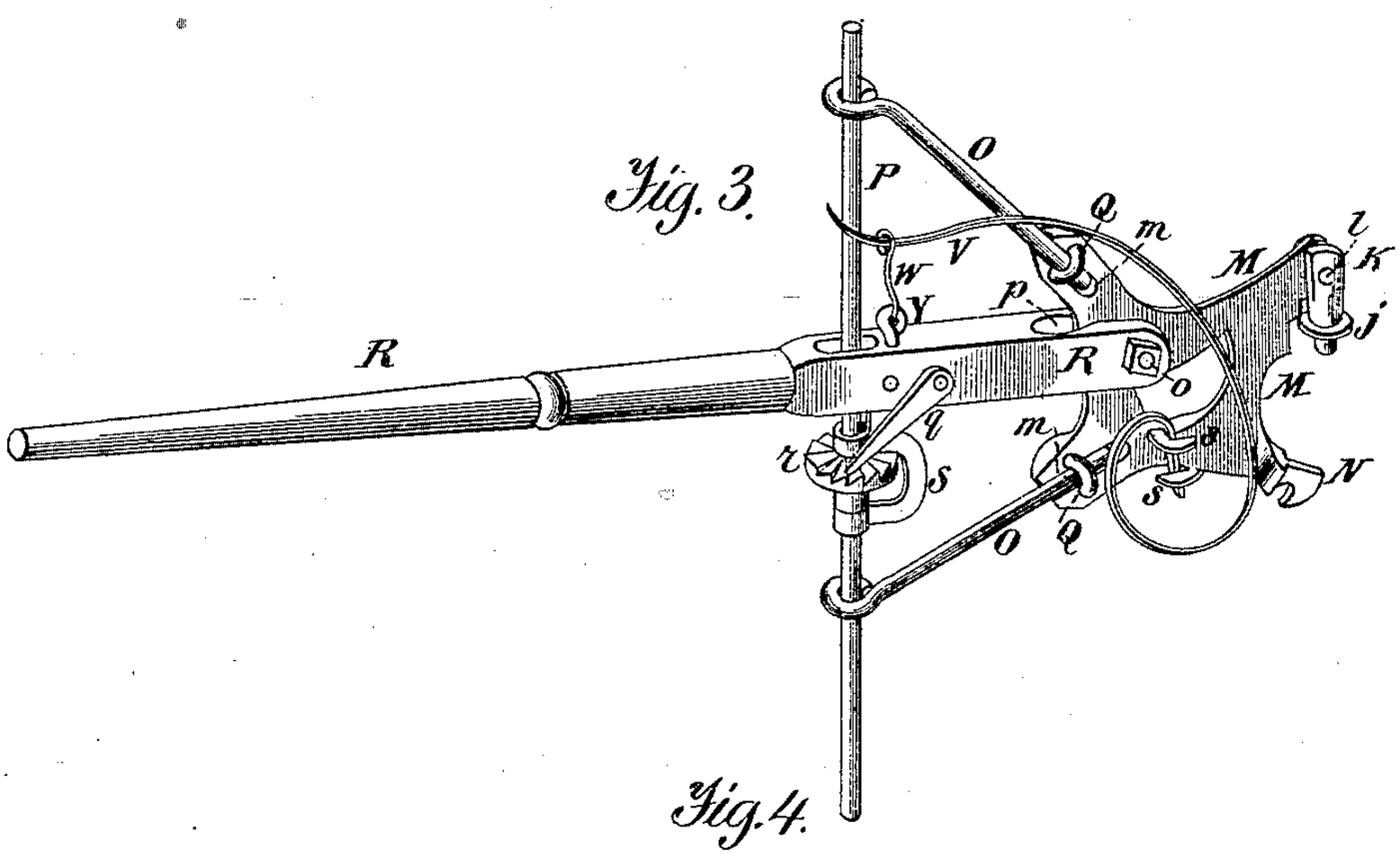


Fig. 4.

