Sept. 16, 1930. W. A. HOGAN 1,776,224

AUTOMATIC STOP MOTION FEELER FOR TENTERING MACHINES

Filed Oct. 23, 1926 2 Sheets-Sheet 1

Fig. 1.

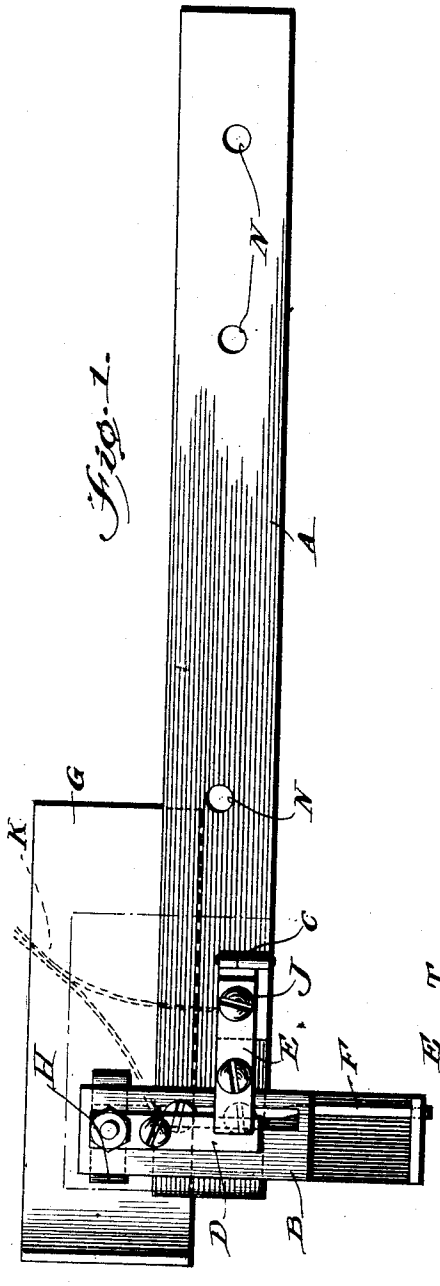
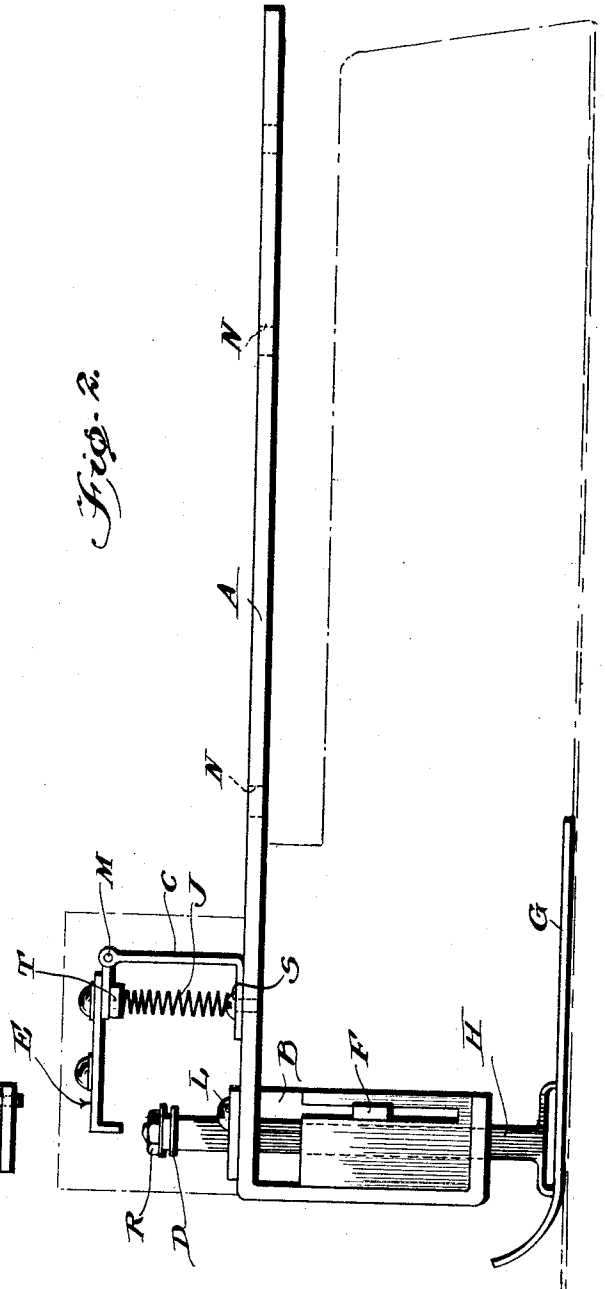


Fig. 2.



