No. 871,704. PATENTED NOV. 19, 1907.

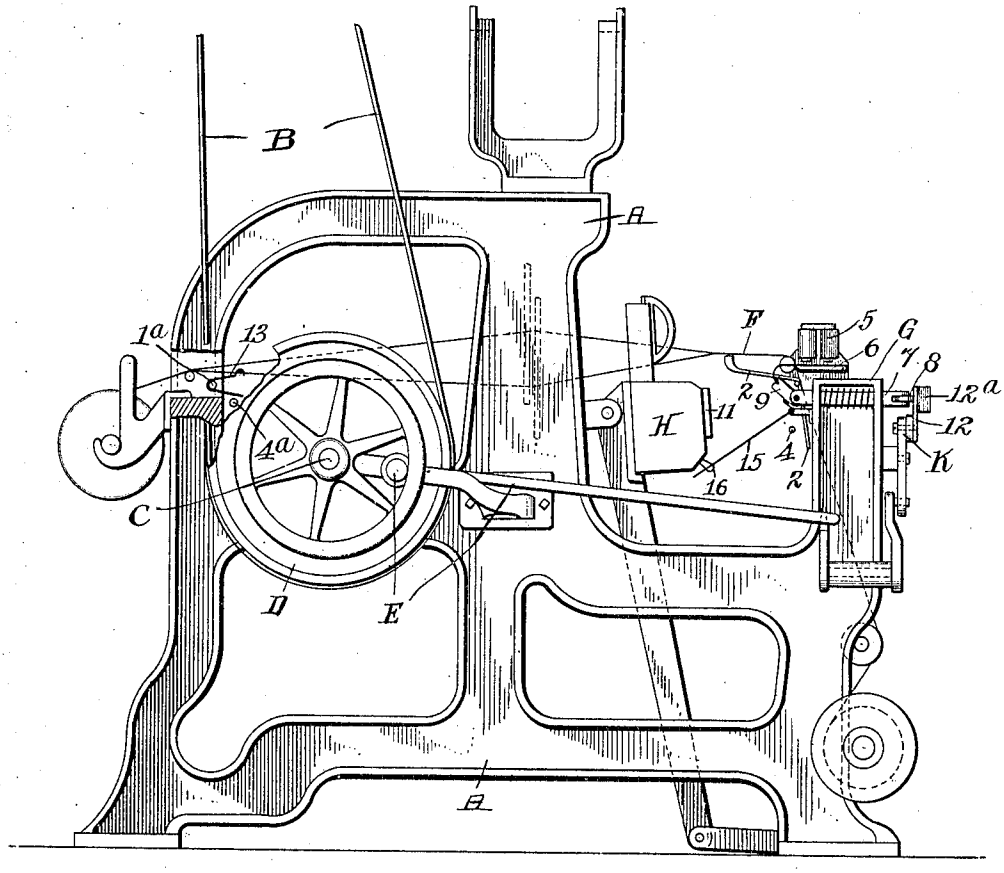
S. KENDRICK.

EMERGENCY STOP MOTION FOR NARROW FABRIC LOOMS.

APPLICATION FILED JAN. 26, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



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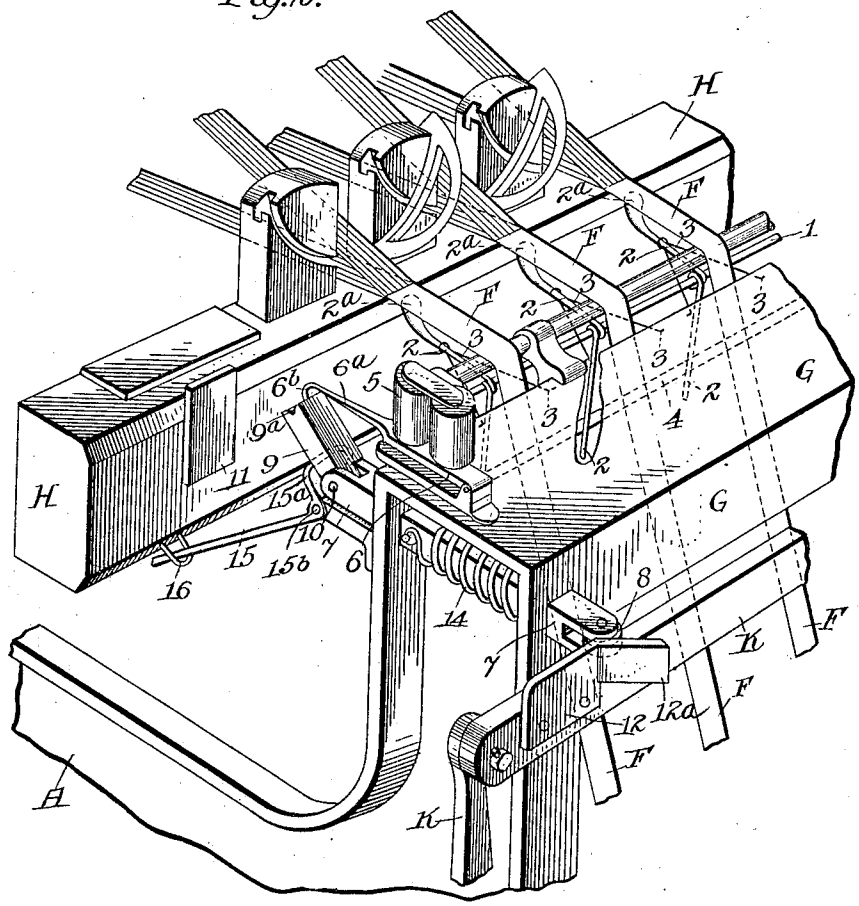
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APPLICATION FILED JAN. 26, 1907.

