(No Model.)

W. M. FITZWATER.

STRAW CUTTER.

No. 268,212. Patented Nov. 28, 1882.

Fig. 4.

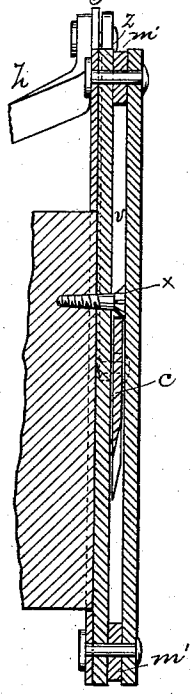


Fig. 1.

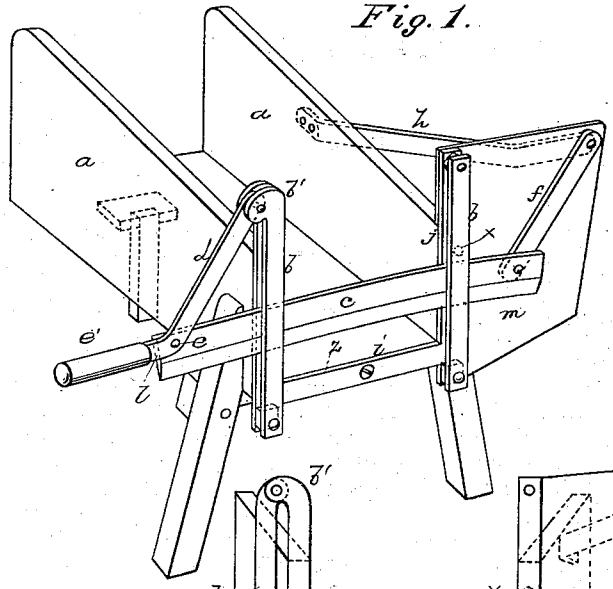


Fig. 2.

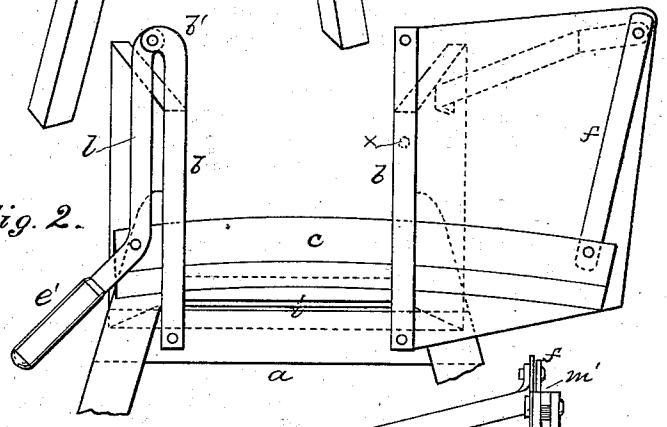
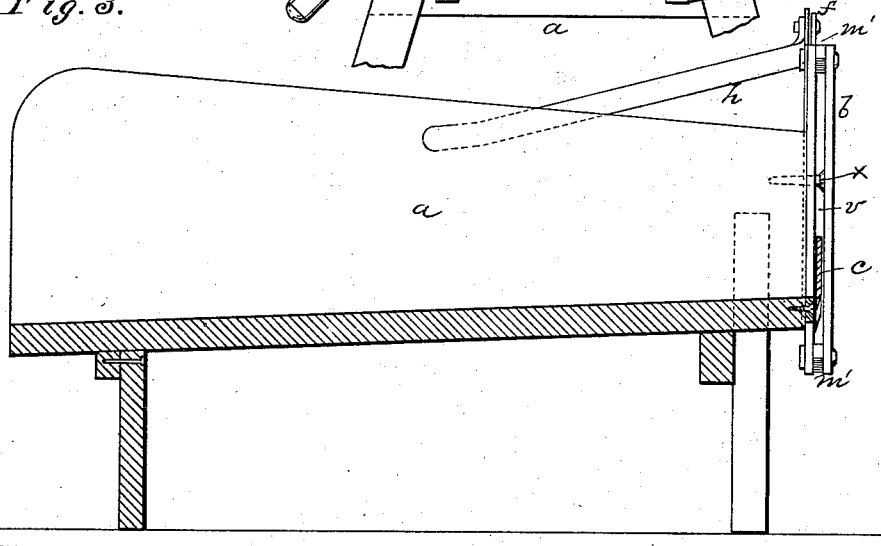


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM M. FITZWATER, OF LOUISA, KENTUCKY.

STRAW-CUTTER.

SPECIFICATION forming part of Letters Patent No. 268,212, dated November 28, 1882.

