J. T. WATSON & J. B. MERWIN.

STRAW-CUTTER.

No. 180,445. Patented Aug. 1, 1876.

Fig. 1.

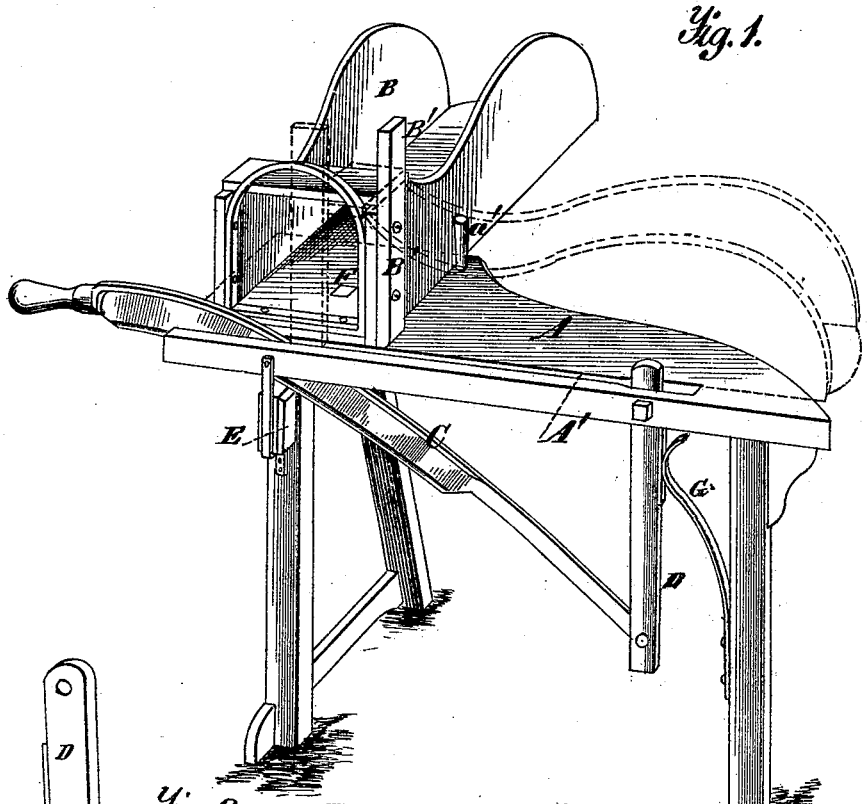


Fig. 3.

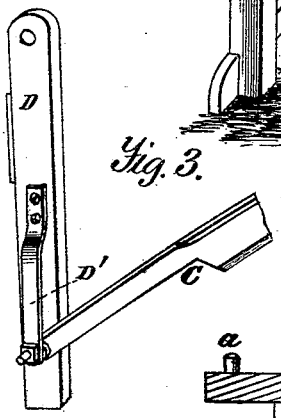
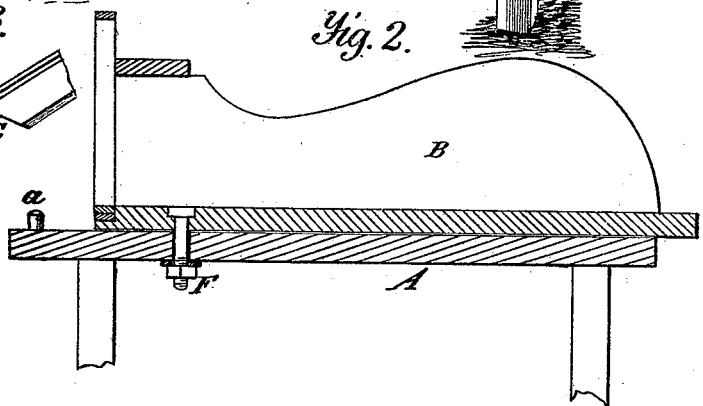


Fig. 2.



