

(No Model.)

I. F. LAWRY.

STOPPING MECHANISM FOR CARDING MACHINES.

No. 493,870.

Patented Mar. 21, 1893.

Fig. 2.

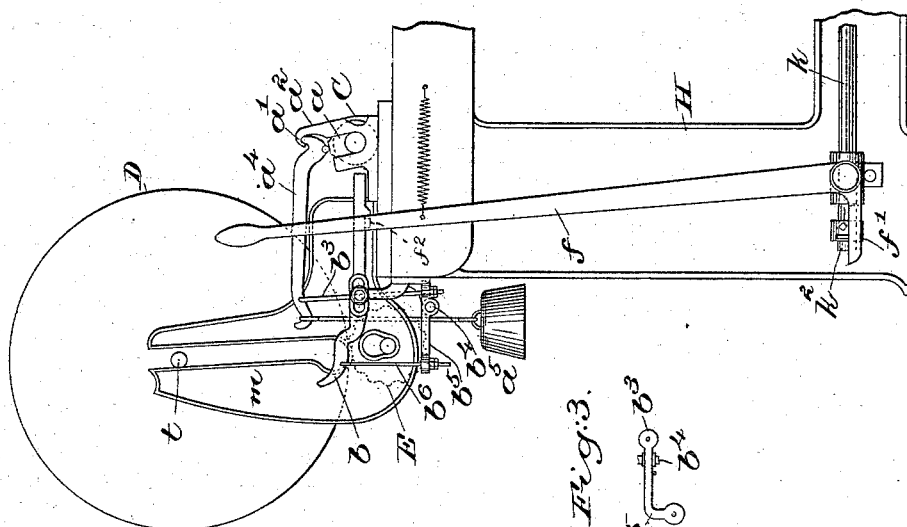


Fig. 3.

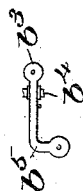
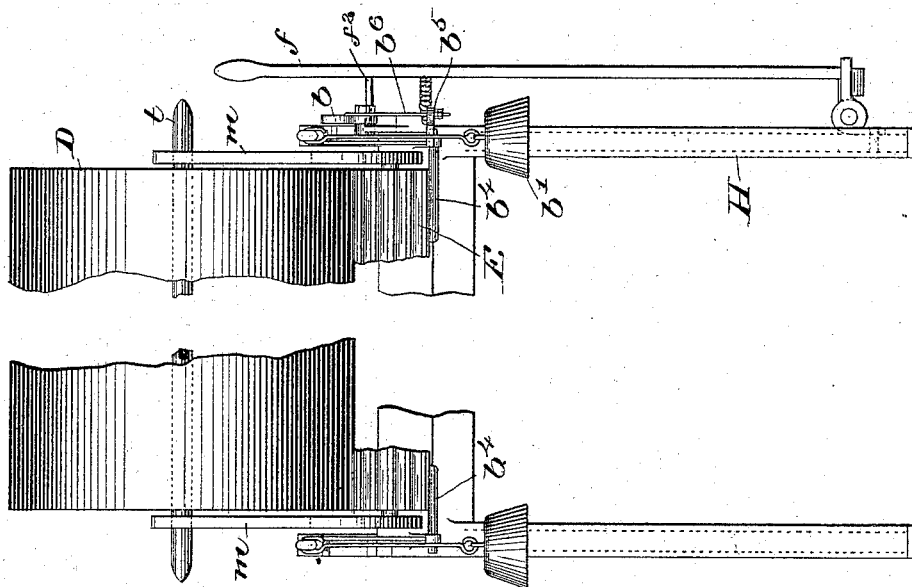


Fig. 1.



Witnesses.

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UNITED STATES PATENT OFFICE.

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STOPPING MECHANISM FOR CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 493,870, dated March 21, 1893.

Application filed July 15, 1892. Serial No. 440,099. (No model.)

To all whom it may concern:

Be it known that I, IRA F. LAWRY, of Taunton, county of Bristol, State of Massachusetts, have invented an Improvement in Stopping Mechanism for Carding-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide means whereby the passage of a nail or other hard substance between the feeding rolls supplying the fibrous material to a carding machine or card clothed cylinder, which substance would injure the card clothing or teeth, will automatically release the shipper handle and effect the stopping of the machine in usual manner.

