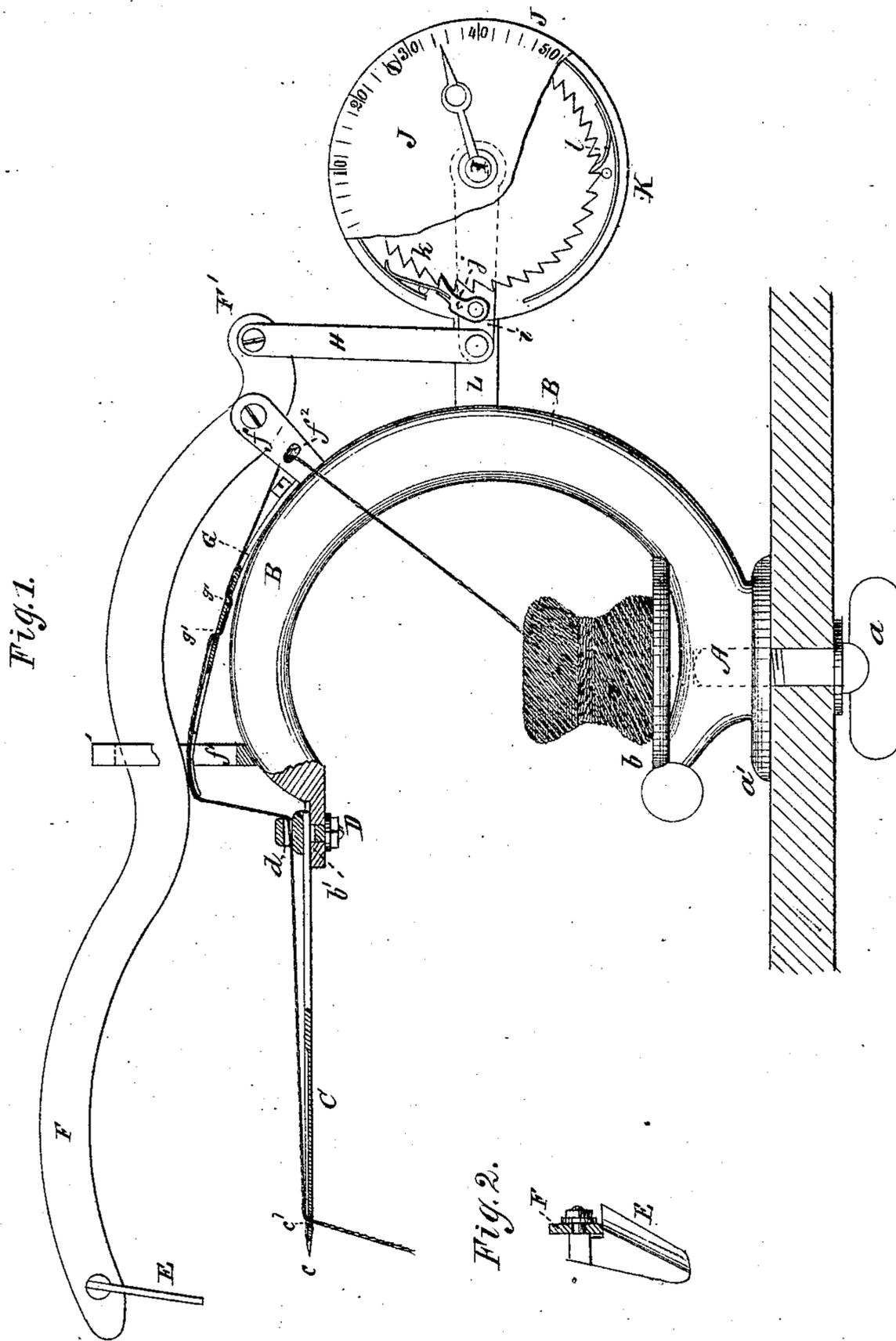


W. J. CUSSEN.  
 Bag-String Inserter.

No. 127,579.

Patented June 4, 1872.



