

G. S. WALKER.  
WASHING-MACHINE.

No. 178,980.

Patented June 20, 1876.

Fig. 1.

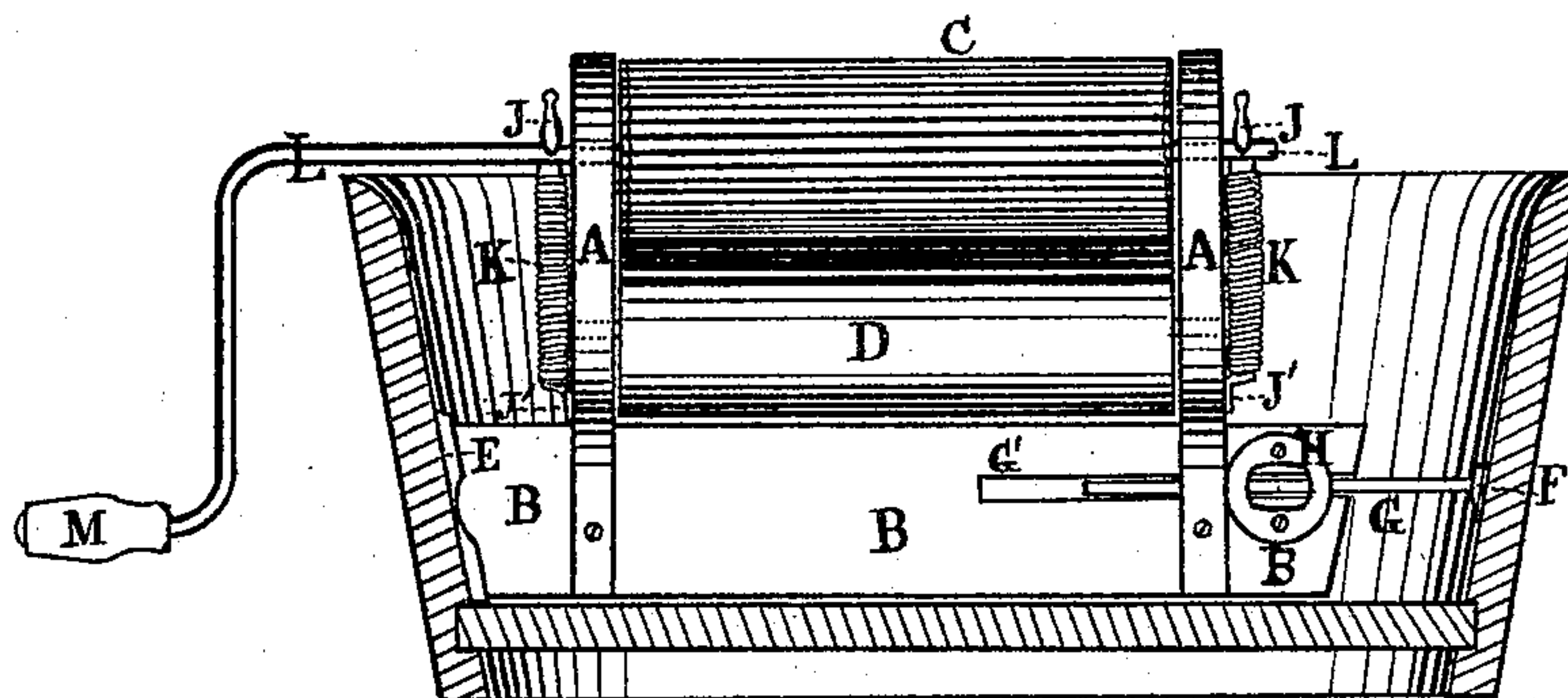


Fig. 3.

