

(No Model.)

J. E. PREST.
STOP MOTION FOR DRAWING FRAMES.

No. 506,133.

Patented Oct. 3, 1893.

Fig. 1.

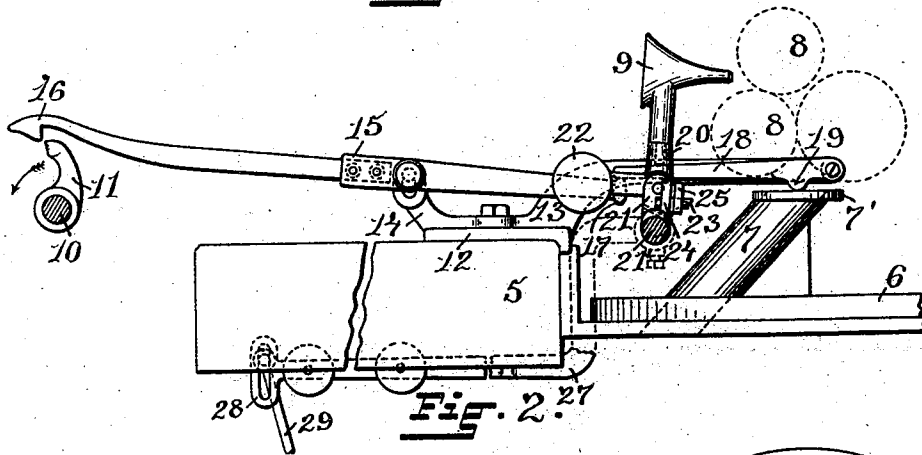


Fig. 2.

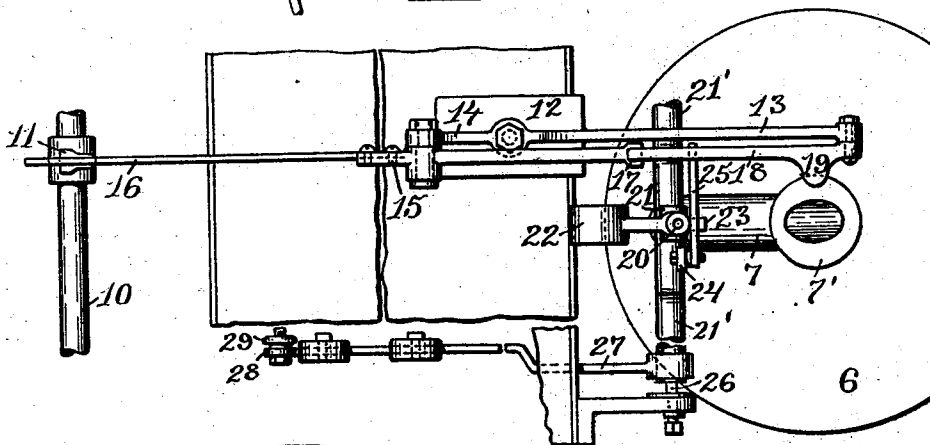


Fig. 3.

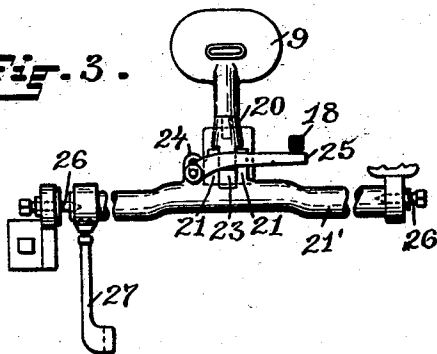
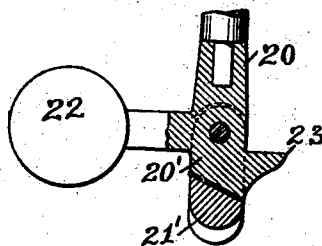


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN E. PREST, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE
WHITIN MACHINE WORKS, OF SAME PLACE.

STOP-MOTION FOR DRAWING-FRAMES.

SPECIFICATION forming part of Letters Patent No. 506,133, dated October 3, 1893.

Application filed June 7, 1893. Serial No. 476,840. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. PREST, of Whitinsville, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Stop-Motions for Drawing-Frames; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in devices for automatically stopping the operation of the drawing-frame mechanism.

The object of the invention is to so construct a stop-motion for drawing-frames that the same will be allowed to operate either by the lifting of the coiler, or when the sliver, passing through the trumpet and between the rolls, breaks, or bunches.

The invention consists in the peculiar construction of the releasing-devices and their combination with a pivoted-lever, and a governing-shaft carrying a finger adapted to be engaged by the depression of the lever to stop the motion of the shaft.

Figure 1 represents an end view of portions of a drawing-frame and coiler provided with my improved stop-motion. Fig. 2 represents a plan view of the same with the trumpet and delivery rolls removed and showing the manner in which the trumpet rock-shaft is connected with the eveners. Fig. 3 represents a front view of the trumpet and rock-shaft with the lifting-arm shown in relation to the rider-arm, also indicating the manner in which the rock-shaft is mounted and part of the mechanism connecting this shaft with the eveners. Fig. 4 represents an enlarged detail view of the trumpet-shank, partially in vertical section, to more clearly show the construction of the same and its relation to the rock-shaft.

Similar numbers of reference designate corresponding parts throughout.