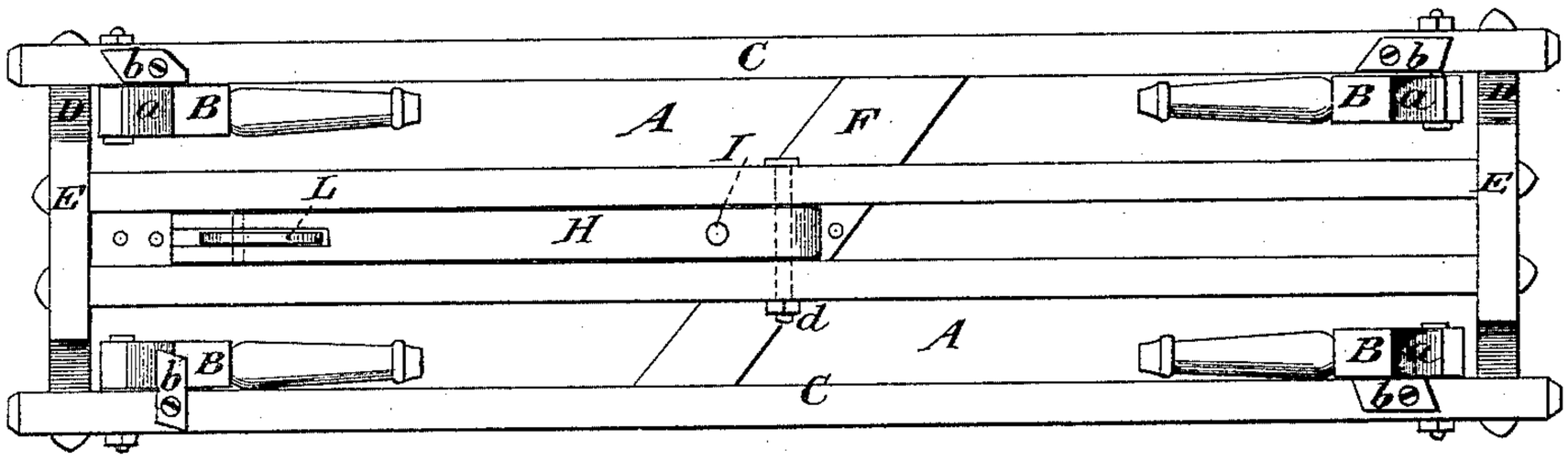


Fig. 5.

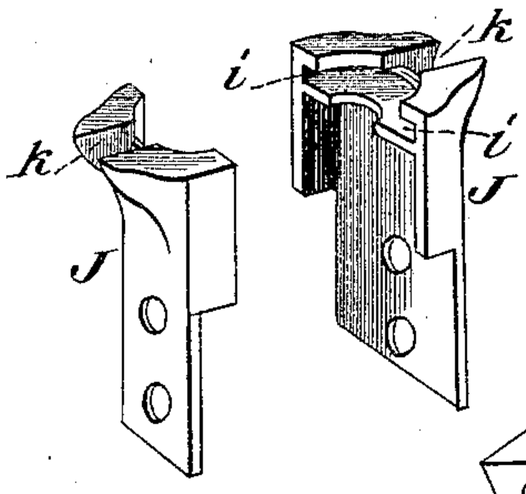


Fig. 6.

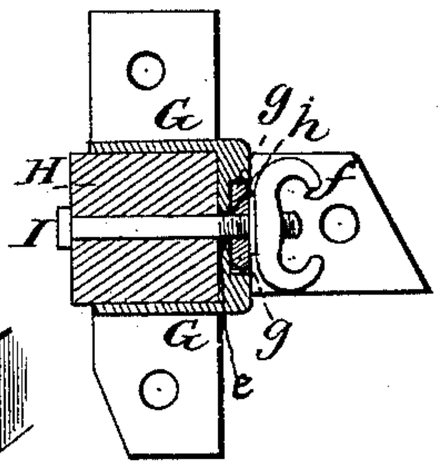
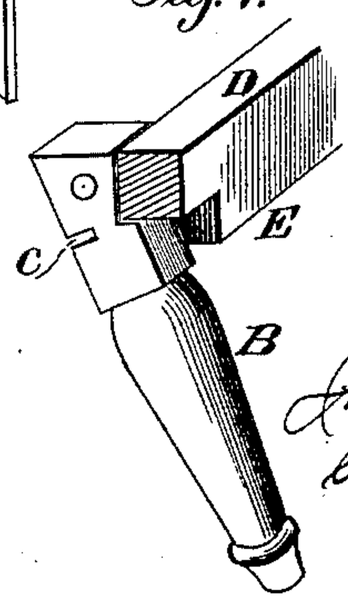


Fig. 7.



Witnesses.
A. Ruppert.
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Inventor
James W. Rhoades
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Attorney.