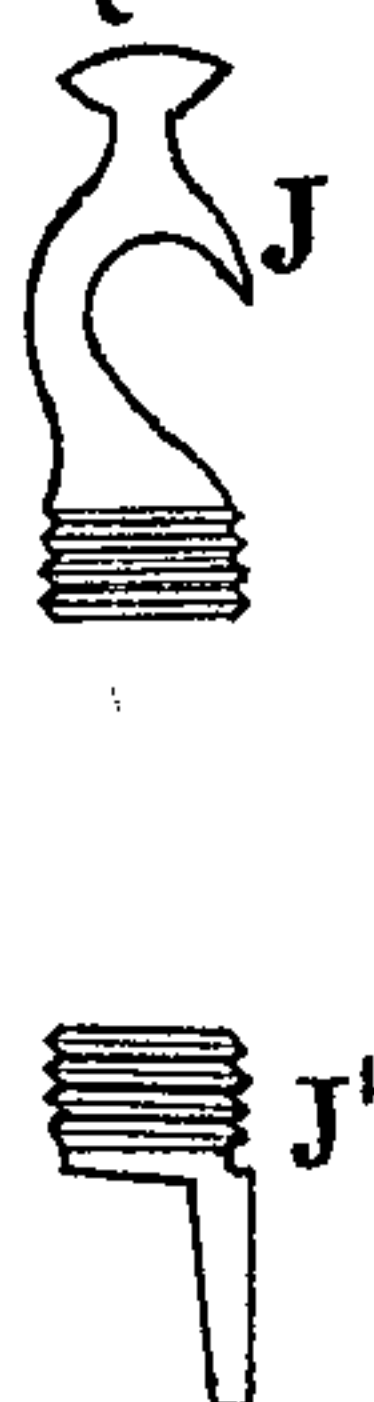


Fig. 2.

