J. HUNTER.

FULLING-MILL.

No. 191,592. Patented June 5, 1877.

Fig. 1

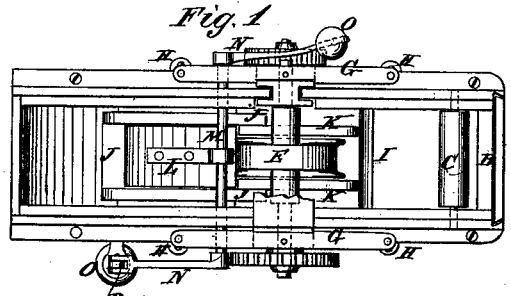


Fig. 2

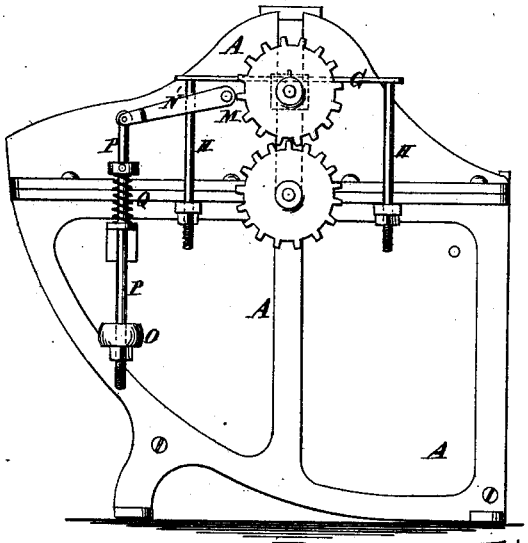


Fig. 3

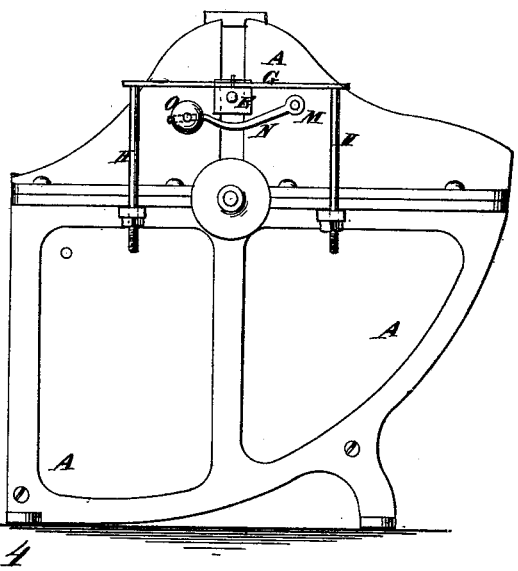
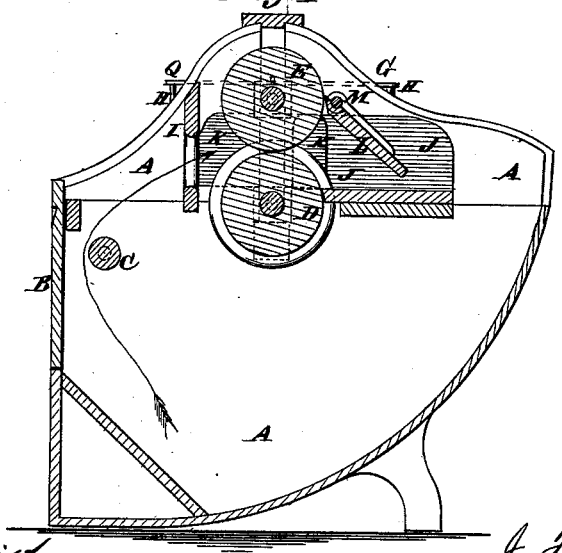


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES HUNTER, OF NORTH ADAMS, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JAMES E. HUNTER, OF SAME PLACE.

IMPROVEMENT IN FULLING-MILLS.

Specification forming part of Letters Patent No. **191,592**, dated June 5, 1877; application filed March 19, 1877.

To all whom it may concern:

Be it known that I, JAMES HUNTER, of North Adams, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Fulling-Mills, of which the following is a specification:

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same. Fig. 3 is a view of the other side of the same. Fig. 4 is a vertical longitudinal section of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of fulling-mills in such a way that there can be no possibility of injuring the cloth while passing through the rollers, and in such a way as to give the operator full control over the friction caused by the tongue or lever upon the goods, whether said goods be heavy or light.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A is the box or vat. B is the slide-door, through which the roll of cloth is inserted in the box A. C is the roller, over which it passes to the fulling-rollers D E. The journals of the lower or grooved roller D work in stationary bearings attached to the middle upper part of the sides of the box A. The upper roller E fits into the groove of the lower roller D, and its journals revolve in bearings F, which slide up and down in vertical slots in the sides of the box A, and to which are attached the middle parts of the springs G.

To the ends of the springs G are attached the upper ends of rods H, which pass down through lugs attached to the sides of the box A, and have nuts screwed upon their lower ends, so that by adjusting the said nuts the tension of the springs G, and the play of the upper roller E, may be regulated as desired.

I is a vertical plate secured in the upper part of the box A, in front of the rollers D E, and having a guide-eye formed in it, through which the cloth passes to said rollers D E.

J is the crimping-box, the sides of which are extended past the rollers D E to the eye-plate I. The extensions K of the sides of the crimping-box J pass close to the rollers D E, and prevent the possibility of the cloths being injured while passing through said rollers.

L is the tongue or lever by which friction is applied to the cloth while passing through the crimping-box J. The tongue or lever L is attached to the shaft M, that passes through and works in bearings in the upper part of the sides of the box A.

To one end of the shaft M is attached a lever, N, upon the outer part of which is placed a ball or weight, O, which is secured in place by a set-screw, so that the tongue may be balanced, as required.

To the other end of the shaft M is attached a lever, N′, to the outer end of which is pivoted the upper end of the rod P, to the lower end of which is attached a weight, O. Upon the rod P is placed a spiral or other spring, Q, the lower end of which rests upon the guide-lug through which the rod P passes, and its other end rests against a collar adjustably attached to the said rod P.

The spring Q may be connected directly with the lever N′ without using the rod P, and the weight O may be omitted, if desired.

By using a double-flanged roller, and extending the crimping-box past the roller, as well as outside of the flanges, I prevent the cloth from getting over the flanges and being thus damaged.

The spring Q is for the purpose of raising the tongue in the crimping-box, and accurately adjusting the pressure on the goods, or removing all pressure therefrom, as is sometimes desirable.

What I claim as new is—

1. The combination of eye-plate I, extended crimping-box J K, and rolls D E, the extensions K passing along the rolls to eye-plate, and the flange of roll D being arranged inside the said extensions, as and for the purpose specified.

2. The combination, with tongue L attached to shaft M, of the rod P attached to lever N, and having a spring, Q, resting against an adjustable collar, as and for the purpose specified.

JAMES HUNTER.

Witnesses:

WALTER S. WRIGHT,

HENRY BUFFUM.