

(No Model.)

W. FOGLESONG.  
COLLAR STUFFING MACHINE.

No. 275,624.

Patented Apr. 10, 1883.

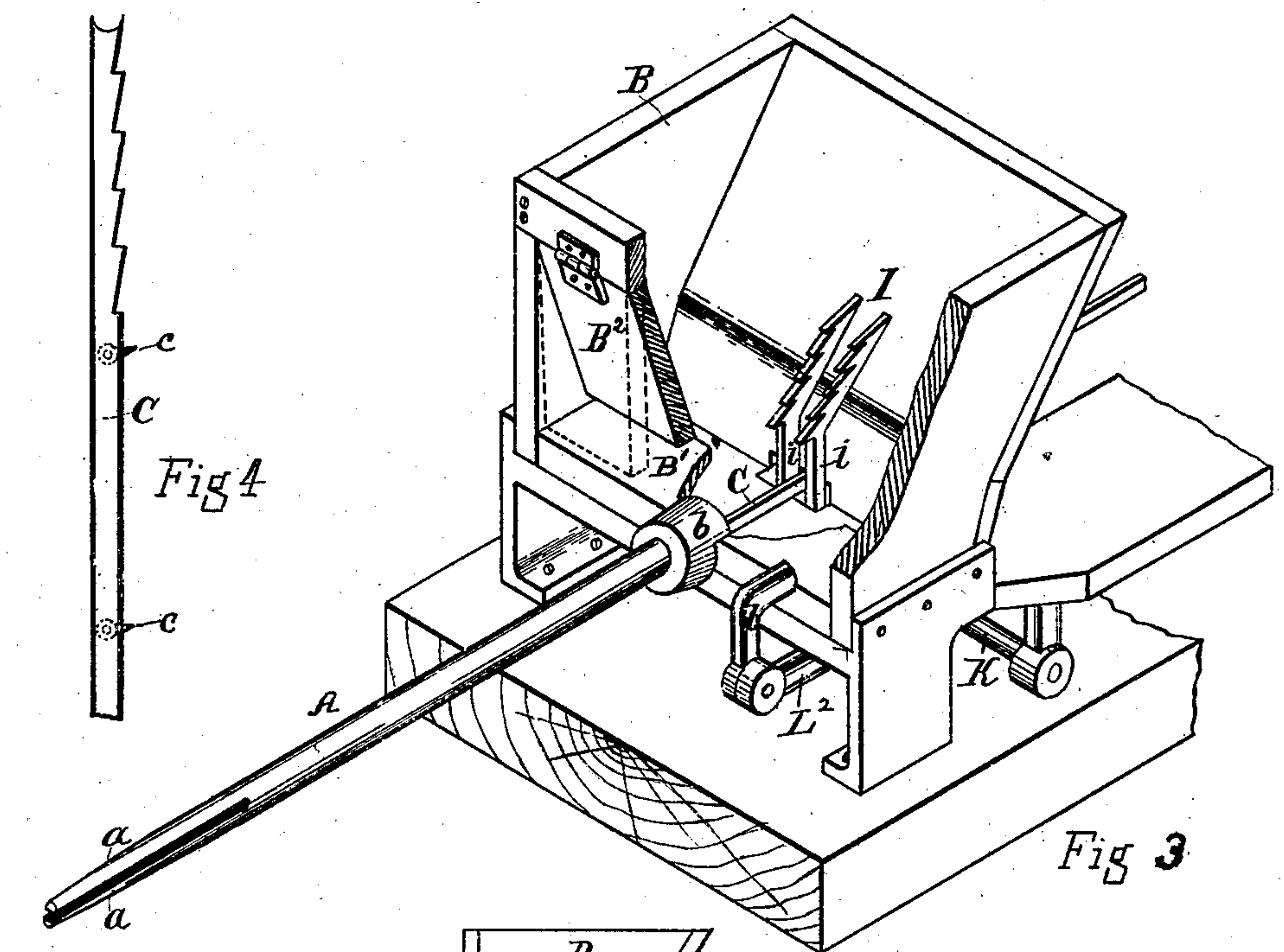


