No. 818,148. PATENTED APR. 17, 1906.

J. A. COLLINS.

STOP INDICATOR FOR LOOMS.

APPLICATION FILED JUNE 30, 1905.

Fig. 1.

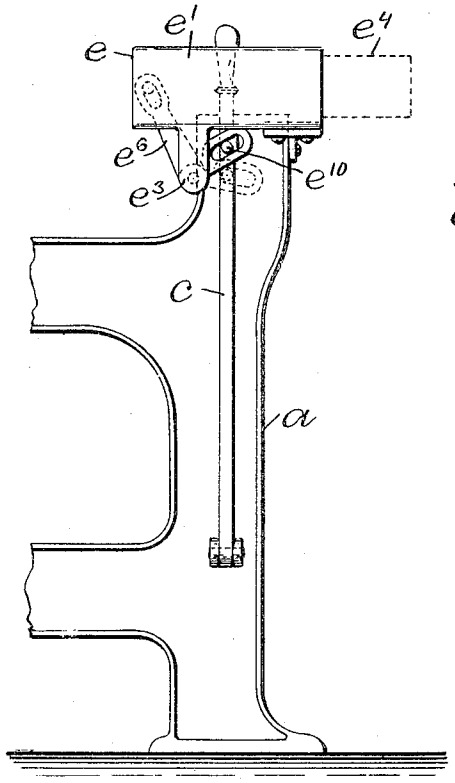


Fig. 2.

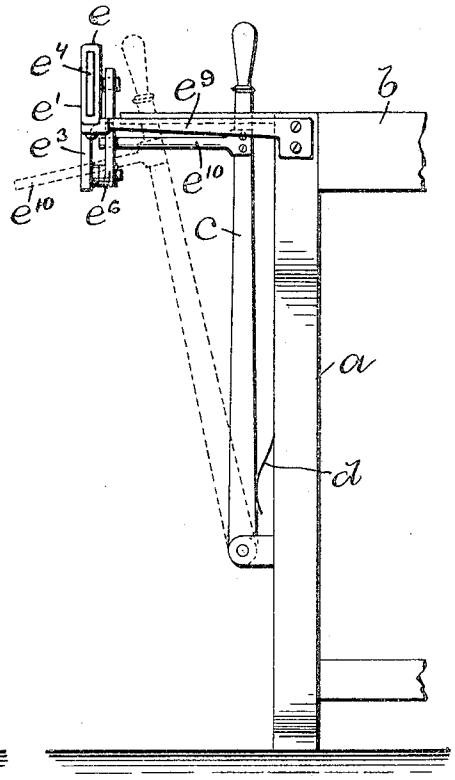
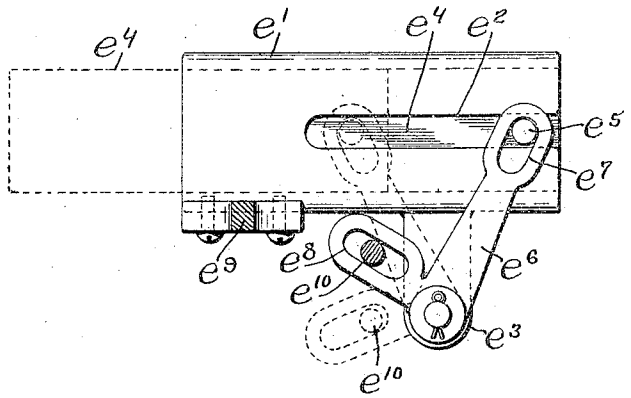


Fig. 3.



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STOP-INDICATOR FOR LOOMS.

No. 818,148. Specification of Letters Patent. Patented April 17, 1906.

Application filed June 30, 1905. Serial No. 267,758.

To all whom it may concern:

Be it known that I, JOHN A. COLLINS, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Stop-Indicators for Looms, of which the following is a specification.

This invention has reference to an improvement in looms, and more particularly to an improvement in automatic indicators for looms, whereby on the stopping of a loom a visual indication is given to the operator that the loom is stopped. Indicators for this purpose as heretofore constructed were fragile in construction and liable to break or get out of order in use; also, their position on the arch of the loom necessitated a fragile connection, such as a cord or wire, to the shipper for operating the indicator, and this position on the top of the loom-arch gave a visual indication to the entire weave-room, which in practice is objectionable, as it is only necessary to notify the weaver tending the particular loom that is stopped.

The object of my invention is to improve the construction of a visual indicator for looms, whereby the construction is such that the indicator may be secured to the side frame adjacent the breast-beam of a loom, thereby giving a better visual indication to the operator without notifying the entire weave-room that the loom is stopped.

My invention consists in the peculiar and novel construction of a visual stop-indicator for looms, said indicator being secured to the side frame adjacent the breast-beam and operatively connected to the shipper-lever of a loom, whereby on the stopping of the loom the shipper-lever operates the indicator to move an indicator-plate into a visual position and on starting the loom to move the indicator-plate into an invisible position, as will be more fully set forth hereinafter.