Application filed June 10, 1882. (No model.)

To all whom it may concern:

Be it known that I, WM. M. FITZWATER, a citizen of the United States, resident of Louisa, in the county of Lawrence and State of Kentucky, have invented a new and valuable Improvement in Straw-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 view in perspective of my straw-cutter. Fig. 2 is a front view of the same. Fig. 3 is a vertical longitudinal section of same, and Fig. 4 is a sectional detail.

This invention has relation to hay and straw cutters; and it consists in the construction and novel arrangement of devices hereinafter set forth, and particularly pointed out in the claim appended.

In the accompanying drawings, the letter *a* designates the box, which is of ordinary form, being wider in rear than in front. To the front ends of the sides and bottom is secured by screws an H-shaped plate, *z*, of which the cross-bar *i* forms the lower cutting-plate and the vertical bars *j* form the rear walls of slot-guides *v*, in which the horizontal parallel-moving knife *c* works. The front walls of these slot-guides are formed by external bars, *b b*, which are riveted to the plate *z*, pieces *m'* being interposed to keep the bars separated sufficiently to form ways for the knife. A broad and deep guard-plate, *m*, is secured to the end of the farther side wall of the box, being placed under the vertical bar *b* of the H-shaped plate *z* on this side and held in position thereby. This guard is firmly braced at its outer and upper corner by a brace-bar, *h*, which extends from the side wall of the box obliquely outward to said corner, as shown in the drawings. The guard-plate is sufficiently broad and deep to form a guide for the front hanger, *f*, which is pivoted to the outer and upper corner of the guard-plate, and to the end of the brace-bar *h*, back of the same. This hanger is pivoted to the inside of the knife *c* at its forward end, and the guard-plate *m* extends downward below the knife in its lowest position. A stop, *x*, within the guide-slot serves to limit the upward motion of the knife, its downward movement being limited by the perpendicular edge of the guide-bar. When the knife is in its highest position its handle is horizontal and in line with the knife, and when the latter is in the lowest position the handle extends obliquely downward. The knife *c* extends horizontally across the face of the box, and its lower or cutting edge is slightly concave. It is suspended by the hanger *f* from the outer and upper corner of the guard-plate, as above described, and by the hanger *d*, which is pivoted to the heel of the knife, from the upper ends of the vertical bars, forming the slot-guide on this side of the box. The knife therefore is parallel-moving in its action.

It will readily be seen that the H-shaped plate serves as a knife-guide, cutting-plate, and stop for the downward movement of the knife. It also holds the pivot-pin for the handle-hanger, and the stop which limits the upward motion of the knife. It also serves to aid in securing the guard-plate in position and to protect the cutting-edge of the knife from the edge of the guard-plate; and it provides a complete and perfect brace for the front of the box, holding the front ends of the bottom and side walls securely in their relative position.

In order to conveniently operate this knife when standing at the side of the box, the handle *e'* is arranged to have circular vibratory motion by rigidly attaching it to the oblique extension *l* of the lower end of the hanger *d*, said extension being bent downward and laterally extended at an obtuse angle with the hanger. When the knife is depressed and the hanger in vertical position the handle will form an angle of about forty-five degrees to the horizontal portion of lever *d*, which is pivoted to the heel of the knife. The handle therefore, when operated, will have a circular vibratory movement from the upper pivot of the hanger, and will respond conveniently to the natural position and movements of the arm and wrist in exerting the necessary pressure thereon to force the knife downward in making the cut.

It will readily be seen that by this peculiar construction the operator is enabled to exert the full strength of the arm and add the weight

of the upper portion of his body directly upon the knife without bending his wrist or relaxing the muscles thereof.

I am aware that the knives in straw-cutting machines have heretofore been suspended by pivoted hangers, and that handles rigidly attached to knives have been curved downward. I therefore do not claim such devices.

It is obvious that by my construction, in which the hanger at the farther side of the machine is pivoted at a considerable distance from the box, I am enabled to use guide-slots for the knife, and at the same time to utilize nearly the entire edge of the knife in cutting, the hangers being pivoted to the extremities of the knife; and that the movement of the handle is from the horizontal position downward to an oblique position in making the cut, this movement being in accord with the natural motions of the wrist, arm, and body in working the knife, so that no labor is wasted in the operation.

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

The straw-cutter described, having box *a*, guard-plate *m*, frame *z*, and knife *c*, suspended by hangers *d* and *f*, the hanger *d* terminating in an obtuse angle to form the handle, while its upper portion regulates the downward movement of the knife by engagement with the side wall of frame *z*, substantially as specified.

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

WILLIAM M. FITZWATER.

Witnesses:

JAS. Q. LACKEY,

A. J. GARSED.