A. M. Bailey,

Wringer

No. 79,096, Patented June 23, 1868.

Fig: 1

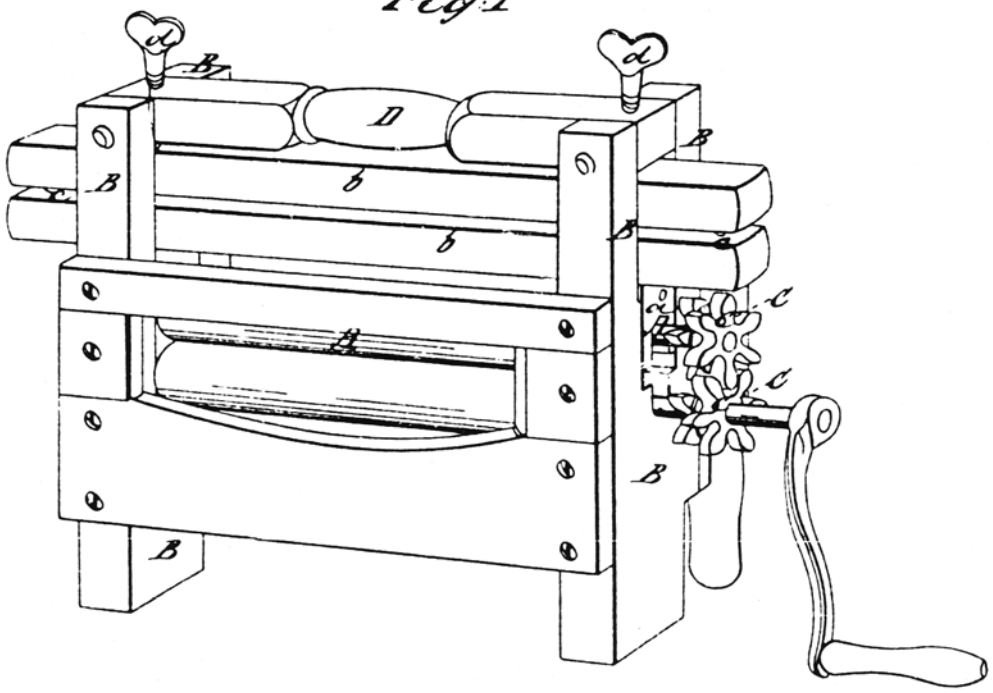
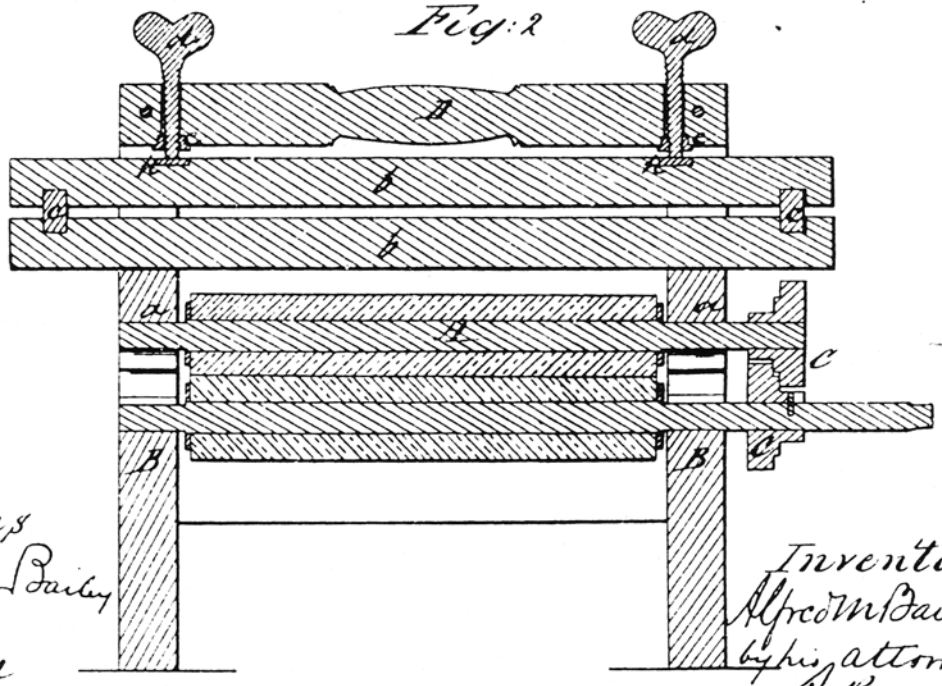


Fig: 2



Witnesses
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United States Patent Office.

ALFRED M. BAILEY, OF MIDDLEFIELD, CONNECTICUT, ASSIGNOR TO METROPOLITAN WASHING-MACHINE COMPANY OF SAME PLACE.

Letters Patent No. 79,096, *dated June* 23, 1868.

IMPROVED WRINGER.

The Schedule referred to in these Letters Patent and making part of the same.

TO WHOM IT MAY CONCERN:

Be it known that I, ALFRED M. BAILEY, of Middlefield, in the county of Middlesex, and State of Connecticut, have invented certain new and useful Improvements in Wringing and other like Machines; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings.

My invention relates to the springs, which in wringers, mangles, and similar machines are employed in order to bear upon the sliding-boxes in which the journals of the upper or driven roller are held, and thus insure the necessary pressure between the two rolls, at the same time that provision is made for their yielding slightly, so as to conform to different thicknesses of clothes.

In a clothes-wringer of ordinary construction, the bearings of the spring or the points where the ends of the spring are supported and held, are either immediately over the bearings of the upper wringer-roll shaft or inside the frame of the machine, between the two journals or ends of the shaft, which bear against the spring. This arrangement of the spring or springs is one of the causes which give rise to the tilting or rising of one end or the other of the upper roll, when the clothes to be wrung are inserted near such end of the roll.