Witnesses.
A. Ruppert.
M. E. Chaffee

J. T. Watson.
J. B. Merwin
Inventor.
D. P. Holloway & Co
Attys.

UNITED STATES PATENT OFFICE.

JAMES T. WATSON AND JAMES B. MERWIN, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. **180,445**, dated August 1, 1876; application filed July 14, 1876.

To all whom it may concern:

Be it known that we, JAMES T. WATSON and JAMES B. MERWIN, both of St. Louis city and county, and State of Missouri, have invented a certain Improvement in Straw-Cutters, of which the following is a specification:

This invention was designed more especially for the purpose of improving the straw-cutter described in United States Letters Patent No. 80,524, granted to James T. Watson and Henry E. Robinson, on the 28th day of July, A. D. 1868. It consists, first, in mounting the feed-box on a pivot, so that it may be swung around to stand in line with, and lock, the knife, when not in use; secondly, in so disposing the spring which acts on the arm or link of the knife that it will antagonize endwise movement of the knife on the downstroke, instead of aiding such motion, as is the case in the cutter described in the aforesaid patent.

In the annexed drawings, Figure 1 is a perspective view of our improved straw-cutter, as it appears when ready for use, the dotted lines indicating the position of the feed-box when the machine is at rest and stored away. Figs. 2 and 3 are detail views, hereinafter more specifically alluded to.

The same letters of reference are used in all the figures in the designation of identical parts.

The bench A, feed-box B, knife C, link D, and stop E are in construction substantially the same as the corresponding elements of the cutter described in the aforesaid patent, and therefore require no detailed description. The feed-box is, however, pivoted to the bench by the bolt F, so that by loosening the nut of said bolt it may be swung around to stand either at right angles to the slot A′, in which the knife works, as shown in full lines in Fig. 1, or to stand in line with such slot and knife, as shown in dotted lines in Fig. 1. The arrangement is such that in the last mentioned position the corner guide-bar B′ of the box will overlap the knife, confining it between the box and the stop E so that it cannot be moved. This provides against the danger of injury to children resulting from the careless use of the knife. By reason of the swiveling feature of the feed-box the machine can also be folded into a smaller compass for transportation and storage.

When the feed-box is swung around at right angles to the knife it brings up against a permanent stop, *a*, (shown in Fig. 2,) and is locked by a pin, *a′*, inserted in a hole in the bench. On first removing this pin *a′* the box can be swung around again until it brings up against the upper end of link D, when the pin *a′* can be reinserted.

G refers to a spring, secured with one end to a leg of the bench, and bearing with its free end against the link D with which it is not connected. The knife is so operated by the workman that it will act with a draw cut, which is obtained by pushing the knife endwise to some extent on the downstroke.

In the patented cutter referred to the spring was so disposed that, being connected to the link of the knife, it was expanded on the upstroke of the knife, and its resilience aided in moving the knife endwise on the downstroke.

In practice, this arrangement was found to be defective. It proved not only fatiguing to the operator, but it was also difficult to control the action of the knife. From an inspection of the machine it will be evident that there is a natural tendency to move the knife endwise on the downstroke. In order to better control this we antagonize the spring G by arranging it as shown and stated. The operator can now with ease govern the endwise motion of the knife, and, moreover, gets the aid of the resilience of the spring in lifting the knife. The spring may be fastened to the link, if preferred, provided, however, it is so arranged as to antagonize the endwise movement of the knife on the downstroke.

The knife is pivoted on the pintle of the link, between the link and the bracket-bar D′, to prevent the unscrewing of the nut of the pintle. The arrangement is shown in Fig. 3.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a straw-cutter, substantially such as described, the pivoted feed-box, adapted to assume a position at right angles to the knife,

or a position parallel therewith, for the purpose specified.

2. The combination, substantially as specified, of the knife, swinging upon a single pivot, the link, and the spring which antagonizes the endwise movement of the knife on the downstroke.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES T. WATSON.
JAMES B. MERWIN.

Witnesses:
D. P. HOLLOWAY,
W. E. CHAFFEE.