2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

SOLOMON KENDRICK, OF ROCHESTER, NEW YORK, ASSIGNOR TO VOGT MANUFACTURING AND COACH LACE COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

EMERGENCY STOP-MOTION FOR NARROW-FABRIC LOOMS.

No. 871,704. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed January 26, 1907. Serial No. 354,335.

To all whom it may concern:

Be it known that I, SOLOMON KENDRICK, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Emergency Stop-Motions for Narrow-Fabric Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an emergency stop motion for narrow fabric looms, and is especially designed to quickly and positively stop the loom when the filling thread breaks and to automatically reset the stopping mechanism.

With this object in view, my invention consists in the following features of construction and arrangement and combination of parts as will be hereinafter described and claimed, and shown in the accompanying drawings, in which—

Figure 1 is an end view of an ordinary type of loom provided with my improvements; and Fig. 2 is a detail perspective view, on an enlarged scale, of the improved stop operating mechanism.

Referring to the figures, A represents the frame of the loom of the usual construction. B is the driving belt, and C is the driven shaft having thereon the pulleys D. In devices of this character fast and loose pulleys are usually employed and mechanism as indicated at E is operated by the movement of the shipper to throw said belt from the fast to the loose pulley or vice versa. However, I may resort to other means for positively stopping the loom, as this invention relates more particularly to the mechanical means for operating the shipper.

In the loom, as shown particularly in Fig. 2, F are the webs which it is designed to produce; and mounted on a longitudinal rod 1 and directly beneath each of the said webs F are the tripping levers 2. These tripping levers 2, consist essentially of an L-shaped piece of copper wire, coiled in the bend thereof, around the supporting rod 1, and further provided with a flattened and sharpened end 2^a, adapted to be pressed into engagement with the under face of the webs F, by means of springs 3. Mounted below the supporting rod 1 and extending parallel therewith, is the contact wire 4, which remains slightly in advance of the lower arm of the tripping levers 2, when the same are in the normal position. Suitable electrical connections are, in practice, disposed between the contact wire 4 and an electro-magnet 5 mounted on the beam G of the loom in such manner that when the trip levers 2 contact with the wire 4, a circuit will be completed and the electro-magnet 5 will be energized to draw the armature 6 upward. Mounted in slots in the beam G is a bar 7 having bifurcated ends. A roller 8 is mounted in one of said bifurcations, and in the other is pivoted a swinging block 9 by means of a pin 10.

The armature 6 is provided with an extension 6^a, terminating in a hook 6^b, which is normally adapted to engage within a groove 9^a, in the swinging block 9 to hold same upwardly at an angle free from contact with the baton H as the latter moves forward. In operation, however, when there occurs a break in the filling thread, the end 2^a of the trip lever 2, will be projected through the web F allowing its lower arm to move forward into contact with the wire 4, thus energizing magnet 5 and drawing armature 6 upward to release the swinging block 9. With the block 9 in this position, the buffer plate 11 attached to the baton H will, on the forward movement of the latter, strike the end of the block 9, and will drive the endwise movable bar 7 forward thus riding roller 8 against the beveled extension 12^a, of a plate 12. In this manner the shipper K, to which plate 12 is attached, will be forced longitudinally a distance sufficient to set into operation the means for shifting belt B and applying the brake etc., in the well known way. In a like manner when weaving elastic goods, I provide a bent member 13 coiled about a supporting rod 1^a, shown to the left of Fig. 1, and having one arm hung over the elastic thread and the other arm extending above a contact wire 4^a, so that when the elastic threads break, member 13 will contact with wire 4^a, and a circuit will be completed with magnet 5 through suitable electric connections as between wire 4 and magnet 5.

