

C. H. MILLER.
Washing-Machine.

No. 225,714.

Patented Mar. 23, 1880.

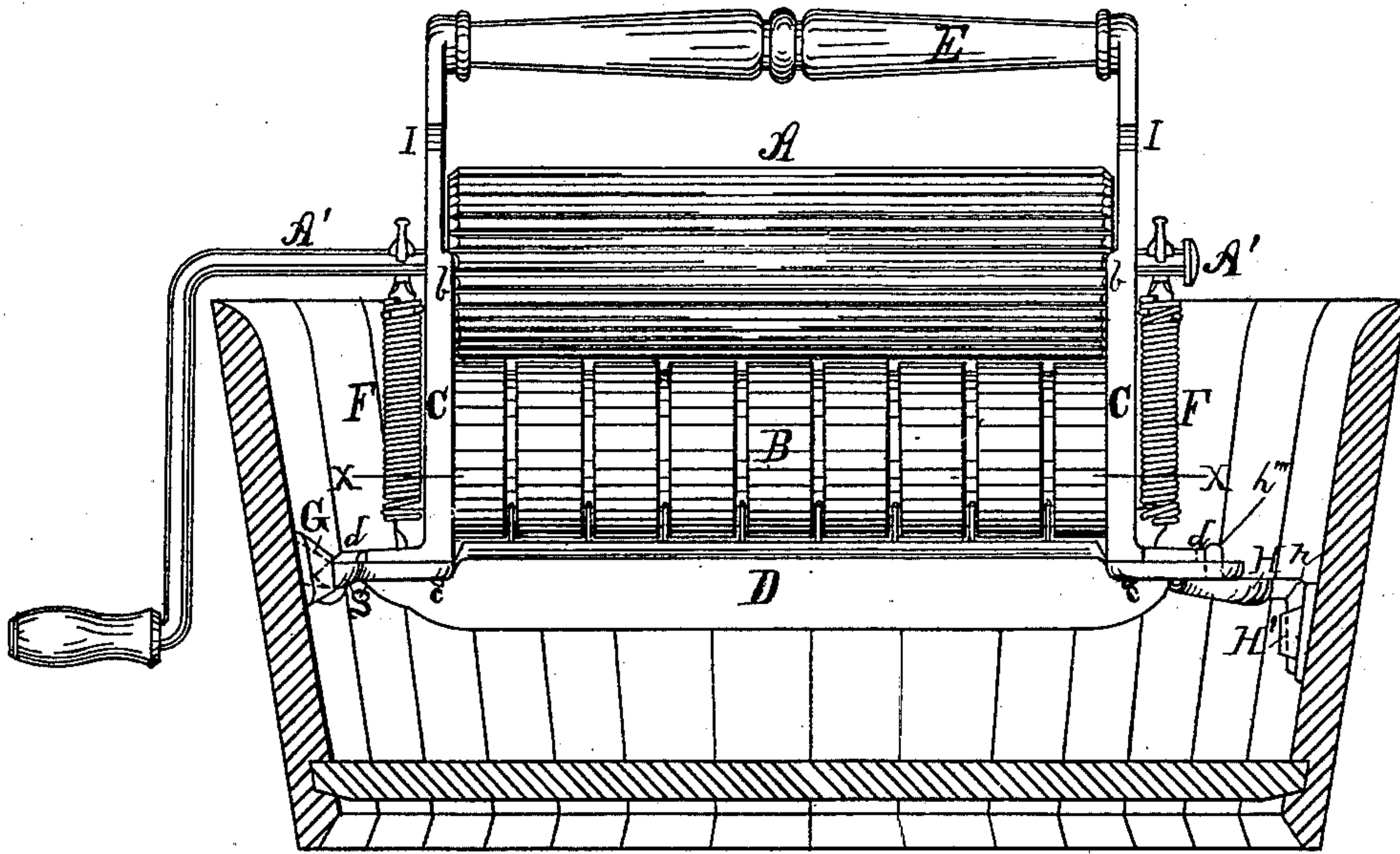


FIG. 1.