In the drawings 5 indicates a portion of the drawing-frame, 6 the coiler-disk supported in the usual manner above the can, 7 the coiler-tube through which the sliver is delivered, 8—8 the delivery-rolls supported at the opposite ends in journal-bearings, 9 the trumpet through which the sliver passes on its way

from the drawing to the delivery-rolls, 10 the shaft connected with the shipper-mechanism which is allowed to act when the rocking, or rotating, motion of this shaft is prevented, and 11 a stop-finger mounted on said shaft.

The bracket 12 is secured to the top of the drawing-frame and has the arm 13 extending forwardly over the coiler-disk 6 and an arm 14 extending rearwardly. To this arm 14 is pivoted the lever 15 having the hooked-end 16 adapted to engage the end of the finger 11 on the shaft 10 when this end of the lever is depressed, thus preventing the movement of the finger in the direction of the arrow and allowing the shipper-mechanism to operate; the forward extension of the lever 15 has an enlarged end 17 which is overbalanced by the rear end.

To assist in depressing the forward end of the lever 15, under normal conditions, I use an arm 18 pivoted at its forward end to the corresponding end of the bracket-arm 13, while the rear end of this arm 18 rests on the enlarged end of the lever, the forward portion of the arm 18 being furnished with a rider 19 which rests on the flange 7' of the coiler.

The shank of the trumpet 9 is mounted in a socket 20 having a lower reduced-portion 20', which is pivoted between the lugs 21 of the rock-shaft 21'. The lower end of this reduced portion is beveled and is supported by the pivots slightly above a correspondingly beveled portion of the shaft 21', between the lugs 21, so that when the upper portion of the socket 20 is moved forward a slight distance the front of the beveled portion will come in contact with the beveled portion of the shaft and will be stopped from further movement in this direction, while sufficient clearance is thus given to the rear of this beveled end of the reduced portion to allow of its free forward movement and the corresponding backward movement of the socket 20.

Extending rearwardly from the socket 20 or from the reduced-portion 20', is a counter-balance weight 22 tending to rock the socket 20 and the trumpet in that direction. On the forward portion of the reduced-portion 20' is mounted the stop 23, and adjacent thereto the stud, or bracket, 24 is secured to the shaft. On this bracket is pivoted the arm 25 supported on the stop 23 and extending parallel

to the shaft, its free end being located beneath the pivoted-arm 18. The ends of the shaft 21' are furnished with axial depressions in which the conical ends of the pivot pins 26—26 engage, these pivot pins being mounted in brackets extending from the machine frame. On one end of the shaft 21' is rigidly secured the bent lever-arm 27 provided with weights on its lower extension. The end of this extension is furnished with a vertically-slotted portion 28 in which a bolt, or stud on the connecting-rod 29, is secured; the connecting-rod connects with the evener and by these the rotation or rocking of the shaft 21', under normal conditions, is prevented, while the stop-motion mechanism may be operated by the independent rocking of the trumpet. It will be obvious that by the lifting of the arm 18 the rear end of the lever 15 will be allowed to drop and to engage the finger 11 to stop the movement of the shaft 10. This result will be attained by the raising of the coiler when the can is full, the arm 18 being lifted by the rider 19 and the coiler-flange, and secondly by the breaking of the sliver passing through the trumpet interrupting the tension on the trumpet and allowing the weight 22 to rock the socket 20 and the trumpet backward, causing the arm 18 to be lifted by the arm 25,—or thirdly by the bunching of the sliver between the trumpet and the delivery-rolls which interrupts the tension on the trumpet and also forces the same backward as the bunch increases in size.

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

1. In a stop-motion for drawing frames, the combination with a trumpet, a counterweighted rocking-support on which the trumpet is mounted, and a transversely-extending pivoted arm operated by the support, of a pivoted lever for arresting the motion of the shipper-mechanism governing-shaft, and mechanism for depressing the forward end of said lever, adapted to be lifted by said pivoted arm.

2. In a stop-motion for drawing-frames, the

combination with the shipper-mechanism governing-shaft, a finger mounted thereon, a pivoted-lever overweighed at its rear portion and adapted to engage said finger to stop the movement of said shaft, and a pivoted-arm having a rider and bearing on the forward end of the lever to depress the same, of a counter-weighted rocking-support, a trumpet mounted thereon, and a device operated by the rocking-support for elevating the rider-arm, as described.

3. In a stop-motion for drawing-frames, the combination with the shipper-mechanism governing-shaft, a finger mounted thereon, the bracket 12 having the arms 13 and 14, the lever 15 pivoted to the arm 14, the rearwardly-extending arm 18 pivoted to the bracket-arm 14 and having the rider 19, and the coiler-tube 7 on the upper end of which the rider 19 bears, of the shaft 21' having the lugs 21 and the bracket 24, the trumpet shank 20 pivoted between said lugs and having the counter-weight 22 and the stop 23, the trumpet mounted on the shank, and the arm 25 pivoted to the bracket 24 and extending beneath the arm 18, as described.

4. In a stop-motion for drawing-frames, the combination with a rock-shaft journaled in bearings, mechanism for preventing the independent rocking of the same, a counter-weighted trumpet-shank pivotally supported on said shaft and having a stop, and a lifter-arm pivoted to the shaft and supported by the stop, of a forwardly-extending bracket, an arm having a rider pivoted to the forward end of the bracket and extending over the lifter-arm, a pivoted-lever, having an engaging-device at its rear overweighed end, on the forward end of which the rider-arm rests, the shipper-mechanism governing-shaft, and a finger mounted on said shaft and adapted to be engaged by the overweighed lever, as described.

In witness whereof I have hereunto set my hand.

JOHN E. PREST.

Witnesses:

HENRY J. MILLER,

JOSEPH A. MILLER.