UNITED STATES PATENT OFFICE.

JAMES WILLIAM RHOADES, OF FOSTORIA, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 327,824, dated October 6, 1885.

Application filed June 2, 1885. Serial No. 167,427. (No model.)

To all whom it may concern:

Be it known that I, JAMES WILLIAM RHOADES, a citizen of the United States, residing at Fostoria, in the county of Seneca and State of Ohio, 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 washing-machines, and has for its object to render the operation of the plungers easier than heretofore, to provide for turning the plunger and its lever around, so that the operation can be shifted from one tub to another, and to provide for folding the legs of the bench and the plunger-standard supported thereby; and to such ends the invention consists in the construction and the combination of parts, hereinafter particularly described, and then specified by the claims.

Figure 1 is a side elevation with parts in section. Fig. 2 is a plan. Fig. 3 is a perspective of plunger-shaft and lever-operating mechanism. Fig. 4 is a bottom plan of base or table with legs folded. Figs. 5, 6, and 7 are detailed views.

In the drawings, the letter A designates the bench supported on legs B, pivoted to the side bars, C, so as to fold, and formed on one side with notches *a*, so that the legs may fit over the lower edge of the end bars, D, and also bear against the ends of the brace-blocks E, formed separate from or integral with the end bars. By such construction the legs can set at an inclination, as shown, and be braced laterally, and the weight will to a great extent be taken from off the pivots of the legs and thrown more directly onto the legs themselves. To hold the legs in their extended position, catches *b* are pivoted to the side bars of the bench and bear against or engage into notches *c*, formed in the legs.

A bar, F, is extended, preferably diagonally, across the longitudinal bars of the bench, so as to strengthen the same. To this bar, or to some other part of the bench, there is secured, by bolts or other means, a socket, G, open on one side for the entry thereinto of the standard H, which is pivoted, by a bolt, *d*, or other means, to two of the longitudinal bars of the bench. The wall of this socket opposite to the open side is formed with a vertical slot, *e*, into which enters a bolt, I, projecting from the standard and having a threaded end, onto which is screwed a thumb-nut, *f*, for the purpose of holding the standard in an upright position. In order to more effectually guard against the possibility of the standard tilting downward, a recess, *g*, is formed in the outer face of the wall, and a washer, *h*, on the bolt fits into this recess, so that any lateral pressure on the standard only tends to force the washer against the walls of the recess, and thus prevent the standard from dropping down. When the socket is secured to the bar F, the bar is preferably recessed at its edge, so that the standard can fit into it.

To the upper end of the standard there is secured a socket formed of two jaws, J, bolted to the standard, and formed each on their opposing faces with the grooved ways *i*, constituting, when the two jaws are brought together, a flanged seat for the collar *j* of the swivel pin or head K, preferably bifurcated at its upper end. The outer faces of the jaws at the sides of the bench, where the tubs will set, are formed with slots *k*, and the standard below the jaw is slotted, and in the slot is pivoted a double gravity-pawl, L.

To the swivel-head K there is hinged by a nutted bolt, *l*, an overhanging arm, M, provided at one point with a hook, N, to engage with the double gravity-pawl, to whichever side of the standard the arm may be turned, and at other points formed with grooves *m*, into which fit the adjustable guide-rods O for the plunger-shaft P, the rods being held to their places by hooks, eyebolts, or staples Q clasping the same and held tightly against them by nuts *n*.

The operating-lever R is secured at one end to the arm M by a nutted bolt, *o*, which passes through a slot, *p*, made in the arm, the slot preferably being curved.

The operating-lever carries the stirrup S and the pawl *q*, which engages with the ratchet *r*, secured to the plunger-shaft, to the lower end of which shaft is connected by a frame, T, the plungers U. These several parts are

the same in construction and operation as the like parts fully described in the patent granted to me April 1, 1884, No. 295,943, and therefore need not be set forth more in detail in this specification.

The plunger-shifting arm M hangs well out from the standard, so as to bring the fulcrum of the operating-lever nearer to the middle of the tub on the bench, so as thereby to lessen the labor of working the lever.

