J. DRAPER.

FULLING-MILL.

No. 181,254. Patented Aug. 22, 1876.

Fig. 1.

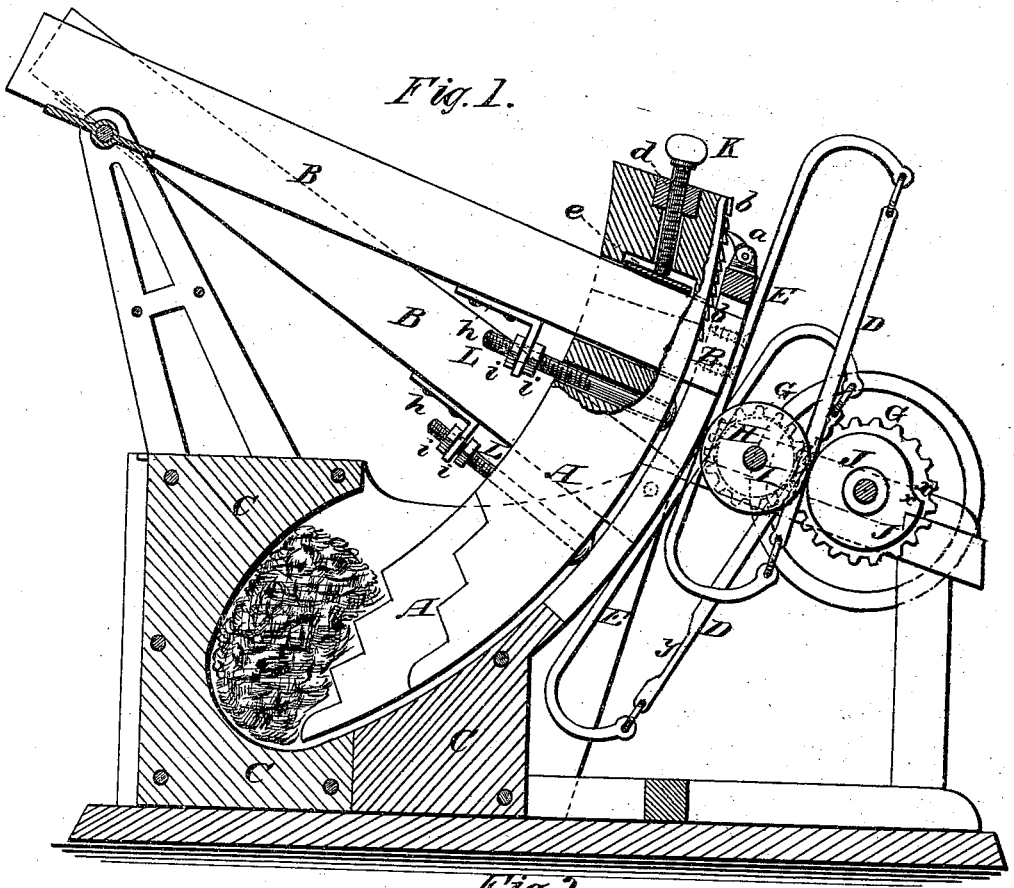
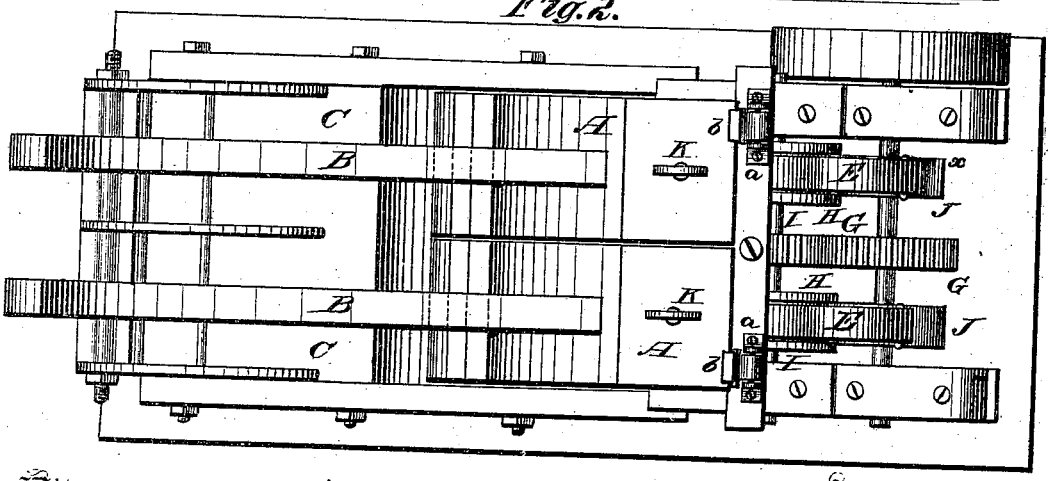