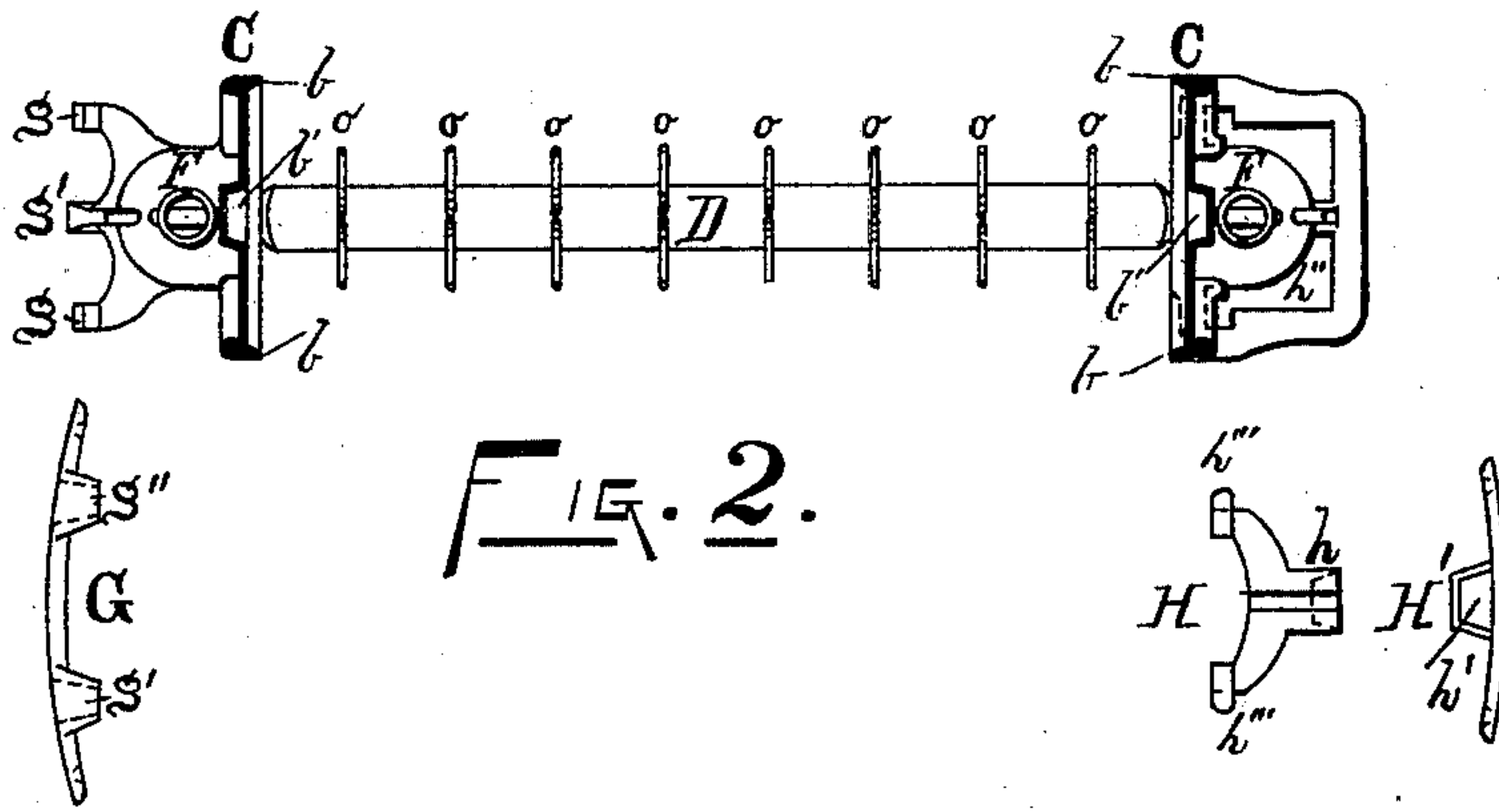


FIG. 2.

