

A. HOLLINGS.

Improvement in Mangling and Wringing-Machines.

No. 131,001.

Patented Sep. 3, 1872.

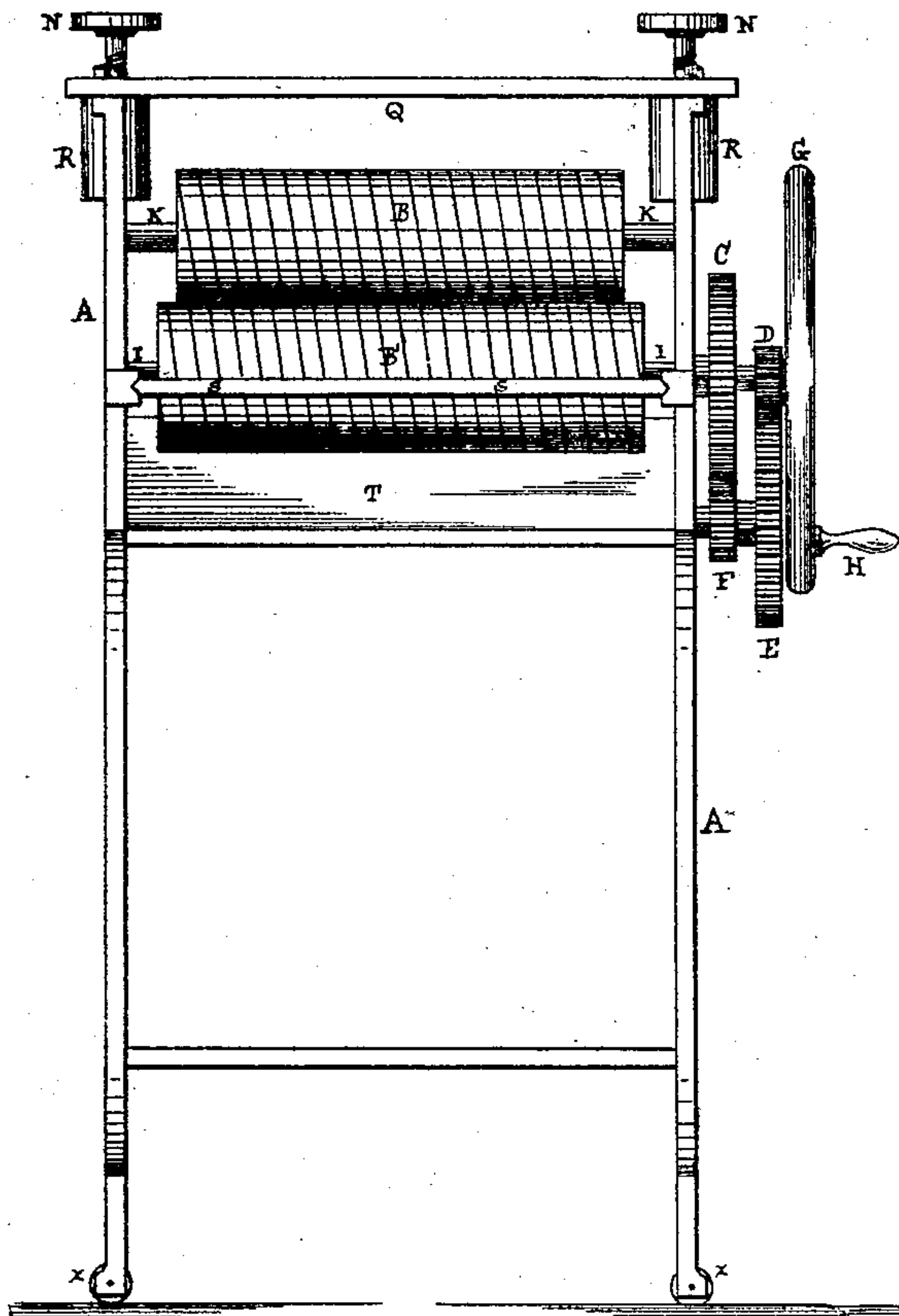


FIG. 1.

