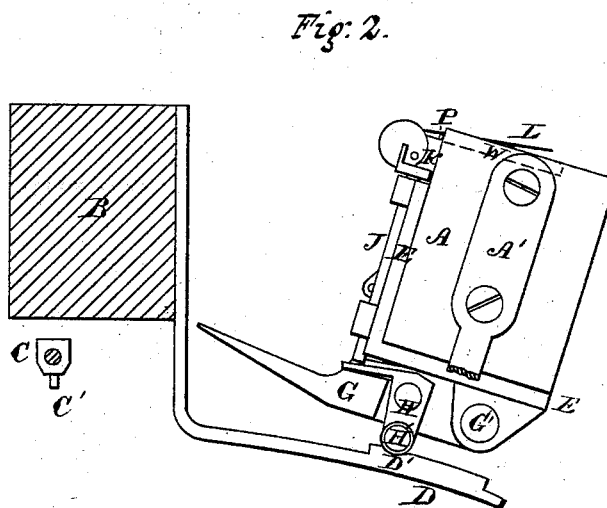
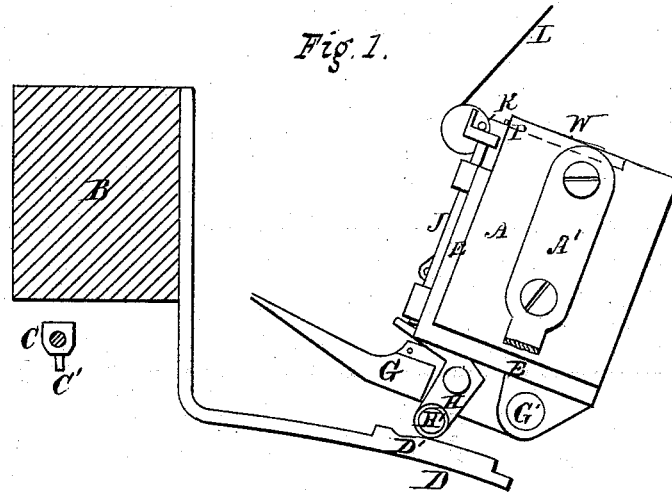


F. O. TUCKER.
Stop-Motion for Looms.
No. 217,028. Patented July 1, 1879.



Witnesses

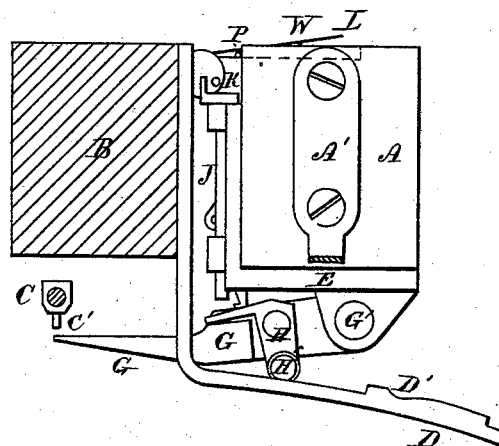
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Fig. 3



Witnesses

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Fig. 4

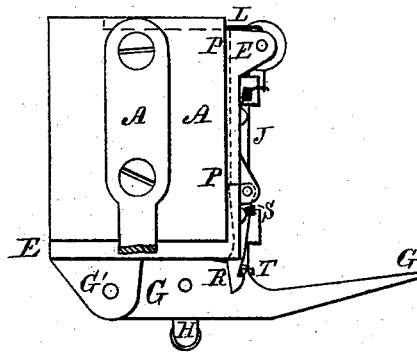
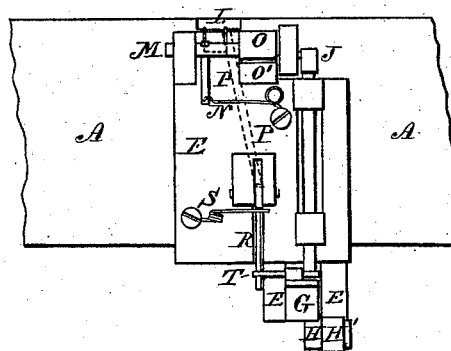


Fig. 5



Witnesses

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UNITED STATES PATENT OFFICE.

FREDERICK O. TUCKER, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN STOP-MOTIONS FOR LOOMS.

Specification forming part of Letters Patent No. **217,028**, dated July 1, 1879; application filed January 7, 1879.

To all whom it may concern:

Be it known that I, FREDERICK O. TUCKER, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Stop-Motions for Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to mechanism to be attached to looms for the purpose of automatically stopping their motion whenever the weft-thread, from breakage or other cause, fails to properly pass through the warp.

Stop-motions for this purpose of various constructions have heretofore been in use, and the object of my invention is to provide a simpler, better, and more effective mechanism than has ordinarily been employed.

