J. A. Boyce.
Washing Machine.

No. 121,322. Patented Nov. 28, 1871.

Fig. 1.

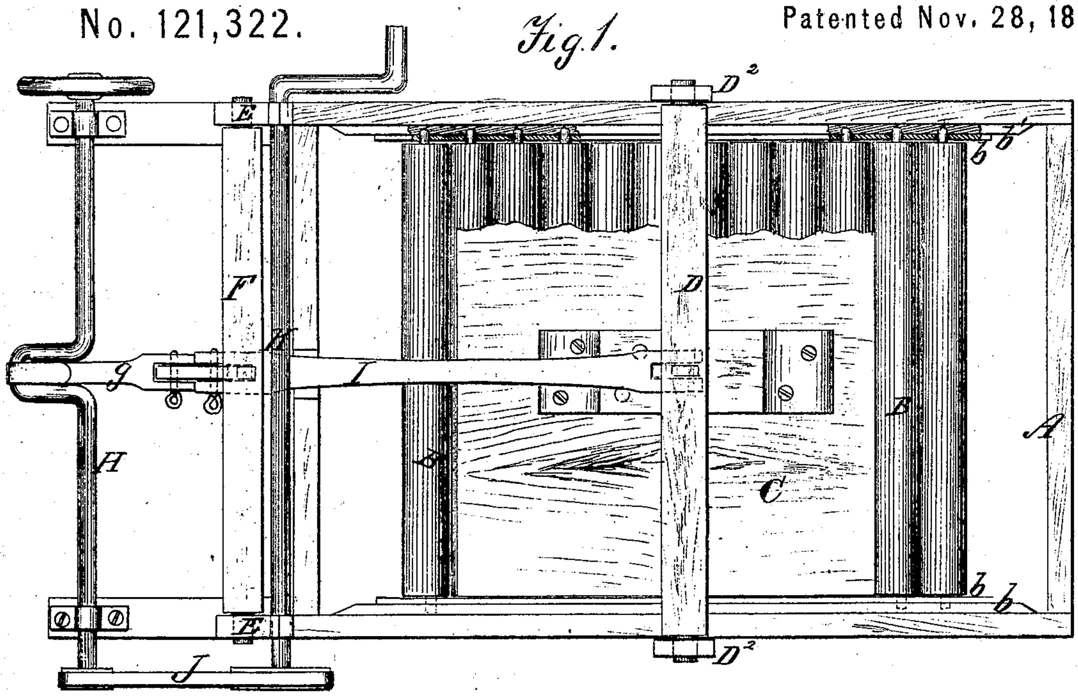
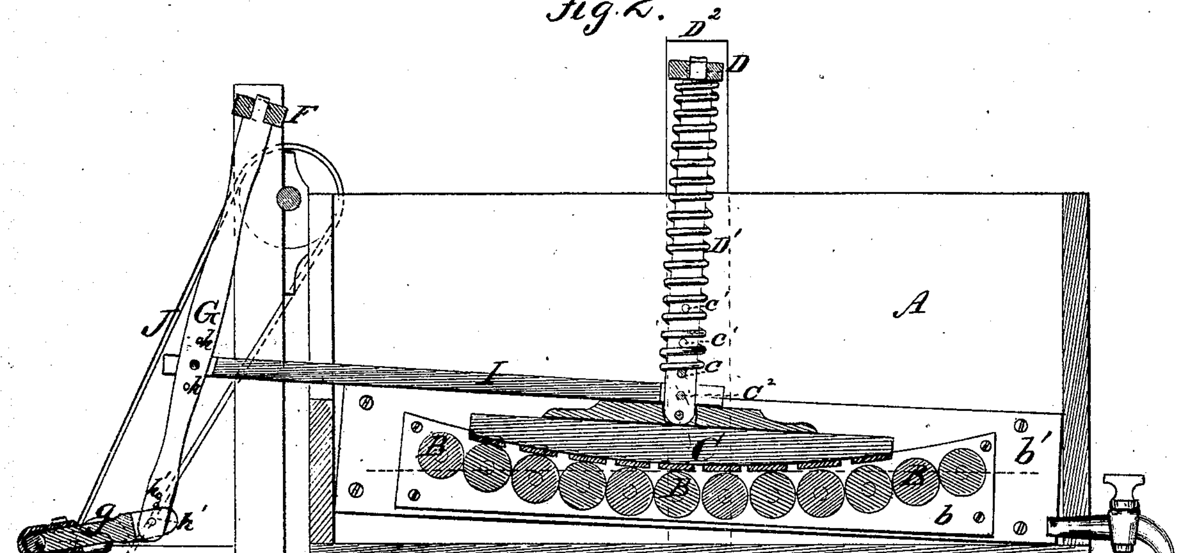


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JACOB A. BOYCE, OF ALTOONA, PENNSYLVANIA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 121,322, dated November 28, 1871; antedated November 11, 1871.

