ANDREW J. WOODMAN.

Improvement in the let-off Mechanism for Looms.

No. 120,843. Patented Nov. 14, 1871.

Fig. 1.

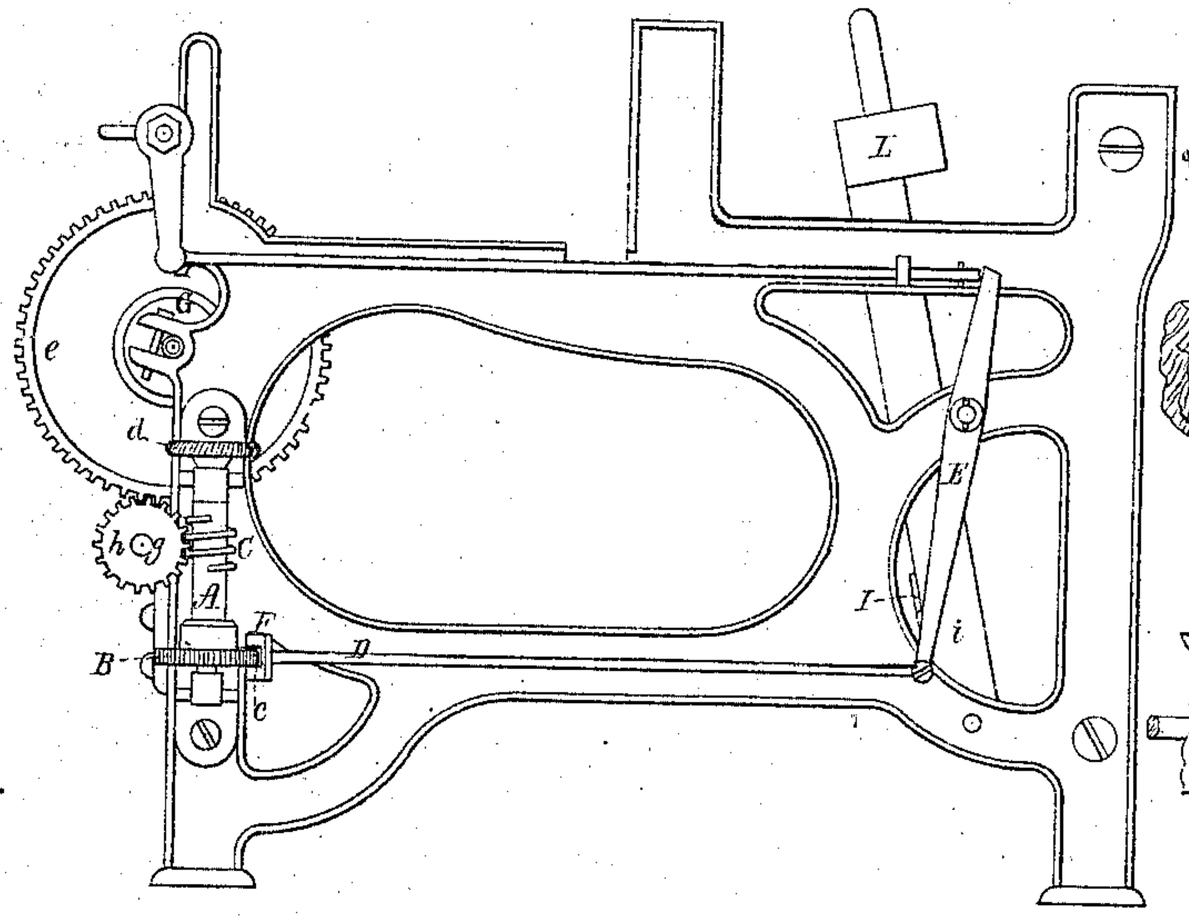


Fig. 2.