Witnesses,

Jas. S. Miller.
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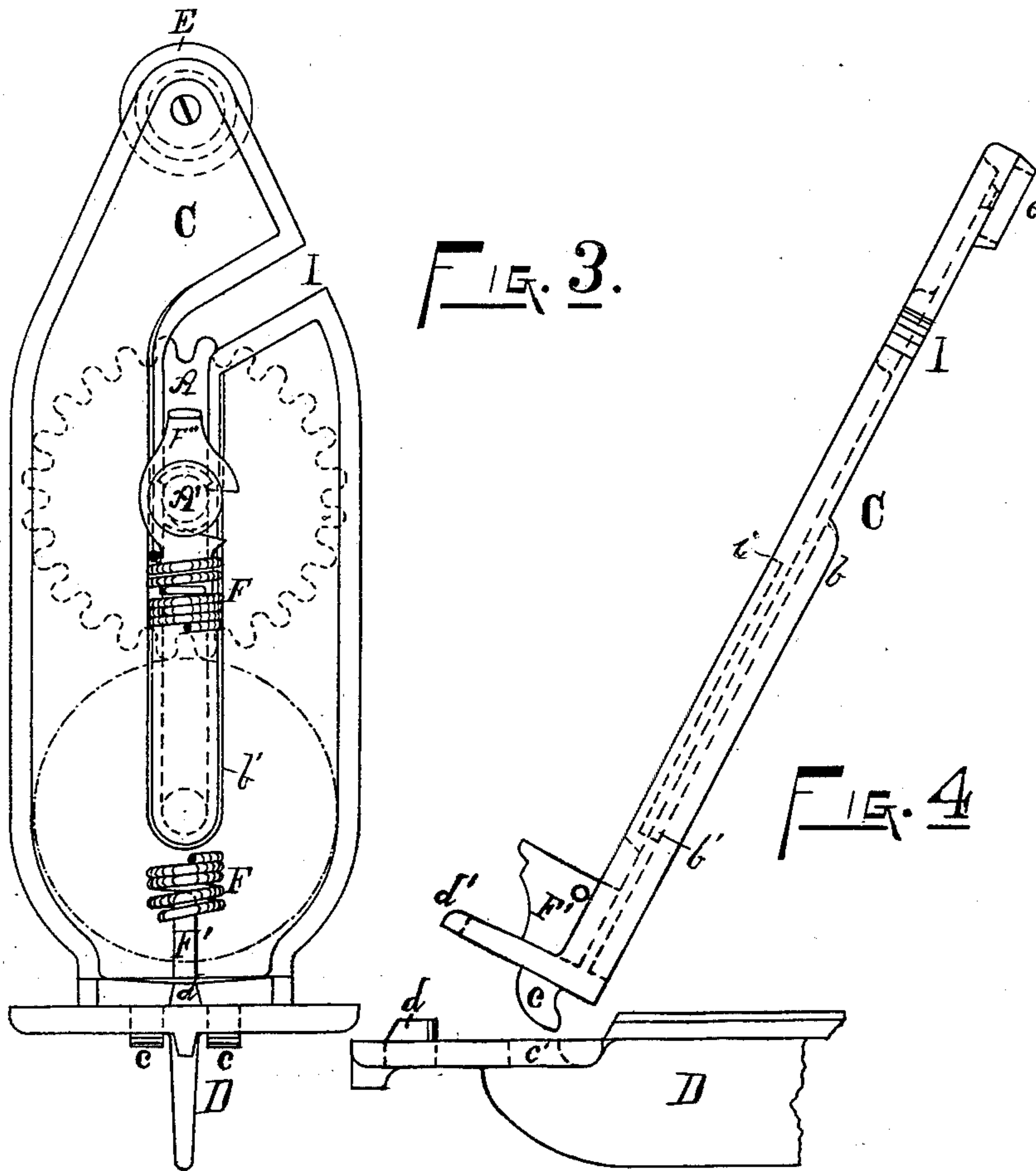
Inventor,

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UNITED STATES PATENT OFFICE.