Fig 4

Fig 3

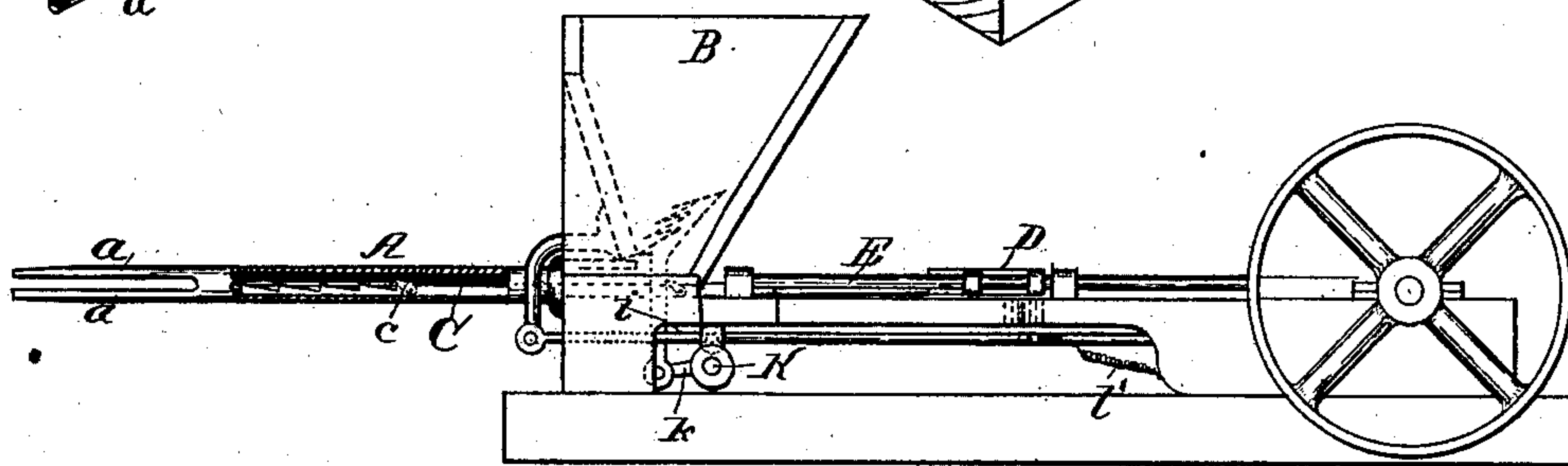


Fig 2.

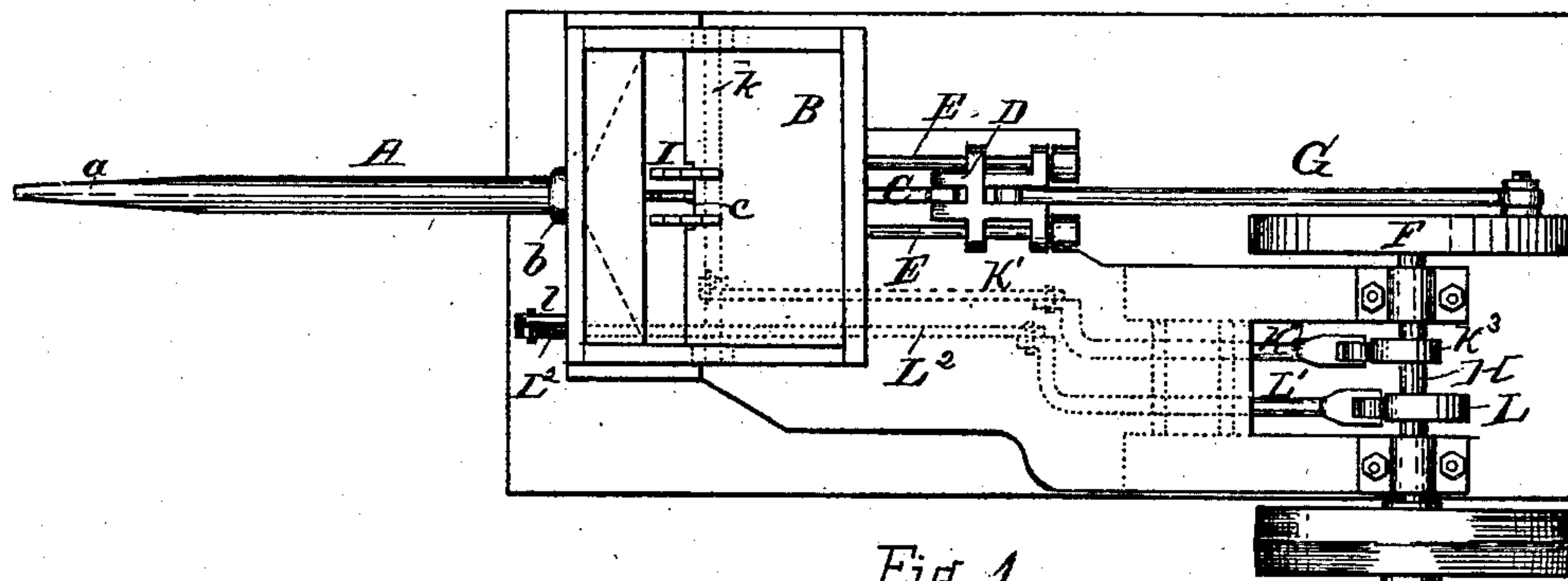


Fig. 1.

