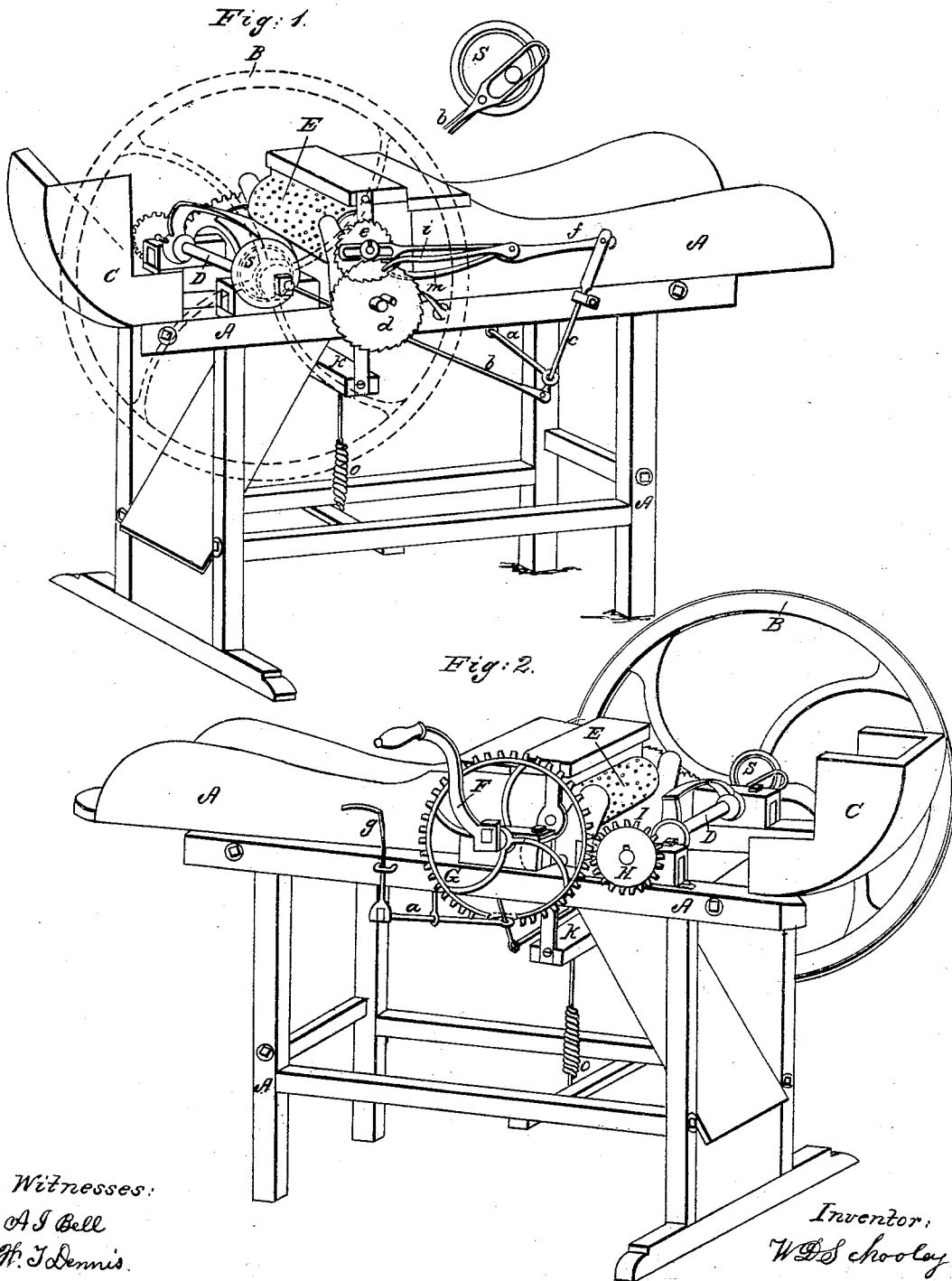


W. D. SCHOOLEY.

Straw Cutter.

No. 49,554.