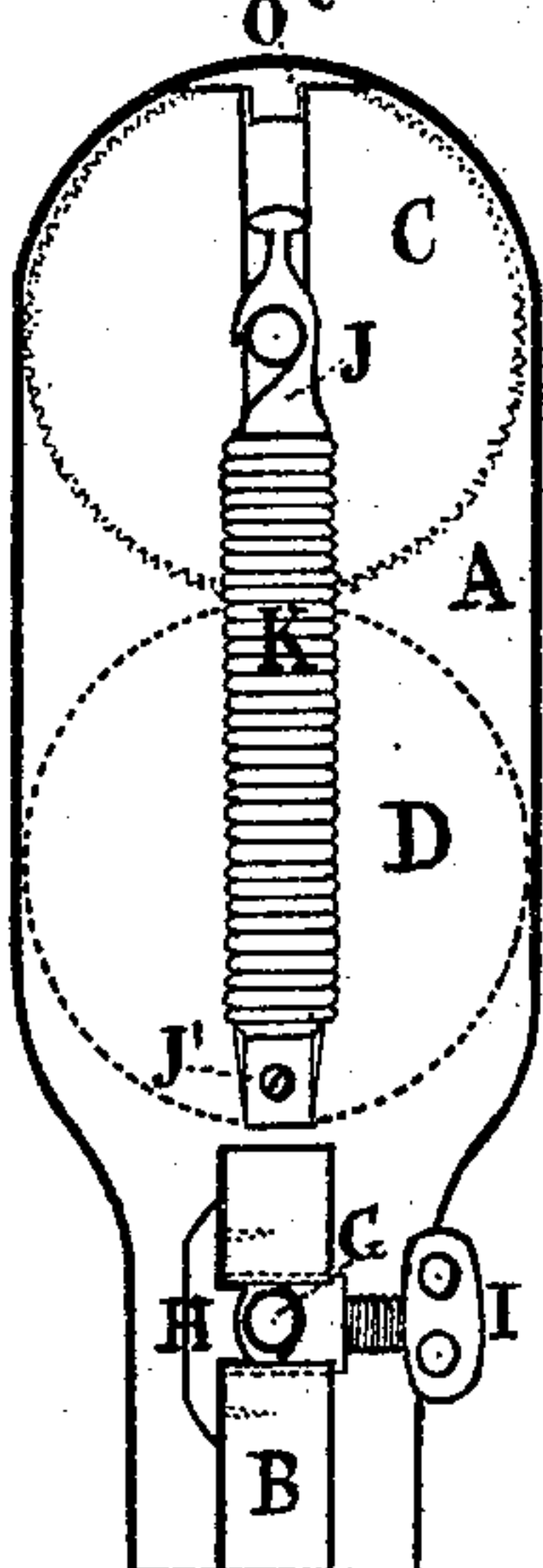
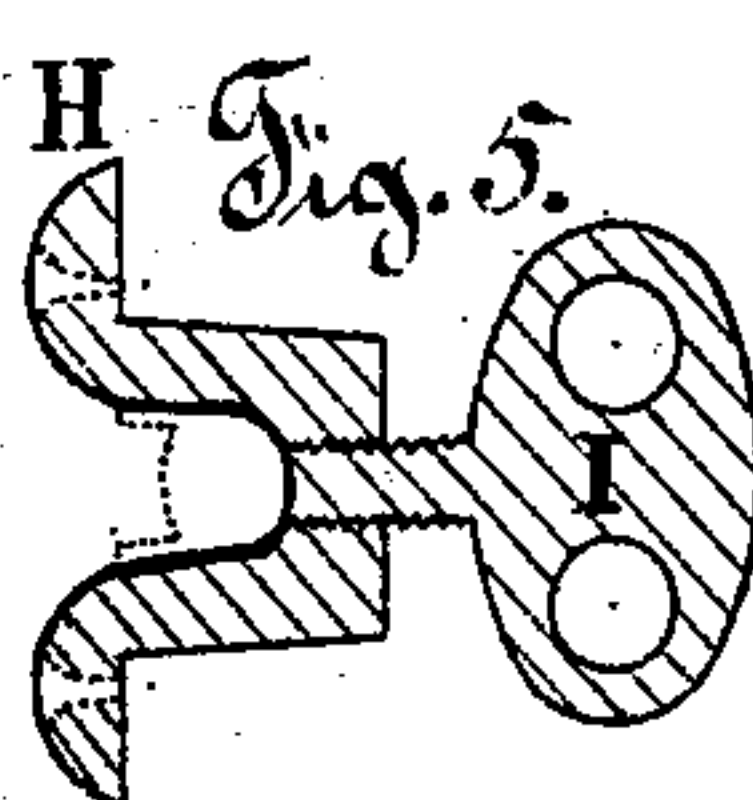
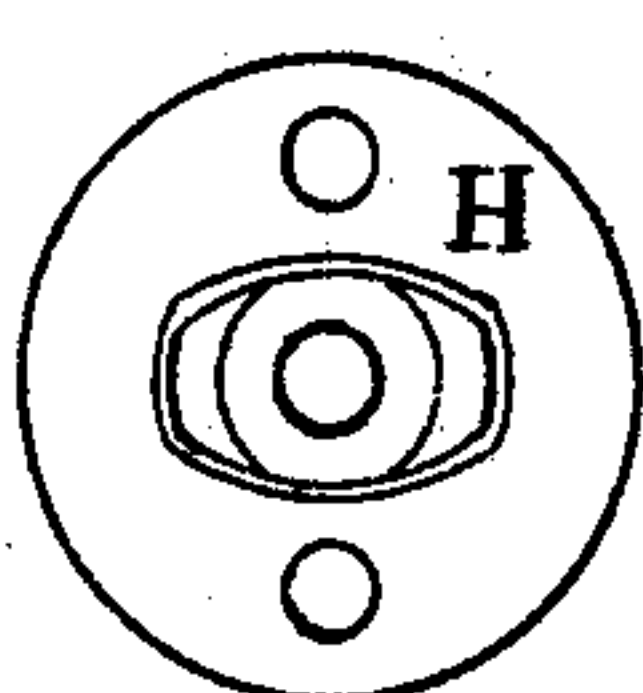


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE S. WALKER, OF ERIE, PENNSYLVANIA.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **178,980**, dated June 20, 1876; application filed February 19, 1876.

*To all whom it may concern:*

Be it known that I, GEORGE S. WALKER, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in an improved and novel method of securing the machine in the tub, and whereby its bearing-fastening can readily be adjusted so as to accommodate itself to tubs of different diameters.

