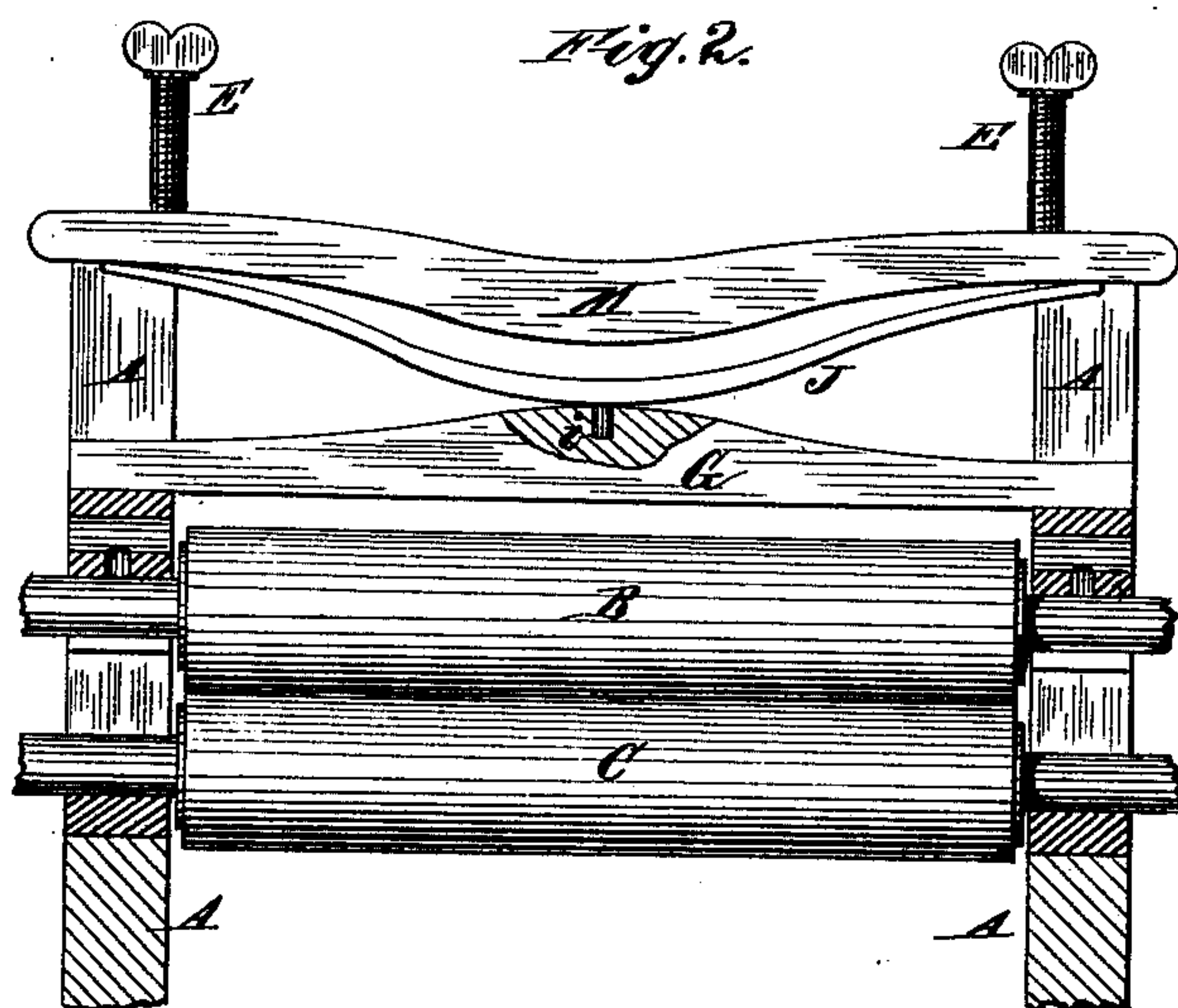
