

(No Model.)

A. M. COLLER.  
LAP STICK INSERTER.

No. 487,995.

Patented Dec. 13, 1892.

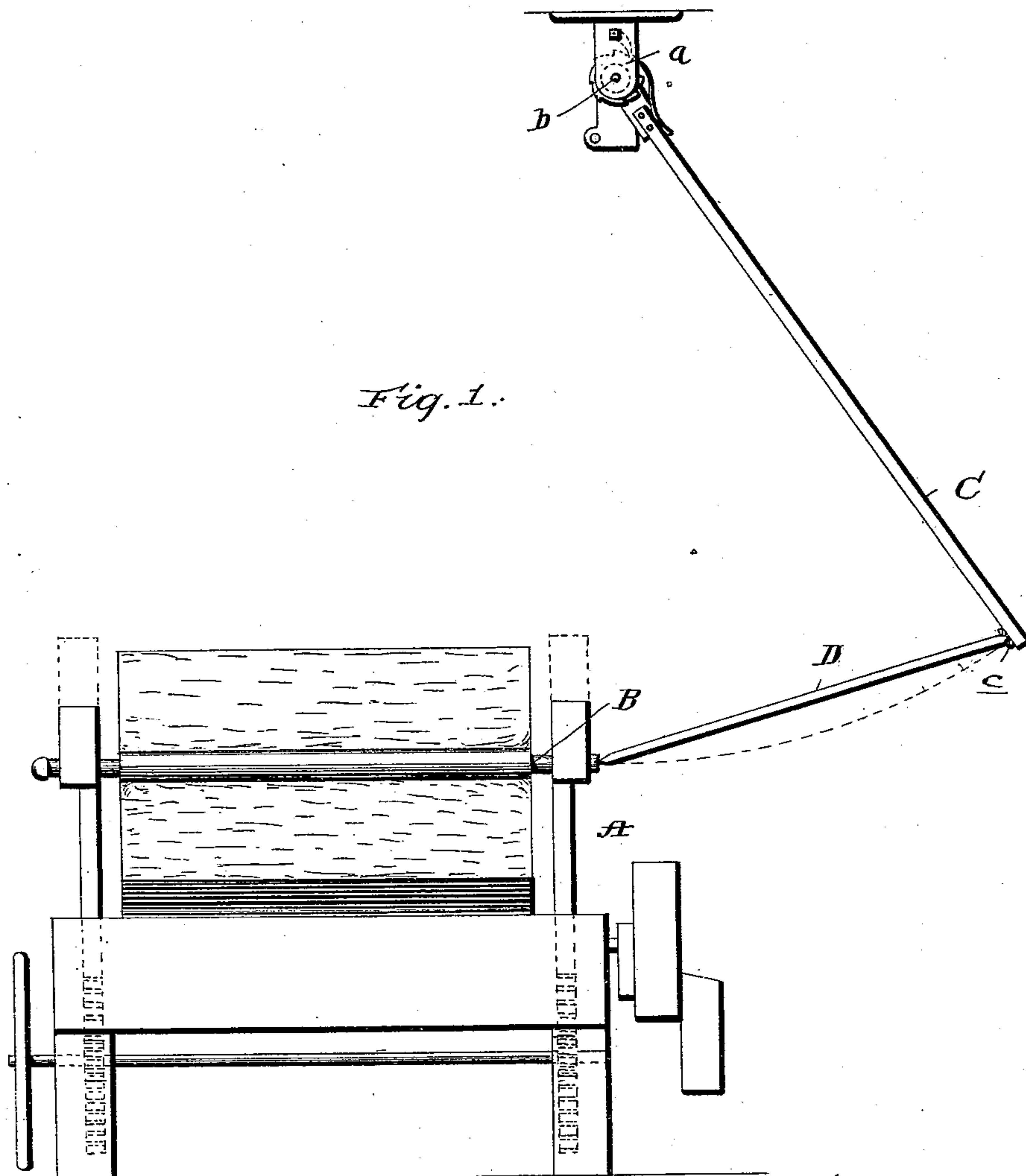
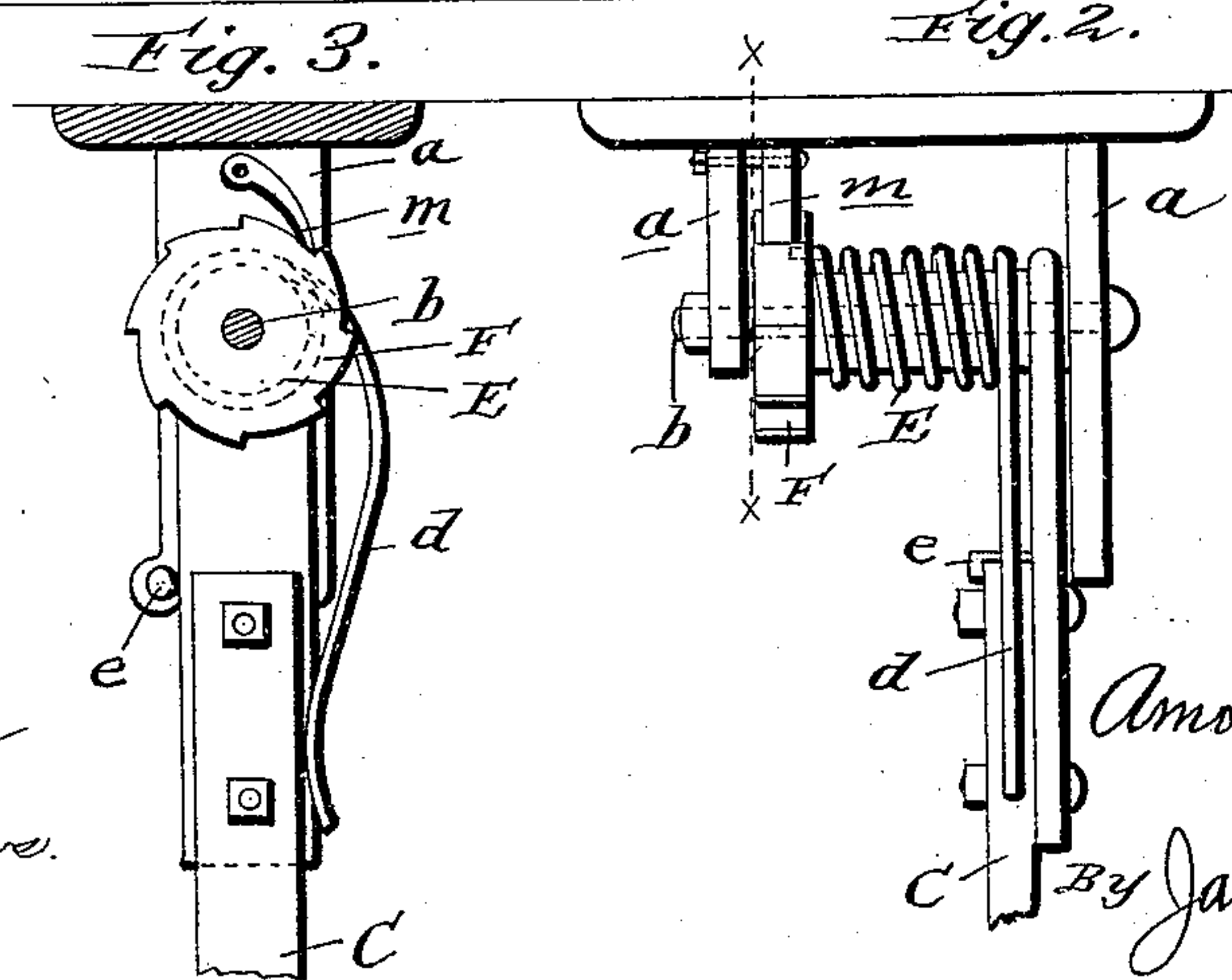


