L. BECKER.
Feed-Cutter.

No. 207,479. Patented Aug. 27, 1878.

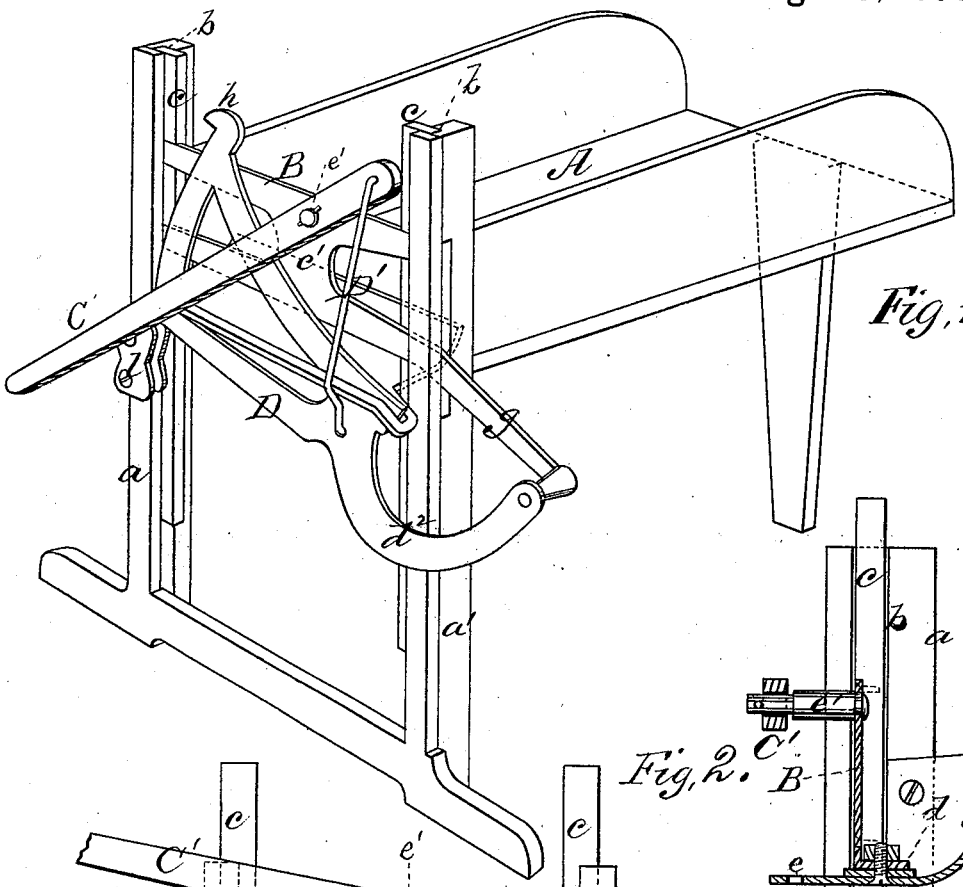

Fig. 1.

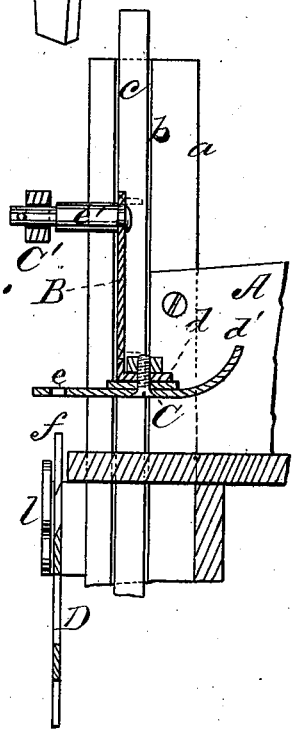

Fig. 2.

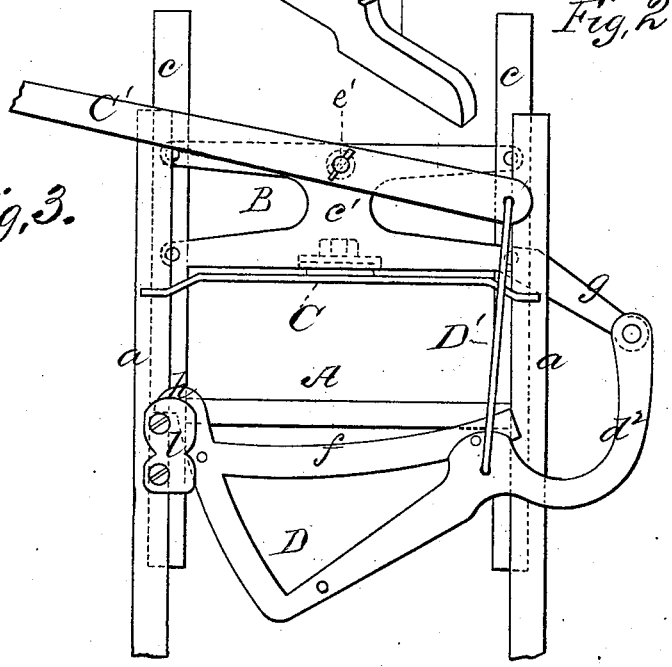

Fig. 3.

