(No Model.)

E. W. RIDER.

FEED CUTTER.

No. 369,209. Patented Aug. 30, 1887.

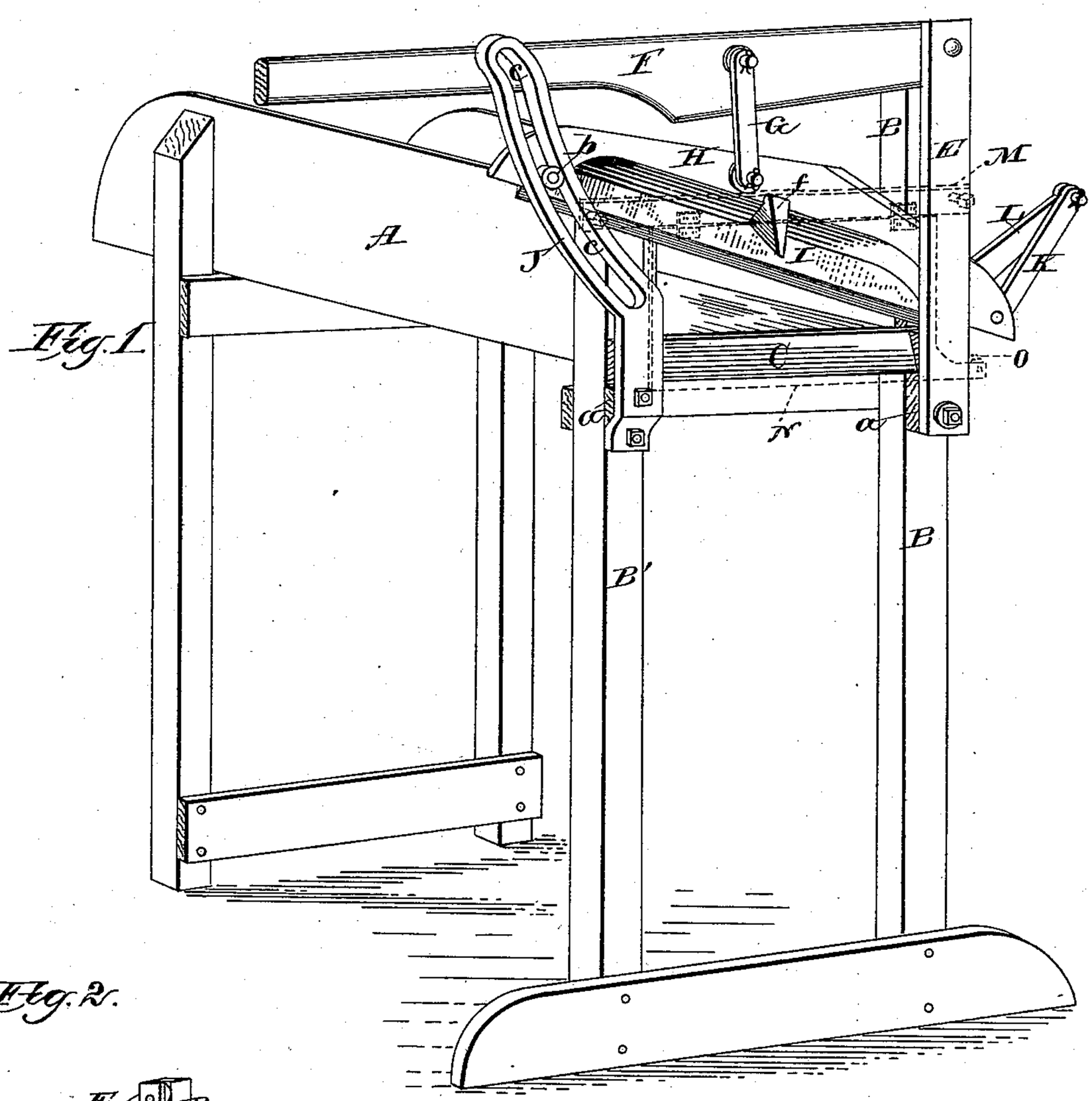

Fig. 1.

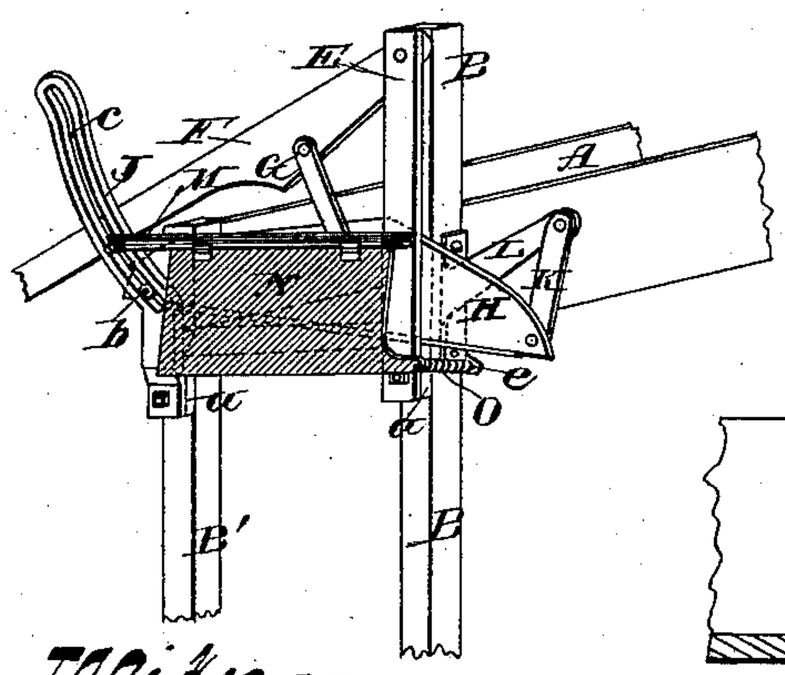

Fig. 2.