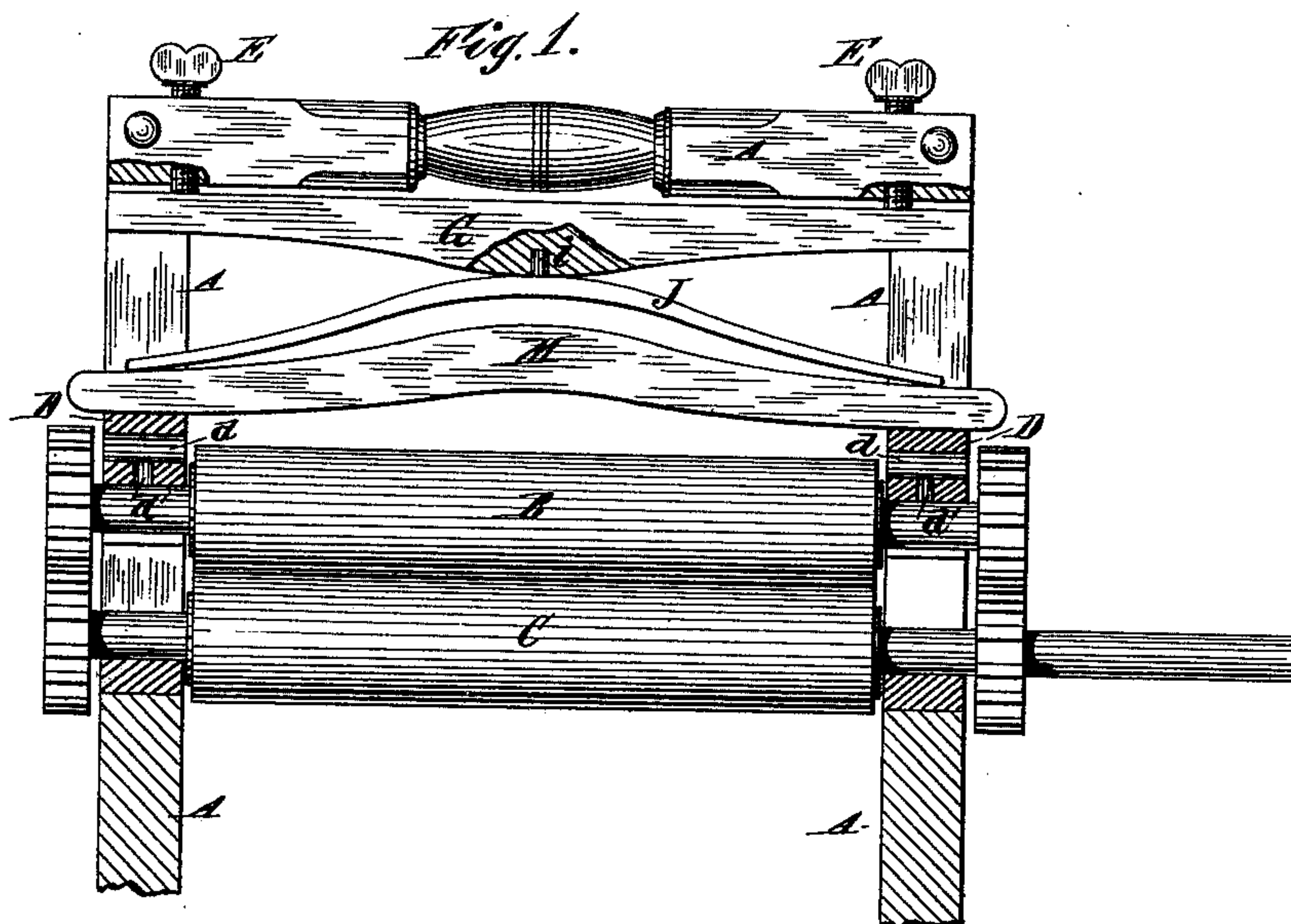