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LEANDER BECKER, OF YORK, PENNSYLVANIA.

IMPROVEMENT IN FEED-CUTTERS.

Specification forming part of Letters Patent No. **207,479**, dated August 27, 1878; application filed July 16, 1878.

To all whom it may concern:

Be it known that I, LEANDER BECKER, of York, in the county of York and State of Pennsylvania, have invented a new and valuable Improvement in Feed-Cutters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a represention of a perspective view of my improved feed-cutter. Fig. 2 is a longitudinal vertical section thereof, and Fig. 3 is a front-end view of the same.

This invention has relation to improvements in feed-cutters; and the nature of the invention consists in combining, with a feed-table, a sash reciprocating vertically in its throat, and a pressure-plate bolted to said sash, of a vertically-vibrating cutting-blade pivoted at one end to said sash, a lever having its fulcrum on the sash, and a rigid rod connecting the weight end of the lever with the knife, whereby the upward motion of the lever causes the sash and plate to rise for the passage of the straw, and the downward movement thereof lowers the plate upon the straw and then raises the knife, bringing it with a draw cut across the same, as hereinafter more fully set forth.

In the annexed drawings, the letter A designates a feed-box of the usual form, supported upon legs *a a'*, properly braced together. B indicates a sash reciprocating vertically in grooves *b* formed in the inner faces of the uprights *a*, and composed of the side bars *c* and an H-shaped brace, *c'*. Upon the rear face and lower edge of this brace is a horizontal lug, *d*, to which is bolted a metallic compressing-plate, C, arranged in the throat of the box A and rising and falling with the sash. The rear edge of plate C extends some distance back, and is upturned, as shown at d^1, and its front edge is carried beyond the sash a sufficient distance to clear the uprights *a*, and the said projecting portion is provided with a slot, *e*, exactly or nearly in line with the front edge of the bottom of the box A. The sash B has a projecting horizontal spur, *e'*, in which is fulcrumed a vertically-vibrating lever, C', that is connected pivotally with the knife-frame D by means of a rigid rod, D'. The general shape of the knife *f* and its frame is triangular, and the said frame is provided with a tang, d^2, that is pivoted to vibrate vertically to a projecting offset, *g*, of the sash B, aforesaid, through the slot *e* of the plate C. The knife-frame D has at its upper free edge a hook, *h*, or its equivalent, that comes in contact with a stop, *l*, upon the frame and prevents the latter from swinging too far downward, and it is held against undue upward movement by means of a stop-pin. The free edge of the knife-frame is curved in an arc of a circle, and engages a groove formed in the contiguous edge of the stop *l*, so that it is accurately guided to enter the slot in the presser-plate.

In practice, the knife *f* is detachable from its frame, and has a concave cutting, in order to obtain a more perfect draw cut upon the substance operated on.

The operation of my improved cutter is as follows: Straw is introduced endwise into the feed-box A and thrust toward its throat. The lever is then raised, thereby raising the sash and presser-plate and allowing the straw to pass under the latter. During this operation the fulcrum of the lever is on the upper end of the connecting-rod. The power end of the lever is then thrust down, lowering the presser-plate upon the straw, and then raising the knife and drawing it through the slot of said plate, thus severing it. The greater the resistance met with by the knife in severing the straw the greater is the force of compression exercised by the plate thereon to hold it in contact with the said knife. During this operation the lever becomes of the first order, and its fulcrum is shifted from the connecting-rod to the bearing on the sash.

In a former patent granted to me were shown a pressing-plate and cutting-knife adapted to reciprocate vertically to and from each other. In order to effect the cutting, the knife was set at an inclination to its frame, so as to commence its cut at one side and gradually cut across the straw. In the present improvement

the same object is effected by means of a vibrating cutting-knife.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the feed-box A and the vertically-reciprocating sash B, having the presser-plate C, of the lever C′, fulcrumed on sash B, the vibrating curved knife *f*, pivoted to said sash, and a connecting-rod uniting said knife and lever, substantially as specified.

2. The combination, with a feed-box, A, sash B, and presser-plate C, having slot *e* upon its front edge, of a curved vibrating cutter pivoted to said sash and vibrating vertically through said slot, a lever pivoted to the sash, and a rod connecting the lever and knife, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LEANDER BECKER.

Witnesses:
GEORGE M. SHETTER,
A. W. SHETTER.