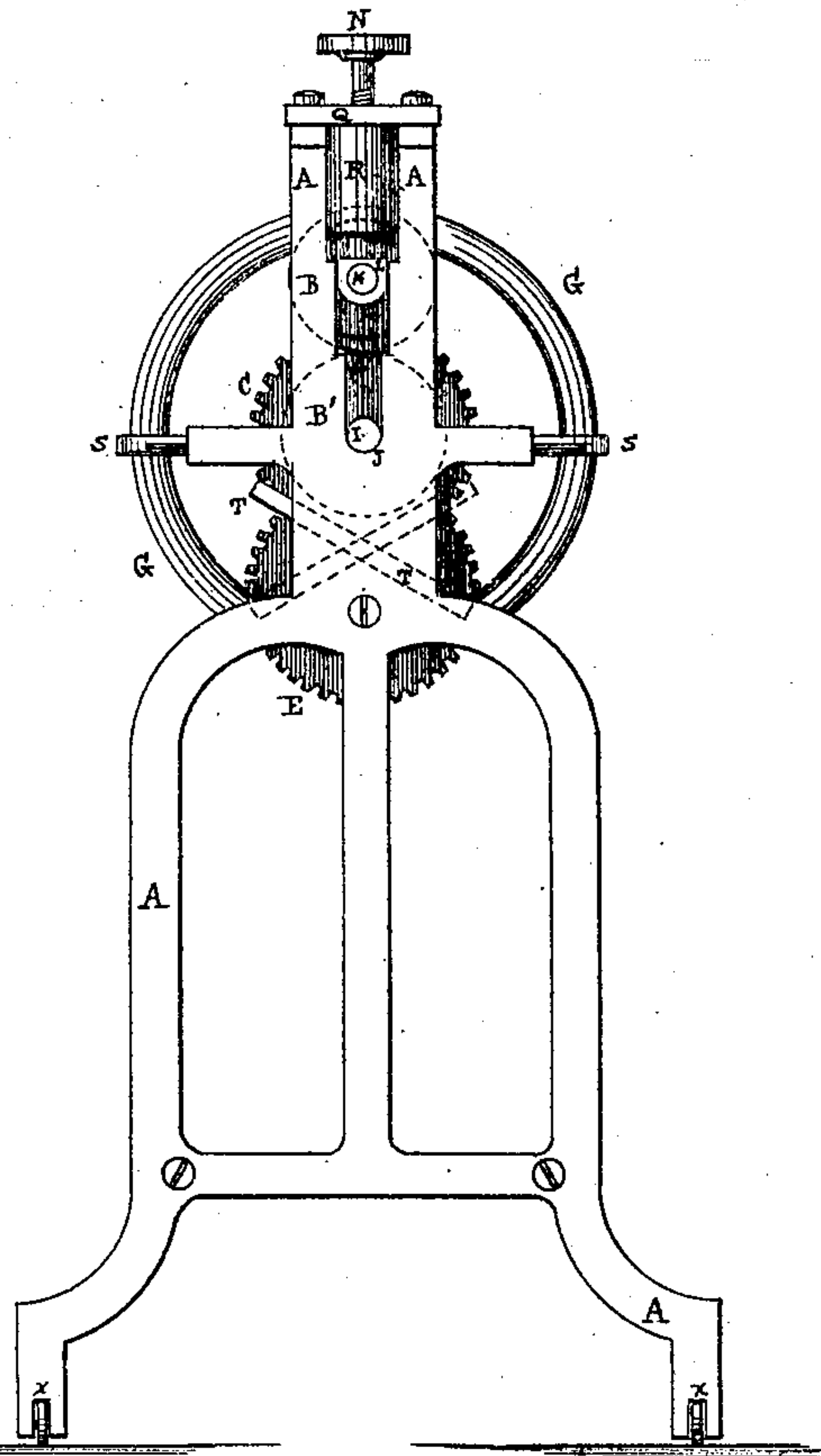


FIG. 2.

WITNESSES.

