O. M. STILLMAN.

WEFT-STOP MECHANISM FOR LOOMS.

No. 169,596. Patented Nov. 2, 1875.

*Fig. 1.*

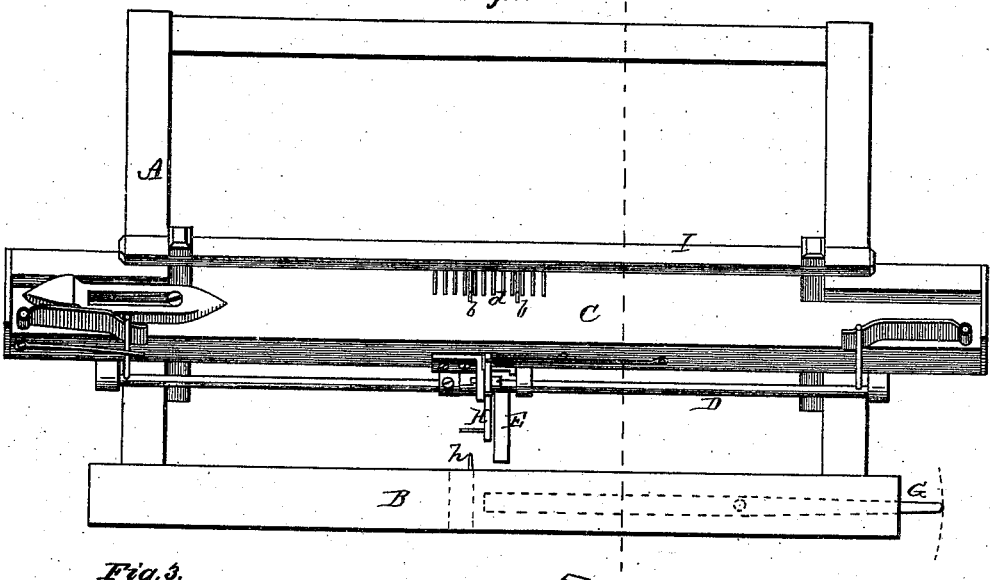



*Fig. 3.*

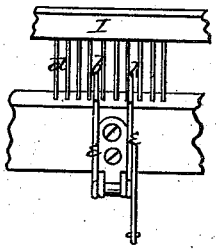



*Fig. 2.*

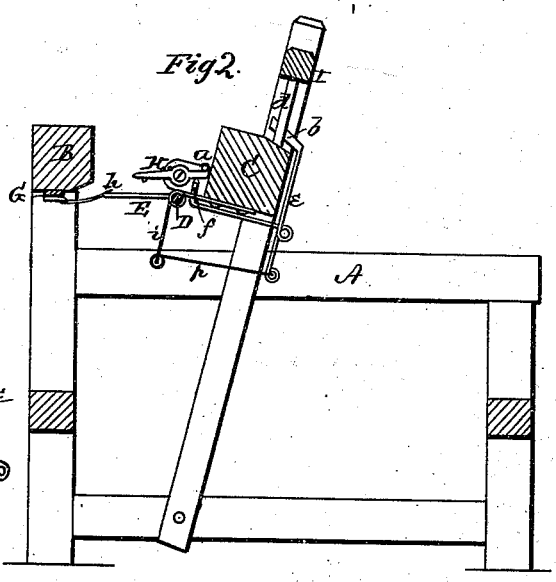
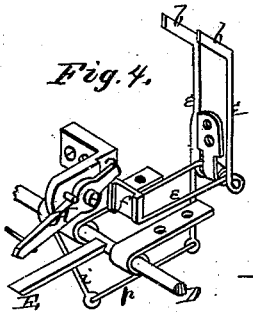



*Fig. 4.*




WITNESSES

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# UNITED STATES PATENT OFFICE.

ORSEMUS M. STILLMAN, OF WESTERLY, RHODE ISLAND.

## IMPROVEMENT IN WEFT-STOP MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **169,596**, dated November 2, 1875; application filed April 6, 1875.