Figure 1 is a side view of the front portion of a loom provided with my improved visual stop-indicator and showing the indicator-plate in the visible position in dotted lines. Fig. 2 is a front view of Fig. 1, showing the indicator operatively connected with the shipper-lever (shown in full lines) and the shipper-lever shown in dotted lines in the position it would assume to move the indicator-plate into its visible position on the stopping of the loom; and Fig. 3 is an enlarged back view of the indicator broken away from the loom and showing the operative mechanism of the indicator-plate in the invisible position in full lines and in the visible position in dotted lines.

In the drawings, a indicates the side frame; b, the breast-beam; c, the shipper-lever; d, the shipper-lever spring of a loom, and e my improved visual stop-indicator for looms. The indicator e consists of a flat hollow box-shaped frame e', open at both ends and having the central slot e^2 in its back and the downwardly-extending arm e^3. An indicator-plate e^4, having the pin e^5 in a position to extend outwardly through the slot e^2 in the frame, is constructed to have a sliding fit in the frame and painted a conspicuous color, such as red or white. A bell-crank lever e^6 is pivotally secured to the end of the arm e^3 and has the slot e^7 in the upper arm for the pin e^5 and the slot e^8 in the lower arm, as shown in Fig. 3. A bracket e^9 is secured at one end to the frame e' and at its opposite end to the face of the side frame a adjacent the breast-beam b by screws or other means, and an arm e^{10} is secured at one end to the shipper-lever c in a position for the free end of the arm to enter the slot e^8 in and engage with the bell-crank lever e^6, as shown in Figs. 2 and 3. By this construction the box-frame e' is rigidly secured to the frame of the loom in a position for the arm e^{10} on the shipper-lever c to engage with the bell-crank lever e^6, which, engaging with the indicator-plate e^4 through the pin e^5 on the indicator-plate, operates to move the indicator-plate in or out of the box-frame e'.

In the operation of my improved stop-indicator for looms the operator starts the loom by moving the shipper-lever c inward into the position as shown in full lines in Fig. 2. This raises the arm e^{10} on the shipper-lever and through the bell-crank lever e^6 and pin e^5 moves the indicator-plate e^4 out of sight into the box-frame e'. The mechanism of the indicator is now in its normal position, as shown in full lines in Fig. 3. On the stopping of the loom by the breaking of a weft-thread or other causes the shipper-lever c is thrown in the usual way into the position as shown in broken lines in Fig. 2. This depresses the arm e^{10} on the shipper-lever and through the bell-crank lever e^6 and pin e^5 moves the indicator-plate e^4 out of the box-frame e' into its visible position, as shown in dotted lines in Figs. 1 and 3, thus giving automatically a visual indication to the opera-

tor that the loom is stopped. The position of the indicator on a loom is such that when the loom is stopped the indicator-plate extends beyond the line of the looms, where it can be easily seen by an operator tending several looms.

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

1. A visual stop-indicator for looms comprising a flat, hollow, box-shaped frame open at the ends, an indicator-plate painted a conspicuous color in the box-frame, means for rigidly securing the box-frame to a loom, the shipper-lever and means for operatively connecting the indicator-plate to the shipper-lever of the loom, whereby on the starting of the loom the indicator-plate is drawn into the box-frame out of sight and on the stopping of the loom the indicator-plate is moved out of the box-frame into its visible position, as described.

2. A visual stop-indicator for looms comprising a flat, hollow, box-shaped frame open at the ends and having a central slot in its back and a downwardly-extending arm, an indicator-plate painted a conspicuous color in the box-frame and having a pin in a position to extend outwardly through the slot in the frame, a bell-crank lever pivotally secured to the arm on the box-frame and operatively connected to the pin on the indicator-plate, means for rigidly securing the box-frame to a loom, the shipper-lever and means for operatively connecting the bell-crank lever with the shipper-lever of the loom, whereby on the starting of the loom the indicator-plate is drawn into the box-frame out of sight and on the stopping of the loom the indicator-plate is moved out of the box-frame into its visible position, as described.

3. The combination with the side frame a and the shipper-lever c of a loom, of a visual stop-indicator e consisting of a flat, hollow, box-shaped frame e' open at both ends and having the central slot e^2 and the downwardly-extending arm e^3, an indicator-plate e^4 in the frame e' painted a conspicuous color and having the pin e^5 in a position to extend outwardly through the slot e^2 in the frame, a bell-crank lever e^6 pivotally secured to the end of the arm e^3 and having the slot e^7 in its upper arm for the pin e^5 and the slot e^8 in its lower arm, a bracket e^9 secured at one end to the side frame a of the loom and at its opposite end to the box-frame e' by screws or other means, and an arm e^{10} secured at one end to the shipper-lever c in a position for the free end of the arm to enter the slot e^8 in and engage with the bell-crank lever e^6, for the purpose as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN A. COLLINS.

Witnesses:

ADA E. HAGERTY,

J. A. MILLER, Jr.