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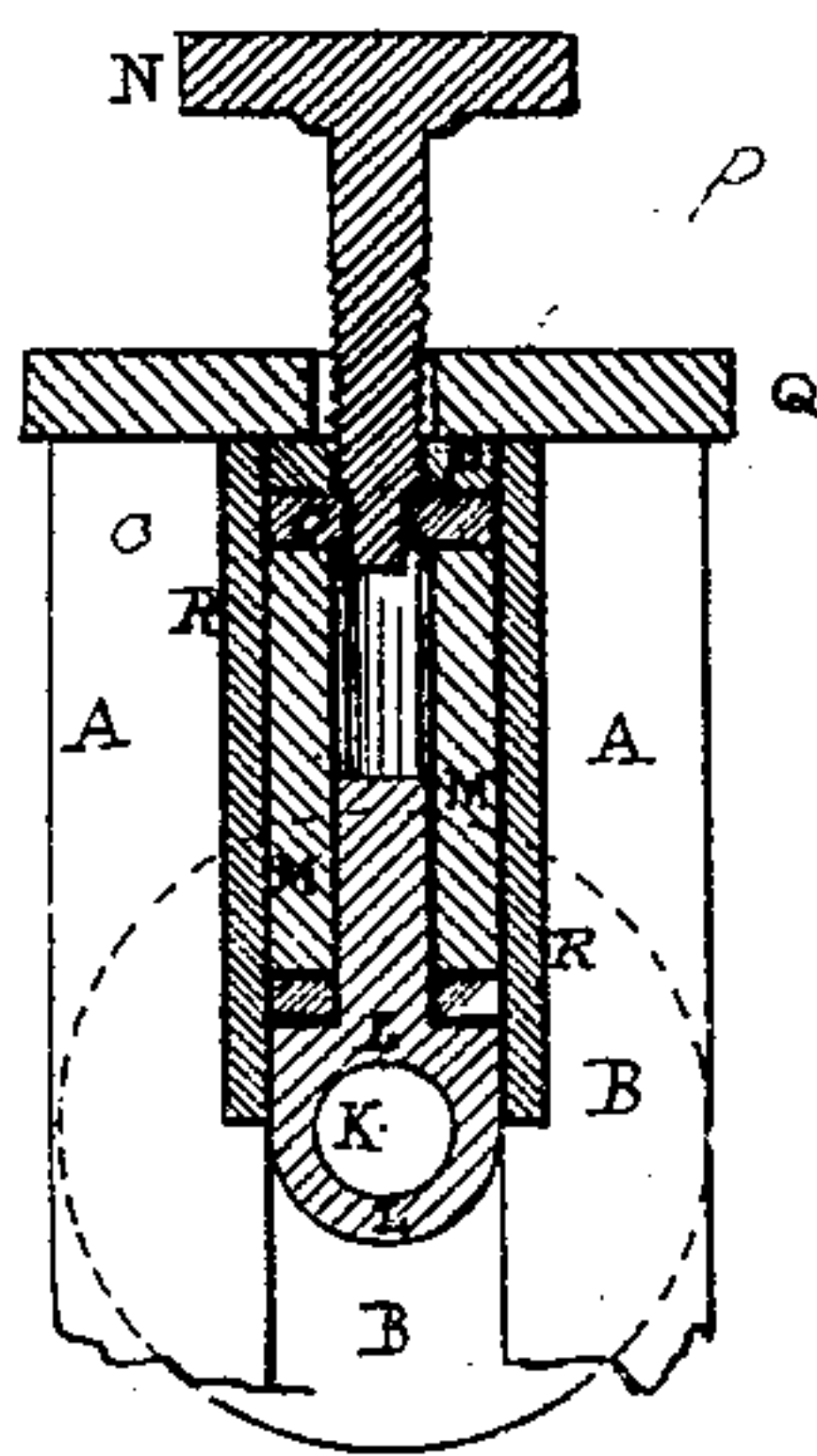


FIG. 3.

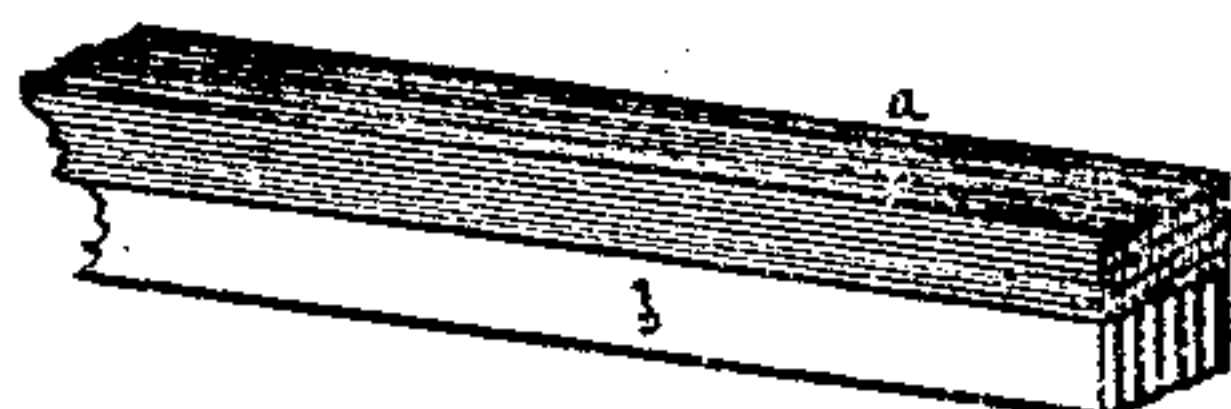


FIG. 4.

UNITED STATES PATENT OFFICE.

ALFRED HOLLINGS, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN MANGLING AND WRINGING MACHINES.

Specification forming part of Letters Patent No. 131,001, dated September 3, 1872.

I, ALFRED HOLLINGS, of the city and county of Providence, in the State of Rhode Island, have invented a new and Improved Mangling and Wringing Machine, of which the following is a specification:

In the accompanying drawing like letters indicate like parts.

Figure 1 is a front elevation of my invention. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are detail views.

