W. V. & D. J. DEVAULT.

Straw-Cutter.

No. 199,808. Patented Jan. 29, 1878.

Fig. 1.

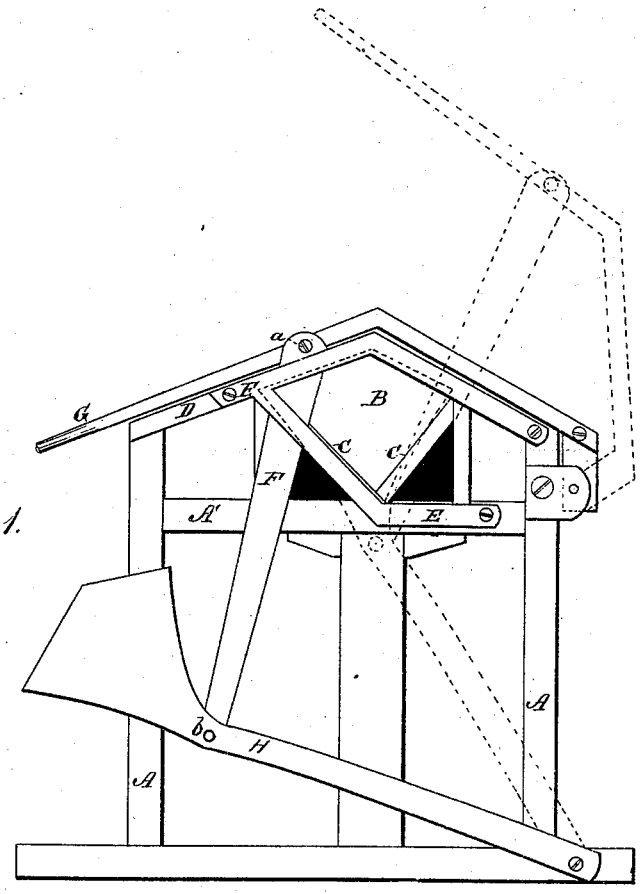
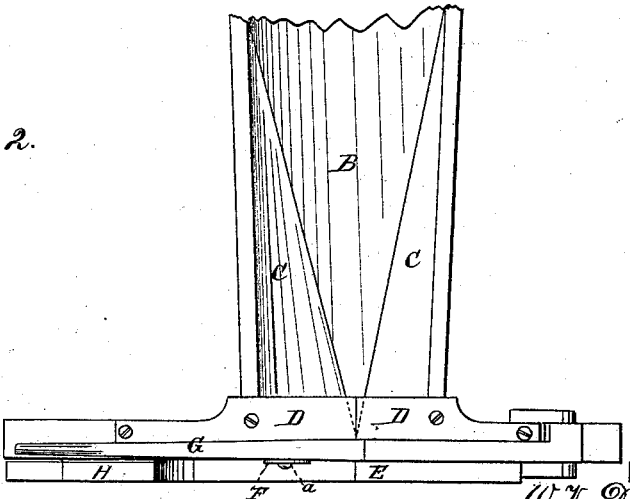


Fig. 2.



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WILLIAM V. DEVAULT AND DICK J. DEVAULT, OF JOHNSON CITY, TENN.

IMPROVEMENT IN STRAW-CUTTERS.

Specification forming part of Letters Patent No. **199,808**, dated January 29, 1878; application filed December 13, 1877.

To all whom it may concern:

Be it known that we, WILLIAM V. DEVAULT and DICK J. DEVAULT, of Johnson City, in the county of Washington and State of Tennessee, have invented a new and Improved Straw-Cutter; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a front end view. Fig. 2 is a plan view with a part of the box broken away.

Our invention relates to an improvement in straw-cutters designed to secure a greater sliding motion for the edge of the knife in proportion to the elevation of its lever, and hence a cleaner cut with less expenditure of power.

The improvement consists in the particular construction and arrangement of the hand-lever, knife, and gage-bar, so relatively connected as to secure in combination an improved lever action; and in the peculiar arrangement of the mouth of the feed-box, designed to increase its capacity and to co-operate with the knife to produce a better cut, as hereinafter more fully described.

In the drawing, A A represent two vertical standards, connected by a cross-bar, A′, upon which the mouth of the box rests, and which, in connection with a T-shaped base, a rear standard, and a diagonal brace, constitutes the supporting-frame of the machine.

B is the box, which is constructed with straight parallel sides, instead of tapering ones, as usual, to give a greater capacity at the mouth of the box for larger bundles of straw, oats, fodder, &c. To centralize said bundle in the mouth of the cutter, without regard to the size of the same, and to produce a better cutting action, as will be hereinafter explained, we arrange in the box, upon each side, tapering angle-boards C, which subtend the angle formed by the sides and bottom of the box, and taper from a point near the rear to such a width at the front or mouth of the box as to reach up to the top of the sides and to meet in the middle to form a central angle at the bottom. These angle-boards serve also to brace and strengthen the sides of the box.

Over the mouth of the box are transverse boards D, arranged after the manner of a roof, whose outer edge is flush with the outer edge of the box, and between which and an outer guide, E, the knife F moves. This guide E is made in one piece of cast metal, and corresponds in shape to the boards D and the side of the mouth of the box, being suitably fixed in place by screws.

G is the hand-lever, which is pivoted to one of the standards A′ upon one side of the box, and is then extended, in either angular or curved shape, transversely across the box until its handle rests conveniently above the opposite standard A. This lever is pivoted to the knife at *a*, and its construction and arrangement, it will be seen, enable us to get a greater vertical movement of the knife with a given vertical movement of the lever.

H is the gage-bar, which is loosely pivoted to the lower end of the knife, and pivoted also below to the base. This bar is provided with a broad face at its upper end, which, when the knife is elevated, is raised to a position opposite the mouth of the box, as shown in dotted lines, where it defines the length of the cut by acting as a stop to the bundle as it is pushed forward.

In relation to this gage-bar, we do not claim it broadly, as it has heretofore been arranged to act in unison with a knife and lever. When it is pivoted at the bottom to the base, however, and is loosely connected with the bottom of the knife, the latter loosely pivoted to the hand-lever, and this, in turn, bent as described, and pivoted to the side of one of the standards below the top of the box, it will be seen that the lever-knife and gage-bar form together a double toggle-joint at *a* and *b*, which not only enables the operator to cut with a less expenditure of power, but also gives a greater vertical movement and a greater sliding or shear cut for the knife. With this particular arrangement of the knife the mouth of the box has a special co-action, when constructed as described, for the reason that it holds the bundle in the box against the tendency of the inclined knife to push it up over the side of the bar, and also makes the resisting edge better adapted to the shear of the knife.

It will also be seen, from the peculiar angu-

lar or circular hand-lever, that upon its elevation the hand of the operator, instead of being raised vertically or behind him, as is the case with straight hand-levers, is carried or raised forward in a natural and easy position.

Having thus described our invention, what we claim as new is—

1. The lever G, pivoted upon one side of the box below the top of the same, and bent over to the other side, in combination with the knife F, gage-bar H, and box B, substantially in the manner and for the purpose described.

2. The box B, provided with tapering angle-boards C and a roof portion D, in combination with a knife and actuating-lever, substantially as described.

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Witnesses:
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