Witnesses  
W. F. Haller  
E. J. Parker

Inventor  
Washington Fogleson  
By his attorney  
J. B. Kib



# UNITED STATES PATENT OFFICE.

WASHINGTON FOGLESONG, OF DAYTON, OHIO.

## COLLAR-STUFFING MACHINE.

SPECIFICATION forming part of Letters Patent No. 275,624, dated April 10, 1883.

Application filed December 2, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WASHINGTON FOGLESONG, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Collar-Stuffing Machines; and I do hereby 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.

This invention relates to collar-stuffing machines by which successive tufts of straw are taken from a hopper by a stuffing-rod which carries the tufts through a stuffing-tube into the collar. Heretofore these machines have been so constructed that the stuffing-rod is projected far enough beyond the outer extremity of the tube to entirely discharge each successive tuft therefrom. This is objectionable for several reasons, principal among which are the following, namely: First, the insertion of a tuft of straw is liable to double up the preceding tuft instead of entering between its stalks, as is desirable; and, secondly, the stuffing-rod is liable to punch a hole in or tear the leather of the collar unless great care is exercised in the manipulation of the collar.

One of the objects of my invention is to overcome these objections; and this I accomplish by the use of separated guards or fingers extending from the outer end of the stuffing-tube, or forming a continuation thereof, and having about the length of the double tuft, so that the stuffing-rod may discharge or push the tufts from the stuffing-tube without passing beyond the ends of the guards, the space between which permits the ends of the tufts to spread laterally, and thus become freed from such guards in a way which admits of the next tuft entering between the stalks of the preceding one.

My invention further consists of certain features of construction and certain combinations relating to the stuffing-rod and the devices for feeding the straw thereto, all of which will be fully described in the ensuing general description, and specifically pointed out in claims at the close of this specification.

In order that my invention may be clearly understood, I have illustrated in the annexed

drawings, and will proceed to describe, the best form thereof at present known to me, and in which I have embodied it in a full-sized working machine.

Figure 1 is a plan view of my improved collar-stuffing machine. Fig. 2 is a side elevation thereof, part of the stuffing-tube being shown as broken away to expose a portion of the stuffing-rod. Fig. 3 is a perspective view, on a larger scale, of the hopper, feed mechanism, stuffing-tube, and connected and supporting parts, part of the front of the hopper being shown as broken away. Fig. 4 illustrates the feed end of the stuffing-rod.

The same letters of reference indicate identical parts in all the figures.

A refers to the stuffing-tube of the machine, which projects from the front side of the hopper B, being screwed with its inner end into a suitable hub, *b*, secured to the hopper, so that said stuffing-tube may be readily detached and another one of greater or of less length substituted for it. The stuffing-tube is located at about the longitudinal center of the hopper, near the bottom thereof. On the outer end of this stuffing-tube guards or fingers *a a* are formed or secured, constituting in effect an extension of the tube in the form of a fork. These guards or fingers have a length about equal to the length of the doubled tufts of straw to be fed through the stuffing-tube, and the space between them should be sufficiently wide to permit the end of the tufts to readily spread, so as to become free from the guards in lateral direction as well as from the outer end thereof. A reciprocating stuffing-rod takes the tufts of straw from the hopper B by engaging the stalks at about the center of their lengths and pushing them in a doubled form through the stuffing-tube to about the outer end of the guards or fingers *a*. The first doubled tuft, as it reaches to outer end of said guards, spreads laterally through the space between the guards, so that the succeeding tuft can pass in between the ends of the first tuft. Thus each tuft passes between the ends of the preceding ones. The reciprocating stuffing-rod may be of any known construction, and may at each return-stroke leave the inner end of the stuffing-tube to engage the stalks of straw with its end and push them