In the drawing, A A represent the standard or frame which supports the working parts of the machine. B B' are the rollers, between which the linen passes to receive the pressure. These are best made of wood, and are covered with a rubber coating of a peculiar combination, as shown separately in Fig. 4. A layer of rubber, *a*, is coated or spread upon an unelastic substance, *b*, made of flax, hemp, cotton, or other material suitable to prevent the stretching of the rubber. The rollers B B' are covered with strips of this rubber coating wound spirally around them, so that a smooth face of solid rubber appears upon the exterior of the rollers. Motion is communicated to the rollers B B' by means of the crank H, fly-wheel G, and the double gearing, consisting of the pinion D attached to the fly-wheel G, the stud-wheel E and its connected pinion F, and the driving-wheel C. All these wheels and gearing work loosely on their respective axles except the driving-wheel C, which is firmly attached to its spindle. The rollers are thus revolved in directions opposite to each other and the cloth is drawn between them with great power. The arbors I I of the roller B' rest upon the solid journal J of the standard A. The arbors K K of the roller B rest in the journal-boxes L L, which are made capable of moving vertically along a corresponding slot formed in the standard A. In order to secure the required pressure of the rollers upon each other I use a screw, N, in combination with the rubber-block M, which block may be either solid or perforated—in the latter case to receive a stem from the journal-box L, and also the stem of the screw N. I prefer the perforated form, as by means of the stems the whole springing mechanism is more steadily and better operated. This mechanism is shown in detail in Fig. 3, and consists of the rubber-block M resting upon the journal-box L, and placed beneath

the washer O and the collar P, in the latter of which a screw-thread is cut. The screw N passes downward through the top board Q and collar P, and rests solidly upon the washer O if the block M be solid; or giving a shoulder against the washer O passes through the washer into the block, if the block be perforated. By the action of the screw the rubber is compressed to the desired degree, and the requisite contact of the rollers B B' is secured. The rubber-block M is inclosed in a spring-box, R, properly fastened to the standard. S S are movable mangling-boards upon which the cloth rests during the operation. T is a dripping-board, which receives the water from the rollers, and, being inclined, conducts it to a tub or other receptacle beneath. The whole machine moves easily upon its casters *x x*.

In the mangles commonly used wooden rollers are employed, but as they are kept wet during the operation, and receive so great pressure from each other, they are soon worn irregularly, and their effectiveness is thereby diminished, and, ultimately, they must be replaced by new ones. I have, therefore, protected the rollers of my machine by rubber coating, as above mentioned, whereby these difficulties are obviated.

The peculiar coating described is especially needed to make a suitable roller. I am aware that rubber rollers are in use in various wringing-machines now in market, but such rubber rollers would be wholly useless for the purpose of mangling. So great is the leverage of the rollers and the pressure upon them that if the rubber, ordinarily prepared, be put around the spindle the rubber would be elongated from a circular to an oval shape, then become wrinkled or otherwise distorted, and at length betwisted from its fastenings, and become loose upon the shaft; but the rubber coating I use cannot be stretched, because firmly attached to a substance entirely unelastic, so that the rotundity and firmness of the rollers remain unaffected by the pressure. It is obvious that a coating of such description, however applied to the roller, furnishes a durable and efficient surface; but, as a still further means of preventing the injurious effects named, I wind narrow strips of this rubber coating spirally about the rollers, so that the pressure is received upon the strips transversely and not lon-

gitudinally. At the same time the rubber is perfectly elastic in a vertical direction, the only direction in which elasticity is desirable.

The rubber-block M, operated by the screw N, is a cheap and efficient spring to hold the roller B firmly in contact with the roller B', and yet to relieve the pressure upon either or both sides when garments of unequal thickness are passing between the rollers. Hence, by the combined action of the vertical elasticity of the rollers and the springing mechanism it is possible for buttons, hooks, and other appendages of garments to pass between the rollers unharmed, thus obviating a common difficulty experienced in using the common mangle.

I am aware that coils of steel wire, steel and wooden arches, and various contrivances, are in common use for the purpose of obtaining pressure, but the combination of the rubber-block, collar, washer, and screw accomplishes the result perfectly, is readily adjusted, and is of comparative cheapness.

It is obvious that this machine, though larger than the wringers commonly used, is equally available for wringing clothes. If desired only one of the rollers need be coated as described, and the cost of the machine may be thus diminished.

I claim as a novel and useful invention, and desire to secure by Letters Patent—

1. The combination of the rubber-block M, whether solid or perforated, the screw N, collar P, and washer O, made and used substantially as described.

2. In mangling or wringing machines one or more rollers, B B', curved spirally or otherwise, with a rubber coating, consisting of a layer of rubber, *a*, or its preparations, attached to and upon a flexible unelastic substance, *b*, substantially as described.

ALFRED HOLLINGS.

Witnesses:

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