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOSHUA DRAPER, OF MIDDLETOWN, NEW YORK.

IMPROVEMENT IN FULLING-MILLS.

Specification forming part of Letters Patent No. **181,254**, dated August 22, 1876; application filed March 13, 1876.

To all whom it may concern:

Be it known that I, JOSHUA DRAPER, of Middletown, in the county of Orange and State of New York, have invented certain new and useful Improvements in Fulling-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to improve the mills used in fulling cloth hats and other goods; and it consists in a strap, band, or strip of suitable material, which is made to pass over or between a pulley or roller, and receive motion from a revolving friction wheel, block, or cam, said straps or strips being connected with the fulling-blocks or hammers. My invention further consists in the means for adjusting and securing the fulling blocks or hammers on the arms or handles, and in the construction and combination of parts, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a side elevation, partly in section; and Fig. 2 is a plan view of my invention.

A represents the fulling block or hammer, which is attached to the arm or handle B. C is the bed. D represents a strap or strip, which may be made of any suitable material, as leather, wood, or iron. E is a bar of iron or other suitable material, attached to the front end of the arm B, and having its ends bent forward, as shown, and to which the ends of the strap or strip D are attached. H is a pulley or roller, mounted on a shaft, I, the roller being secured thereto. J is a friction wheel or cam, made to revolve continuously. The strap or strip D is placed between said roller and friction-wheel.

The rim of the wheel J is cut away one-half of its diameter, more or less, as shown at *x*. The speed of the mill depends upon the size of the wheels J, and the amount cut away.

The two shafts of the friction cams and rollers may be connected by means of gearing G G, which should be the same size of the cams and rollers, so that the surfaces may travel at the same rate of speed.

When the hammer or head is down at the bottom of the stroke the cam comes in contact with the strap or strip, and the effect is to pinch the same and raise it, and thereby raise the head to the top of its stroke. At this point the wheel or cam has made one-half of a revolution, more or less, so that at this point the cut-away portion *x* thereof comes opposite the strap or strip D, thus letting go the hold thereon, and the head falls by its own gravity.

When the strap or strip D is connected at the bottom to the bar E, there is at this point made a thin portion, *y*, or a thin strip of iron or other suitable material forming the connection, so that when the head is hung up and stopped, the cams and rollers can revolve without pinching or moving the straps or head. The head or hammer is hung up by means of a ratchet-bar, *b*, and pawl *a*, as shown.

Through the top of each head or hammer is passed a screw, K, which passes through a nut, *d*, therein, and presses on a plate, *e*, on the arm B, to hold the head firmly thereon after being put in place by the screw L.

The screw L is secured and projects from the rear side of the head, under the arm, and passes through a plate, *h*, attached to said arm, and nuts *i i* are placed on said screw, so as to move and adjust the head on the arm when relieved by the screw K, and afterward the two screws aid each other in holding the head firmly in its place.

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

1. In a fulling-machine, the combination, with the head or hammer and its arm, of a strap or strip, D, having a thin portion, *y*, near the bottom, and connected to said arm, and a roller and friction wheel, block, or cam, for operating the same, substantially as herein set forth.

2. The combination of the head A, arm B, bent bar E, strap or strip D, roller H, and friction-wheel J, having cut-away portion *x*,

all substantially as and for the purposes herein set forth.

3. The combination, with the head A and arm B, of the screw K, nut *d*, plate *e*, screw L, plate *h*, and nuts *i i*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSHUA DRAPER.

Witnesses:
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