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# UNITED STATES PATENT OFFICE.

WILLIAM J. CUSSEN, OF RICHMOND, VIRGINIA.

## IMPROVEMENT IN BAG-STRING INSERTERS.

Specification forming part of Letters Patent No. 127,579, dated June 4, 1872.

Specification describing Bag-String Inserter, invented by WILLIAM J. CUSSEN, of Richmond, in the county of Henrico and State of Virginia.

The invention consists, first, in a horizontal eye-pointed needle and thread-guide, whereby a gathering-thread may be inserted in bags for tobacco and other purposes. Secondly, it consists in providing such a needle with a spring that not only guides but subsequently clamps the thread so that it can be held taut while being cut off at the desired length. Thirdly, it consists in providing a lever which shall simultaneously and by a simple movement place in position both clamp and cutter. Fourthly, it consists in connecting the same lever that carries the thread-cutter in front and finishes up the work with a registering mechanism in the rear, by which the exact amount of work that has been done is always indicated.

Figure 1 is a side elevation. Fig. 2 is a detail view of knife.

A represents the frame of the machine, having a flat base, *a'*, which is of any suitable construction, and threaded in the under side to receive a clamp-screw, *a*. B is a curved upright or arm, attached to and rising up from base *a'*, so as to project thereover. On and near its lower end rests a shallow cup or platform, *b*, which receives the ball of thread. On the front end, and in a groove, *b'*, of this arm B, is clamped, by a screw, D, a horizontal needle, C, which has a point, *c*, and eye, *c'*, respectively, at and near the free end. The clamp-screw D is provided with an elevated head, having horizontal perforation *d*. E is a knife, attached by a clamp-screw to a lever, F, which is fulcrumed on a stud, *f*, and moves between vertical guides *f<sup>1</sup> f<sup>1</sup>*. The lever F is held up by a flat spring, G, whose rear end is rigidly fastened to arm B, while its forward end is held between the guide *f<sup>1</sup> f<sup>1</sup>*, and its middle is perforated at *g' g'*. The fulcrum-stud *f* is also provided with a diagonal hole, *f<sup>2</sup>*. The lever F has a rear arm, F', to which is attached a strap, H, pivoted to a loose arm, *i*, of the rock-shaft I. J K are two parallel disks, rigidly attached together, but at such a distance apart as to leave a sufficient space for the free movement

of arm *i*. The arm *i* carries a pawl, *j*, that moves a ratchet, *k*, rigidly attached to shaft. *l* is a detent-pawl. J is the dial-plate, and K the disk, rigidly attached to bar L that projects from the arm B. In the center of these disks is journaled the rock-shaft I, which is provided with a pointer that moves around the dial-plate, and indicates the number of vibrations which the lever has undergone.

The operation is as follows: The ball of thread being placed on the cup or platform *b*, its end is passed through the diagonal hole *f<sup>2</sup>*, holes *g g* of spring G, between guides *f<sup>1</sup> f<sup>1</sup>*, through the perforation *d* of the screw, and, finally, through the eye *c* of needle. The operator now rapidly passes the gathers of the bag-material—which has been previously cut out—over both needle and thread, and when this is accomplished, draws the material off, and a sufficiency of thread through the needle at the same time. She then presses down the lever with the right hand while she brings with her left the thread which has been clamped and rendered taut by the spring against the knife, and cuts it off at the desired point. At the same time that the lever is depressed it advances the dial-hand one unit, and thereby registers each strip of material which has been fitted with a string.

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

1. The combination, as described, with the stationary projecting needle C *c'*, of spring-clamp and thread-guide G *g' g'*, so as to hold the thread tight while being cut off, as and for the purpose set forth.

2. The lever F, provided with a thread-cutter at its forward end, and bearing upon the spring thread-clamp G, as described, so that the same manual pressure will bring both knife and clamp in position for their work.

3. The combination, with needle and cutter, of a lever, F, connected at the rear with a registering mechanism, substantially as and for the purpose described.

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