My invention consists in the construction and arrangement of the several parts of the mechanism, which will be hereinafter described.

In the accompanying drawings, on three sheets, Figure 1 is a side view of my improvement with the lay in its extreme rearward position. Fig. 2 is a view on the same side with the lay slightly advanced after the shuttle has been thrown. Fig. 3 is a view from the same side when the lay is in its extreme forward position. Fig. 4 is a view from the opposite side, with the lay in the positions shown in Figs. 2 and 3, but with the weft-thread absent, so that the dagger is hooked up instead of remaining unhooked, as in the previous figures. Fig. 5 is a front view with the parts in the same position as in Fig. 4.

A is the lay-beam, which rocks back and forth upon the arms A', which are attached to centers below, but which are shown as cut away in the drawings in order to show parts beyond. B is a part of the fixed frame of the loom. C is a shaft, upon which is the dog C', the moving of which turns the shaft and stops the machine. D is a cam upon an arm attached to the frame of the machine for operating the stop-motion. E is a metallic plate

for holding the several parts of the stop-motion. It is secured to the bottom and front of the lay, as shown in the drawings. G is the dagger, the forward point of which comes in contact with the dog C' to stop the loom. This dagger is hinged at G' to the plate E, so that its point can rise or fall as required. H is a rocking lever, pivoted to the dagger G, and furnished at its lower end with the roller H', which runs upon the cam D. J is a bolt sliding vertically in suitable bearings in the plate E, with its lower end resting upon the forward end of the lever H. A head upon the upper end of this bolt acts upon the crank-pin K, to lift the feeler L as the lay passes back into the position shown in Fig. 1.

M is the arbor of the feeler L. It turns in bearings upon the plate E in such a manner that the feeler is raised by the pin K, and is drawn down by means of the spring N and its connecting-strap, which winds around the arbor M, so as to draw down the feeler by the tension of the spring. The feeler is formed of two wires, which are inserted into this arbor in the following manner: Both feeling-wires are of one piece, bent in the middle, and passed through two holes in the arbor, the part connecting the two wires lying in a groove in the bottom of the arbor, so as not to project beyond its surface.

The bearing O of the arbor M is furnished with a slot, O', so that when the feeling-wires are turned back opposite to it the arbor M can be withdrawn. When the feeler is in this position the bolt J can be lifted out of its socket, so as not to interfere with the removal of the feeler.

P is a push-bar sliding vertically in a groove in the inside surface of the plate E. Its position is shown by the dotted lines in Figs. 4 and 5, and its upper end is seen in Figs. 1, 2, and 3. It projects above the top of the plate E when the weft-thread is in place; but when the thread is wanting it is pushed down by the feeler and presses against the rear end of the latch R, so as to throw the hook forward and catch the pin T upon the side of the dagger.

S is a spring which presses back the lower arm of the latch R, and raises the bar P. The latch R turns upon a bearing in the plate E, as shown in the drawings.

W is the weft-thread, which when present holds up the feeler, so that it cannot press down the push-bar P.

The operation of my improved stop-motion is as follows: When the lay passes to its rear-most position, (shown in Fig. 1,) the roller H' rises on the higher part of the cam D, and, through H and J, lifts the feeler-wires to a position nearly at right angles to the top surface of the lay. In this position the shuttle passes through the warp. As the lay moves forward, the roller H' enters the nick D' in the cam, and, holding it there for a moment, throws down the front end of H and allows the feeler to fall, under the influence of the spring N, until it meets the weft-thread which has been left by the shuttle. This position is shown in Fig. 2. As the lay advances still farther forward, the roller H' presses down the cam, the arm of which is made sufficiently elastic for this purpose, and then drops off the forward end. This permits the point of the dagger to fall, and as the lay reaches its forward position the point passes under the dog C', and the loom is not stopped. If, however, the weft-thread is not in its place when the feeler drops, this latter comes in contact with the push-bar P, and hooks the latch R under the pin T upon the dagger, as shown in Fig. 4.

Then, when the roller H' passes off from the cam D, the dagger does not fall, being held up by the latch R, and its point comes in contact with the dog C', and pushes it so as to stop the machine.

What I claim as my invention is—

1. The combination of the cam D, provided with the notch D', the dagger G, the bolt J, provided with a head, as shown, and the rotating feeler L, provided with the crank-pin K, substantially as described.

2. The weft-feeler consisting of the arbor M and the fork composed of two wires in one piece, bent and inserted into the arbor M, the connecting part lying in a groove in said arbor, substantially as herein described.

3. The bearing O, provided with the slot O', in combination with the arbor M and the feeler L, substantially as and for the purpose herein described.

4. The combination of the feeler L, the push-bar P, the latch R, and the spring S with the dagger G and its pin T, whereby said dagger is locked when the weft-thread is absent, substantially as herein described.

FREDERICK O. TUCKER.

Witnesses:

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WILMOT HORTON.