My invention also consists in the devices which I use to attach to the machine and the main roller the spring which gives a yielding bearing to the said main roller, said devices being plugs, which are of the form and size of the inside or bore of the tube formed by the spiral springs, and which are provided with a thread or gain to correspond with the twist of the spring, and can thus be screwed into the said bore or tube of the spring, and thus give a strong connection, and one which will not tend to pull apart or draw out the spiral of the spring.

My invention also consists in combining with the rollers and these features a vertical base-board, the same extending up in such close proximity to the cylindrical surface of the under roller, and also to such close proximity to the bottom of the tub, as to arrest and prevent the passage of the clothes under the roller, and also under the machine, all as hereinafter fully described.

Figure 1 is a side elevation of my machine as it is attached in the tub for use. Fig. 2 is an end elevation of the same, not in the tub, and showing, by dotted lines, the position of the rollers. Fig. 3 shows the plugs which screw into the coil-spring, and by which the springs are attached to the machine. Figs. 4 and 5 show a part of the adjusting devices for adjusting the machine to the tub.

A A are the side or main upright pieces,

in which the rollers have their bearings. B is the cross-piece which binds the machine together, and to which the side pieces are rigidly attached. This cross-piece is also the bed-piece, and it is placed vertically. The object of this is, first, to give strength to the attachment of the uprights, and avoiding the necessity of a top cross piece or binder, and, second, to form a diametrical partition in the bottom of the tub. To this end this piece, when the machine is in place in the tub, comes nearly or entirely in contact with the bottom of the tub, and thus the clothes that are passed through the machine are kept separate from those that have not passed through. C and D are the rollers that perform the mechanical operation of washing. The upper of these, C, is the propelling-roller, and is made with corrugations on its surface. It is operated by the crank M and shaft L. The journals of the shaft L are in a slot in the uprights A A. The lower roller D is smooth on its surface, and receives its motion from the roller C by contact therewith. The clothes are washed by being passed between these rollers. In order to make these rollers accommodate themselves to the various thicknesses of clothes which shall pass between them, the upper one, C, is connected with an arrangement of springs, K K. These springs are located on the outside of each upright, and are connected to said uprights and to the shaft by the attaching devices J and J'. (Shown in detail in Fig. 3.) I have designated them as "plugs," because they enter the ends of the tube formed by the coil-spring K. This tube, being made of coiled wire, is, in effect, a female screw; so the plugs are provided with a thread, making them male screws. When the plugs are screwed into the tube or spring they are held there firmly, for any distension of the spring, caused by pulling at the plugs, closes the thread of the female screw tighter upon the thread of the male screw. The outer ends of these plugs I fashion as follows: J is made with a hook to hook over the shaft L, and J' is made with an eye or screw-hole for attaching it by a screw to the side of the upright. E is a shallow socket, formed of cast metal; but its office is the same as a cleat. Into this the end of the bed-piece is placed,



and is there prevented from rising or tipping. On the opposite side of the tub is placed another casting, F. The bed-piece B is provided with a slot, G', in which slides a rod, G. This rod also passes through a clamping device, H, with set-screws I. (See Figs. 4 and 5.) By means of this arrangement of parts my machine can be attached to any sized tub, and will be securely held in place.

It will be seen that I place the lower roller D very close to the bed-piece. The object of this is to prevent the clothes winding around the roller.

What I claim as my invention is as follows:

1. In combination with a vertical base-board of a washing-machine, the adjustable rod G, clamping device H, and thumb-screw I, the whole constructed and arranged to operate substantially as described.

2. The screw-plugs J J', made to fit the bore of the spring K, and provided with a thread or gain, as and for the purposes described, in combination with said spring K, as specified.

3. The combination of the vertical bed-piece B with adjustable attaching apparatus G H, uprights A, rollers C and D, shaft L, and springs K K, provided with screw-plugs J and J', said parts being arranged and operating together substantially as and for the purposes mentioned.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE S. WALKER.

Witnesses:

J. J. READ,

JNO. K. HALLOCK.