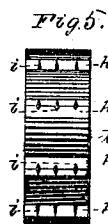
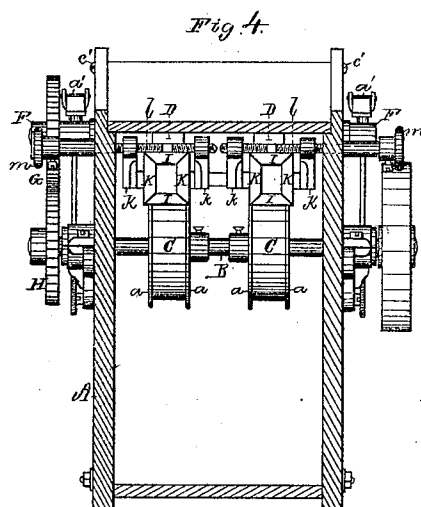
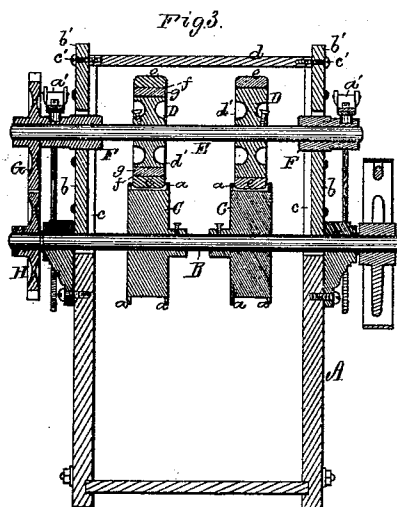
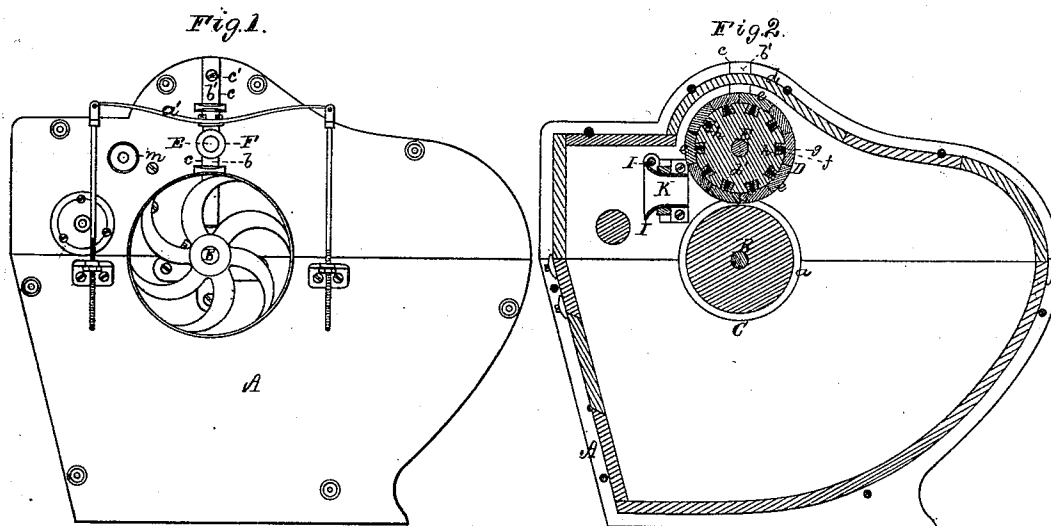


C. P. COOLIDGE.
FULLING-MACHINE.

No. 178,599.

Patented June 13, 1876.



Witnesses.
S. W. Piper
L. W. Miller

Charles P. Coolidge
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

CHARLES P. COOLIDGE, OF ORANGE, MASSACHUSETTS, ASSIGNOR TO
RODNEY HUNT MACHINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN FULLING-MACHINES.

Specification forming part of Letters Patent No. **178,599**, dated June 13, 1876; application filed
February 21, 1876.

To all whom it may concern:

Be it known that I, CHARLES P. COOLIDGE, of Orange, in the county of Franklin and State of Massachusetts, have invented certain new and useful Improvements in Fulling-Machines; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a side elevation, Fig. 2 a longitudinal section, and Figs. 3 and 4 are transverse sections, of a fulling-machine provided with my invention, which relates, first, to a mode of constructing each of the upper squeeze-rollers; second, to the combination of certain movable slides with the frame and the squeeze-rollers, such slides being to prevent contact of the upper with the lower of the squeeze-rollers; third, in adjustable jaws, combined with the squeeze-rollers, and having mechanism for simultaneously moving them (the said jaws) toward or away from each other.