It is well known that the tilting of the roll is a frequent source of trouble, detracting in some measure from the successful operation of the machine; the cogs upon the wringer-shafts are apt either to be thrown out of gear, or to become jammed and locked, and thus to prevent the rolls from moving with the steadiness and uniformity so desirable in machines of this class.

My invention is intended to remedy and obviate the difficulty above named, and to this end it principally consists in combining the spring with the upper or the adjustable wringer-roll, in such manner that the said roll shall bear upon the spring at points intermediate between those upon which the ends of said spring are supported. In other words, the ends of the spring are extended on each side of the machine, beyond the bearings of the upper or adjustable shaft, so that the distance between the points of support of the said ends shall be greater than that intervening between the points at which the spring and shaft are in contact.

The invention further consists in the peculiar construction of the spring, and its combination with the wringer-rolls and set-screws, for regulating the pressure in the machine, as hereinafter described.

To enable those skilled in the art to understand and use my invention, I will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a clothes-wringer, made in accordance with my invention.

Figure 2 is a longitudinal vertical central section of the same.

The machine there shown does not essentially differ in its general construction, and in the arrangement of the sliding-boxes *a a'* of the upper shaft A in the frame B, from ordinary wringers. I will therefore confine this description to the arrangement of the spring, and such parts as are directly affected by it.

It has heretofore been usual, as stated in the former part of this specification, to support the ends of the spring, either upon the sliding boxes *a a'* of the upper roll, or at points intermediate between the two boxes. Under this arrangement it will be seen, without further explanation, the clothes, when inserted between the rolls near one end, for instance *a'*, would have the tendency to tilt or raise that end of the upper roll, and consequently to depress the other end *a*, and so cause the clogging or jamming of the cogs C. In case the clothes were put in near the end *a*, the tilting action would be reversed, and the tendency would be to throw the cogs out of gear, and to cause them to work and wear unevenly.

By my invention, however, while the upper roll is left free, as before, to adjust itself to the varied thickness of the clothes to be wrung, it is nearly if not entirely prevented from tilting, and maintained parallel with the lower roll. The spring I prefer to employ in order to effect this result is shown plainly in fig. 2. It is composed of two bars or strips, *b b*, of wood, or other suitable elastic material, which are held apart by means of pins or dowels C, or blocks, or equivalent means, for holding the springs apart, placed between them at each

end. The lower spring-bar, when in position in the machine, rests upon the sliding boxes *a a'*, and the length of the elastic bars *b* is such that, when placed in the machine, their ends on each side will extend out beyond the boxes *a a'*, as shown in the drawings, so that the latter bear upon the lower bar *b*, at points intermediate between the bearing-points *c* of the spring. When, therefore, clothes are inserted between the rolls, near the box *a*, for instance, the box will be forced up against the spring, which will thus be bent between the points *c c*, so as to allow both the box *a* and the box *a'*, which also presses (but only in a modified degree) against the spring, to rise. By this means the tilting of the upper roll is in a great degree prevented, the parallelism of the rolls is nearly if not entirely maintained at all times, and consequently all clogging or uneven working of the cogs and rolls is obviated.

The two bars *b b* may be of different elasticities, or, if desired, one bar only may be elastic, and the arrangement of the spring may be varied in many other respects, without departing from the principle of my invention, so long as the essential feature is preserved, of causing the upper roll to bear upon the spring at points intermediate between the bearing-points *c c* of the spring.

In order to regulate the pressure of the rolls upon the article inserted between them, I employ on each side of the frame regulating-screws *d*, the lower ends of which pass through holes formed in the ends of the cross-bar D of the frame, immediately above the boxes *a a'*. In these holes are placed screw-nuts *e*, which hold the regulating-screws in position.

The cross-bar D is held in the slotted or jawed side pieces B, in which the boxes of the upper roll slide, and the space between the cross-bar and the boxes is open, so as to allow the ends of the screws *d* to press directly upon the upper spring-bar *b*, in the top of which is sunk a little metal disk, *h*, at the point where each screw comes in contact with the bar. By turning the screws in one direction or in the other, it will be seen that the spring will be pressed upon the boxes *a a'*, with any amount of force desired, and in this manner the pressure of the rolls can be regulated with extreme ease.

Another feature of this arrangement is, that the spring is not attached to the frame at all, but simply rests upon the boxes *a a'*, in which position it is steadied by its ends, which pass through and project from the slotted side pieces B. By raising the screws *d* away from the spring, the latter is released, and can be drawn out and removed from the machine with perfect facility, whenever desired; for instance, when the machine is not in use, or when it is to be packed for transportation, &c.

It will be observed that the dowels or pins *c*, or other means, which form the bearing-points of the spring, are not united solidly with the bars *b*, but fit loosely or with a slight play in the holes mortised for their reception in the bars, thus allowing the latter to yield freely to pressure.

Having now described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is as follows:

1. In clothes-wringers, and other machines in which two rolls are required to operate at varying distances from each other, the employment of a spring, whose ends extend beyond the bearings of the upper or driven roll, in the manner described, so that the ends of said roll shall bear against the spring, at points intermediate between the bearing-points of said spring, as and for the purposes set forth.

2. In combination with a spring whose bearing-points are located with relation to the points where it is in contact with the upper or driven roll, in the manner specified, I claim the employment of screws, or equivalent devices, for regulating the pressure of the spring, arranged immediately above the points where the upper roll bears against the said spring, as shown and set forth.

3. The herein-described combination and arrangement of the spring with the upper roll, the frame, and the regulating-screws, so that the said spring may be readily applied to or removed from the machine.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

ALFRED M. BAILEY.

Witnesses:

WM. P. RICHARDSON,

M. W. TERRILL.