Patented Aug. 22, 1865.



# UNITED STATES PATENT OFFICE.

W. D. SCHOOLEY, OF RICHMOND, INDIANA.

## IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. 49,554, dated August 22, 1865.

*To all whom it may concern:*

Be it known that I, W. D. SCHOOLEY, of Richmond, Indiana, have invented certain new and useful Improvements in Straw and Fodder Cutters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters of description marked thereon, which form a part of this application.

In the drawings, Figure 1 is an elevation of the side of the cutting-box, showing the feeding-gearing. Fig. 2 is an elevation of the opposite side of the cutting-box, showing the crank and the device for regulating the feed.

The nature of my invention consists in the arrangement of mechanical devices for operating the feed, by which the straw may be cut longer or shorter at the will of the operator and without stopping the working of the machine.

It further consists in the employment of ratchet-wheels and levers for operating the feed-rollers, by means of which the feed is suspended while the knife is making its cut, thus relieving the pressure and friction against the knife.

To enable those skilled in the art to make and use my invention, I will now proceed to describe the same.

In Fig. 1, A A represent the frame of a cutting-box of the ordinary form, B being the balance-wheel, D the knife-shaft, C the cap covering the knife, hinged to the frame A, and E the upper feed-roller.

*a* is a rod suspended under the box at right angles, provided with a handle, *g*, jointed upon it at one end, as shown at Fig. 2, and its opposite end is provided with an eye or loop.

*c* is a lever secured to the frame A by an ear, in which it slides, the lower end passing through the eye of the rod *a*, where it is secured by a bolt to the end of the cam-rod *b*.

*b* is a cam-rod attached to the lower end of the lever *c* and extending to the cam-wheel *s*, secured to and revolving upon the knife-shaft D.

*d* and *e* are ratchet-wheels secured to the journals of the feed-rollers E and I, respectively.

*i* is a pawl which operates the ratchet-wheel *d*, and *m* is a pawl which operates the ratchet-wheel *e*, the first working upon the upper and the latter working upon the under edge of the ratchet-wheels, respectively, producing oppo-

site motions of the feed-rollers and causing them to revolve together.

*f* is a connecting-lever hinged to the upper end of lever *c*, and provided at the opposite end with a slotted bearing, which is secured to and works upon the outer end of the journal of the feed-roller E, which roller is arranged in the usual form, capable of being raised to increase the size of the throat of the machine by means of the cross-bar *k*, and its pressure regulated by the spring *o*. The lever *c* is provided with a pin, against which the loop or eye of lever *a* is allowed to work for the purpose of raising the same.

It will be seen that by a revolution of the knife-shaft D the cam-rod *b* performs a reciprocating motion at its point of connection with the lever *c*, thus operating the rollers by means of the ratchet-wheels *d* and *e*, and allowing them to remain stationary during the time that the knife is making the cut, and again feeding while the knife completes its revolution. By depressing the handle *g* the rod *a* raises the lever *c* by means of the pin, and a longer vibration is allowed to the upper end of the lever *c*, thus increasing the number of teeth embraced in the movements of the ratchet-wheels *d* and *e* by the pawls *i* and *m* and producing a longer cut of the straw.

The handle *g* being readily operated by the hand while the crank is in motion allows the operator to lengthen the cut of the feed at his own pleasure without stopping the machine. Thus the heads of a bundle of oats which are rich may be cut longer and more rapidly, while the butts are cut much shorter and finer.

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

1. The rod *a*, with its handle *g*, the lever *c*, with its attachments, cam-rod *b* and its connections, and the connecting-rod *f*, all arranged and operating as described.

2. The combination of the rod *a*, lever *c*, connecting-lever *f*, and feed-roller ratchet-wheels *d* and *e*.

3. The combination of the rod *a*, lever *c*, cam-rod *b*, and feed-rollers E and I, as set forth.

4. The combination of ratchet-wheels *d* and *e*, the connecting-lever *f*, lever *c*, and rod *a*, for the purpose of holding the feed during the cut of the knife.

Witnesses: W. D. SCHOOLEY.

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