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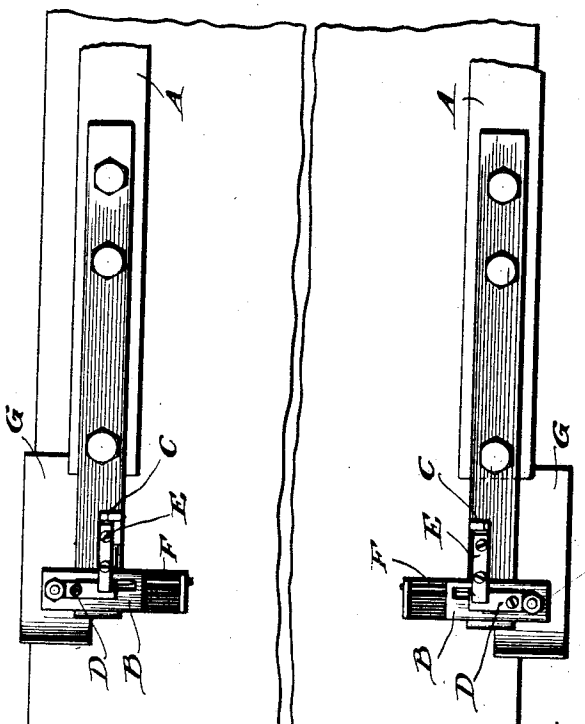


Fig. 4.

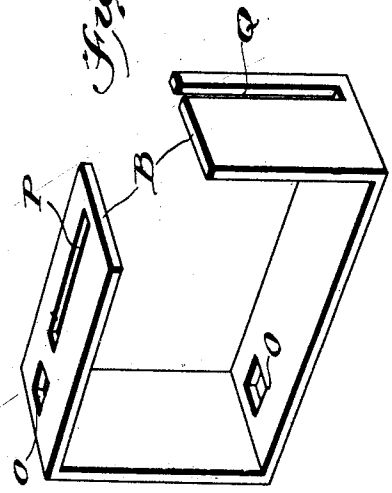


Fig. 5.

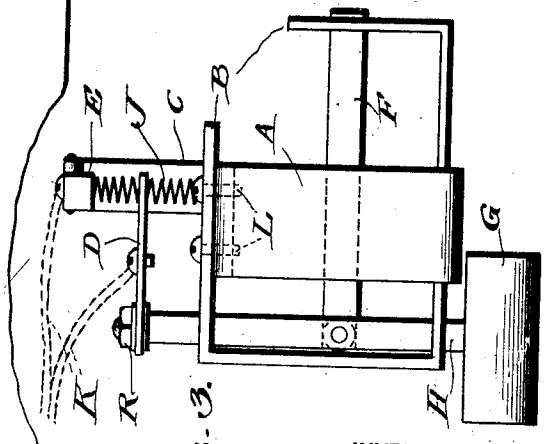


Fig. 3.

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UNITED STATES PATENT OFFICE

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AUTOMATIC STOP-MOTION FEELER FOR TENTERING MACHINES

Application filed October 23, 1926. Serial No. 143,867.

The present invention relates to a so called automatic stop motion feeler to be used on cloth finishing machines and especially on tentering machines, and has for its object to provide an apparatus designed to stop the machine when the moving cloth varies from either side or becomes tangled on entering the machine, and to prevent the moving fabric from becoming disengaged, as it enters the said tentering machine.

To accomplish this object the invention proposes the use of a pair of "feelers" to engage the selvage of the cloth and when the cloth varies to either side the feeler becomes disengaged from the cloth and drops down breaking an electrical contact in the top of the shaft, thereby breaking the flow of electric current from the tentering machine.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a top plan view of the device,

Figure 2 is a side elevation,

Figure 3 is an end elevation,

Figure 4 is a plan view showing application of the device to the moving fabric, and

Figure 5 is a view of the frame supporting the mechanism of the invention.

Referring more particularly to the drawings and especially to Figures 1 to 3 inclusive, A is a brace which attaches the automatic feeler to the tentering machine, the brace being bent at 90° at the end to form a square to fit the frame B of the feeler.

This frame B (see particularly Fig. 5) is made of the desired dimensions, these being determined by the particular adaptation of the invention. The frame is formed in the shape of a square or rectangle, one side, however, extending only to one third of the distance of the top, this open side being slotted at Q, this slot extending down to the bottom of the frame. The frame B is further provided with an opening O and slot P on the top thereof, the openings being adapted to receive the shaft H and rivets L, respectively. Frame B is secured to brace A by means of these rivets or bolts L. The member C is preferably in the form of an angle bracket with its lower angled end bolted at the bottom end to brace A. Hinged, as at M to the upper end of the member or bracket C is an angularly disposed member or arm C′, to the free end of which is attached, by means of a bolt or the like, T, is an extension E forming one of the contact members of the device. This extension E forms one of the terminals of an electric circuit constituted, in part, by the conductors K, and has one of these conductors K attached to the same by means of a binding post or the like E′. The extension is insulated from the member or arm C′, and has its free end angularly bent in a downward direction, as at E″, for circuit making and breaking cooperation with a contact member D.