CHARLES H. MILLER, OF ERIE, PENNSYLVANIA, ASSIGNOR TO THE BOOTZ MANUFACTURING COMPANY, (LIMITED,) OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 225,714, dated March 23, 1880.

Application filed May 19, 1879.

To all whom it may concern:

Be it known that I, CHARLES H. MILLER, of Erie, in the county of Erie and State of Pennsylvania, have invented a new and useful Washing-Machine; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to that class of washing-machines in which the clothes are passed between two rubbing and expressing rollers, which machines are known as "rotary washing-machines."

The nature of my invention consists in providing an improved construction of washing-machines of the class above named.

My device is shown in the accompanying drawings as follows:

Figure 1 is a side elevation of a machine, with the wash-tub in section. Fig. 2 is a view of parts in detail. Fig. 3 is an elevation view of the end of the machine. Fig. 4 is a view showing the manner of putting the parts of the frame together.

The parts of the machine are as follows: A and B are the rollers, which are of common construction. D is the bed-plate, and C C are the end pieces. E is the binding-strip or top cross-piece of the frame, and also serves as a handle. F F are the tension-springs. G and H' are the tub-irons, into which the machine sets when attached to the tub. H is a sliding attachment to the bed-piece, by which the machine may be adjusted to various-sized tubs.

Other parts, as designated by letters of reference, will fully appear in the following general description.

The parts of the machine C C, D, G, H, and H' are of cast-iron. The parts of the frame C C, D, E, and H are made to go together without the use of bolts or screws, as will appear hereinafter.

The form of the bed-plate is shown in the lower part of Figs. 3 and 4, and also in Figs. 2 and 1. It will be seen that it is a thin piece set edgewise, and has at each end a widened ledge or table, on which the end pieces rest. The end pieces, C, have feet, which are flat and lie upon the wide space at the ends of the bed-piece. On the under side of the feet of the end pieces are placed hooking-lugs *c*, which hook

into openings *c'* in the bed-piece. (See Fig. 4.) The wide part of the bed-piece is provided with a lug, *d*, which, when the foot of the end piece is in place upon the bed-plate, fits in a groove or notch, *d'*, in the foot. This last device prevents any lateral movement of the foot. The tops of the end pieces are provided with shallow sockets *e*, into which the ends of the cross-tie fit.

At one end of the bed-piece (the right end, as shown in the drawings, Figs. 1 and 2) the wide part of the bed-plate is provided with a slot or opening, *h''*, which is wider under the end piece than elsewhere, as seen by dotted lines in Fig. 2. This slot is to receive the sliding attachment H, which is shown detached in Fig. 2. This piece H has hook-like lugs *h'''*, which pass up through the slot *h''* at its wide place, (the end piece, C, not being on to obstruct the opening,) and as the piece H is pulled along the hook-like lugs *h'''* rest upon the top of the plate and pass down through the slot *h''*, and thus hold the piece H in place under the flat part of the bed-plate. When the end piece, C, is in place, the wide part of the slot *h''* is partly covered, and the attachment H cannot escape, but is free to slide in the slot. This attachment H has a hook or finger, *h*, which fits in a loop, *h'*, in the tub-iron H'.

The opposite end of the bed-plate from that just described has two hook-like prongs, *g g*, and a projection, *g'*, between the two prongs. The hooks on *g g* project up. These hooks engage in sockets *g'' g''* in the tub-iron G, and the projection *g'* abuts against the central portion of said tub-iron. When the machine is held at an angle—that is, with what is the right-hand end in Fig. 1 raised—the hooks *g g* will enter the sockets *g'' g''*, and when the machine is let down at the other end the projection *g'* will hit against the side of the tub-iron G. At the same time the hook *h* on the attachment H at the other end of the machine will engage with the loop *h'* in the tub-iron H', and the machine will be attached to the tub. The prongs *g g* prevent the machine being raised up by the action of the crank. To detach the machine from the tub it must be lifted up at the opposite end from the crank, and

then the prongs *g g* will unhook from the tub-iron *G*.