*To all whom it may concern:*

Be it known that I, ORSEMUS M. STILLMAN, of Westerly, in the county of Washington and in the State of Rhode Island, have invented certain new and useful Improvements in Looms; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a stop-motion for looms of that class in which the shed is closed upon the weft-thread as the lay moves forward, and before the thread is beaten up to the web, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of a part of a loom embodying my invention. Fig. 2 is a transverse vertical section of the same through the line *x x*, Fig. 1. Fig. 3 is a rear view of a part of the lay of the loom. Fig. 4 is a perspective view of the stop-motion.

A represents the frame of a loom. B is the breast-beam thereof. C is the lay, on the front of which is the protecting-rod D, with pin or arm E, for operating the belt-shifting lever G when the shuttle fails to operate the protecting-rod. Over the protecting-pin E is a small bar or lever, H, pivoted to a stand on the lay C, and said lever is sustained by a small wire spring, *a*. The long and forward end of this lever is adapted to vibrate up and down, so as to strike the belt-shifting lever G, placed under the breast-beam, or pass below it, according as the filling is present or absent as the lay beats up, the downward vibrations being produced by the thread of filling coming against a set of thin metal plates, *b*, passing through between the splits or dents *d* of the reed I from behind it. The plates *b* are attached to arms *e*, hinged on the back of the lay, and having extensions, which project forward and connect with a plate, *f*, under the inner end of the bar or lever H. As the lay moves forward and the shed closes, sufficient friction is produced on the weft-thread to cause it to press back the upper ends of the arms *e*, and thereby throw their forward ends, with the plate *f*, upward, so as to turn the lever H and cause its forward end to pass below the shifting-lever; but if the filling is not thrown in, or breaks, the plates *b* are not thrown back until the forward end of the lever H passes over a supporting-piece, *h*, attached to the under side of the breast-beam, by which the lever is kept up until it strikes the shifting-lever and stops the loom. The thin plates *b* are placed at the height in the reed that the cloth comes when the lay is up to it. When a thread of filling is thrown into the shed the lay comes forward, with the plates, against the thread; and, as the shed closes upon the thread, sufficient friction is produced in forcing along the thread to press back the plates, and thereby change the position of the finger, that would otherwise strike the belt-shifting lever. A short arm, *i*, is attached to the under side of the protecting-rod D, and connected to the arm *e* back of the lay by a loose link, *p*, so constructed as to be tightened up by the protector-rod when the shuttle leaves the box. The rocking of the protecting-rod throws back the plates *b* as the shuttle leaves the box, thus being out of the way as it passes, and allowed to come forward, as the shuttle enters the other box, by the action of the spring *a* on the lever H, communicated to said plates through the plate *f* and arms *e*. The shuttle, when moved out and in, rocks the protecting-rod, which loosens the connection with the plates when the shuttle is in, and leaves them free to be acted on by the filling. When the shuttle leaves the box the protecting-rod rocks sufficiently to tighten up the connection with the plates, and brings them back out of the way of the passing shuttle.

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

1. In combination with a lever, H, pivoted to a stand on the lay of a loom, one or more thin plates, *b*, projecting between the dents

of the reed toward the cloth, and a connecting mechanism, substantially as described, whereby, when the plate or plates are driven back by the filling, the lever will be moved sufficiently to prevent its acting on the belt-shipping lever of the loom, substantially as herein set forth.

2. The combination, with the lay and reed of a loom, of the thin plates *b*, arms *e*, plate *f*, and pivoted lever H, with sustaining-spring *a*, all substantially as and for the purposes herein set forth.

3. The supporting arm or piece *h*, attached to the breast-beam B, in combination with the bar or lever H, for sustaining and guiding such latter device against or below the belt-shifting lever, substantially as herein set forth.

4. The combination, with the plates *b* and arms *e*, of the protecting-rod D, arm *i*, loose link *p*, and the arm *e*, for removing the plates from the path of the shuttle by the rocking of the protecting-rod, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of March, 1875.

ORSEMUS M. STILLMAN.

Witnesses:

O. S. HYDE,

T. R. HYDE.