I have herein shown my invention as applied to a machine of the kind represented in United States Patent No. 457,354, granted to me August 11, 1891.

Figure 1 shows a sufficient portion of one end of a carding machine with my improvements added to enable my invention to be understood, the feed rolls and other parts being broken out to save space on the drawings. Fig. 2 is a partial side elevation of the said machine looking at Fig. 1 from the right; and Fig. 3 is a detail to be referred to.

The lap roll E; the lap rod *t* containing the lap D wound thereon and to be delivered to the usual carding cylinder, not shown; the shipper lever *f*, having the arm *f'* and adapted to act on the finger *k*² of the shipper rock-shaft *k* to turn it to effect the stopping of the machine; and the latch *b* adapted to engage the lug *f*² see dotted lines Fig. 2 and full lines Fig. 1 of the shipper lever, and to be moved to release the shipper lever whenever the rod *t* reaches the latch; the feed roll C, and the frame-work H, are and may be all substantially as in said patent.

I will now proceed to describe my improvements added to the parts referred to by letter. I have provided the journals of the feed roll C with loose caps *a*, and the housings *a*² with a suitable projection or fulcrum *a'* for like levers *a*⁴ adapted to rest on the caps *a*, as shown in Fig. 2, so that as the caps *a* are lifted by the passage of a nail, a stone or any other

hard or foreign substance in the lap under the roll C, the said levers will be lifted. The levers *a*⁴ will be suitably weighted by weights or equivalents *a*⁵ and each lever will be connected loosely by a rod *b*³ with one arm of a rock-shaft *b*⁴ supported in suitable bearings attached to the frame-work, an arm *b*⁵ of the said rock-shaft being joined by link *b*⁶ with the latch *b* common to said patent, one end of said lever being extended as shown in Fig. 2, across the slot in which rides the lap rod *t*. In this way it will be perfectly plain that as the outer end of the lever *a*⁴ is lifted by the rising of the roll C, the said lever by the connections described will depress the outer end of the latch and release the shipper lever. The lap rod *t* is guided by the cheek pieces *m*, and it will also be seen that the said latch will be moved to release the lever *f* whenever the lap is so far unwound as to let the lap rod strike the lever *b*.

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

1. In a stop-motion for carding machines the following instrumentalities, viz:—a shipper rock-shaft; a shipper lever adapted to engage a projection of said rock-shaft; and a lever as *b* adapted to engage and hold the shipper lever, combined with a feed roll; a lever as *a*⁴ resting on a cap bearing on said feed-roll and adapted to be turned by the rising thereof, and connections intermediate said levers *a*⁴ and *b* whereby the lever *b* may be moved to automatically move the shipper lever upon the intervention of a hard substance below the feed-roll, substantially as described.

2. A feed-roll; a cap as *a* resting upon its journal; a weighted lever as *a*⁴ resting on said cap; a shipper lever having a projection; a latch lever as *b* adapted to engage said projection and hold said shipper lever; and a rocking arm as *b*⁵, combined with links to directly connect said arm *b*⁵ near one end with the latch and near its other end with the said weighted lever, to operate substantially as described.

3. In a stop-motion device for carding machines the following instrumentalities, viz:—a shipper rock-shaft; a shipper-lever to actuate said rock-shaft; a latch to engage a pro-

jection of and hold said shipper lever in its
normal position as when the machine is run-
ning correctly, said latch being made as a le-
ver and having one end crossing the slot in
5 which rides the lap rod *t*, combined with a
feed roll; a cap to rest on its journal; a
weighted lever resting on said cap; a lever as
*b*⁵, and links *b*³ and *b*⁶ connecting the lever *b*⁵
10 with the said weighted lever and the said
latch, whereby the said latch will be moved
whenever a hard substance passes under the

feed-roll and whenever the lap becomes un-
wound sufficiently to let the lap-rod *t* strike
the latch, substantially as described.

In testimony whereof I have signed my 15
name to this specification in the presence of
two subscribing witnesses.

IRA F. LAWRY.

Witnesses:

H. P. COPELAND,
F. E. FISKE.