In order to reduce the labor in working the lever consequent upon lifting the lever, especially from the suction consequent upon the use of the hollow plungers, I connect with the operating-lever and some suitable support a spring, the tension of which will be increased on the depression of the lever and plunger, so that when the downward pressure is released the recoil of the spring will exert an upward pressure on the lever, and thus greatly lighten the labor of raising the plunger. The spring that I prefer to employ is a steel spring, V, which can be readily bent into the required shape, and exerts such a long leverage that it can be drawn down with the operating-lever with comparatively little extra force, and yet will lift the plungers with ease and without sudden and violent strain or jerking. I prefer to secure the spring to its place at one end by two hooks, *s*, formed on the overhanging arm M, one above the other, with the opening of one hook on the opposite side to the other, so that the end of the spring can be more quickly and easily inserted and taken out, and a longer bearing will be afforded for that end of the spring. The other end of the spring, which is slightly curved upward, is passed loosely through a link, W, which at the other end is secured by a staple, eye-screw, or eyebolt, Y, or other means, to the operating-lever R. By the construction described the spring can be quickly and easily applied and removed.

When the parts are in position for operation, a part of the overhanging arm M fits into one of the slots *k*, so as to be braced laterally, and the hook N engages with one head of the double gravity-pawl L, so as to hold the arm in place and prevent it from rising in the movement of the operating-lever. When the clothes in one tub have been washed, the pawl is disengaged from the hook N, the overhanging arm is raised till it leaves the slot *k*, and then the lever and plungers are turned on the swivel to bring them over the tub on the other side of the standard, when the parts are dropped so that the arm will enter the slot *k*, and the hook will engage with the gravity-pawl, when the parts will be ready for operation, as before. When the tubs are to be put onto the bench and removed, the overhanging arm M is thrown back, so as to rest on top of the standard, as in my patent hereinbefore referred to.

The tubs are held to the bench by adjustable slides Z, having a hook, *t*, at one end, to enter an indent in an iron secured to the side of the tub, and secured to the bench by a bolt, *u*, passing through a loop of the slide, and a nut, *v*, which bears against the slide.

For transportation, the legs and standard of the bench can be folded with the overhanging arm attached thereto; or, if desired, the overhanging arm and plungers may be detached from the standard.

I reserve the right to claim in a separate application the details of construction of the bench not herein specifically claimed.

Having now fully described my invention and set forth its merits, what I claim is—

1. The combination, with the bench provided with the socket open at one side, of the standard hinged to the bench to move at its hinged end into and out of the open side of the socket, substantially as described.

2. The combination, with the bench and hinged standard, of the slotted wall at the base of the standard, the threaded bolt connected to the standard and passing through the slot of the wall, and a nut on the end of the bolt to secure the standard to the wall, substantially as described.

3. The combination of the bench, the hinged standard, the slotted wall at the base of the standard, formed with a recessed side, the threaded bolt connected to the standard and passing through the slot of the wall, the washer to the bolt fitting in the recess of the wall, and the nut to the bolt, substantially as described.

4. In a washing-machine, the combination of the standard, the plunger-shifting arm, having a swivel-connection therewith and provided with a hook, a double gravity-pawl pivoted to the post to engage with the hook of the arm, to whichever side of the standard the plungers may be turned, the guide-rods connected to said arm, the plunger-shaft sliding in said arms and having a plunger connected therewith, and a lever for operating the plunger, substantially as described.

5. In a washing-machine, the combination of the standard provided with a socket at its upper end, the head swiveled in said socket, the plunger-shifting arm hinged to said head, the guide-rod connected to said arm, the plunger-shaft sliding in said rods and having a plunger connected therewith, and a lever for operating the plunger, substantially as described.

6. In a washing-machine, the combination of the standard, the socket at the upper end of the standard formed with slots, the head swiveled in said socket, and the plunger-shifting arm hinged to said head and to fit into the slots of the socket, substantially as described.

7. In a washing-machine, the combination, with the plunger-arm, the plunger-shaft, and the operating-lever, of a spring connected to said arm and lever to lift the lever and shaft, substantially as described.

8. In a washing-machine, the combination of the arm formed with the hooks opening in opposite directions and located one above the

other, the lever connected to said arm, the plunger-shaft connected to said lever, and the spring having one end secured by said hooks and the other end connected with the operating-lever, substantially as described.

9. In a washing-machine, the combination of the arm, the lever connected thereto, the plunger-shaft connected to the lever, and the spring connected at one end to said arm and at the other end having a link-connection with the operating-lever, substantially as described.

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

JAMES WILLIAM RHOADES.

Witnesses:
S. LEROY GHASTER,
JAMES B. FOX.