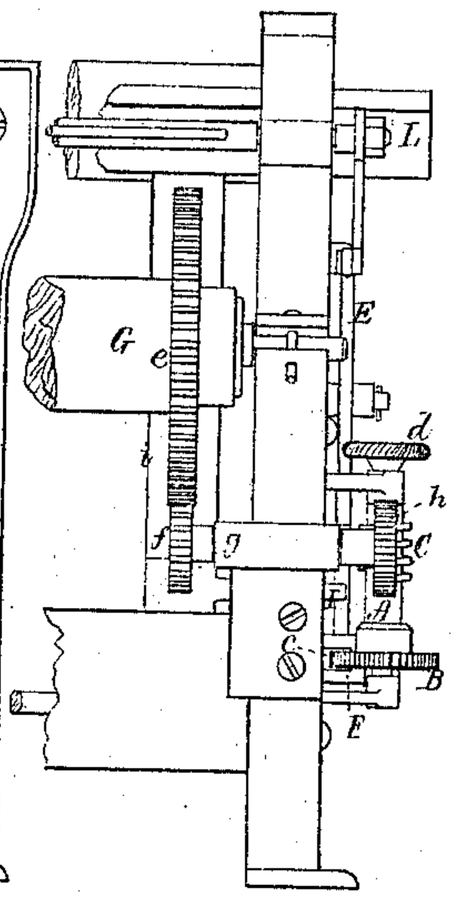
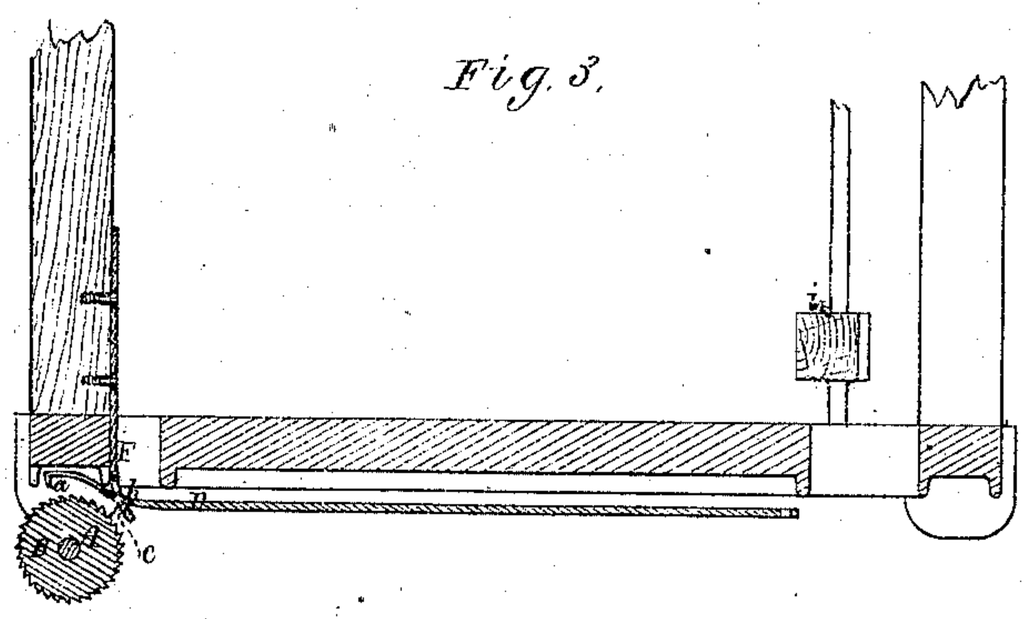


Fig. 3.



Witnesses.
S. N. Pipes
L. N. Möller.

Andrew J. Woodman.
by his attorney.
R. H. Eddy

AM. PHOTO-LITHOGRAPHIC CO. N.Y (OSBORNE'S PROCESS.).

120,843

UNITED STATES PATENT OFFICE.

ANDREW J. WOODMAN, OF INDIAN ORCHARD, MASSACHUSETTS.

IMPROVEMENT IN LET-OFF MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. 120,843, dated November 14, 1871.

To all whom it may concern:

Be it known that I, ANDREW J. WOODMAN, of Indian Orchard, of the county of Hampden, of the State of Massachusetts, have invented a new and useful Improvement in the Let-off Mechanism of a Loom; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is an end elevation, and Fig. 2 a side view of a loom-frame with my invention applied thereto. Fig. 3 is a horizontal section of such taken through the ratchet-wheel of the let-off motion or mechanism.

Such drawing represents those parts of the let-off motion with which my improvement has special reference, they being the worm-shaft A, the ratchet-wheel B, the worm C, the pawl D, its actuating lever E, and the actuator or stud I, the latter being projected from the sword *i* of the lay L, all being arranged as shown. To connect these parts with the yarn-beam or roller G there is upon the shaft of the latter a gear, *e*, which engages with a pinion, *f*, on another shaft, *g*, which carries a worm-gear, *h*, to engage with the worm C, all of which will be understood by persons skilled in weaving or in the construction and use of looms therefor. The ordinary mode of operating the ratchet-wheel is by an impelling pawl to act against it on its front. Instead of such I make use of a draw-pawl or pawl, D, furnished with a hook, *a*, such pawl being disposed between the ratchet-wheel and the loom-frame. I form the pawl with a bend or cam, as shown at *b*, and support it at or near such bend or cam by means of a staple or slotted plate, F, extended from the loom-frame, the pawl being to slide through or in the slot *c* of the said plate.

On the top of the shaft A there is fixed a hand-wheel, *d*. By taking hold of such wheel and revolving it in one direction the draw-pawl will be moved so as to carry its cam *b* against the front end of the slot *c*, whereby, by continuance of the motion of the hand-wheel, the draw-pawl will be caused by the cam to be thrown out of engagement with the ratchet-wheel. This enables a person at any time to revolve the yarn-beam in either direction by manual power applied to the hand-wheel, it being frequently desirable to do so for reasons well understood by weavers.

Under ordinary circumstances the weaver has to take hold of the impelling pawl and draw it away from the ratchet before it can revolve the beam. In so doing he is liable to get oil or dirt upon his hands and to soil the cloth thereby; but with my improvement the disengagement of the draw-pawl and the ratchet-wheel is automatically effected during the act of turning back the worm-shaft and by the power employed to accomplish such, and by the cam *b* and slotted plate F, all as explained.

I claim—

The combination of the cam *b* and slotted plate F, or their mechanical equivalent or equivalents, with the draw-pawl D and its actuating-lever E, and the ratchet-wheel B, the shaft A, and the worm C thereof, and the worm-gear *h*, the shaft *g*, the pinion *f*, and the gear *e* applied to the yarn-beam G, all being arranged and to operate substantially as explained.

ANDREW J. WOODMAN.

Witnesses:

ERSKINE PERRY,

ALBERT C. EATON.

(95)