

H. E. MOON.
Straw-Cutters.

No. 149,877.

Patented April 21, 1874.

Fig. 1.

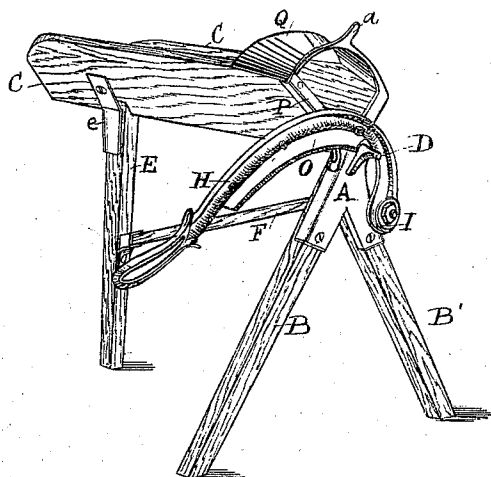


Fig. 2.

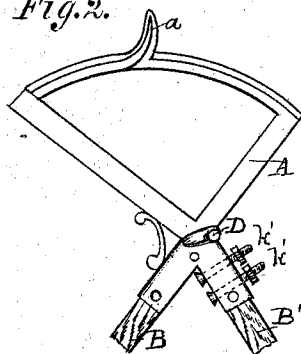


Fig. 4.

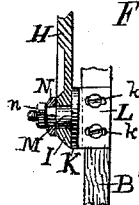
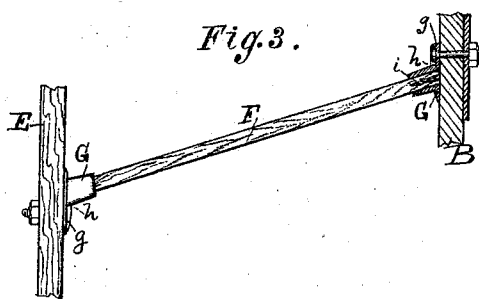


Fig. 3.



Witnesses.

D. S. Stuart.
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Inventor.

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UNITED STATES PATENT OFFICE.

HIRAM E. MOON, OF RICHMOND, INDIANA.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. **149,877**, dated April 21, 1874; application filed March 18, 1872.

To all whom it may concern:

Be it known that I, HIRAM E. MOON, of Richmond, in the county of Wayne and State of Indiana, have invented certain Improvements in Straw-Cutters, of which the following is a specification:

My invention relates to improvements in the construction and operation of straw or feed cutting boxes, whereby a great saving in labor and material is effected in their construction, and a strong, durable, and effective machine can be produced at little cost.

The invention consists in making the face-plate **V**-shaped in form, and the knife circular or arc-shaped in form, and in pivoting the lever at a point below the cutting-line, across which the edge of the knife traverses, thereby giving a drawing or sliding cut throughout the entire downward stroke, instead of a vertical or angular cut, as heretofore, and thereby greatly facilitating the process of cutting without requiring any increase of power.

In the accompanying drawings, Figure 1 is a perspective view of my improved cutting-box. Fig. 2 is a detached view of the mouth-piece or frame-plate. Fig. 3 is a detached view of parts of the brace-bar, showing the method of securing the same. Fig. 4 is a detached sectional view of the adjustable pivot-plate and lever.

A represents the throat or mouth piece, consisting of a cast-metal plate or frame having flanged edges, to which the forward legs **B B'** and the forward ends of the boards **C C**, which form the cutting-box, are firmly secured by screws or bolts, as shown by Fig. 1 of the drawings. The upper edge of the frame-plate is arched, and provided with a projecting horn, **a**, for the purpose hereinafter set forth. A lug or stop, **D**, is also cast on and projects from the face of the frame-plate. This projection **D** acts as a stop to arrest the downward stroke of the cutting-knife at the proper point, and also serves as a convenient support to prevent the knife-lever from falling to the ground when the operator removes his hand from the handle. **E** is the rear leg, having a **V**-shaped notch or groove cut in its upper end to receive and clamp the bottom edges of the boards **C**, to which it is secured by a plate, **e**, as shown in Fig. 1. **F** is a rod or brace-bar,

which passes from the lower part of the leg **E** diagonally to the miter of the two front legs **B**. The ends of this brace-bar are shod with metal fastenings or mortise-tips **G**, cast with a lip, **g**, or face, which forms an obtuse angle with the sides, as shown at **h h**, Fig. 3. The mortise through the tip is cast of tapering form, so that when the rod or brace-bar is driven through from the small end, and a wedge, **i**, is driven into the bar from the opposite side, a tight joint is formed, which firmly secures the tip to the end of the bar. The brace-rod is secured to the legs by screws or bolts passing through the lips of the tips, as shown in Fig. 3. The front tip covers the miter of the two front legs, and holds them both firmly in place. By means of this device a cheap and substantial means of fastening and bracing the legs is provided. **H** represents a lever, to which the cutting-knife **O** is secured. It is formed with a long curved shank, terminating in a disk, **I**, having its inner face made flat to fit a corresponding disk, **K**, which forms the pivot for the lever. As shown by the drawings, the pivotal point of the lever **H** is placed below the line across which the edge of the knife passes in the downward stroke, and, as the knife is arc-shaped, a sliding or drawing cut, like that of a sickle, is secured throughout the entire downward stroke of the knife. The pivot-disk **K** is secured to the forward leg **B'** by means of a plate, **L**, projecting from its rear side. The plate **L** is provided with adjusting bolt-holes **k k**, by means of which, and the bolts **k' k'** which secure the plate to the leg, the cutting-knife may be adjusted relatively with the mouth-piece of the box, so as to cut at the required angle. The disk **K** is also provided with a projecting pivot, **M**, of peculiar form, as shown by Fig. 4 of the drawings. The part next to the disk is made round so as to form the pivot for the cutting-knife lever. The part next to the pivot is made square, so as to receive a washer or friction-plate, **N**, having a corresponding square mortise. The remainder of the projection is round and cut with a screw-thread, to receive a nut, **n**, which holds the washer **N** in position. By this device the lever may be worked up and down without danger of becoming loose through the unscrewing of the nut or stripping

the screw-thread, all friction being confined to the round portion of the pivot next to the disk, and by screwing or unscrewing the nut any desired degree of pressure of the knife against the throat or mouth piece may be obtained. O is the cutting-knife, secured to the lever H, and it is made circular or arc-shaped for the purpose hereinbefore described. P is the plate, against which the knife cuts. Q is an arched cover secured over the mouth or throat of the box, and held in position by the flange of the frame-plate, and, by bolts or screws, to the boards C.C. The horn *a* serves as a guide for operating the cutting-knife.

In operation, my improved cutting-box is similar to others of its class; further description is therefore deemed superfluous.

What I claim as my invention is—

The arc-shaped knife O, secured to the lever H, and pivoted to the face-plate A at a point below the cutting-line, so as to give a sliding or drawing motion to the cut, as set forth.

HIRAM E. MOON.

Witnesses:

CLARK H. HADLEY,
JOHN C. HADLEY.