Of the drawings, the section termed Fig. 3 is taken through the squeeze-rollers and their supporters, while the section termed Fig. 4 is just in advance of the adjustable jaws, the longitudinal section being taken between the jaws of one pair.

In the drawings, the case or frame of the machine is shown at A, there being extended laterally through it a driving-shaft, B, provided with two flanged squeeze-rollers, C C, arranged as shown. Each of the said rollers has flanges *a a* at its ends, between which flanges one of two upper or other squeeze-rollers, D D, is placed, these latter rollers being fixed on a transverse and horizontal shaft, E, supported in boxes F F, and geared to the driving-shaft by two gears, G H. As in other machines, the boxes F F have springs *a' a'* for pressing them downward; but each of the said boxes rests on one of a pair of slides, *b b'*, arranged within a vertical opening, *c*, made in the side of the case, the lower slides *b b* being long enough to prevent the peripheries of the upper squeeze-rollers from contact with those of the lower rollers. The upper slides *b' b'* are fastened by screws *c'* to the top *d* of the box or frame, and thus limit

the height to which the upper squeeze-rollers can rise without coming into contact with the said top. The lower slides also serve to determine the distance to which the upper squeeze-rollers may approach the lower ones. The lower slides rest directly upon the driving-shaft. The vertical openings *c* and their pairs of slides *b b'* admit of the driving-shaft and its squeeze-rollers being removed from or applied to the box of the machine. Each of the upper feed-rollers is composed of a metallic wheel, *d'*, and a series of arcal wooden sections, *e e*, applied to and extending around the periphery of the said wheel. Each arcal section has projecting down from its middle a tongue, *f*, grooved lengthwise to receive a key, *g*, which is dovetailed in cross-section, and somewhat tapering. Furthermore, the wheel has extending through it, at its periphery, a series of dovetailed grooves, *h*, to receive the tongues *f*.

Fig. 5 is a top view of one of the wheels without its wooden covering, from which it will be seen that there is to each of the grooves a series of sharp projections, *i*, extending inward from its sides. On the tongue of an arcal section being inserted in the groove, and a dovetailed key being driven into the tongue, the latter will be spread into the dovetailed groove, and against the projections *i*, which, entering the tongue, will prevent the section from working laterally out of the groove.

In front of each of the spaces between the squeeze-rollers of each pair is a pair of horizontal jaws, I I, arranged at a proper distance asunder, and having between them two movable vertical jaws, K K. These jaws, suitably jointed to move horizontally, have projections *k k* extending up from them. These projections receive a rotary screw-shaft, *l*, fixed in the frame so as to be capable of a rotary motion only on its axis. The rod has one right-threaded and one left-threaded screw to screw into and through the said projections, there being to the rod a milled head, *m*, to enable it to be revolved. On turning the rod one way the movable jaws will be made simultaneously to approach each other, counter movements of

them being produced by revolving the rod the opposite way. The piece of cloth, having its ends secured or connected together, passes between a pair of movable jaws, and thence between a pair of the squeeze-rollers, thence through a box provided with a presser; thence the cloth falls into the space within the box or frame, thence through the lifter of the stop-motion.

By having the jaws of each vertical pair of jaws adjustable and movable, as described, they may be readily set at their proper distance asunder, according to the thickness or quality of the cloth.

Having thus described my invention, what I claim in a fulling-machine is as follows, viz:

1. The box or frame A, having the slot *c* in each of its sides, and provided with the pair of movable slides *b b'* to each of such slots, such slides being to limit the vertical move-

ments of the upper squeeze-rollers, and prevent them from contact with either the lower squeeze-rollers or the top of the case.

2. Each upper squeeze-roller arcal section *e*, provided with the grooved tongue *f* and its dovetailed key *g*, in combination with the wheel *d'*, provided with the dovetailed groove *h*, and the series of projections to each, to operate with said tongue and its key, as set forth.

3. The combination of the pair of stationary horizontal jaws I I and the pair of movable vertical jaws K K, provided with mechanism, as described, for simultaneously moving them either toward or away from each other, and between the stationary jaws, all being substantially as specified.

CHARLES P. COOLIDGE.

Witnesses:

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