The form of the end pieces will be seen in the various figures. Besides the features already named—*i. e.*, the socket *e* at the top and the foot at the bottom, with the hook-lug *c* and groove or notch *d'*—the end pieces also have a flange, *b*, which shields the ends of the rollers; also a slot, *I*, which starts in at the side and runs down far enough to form a journal-box for the shaft of the upper roller, which is the point *i* in Fig. 4. From that point the slot changes to a groove in the plate, (see *b'*, Fig. 2,) which groove runs down far enough to form a journal-box for the gudgeon of the lower roller, (see *b'* in Fig. 4.) On the outside, which is shown in Fig. 3, the end pieces are beaded to give them strength. At the angle of the foot there is a lug, *F'*, which is perforated and forms a fastening for the lower end of the spring *F*. The upper end of the spring is coiled onto a lugged hook, *F''*, which is of common construction, and hooks over the shaft of the roller *A*.

The machine is set up as follows: The hooks *c* on the end pieces, *C*, are set into the holes *c'* in the bed-plate, (the attachment *H* having been put in place in the groove *h''*, as above described.) The cross-piece *E* is then sprung into the sockets *e* at the top of the end pieces. The roller *B* is then placed with its gudgeons in the slot *I*, and it falls down until its gudgeons rest at the bottom of the grooves *b'*. The roller *A* is then placed between the end pieces, its shaft being put into the slot *I*, and it falls down until its shaft rests at the point *i*. The hooks *F''* of the springs *F* are then hooked over the shaft *A'* of the roller *A*. The machine is then complete and ready for use.

It is intended that the lower roller shall be perfectly plain, or it may have circumferential grooves, as shown in the drawings.

If desired, fingers may be cast upon the base-board to fit up in the grooves on the roller, to prevent the clothes passing between the roller

B and the base-board *D*. The fingers, as I show them, are pieces of wire bent with a loop, which are placed in the sand of the mold, and when the molten metal is poured in, the loops of the wire are embedded in the casting. These wires are shown at *o o o o*, Fig. 2.

What I claim is as follows:

1. A washing-machine frame composed of the bed-piece *D*, having lug-openings *c'*, the end pieces, *CC*, having hook-lugs *c* and sockets *e*, and the cross-piece *E*, said parts being constructed to operate together substantially as and for the purposes set forth.

2. The combination of the bed-piece *D* and end pieces, *CC*, connected together by a hook-lug, *c*, on the bottom of the foot of each end piece, entering openings *c'* through the upper face of the bed-piece, whereby the two parts are held together in the manner of a dovetail fastening, and the use of bolts or screws is dispensed with, substantially as and for the purposes mentioned.

3. The bed-piece *D*, having at one end prongs *g g* and projections *g'*, in combination with the tub-iron *G*, having sockets *g'' g''*, as shown, and for the purposes set forth.

4. The bed-piece *D*, having at one end a lateral extension with a double slot, *h''*, in combination with a lugged attachment, *H*, adapted to be placed within said double slot in such a manner that the lugs thereof shall overlap the sides of said slot and slide upon the upper face of said bed-piece, substantially as and for the purposes set forth.

5. The end piece, *C*, having a foot thereon, with a groove or notch, *d'*, and a hook-lug, *c*, in combination with the bed-piece *D*, having an opening, *c'*, and a lug, *d*, substantially as and for the purposes set forth.

In testimony whereof I, the said CHARLES H. MILLER, have hereunto set my hand.

CHARLES H. MILLER.

Witnesses:

JNO. K. HALLOCK,
P. H. COONEY.