(No Model.)

R. C. BROWNING.
Wringer.

No. 229,666.

Patented July 6, 1880.



WITNESSES—

Charles H. Seale.
Charles C. Stetson

INVENTOR—

Ross C. Browning,
by his attorney
Thomas D. Stetson.

UNITED STATES PATENT OFFICE.

ROSS C. BROWNING, OF ORANGE, NEW JERSEY.

WRINGER.

SPECIFICATION forming part of Letters Patent No. 229,666, dated July 6, 1880.

Application filed April 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, ROSS C. BROWNING, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Clothes-Wringers, of which the following is a specification.

The invention relates to the springs by which the rolls, preferably of rubber, or with a thick rubber coating and efficiently geared or rotated together, are allowed to separate and urged together in passing through irregular masses of clothing.

I employ two springs of suitable wood, with an intermediate spring of metal. The metal spring is curved in the same direction as one of the wood springs, but to a greater degree. In action the metal spring alone yields to all the gentle and ordinary forces; but when a very great compression is inflicted on the springs the wood spring comes into play, and the elasticity of both is made available. If the metal spring breaks, the machine is not crippled and rendered useless. The wood spring comes immediately into play, and performs in a good degree the duties of both.

The accompanying drawings form a part of this specification.

Figure 1 is an elevation, partly in section, of my improved wringer. It represents the novel parts with so much of the ordinary parts as is necessary to show their relation thereto. Fig. 2 is a similar view, showing the working portion of a modified form of my device.

Similar letters of reference indicate like parts in both the figures.

Referring to Fig. 1, A is the fixed framework, of ash or other suitable material. B C are the rolls, geared together as indicated, and D D are the sliding boxes, which bear on the shaft of the upper roll and transmit thereto the force of the springs.

E E are adjusting-screws pressing down on the ends of the upper spring, G, which latter is tapered from the center outward and adapted to rock on a central bearing on the spring or springs below.

M is a stout wood spring, slightly arching in form, made thick in the center and thinner

toward each end. The ends bear fairly on the boxes D.

J is a tempered-steel plate, preferably also thickest at the middle and tapered toward each end. It is curved to a degree considerably exceeding the curvature of the wood spring M. Its center receives the downward pressure from the center of the upper spring, G. Its ends bear on the top of the lower spring, M, near each end.

The small pin or projection *i* extends upward from the center of J into the base of G and insures the maintenance of the proper relations of the parts. Corresponding pins or slight wings may extend downward from each end of J into recesses in the top of the lower spring, M, near each end; but I do not esteem such to be generally necessary.

It will be understood that the machine is equipped with any ordinary or suitable crank for turning the rolls, with provisions for clamping the machine to a wash-tub or fastening it to a bench and for disposing of the water wrung out of the clothing in any ordinary or suitable manner.

Each box, D, is formed with a large horizontal hole, *d*, which connects with a small vertical hole, *d'*, serving to lubricate the bearing of the shaft below.

Under ordinary conditions the lower spring, M, is subjected to no strain. It serves simply as a rigid bar rising and sinking with the boxes D, and receiving the force of the spring above and preserving the boxes from being deflected outward and inward by the friction thereof as the spring works; but when the metal spring J fails either gradually or suddenly the lower spring, M, is ready to serve efficiently all the functions of a spring, and the machine will be worked with the ordinary effect for an indefinite period. Also, in the absence of any failure, the spring M is ready to re-enforce the spring J whenever any extraordinary condition, as an unusually severe screwing down of the upper spring, G, shall require it, or the passage of an usually large mass between the rolls shall require it. The curvature of each is such that the bearing of the steel spring upon the wood, which is near the ends under ordinary pressure, gradually advances

toward the center as the strain increases until the pressure becomes very great, when the steel spring will be supported nearly or quite its entire length and prevented from being
5 bent far enough to be in danger of breaking, while the two, acting thus together, give a powerful pressure for squeezing the water from the mass of garments between the rolls.

10 Modifications may be made in the proportions.

I can make the metal spring of two or three thicknesses of tempered steel or other suitable metal, if preferred. The steel spring may be turned over and its ends bear on the upper
15 spring, in which case the pin would be placed in a recess formed in the lower spring. Such modification is outlined in Fig. 2.

I claim as my invention—

The clothes-wringer described, having the springs M and J, with their convexity on the 20 upper side, and the spring G, with a convexity on the under side bearing against the convex side of the spring J, combined with each other and with the rolls B C and adjusting means upon each end of the upper spring, 25 substantially as set forth.

In testimony whereof I have hereunto set my hand at New York city, New York, this 10th day of April, 1880, in the presence of two subscribing witnesses.

R. C. BROWNING.

Witnesses:

CHARLES C. STETSON,
FREDK. T. BROWNING.