The member D is a contact member insulated from and bolted, at R to the top of the shaft H. The member E is a contact member bolted to the upright hinged standard C.

The member F is a brace bolted to the standard H extending into slot Q in frame B.

The member G is the "feeler" riveted to the standard H in direct line with the cloth entering the machine.

The member H is a shaft or standard with the feeler G riveted to one end thereof, the shaft H passing through bearings O in the frame B, and secured to the contact D by bolt R.

The member J is a spring attached to the upright standard C by rivet S and at the point T to the hinged arm of bracket C. This spring J constitutes a tension that holds contact E down so that when the feeler G pushes up the shaft H, contact D is pushed against contact E, forming a circuit through the wires K.

The members K represent wires to conduct electric current from the contacts D and E to the electric motor drive (not shown) of the tentering machine, the elements K being attached to the contacts D′ and E′ and thereby forming a part of the operative circuit of this machine.

The operation of the device is simple: The feeler G is placed on both edges of the cloth and the shaft H is thereby elevated to move the contact D into contacting relation with the angled end portion E″ of the contact E to complete the circuit through the

wires K as will be readily understood from Fig. 2. When the cloth varies to one side of the machine the feeler drops off of the selvage and pulls down shaft H carrying the contact D, thereby disconnecting the latter from contact E and breaking the circuit through wires K, and upon the breaking of the circuits at the contacts D and E the power current will be cut off from the operating motor (not shown), when the tentering machine being stopped at once.

By "feeler" as used in the specification and claims, is meant the member G which guides and "feels" the fabric into the tentering machine. The member G is guided and held in line on the cloth by the member F, which is bolted to the standard H extending in slot Q in frame B.

I claim:—

1. A device for automatically stopping a tentering machine or the like comprising an elongated member projecting at one side of the said machine, a frame carried at the free end of said member, a feeler carried by said frame and movable vertically thereto, a bracket rising from said member, an insulated contact carried at the upper end of said feeler, an insulated contact pivotally supported in substantially right-angular relation to and at one side of said bracket in overlying relation to said frame and the other of said contacts and adapted to be engaged by the latter whenever the feeler is disposed in engagement with the selvage of a fabric passing through the said machine to complete the circuit of the operating motor of the latter and to be disengaged thereby to open the said circuit whenever the feeler is released from engagement with the said fabric, a resilient means yieldingly sustaining said second-mentioned contact in operative position, and a member projecting from an intermediate point on said feeler and engaged in a vertical slot formed in a remote portion of said frame to guide the feeler in its vertical operative movements.

2. A device for automatically stopping a tentering machine or the like, comprising a horizontal support, a frame depending from one end of said support, a feeler carried by said frame and movable vertically through the same, a contact carried at the upper end of said feeler, a second contact pivotally mounted on said support and overlying the contact carried by said feeler, said second contact being adapted to be contacted by said first-named contact whenever the feeler is supported in raised position by a fabric passing through the said machine to complete the circuit of the operating motor of the latter and to be disengaged thereby to open the said circuit whenever the feeler is released from engagement with the said fabric, means for yieldingly sustaining said second contact in the path of movement of said first-named contact, said frame having a vertically extending slot formed in one side of the same, and a guide member carried by said feeler and engaged in the said slot.

3. In a device of the class described, a support, a frame carried at one end of said support, a feeler movable vertically of said frame, a contact carried at the upper end of said feeler, a second contact carried by said support above said first named contact, means for yieldingly sustaining said second contact in cooperative relation to said first named contact, and means carried by said feeler and cooperative with said frame for guiding the feeler in its operative movements.

4. In a device of the class described, a support, a frame carried at one side of said support and adjacent an end thereof, a feeler movable in said frame, a contact carried at one end of said feeler, a second contact carried at the opposite side of said support, means carried by said support for yieldingly sustaining said second contact in cooperative relation to said first named contact, and means extending in angular relation from said feeler and cooperative with an adjacent portion of said frame for guiding the feeler in its operative movements.

5. In a device of the class described, an elongated support secured to the frame of the device at one end, an open frame depending from one end of said support, a feeler movable vertically in said frame, guide means extending laterally from an intermediate portion of said feeler and engageable with a slot in said frame, a contact carried by the upper end of said feeler, a bracket carried at the upper side of said support, a second contact carried by said bracket, and means for yieldingly sustaining said second contact in the path of movement of the contact carried by said feeler.

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