To all whom it may concern:

Be it known that I, JACOB A. BOYCE, of Altoona, in the county of Blair and State of Pennsylvania, have invented a certain new and useful Improvement in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing forming part of the same, and in which—

Figure 1 represents a plan view of my improved washing-machine, and Fig. 2 a longitudinal section of the same.

Similar letters of reference in the two figures refer to like parts.

This invention has reference to an improved washing-machine; and it consists of the arrangement of the rollers or other suitable surface which will assist the rubber in the operation of washing, and by means of which arrangement the clothes or articles being washed will be relieved, when desired, from contact with the said parts without the interference of the hand, as is ordinarily required for this purpose; of the means employed in regulating the pressure of the rubber upon the clothes or articles being washed; and of the same used in increasing and diminishing the motion of the said rubber when in operation, substantially as hereinafter described and claimed.

To enable those skilled or unskilled in the art to which my invention appertains to make and use the same, I will proceed to describe its construction and operation.

In the annexed drawing, A refers to a receptacle, which may be of any desired form; but, owing to that given in the drawing being found most convenient or suitable for the reception and operation of the devices therein placed and for the annexation of those applied thereto, such form has been preferably adopted. This receptacle is placed upon a frame supported by means of legs and having staples on each side, (but not so shown in the drawing, as no claim is made to them,) and which receive the lower ends of the standards or uprights, hereinafter further referred to, fastened to the sides of the receptacle above alluded to, the object of which being to secure the said receptacle in place on the said frame. B B, &c., refer to a series of rollers, each of the axles of which has its bearings within apertures made in metallic strips *b b* and apertures in boards *b′ b′*, to which the said strips are fastened, the boards *b′ b′* being themselves secured to the inner sides of the receptacle A. These rollers, the peripheries of which are brought in contact with each other and so placed in relation to one another as to form in shape, when in position, the arc of a circle, are so arranged that the axis of the rear one shall be in the same plane as the lower edge of the periphery of the front roller, or nearly so, as shown in dotted lines in Fig. 2, whereby an inclination is given to said rollers sufficiently to cause the clothes or articles being washed to slide off the same after washing, thus obviating the necessity of using the hand for this purpose. C refers to the rubber, which consists of a board, to the lower curvilinear side of which is secured transversely a series of strips, made of rubber or other suitable material, and placed short distances apart. (See Fig. 2.) To the upper side of this rubber is fastened a board, within which is cut a recess or hole to receive the lower end of a vertical bar or rod, *c*, pivoted therein. *c* refers to a vertical rod, the lower end thereof being pivoted to the rubber C, as above stated, and the upper end fastened by a tenon and mortise, or otherwise, to a transverse bar, D. D^1 refers to a spiral spring, which receives the rod *c*, and the tension of which can be regulated by the holes and pins c^1, c^1, and c^2, respectively, for the purpose of giving the desired pressure to the rubber C upon the clothes or articles being washed, as above alluded to. D^2 D^2 refer to uprights or standards fastened to the sides of the receptacle A, and entering at their lower ends staples secured to the frame, upon which A is mounted, and supplied at their upper ends with apertures, which receive and form bearings for the reduced cylindrical ends of the transverse bar D, above described, so that the said bar, to which the rubber C is connected by means of the rod *c*, can be put in motion or operated in such a manner as to suit the vibratory motion imparted to the said rubber when in use. E E refer to uprights secured at one of their ends to the projecting part of the frame upon which the receptacle A is mounted, and furnished at their upper or other ends with apertures, within which vibrate the reduced cylindrical ends of the transverse bar F. G refers to a rod which is pivoted at its lower end to a pitman, *g*, attached, as

shown in Fig. 2, to the crank-shaft H, and fastened at its upper end by mortise and tenon, or otherwise, to the transverse bar F. I refers to a horizontal connecting-rod, which is pivoted at one end to the lower end of the rod *c* carrying the rubber, and at its other end to the rod G. *h h* and *h' h'* refer to two series of apertures made in the rod G and furnished with pins or keys, the object of which apertures and keys being for the purpose of regulating the motion of the rubber C, as will be readily understood by referring to the drawing. J refers to an endless belt, connecting a small wheel or pulley upon the shaft H with a pulley upon the shaft K, having its bearings within journal-boxes secured to one side of the uprights E E, as seen in Figs. 1 and 2. The shaft H has a balance-wheel attached at one end, and the shaft K is constructed or supplied with a handle for operating it, from which motion is imparted to the various operative parts of my machine, the operation thereof not being considered necessary for the proper understanding and use of my invention, as such can be obtained from the description of the construction thereof.

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

The rubber C, rollers B B, rod *c* c^1, spring D^1, cross-bar D, and uprights D^2, in combination with the lever I, pitman *g*, connecting-rod G *h*, and parts F E, all constructed and arranged to operate substantially as shown and for the purpose set forth.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 5th day of April, A. D. 1871, in presence of two subscribing witnesses.

JACOB A. BOYCE.

Witnesses:

DANL. BOLLINGER,

DAVID BOLLINGER.

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