through the stuffing-tube to the end of the guards at each forward stroke; but I prefer to use a stuffing-rod, C, constructed and operating as follows: The rod is a flat bar, arranged edgewise, concaved at its forward end, and constructed for some distance therefrom with ratchet-teeth, as clearly shown in Fig. 4. Beyond these ratchet-teeth it is provided with pivoted hooks *c*, arranged in suitable slots in the bar, projecting therefrom in such manner that on the forward stroke of the rod they will be turned by the stalks of straw before them so as to engage such stalks and draw them into the stuffing-tube, while on the return-stroke of the stuffing-rod the hooks will be turned down and will pass under the stalks of straw without engaging them. I use one or more of these hooks—four are used in the machine which I constructed and practically operated—arranged at intervals along the rod, the space between the end of the rod and the first hook, and between any two hooks, being about equal to the length of the doubled tufts and somewhat less—say an inch or two—than the stroke of the rod. By virtue of this construction of the stuffing-rod I am enabled to reduce the stroke thereof, which now need be but slightly in excess of the length of the tufts, and does not at all depend upon the length of the stuffing-tube, because the hooks of the stuffing-rod will feed a tuft by successive impulses through the tube until it is finally engaged by the end of the rod and pushed thereby to the end of the guards or fingers. The ratchet-teeth of the forward end of the stuffing-rod may be omitted; but I prefer to use them, so as to prevent any stalk from lodging in the tube. The stuffing-rod is extended through the rear side of the hopper and pivoted to cross-head D, mounted to slide on suitable guides, E, arranged on the frame or bed of the machine. The cross-head D is reciprocated on the guides by the crank-pin on the fly-wheel F through the medium of a pitman, G, the said fly-wheel being keyed to the shaft H of the machine, which may be driven in any suitable manner.

The stalks of straw, cut to proper length, are placed lengthwise in the hopper at right angles to the stuffing-tube, and are presented to the action of the stuffing-rod in bunches of proper size by the feeder I, which consists in this instance of a pair of toothed bars extending upward in a somewhat oblique direction from their vertical shanks *i*, which pass through the bottom of the hopper, and are, at their lower end, pivoted to a horizontal arm, *k*, on a rock-shaft, K. A crank-arm on the rock-shaft K is connected by a rod, K', (shown best in dotted lines in Fig. 1,) to slide-rod K<sup>2</sup>, which is moved in one direction by a cam, K<sup>3</sup>, on shaft H, and in the other direction by a spring which operates antagonistically to said cam. By this means the feeder I is reciprocated up and down.

In order to facilitate the feeding of the straw

to the stuffing-rod in suitable bunches, and to prevent the straw from bridging, I construct the hopper with a false bottom or shelf, B', projecting inward from its front side to near the vertical plane in which the feeder I reciprocates, and make the main portion of the front side of the hopper in the form of a swinging flap, B<sup>2</sup>, which pushes the straw over against the feeder as it moves in one direction, and in moving back allows the straw to sink to said shelf. This hinged flap is oscillated by cam L on shaft H, sliding rod L', and connecting-rod L<sup>2</sup>, the outer end of which is pivoted to an arm, *l*, secured to said flap, a spring, *l'*, acting on slide-rod L' antagonistically to the cam L. Cam K<sup>3</sup> effects the descent of the feeder during the latter part of the return-stroke of the stuffing-rod, and cam L is so timed with reference to cam K<sup>3</sup> that the flap B<sup>2</sup> will be moved inward toward the feeder before the latter begins to descend, and will begin to be returned to its outer position on the completion of the descent of the feeder.

In order that the stalks of straw may be gradually doubled by the action of the stuffing-rod, I make the space beneath shelf B' in the form of a flat funnel, as indicated by dotted lines in Fig. 1.

I have already stated that the stuffing-tube may be removed and replaced by another of different length. Whenever that is done a stuffing-rod of different length should also be inserted. This may be readily done, since the stuffing-rod is attached only to the cross-head D by a pin.

In the practical operation of the machine I find that the guards or fingers *a a* are of great advantage in a respect not heretofore mentioned—namely, in that they serve as a guide indicating the precise points at which tufts are being inserted in the collar as the work progresses, the operator being enabled to determine that by the sense of feeling. In practice I so arrange the feeder I that the back and upper points thereof move in a suitable recess cut in the rear side of the hopper, so that no stalks of straw can get behind the feeder; and I also prefer to cut a narrow longitudinal slot in the back of the hopper, both for the purpose of letting the end of the stalks as they are being doubled up pass through it and to provide for a ready discharge of the short ends of straw.

In lieu of feeder I, a feed-roller having teeth for taking hold of the straw may be used. I have actually used such a feed-roller with good effect, but prefer feeder I. This feeder and the swinging flap may be operated by means other than those shown and described.

What I claim as my invention is—

1. In a collar-stuffing machine, a stuffing-tube constructed at its outer end with separated guards or fingers, substantially as before set forth.

2. In a collar-stuffing machine, the combi-



nation, substantially as before set forth, of a stuffing-tube, the guards or fingers on the outer end thereof, and a reciprocating stuffing-rod.

3. The combination, substantially as before  
5 set forth, of a stuffing-tube and a reciprocating stuffing-rod constructed with pivoted hooks.

4. The combination, substantially as before set forth, of the feeder and the swinging flap of the hopper.

5. The combination, substantially as before 10 set forth, of the feeder, the swinging flap of the hopper, and the shelf thereof.

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

WASHINGTON FOGLESONG.

Witnesses:

E. T. WALKER,  
H. B. MOULTON.