Fig. 1.



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# UNITED STATES PATENT OFFICE.

AMOS M. COLLER, OF WOONSOCKET, RHODE ISLAND.

## LAP-STICK INSERTER.

SPECIFICATION forming part of Letters Patent No. 487,995, dated December 13, 1892.

Application filed June 18, 1892. Serial No. 437,143. (No model.)

*To all whom it may concern:*

Be it known that I, AMOS M. COLLER, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Lap-Stick Inserters; and I do 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 has relation to the laps of cotton formed in machinery for opening, beating, and cleaning the cotton preparatory to carding or otherwise treating the same. The cotton-lap is formed by the lap-machine by winding a bat or layer of cotton upon a shaft or roller, and when the lap is completed the lap-roller is withdrawn and a rod or lap-stick is inserted in its place, so that the lap-roller may be again mounted upon the lap-machine to wind another lap. When the lap-roller is withdrawn, the cotton by reason of its elasticity expands so as to entirely occupy the space vacated by said lap-roller, whereby it will be seen that when the lap-stick is inserted after the lap-roller has been removed said stick will tear and damage a portion of the lap, so as to render the same unfit for carding and necessitate its reworking.

The general object of my invention is to provide means to insert the lap-stick as the lap-roller is withdrawn, so that the said stick will immediately follow the lap-roller upon its withdrawal and will take the place of the same in the center of the lap.

With the foregoing objects in view the invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is an elevation of a portion of a lap-machine, my improvements being shown in connection therewith. Fig. 2 is an enlarged detail side elevation of the mechanism for exerting a spring-pressure upon the stick-pushing arm, and Fig. 3 is a front elevation of the same.

In the drawings similar letters designate corresponding parts throughout the several views, referring to which—

A indicates a lap-machine, which may be of any approved construction, and B indicates the lap-roller, which is mounted on the fluted roll and may have a seat or depression in one end, for a purpose presently set forth.

Mounted in suitable bearings, as *a*, connected to a ceiling or other support, is a rod or shaft *b*, upon which is mounted the swinging arm C. This arm C, which is designed to be swung inwardly or toward the machine to insert the lap-stick D, may be provided with a suitable seat, as *c*, for one end of the said stick D, which preferably has one or both of its ends pointed, as shown.

Surrounding the shaft or rod *b* is a coiled spring E, one end of which terminates in an arm *d*, while the other end is suitably connected to a ratchet-wheel F, mounted on the rod or shaft. This ratchet-wheel, which is designed to be rotated to increase or diminish the tension of the spring E, is normally held stationary by a pawl *m*, which may be readily disengaged when it is desired to rotate the wheel to regulate the tension of the spring. The terminal arm *d* of the coiled spring E bears above the outer side of the swinging arm C, so that when said arm is in the position illustrated in Fig. 1 the spring will exert a pressure upon the same and will move it toward the machine until it bears against the stop, as *e*, and rests in a vertical plane. In practice when the lap is completed the arm C is swung into the position shown in Fig. 1 and the lap-stick D is placed in engagement with said arm and the end of the lap-roller B, when upon the withdrawal of said roller from the lap the spring E, through the medium of its terminal arm *d*, acting upon the arm C, will swing said arm toward the machine, when the lap-stick will follow immediately after the lap-roller and will assume the position of the said roller without damaging the cotton. In some cases, if desired, the spring E may be made of such strength that it will assist materially in pushing the lap-roller out of the lap.

By the construction described it will be seen that the attendant may pull upon one end of the lap-roller to displace the same, when the lap-stick will automatically assume its position by reason of the mechanism disclosed.



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

1. The combination, with a lap-roller, of a  
5 lap-stick adapted to bear against one end of  
the lap-roller, an arm or rod engaging the lap-  
stick, and a suitable means for moving the  
arm or rod so that it will push the lap-stick  
10 after the lap-roller upon the displacement of  
the roller and assume the position in the lap  
vacated by the roller, substantially as and for  
the purpose set forth.

2. The combination, with a lap-stick adapt-  
15 ed to bear against one end of a lap-roller, of  
an arm or rod adapted to bear against the lap-  
stick and a spring bearing against the arm or  
rod and adapted to move said arm or rod so  
20 stick to follow immediately after the lap-

roller upon the displacement of the roller and  
assume the position in the lap vacated by  
said roller, substantially as and for the pur-  
pose set forth.

3. The combination, with a lap-stick adapt- 25  
ed to bear against one end of a lap-roller, and  
an arm or rod adapted to bear against the lap-  
stick, and a coiled spring mounted upon a rod  
or shaft and having one of its ends bearing  
against the arm or rod, of a ratchet-wheel 30  
mounted on the rod or shaft and connected to  
one end of the coiled spring and a pawl for  
engaging said ratchet-wheel, as and for the  
purpose set forth.

In testimony whereof I affix my signature in 35  
presence of two witnesses.

AMOS M. COLLIER.

Witnesses:

GEO. W. SPAULDING,  
HORACE A. COOK.