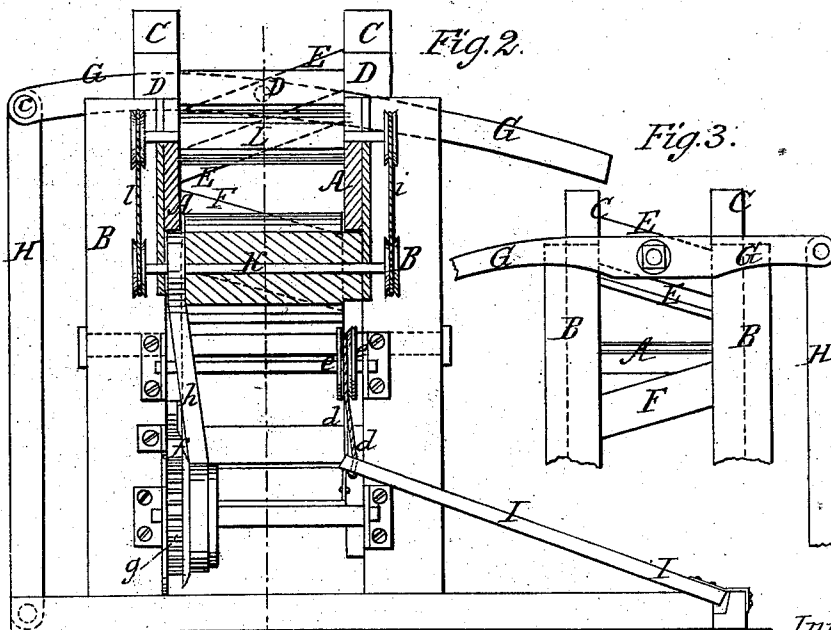


Straw Cutter.

Patented Nov. 3, 1868.



Witnesses.
Jm A Morgan.
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JULIUS AMBRUN, OF LEAVENWORTH CITY, KANSAS.

Letters Patent No. 83,682, dated November 3, 1868.

IMPROVEMENT IN STRAW-CUTTER

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JULIUS AMBRUN, of Leavenworth city, in the county of Leavenworth, and State of Kansas, have invented a new and improved Straw-Cutter; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical longitudinal section of my improved straw-cutter.

Figure 2 is a vertical transverse section of the same, taken on the plane of the line *x x*, fig. 1.

Figure 3 is a detail front view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new straw-cutter, in which two reciprocating oblique cutters are used, both moving in opposite directions, so as to cut between them, like shears, the straw.

The invention consists, first, in the arrangement and use of the said reciprocating cutters, and in the mechanism for operating them; and, second, in the device for feeding the straw, and in the manner of transmitting motion to such driving-mechanism.

A, in the drawing, represents the straw-box, supported by means of suitable legs, and made of suitable size, shape, and material.

In front of the box are arranged, on each side of the same, posts B B, which are grooved on their inner sides, so as to form guides for two rectangular frames, C and D. These frames are made of wood or other material, and are one directly in front of the other.

The front frame C carries a straight knife, E, arranged obliquely in the frame, and having its lower edge sharpened.

The back frame D carries a cutter, F, which is also arranged obliquely, but opposite to the cutter E.

The sharp edge of F is on top.

On the contiguous faces of the frames C D are arranged toothed bars *a a*, into both of which a pinion, *b*, meshes.

G is a lever, pivoted to an elastic or yielding support, H, and to the frame C, as shown in fig. 3.

By swinging the lever around the pin *c*, by which it is pivoted to H, it causes the frame C to move up and down, and the latter, by its connection *b* with the frame D, causes the same to be also moved up and down, but always in the contrary direction to its own motion.

The cutters are thus constantly crossed, and, as they stand oblique, a drawing cut is produced, whereby the straw is rapidly severed.

To the lower part of the frame D is secured a strap or cord, *d*, which passes over a pulley, *e*, and is fastened to the end of a treadle, I.

When the frame C has been elevated, the frame D is lowered, and the free end of the treadle is raised. The knives now stand ready to cut, and, to not alone have to use the lever, the treadle is arranged. By pulling down the lever, and, at the same time stepping on the treadle, the cutters will be crossed with great force and rapidity and the straw between them will be quickly severed.

When the frame C is being drawn up again, the treadle must be released, so as to be reset by the downward motion of the frame D.

On the frame D is a projecting arm, *f*, which, whenever D is moved down, strikes against the teeth of a ratchet-wheel, *g*, hung to one of the legs or posts of the apparatus. Intermittent rotary motion is thus imparted to the wheel *g*.

A belt, *h*, from the wheel *g*, serves to rotate a corrugated or toothed roller, K, which has its bearings in the lower part of the box A, and which serves to feed the straw. The feed is thus automatically regulated by the motion of the machine.

L is a presser-roller, which is, by means of elastic bands *i i*, connected with the feed-roller K, and which works in slots in the side of the box. It keeps the straw upon the feed-roller, causing the latter to operate effectually, and adjusts itself to the quantity of straw in the box.

I claim as new; and desire to secure by Letters Patent—

1. The frames C and D, which hold the two cutters, E and F respectively, when connected with each other by means of a pinion, *b*, and racks, operated by a lever, G, substantially as herein shown and described.

2. The reciprocating frames C D, carrying the cutters E F, in combination with the pawl *f*, ratchet-wheel *g*, belt *h*, feed-wheel K, and presser-wheel L, all arranged on a straw-box, A, substantially as herein shown and described.

JULIUS AMBRUN.

Witnesses:

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