The means for automatically resetting the mechanism are as follows:—A coil spring 14 is mounted about bar 7 of sufficient strength to return said bar to its normal position when the web has been repaired and the circuit broken. A rod 15 is bent to form a right angled arm 15^a and is pivoted at the point of bending to a bracket 15^b mounted on the loom frame, beneath the swinging block 9, against the lower face of which the arm 15^a is adapted to lie. A staple 16 is driven into the baton H, and through this staple the rod 15 is adapted to project. Thus when the web has been repaired, bar 7 will be returned to its normal position by spring 14 and the loom having been again started, the backward movement of the baton H will raise the free end of rod 15, and, consequently, raise the portion 15^a, thereof, forcing the swinging block 9 upward until the hook 6^b, of the armature 6, again engages within the groove 9^a, as described.

It is obvious from the foregoing that should the shutters get out of order from any cause the weaving will be faulty, and the mechanism will operate to stop the loom the same as when there occurs a break in the filling thread.

It will be seen that any suitable electrical wires may be interposed where they are needed, and I only claim such connections broadly.

What I claim otherwise is—

1. In a device of the character described, the combination with the shipper, of a baton, the tripping mechanism, means operable upon the actuation of said tripping mechanism for throwing said shipper, and means directly operated by the baton to reset said tripping mechanism, substantially as described.

2. In a device of the character described, the combination with the shipper, of a baton, the tripping mechanism, means operable upon the actuation of said tripping mechanism for throwing said shipper, and means directly operated by the baton in its rearward movement to reset said tripping mechanism, substantially as described.

3. In a device of the character described, the combination with the shipper, of a baton, the tripping mechanism, means adapted to be operated by the forward movement of the baton to throw said shipper upon the actuation of said tripping mechanism, and means directly operated by the baton in its rearward movement to reset said tripping mechanism, substantially as described.

4. In a device of the character described, the combination with the shipper, of a bar for operating said shipper arranged adjacent thereto, a baton, a swinging member on said bar normally held upward out of the path of travel of the baton, mechanism for tripping said swinging member, and means operated by the rearward movement of the baton for resetting said tripping mechanism, substantially as described.

5. In a device of the character described, the combination with the shipper, of an operating bar therefor arranged at right angles to said shipper, a baton, a swinging member supported on one end of said bar and normally held out of the path of travel of the baton, mechanism for tripping said swinging member whereby the baton will strike said member, when tripped, on its forward movement and will drive said bar against the shipper, a spring arranged to return said bar to the normal position, and means operated by the rearward movement of the baton for returning said swinging member to its normal position, substantially as described.

6. In a device of the character described, the combination with the shipper provided with a beveled portion, of an operating bar therefor arranged at right angles to said shipper, a baton a roller mounted on one end of said bar and engaging said beveled portion, a swinging member mounted on the other end of said bar and normally held upward out of the path of travel of the baton, and mechanism for tripping said member down whereupon the operating bar will be operated by the baton to throw the shipper, substantially as described.

7. In a device of the character described, the combination with the shipper, of an operating bar therefor arranged adjacent said shipper, a baton a swinging member on said bar normally held upward out of the path of travel of the baton, mechanism for tripping said swinging member down, into the path of movement of said baton, a rod pivotally attached to said operating bar and having a portion bent at right angles and lying beneath said swinging member, said rod being loosely mounted at its other end through a staple attached to the baton whereby when the latter moves rearward, the swinging member will be reset, substantially as described.

8. The combination in a narrow fabric loom for weaving a plurality of webs, of a plurality of tripping levers suitably mounted beneath said webs, a contact wire arranged adjacent to the lower portion of said levers, springs arranged to force said levers through the web when the filling thread breaks, and to make contact with said wire, an electromagnet in circuit with said wire, a swinging member mounted adjacent said magnet, a baton an armature normally holding said member upward out of the path of travel of the baton and adapted to release same upon the actuation of said magnet, and means for throwing the shipper when the baton strikes said swinging member, substantially as described.

9. The combination in a narrow fabric

loom for weaving a plurality of webs, of a plurality of tripping levers suitably mounted beneath said webs, a contact wire arranged adjacent the lower portion of said levers, springs arranged to force said levers through the web when the filling thread breaks, and to make contact with said wire, an electro-magnet in circuit with said wire, a swinging member mounted adjacent said magnet, a baton an armature normally holding said member upward out of the path of travel of the baton and adapted to release same upon the actuation of said magnet, and means operable upon the rearward movement of the baton for resetting said swinging member, substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

SOLOMON KENDRICK.

Witnesses:
J. L. GALE,
F. R. EARLE.