(No Model.)

O. A. SAWYER.

WEFT STOP MOTION FOR LOOMS.

No. 343,732. Patented June 15, 1886.

Fig. 2

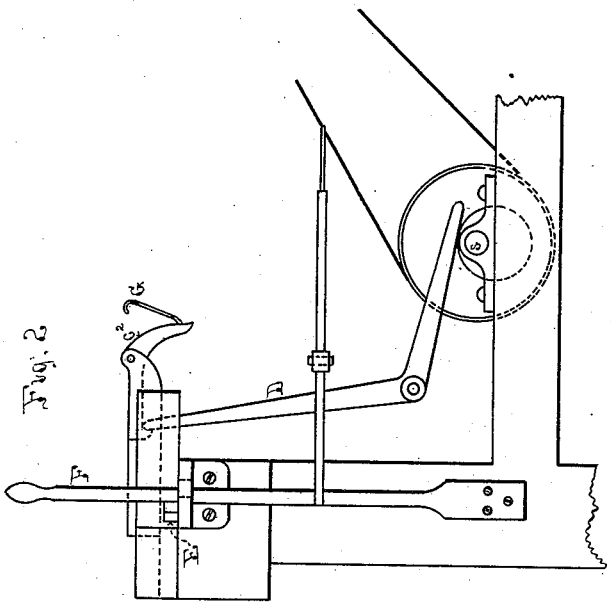


Fig. 1

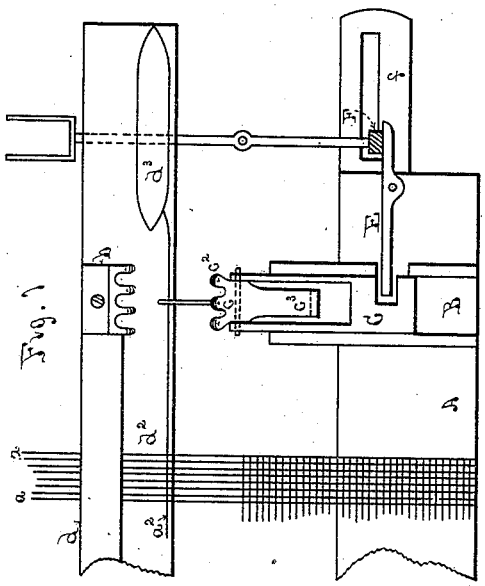


Fig. 3

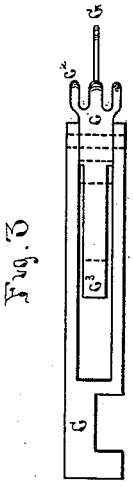
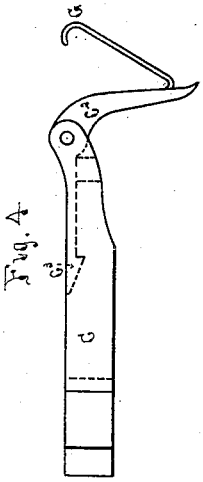


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

ORREN A. SAWYER, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO MOSES M. LAHUE, OF SAME PLACE.

WEFT-STOP MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 343,732, dated June 15, 1886.

Application filed December 19, 1881. Serial No. 48,182. (No model.)

To all whom it may concern:

Be it known that I, ORREN A. SAWYER, of the city of Lowell, county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in Weft-Stop Motions for Looms, of which the following is a specification.

My improvement relates to power-looms using the ordinary well-known stop-motion fork; and its objects are to guide the weft-thread to such point on the stop-motion fork as to render it certain to operate said fork and to carry the thread into such position as will bring the least possible strain upon it while operating said fork. I accomplish these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view showing one end of the breast-beam of a loom, the usual weft-stop mechanism belonging thereto, one end of the lathe with the weft-grating connected thereto, and the weft-guide. Fig. 2 is an end view of the mechanism seen in Fig. 1, the lathe being omitted. Figs. 3 and 4 are details.

A is the breast-beam.

B is the supporting-plate or slideway in which the stop-motion-fork carrier C slides.

c is the stop-motion fork, provided with tines c^2 and shank c^3, which latter has a hook upon its lower side above the end of the dog D, which is oscillated by the cam *s'* on the shaft *s* at each beat of the lay.

E is a lever placed horizontally on the top of the breast-beam A, one end of which engages in a notch in the fork-carrier, and the other end bears against the belt-shifting lever F when it is at rest in the retaining-notch of the slotted plate *f*.

d is the hand-rail of the lathe. Through the usual reed, below the hand-rail, the warp-threads *a a* pass.

b is the weft-grating.

When the hook on the shank of the fork fails to be lifted by the action of the weft upon tines c^2, the dog D, catching in it, moves the carriage C back in the slideway and operates the lever E, which pushes the belt-shipping lever F out of its retaining-notch in the slotted plate *f*, and permits the spring which operates the lever to throw it over and shift the belt which drives the loom, so as to put it onto the loose pulley, and thus permit the loom to stop. All these parts or their equivalents are old and well known, as is also the method of their operation, and further description of them or their operation is not necessary, it only being desired to show and describe enough of these parts to properly locate the place of application of the thread-guide, which I have combined with the stop-motion fork.

G is the thread-guide, which consists of a wire or light strip of metal attached to the lower part of one of the tines of the fork, and having its upper end extended so as to be in rear of the fork and as high as will pass through the weft-grating, such end being caused to project at such an angle that when the weft-thread is caught between it and the grating it will be guided down, sliding against the thread-guide to a point near the lower end of the fork-tines before coming into contact with them or operating the fork in the usual manner.

Heretofore the filling-thread has been caught between the fork and the grating at whatever point on the fork it might happen to be, and as the fork-tines pushed it against the face of the grating the fork was oscillated and its hook lifted above the end of the dog, as before mentioned. If, however, the thread came in contact with the fork near the top of the tines, it was frequently broken when weaving light fabrics, because the thread operated against the fork much nearer its pivotal point, and did not have strength to resist the great strain brought upon it when so borne upon by the fork, while having ample strength to operate the fork of the stop-motion when it came in contact with the fork-tines near their ends. It is to prevent this kind of accidents that my combination is especially designed, and its operation may be thus described.

As the lathe moves forward after each shot to beat the filling into place, the thread will in all cases pass under the elevated end of the guide, and if the thread be above the level of a proper contact-point on the fork it will as it is carried toward the fork be brought into contact with the inclined portion of the thread-guide, and by it be guided down to a plane

slightly above the ends of the fork-tines before it is caught between the fork and the grating, and will therefore at each beat of the lathe be always carried into the best position to operate the fork.

What I claim as new and of my invention is—

1. In a loom, the combination of the stop-motion fork *c* with the thread-guide G, mounted upon said fork and adapted to guide the filling against the fork-tines near their ends, substantially as described.

2. In a loom, the combination of the stop-motion fork *c* with the thread-guide G, mounted thereon, and the grating *b*, substantially as described.

ORREN A. SAWYER.

Witnesses:
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