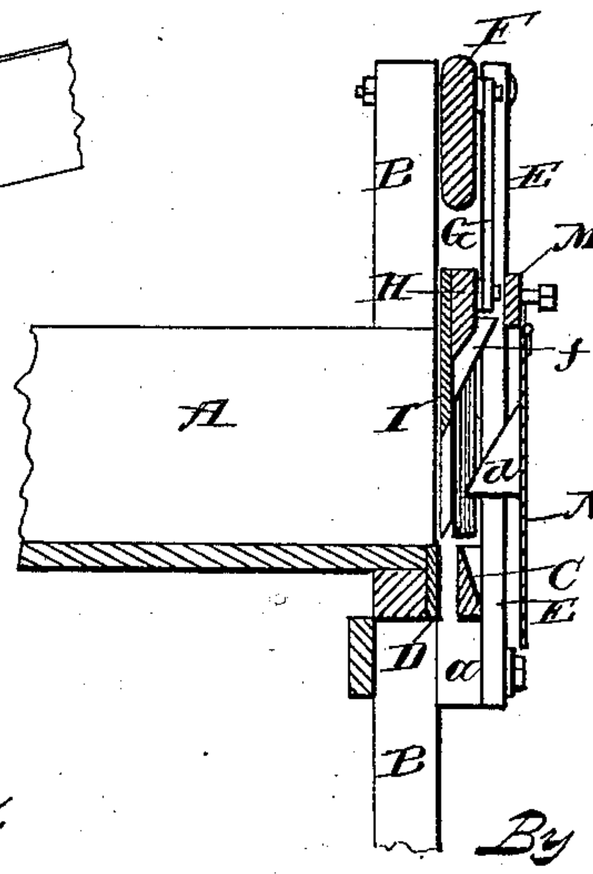

Fig. 3.

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UNITED STATES PATENT OFFICE.

EBENEZER W. RIDER, OF RACINE, WISCONSIN.

FEED-CUTTER.

SPECIFICATION forming part of Letters Patent No. 369,209, dated August 30, 1887.

Application filed December 4, 1886. Serial No. 220,674. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER W. RIDER, of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Feed-Cutters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to feed-cutters; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 represents a perspective view of a feed-cutter embodying my invention; Fig. 2, a similar view of a portion thereof, and Fig. 3 a partial vertical longitudinal section.

Referring by letter to the drawings, A represents the box of my machine, mounted in a suitable frame, the latter having a front standard, B, thereof vertically extended above said box. Supported on blocks *a*, secured to the front standard of the frame, is a bar, C, that has its upper edge parallel with the shear-plate D of the box, and beveled on the front to allow a ready discharge of the cut material.

Bolted to the frame-standard B′ outside the block *a* thereon is a vertical post, E, and fulcrumed between the upper ends of said standards and post is a lever, F, that is connected by a link, G, with a plate, H, the latter having secured thereto in any suitable manner a knife, I.

It will be noticed that the link G is connected to the plate H eccentric to the center of the latter, in order to obtain the proper leverage.

The end of the knife-plate H nearest the operator is provided with a projection or roulette, *b*, that engages a curved slot, *c*, in an arm, J, secured to the front standard, B, and extended in an outward direction a suitable distance above the feed-box A of the machine. The opposite end of the knife-plate H is connected by a link, K, to a bracket-arm, L, projecting from the outside of the front standard, B, of the frame.

Bolted to the post E and arm J are the ends of a transverse bar, M, to which is hinged an apron, N, provided upon its inner side with a lug, *d*, the latter having its face preferably inclined, as shown by Fig. 3. A spring, O, is employed to connect the end of the apron farthest from the operator with an ear, *e*, on the frame-standard B′, and, if desired, a similar construction may be employed at the other end of the apron.

The apron N serves as a stop to limit the movement of the material to be cut when the same is pushed forward in the path of the knife. In order to raise the apron a sufficient distance to permit the escape of the cut material, I provide the knife-plate H with a lug, *f*, having an inclined face that comes against the lug *d* on said apron, and consequently raises the latter on the downstroke of the knife.

When the knife is raised by means of the lever F, the lugs *d f* pass out of contact, and the spring or springs O cause an automatic return of the apron to its normal position.

The apron N is deemed a desirable feature of my machine, but may be omitted therefrom without affecting the operation of the other parts above described, and, if desired, the arm J may be protected by a suitable housing, the latter being omitted in this instance to better illustrate said arm.

In the operation of my machine the material to be cut is placed in the box A and fed forward by hand, the lever being actuated in the meantime to raise the knife. When the lever is depressed, the knife I makes a sliding and shear cut in a direction away from the operator, as shown by Fig. 1, thereby gradually acting on all the material projecting from the adjacent end of the feed-box.

By the above-described construction a powerful leverage is given the knife and an easy, direct, and clean cut is obtained.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a feed-cutter, the combination of the box and frame with a suitable plate carrying a knife, a lever fulcrumed to the frame, a link connecting the lever and knife-plate, a bracket-arm secured to the frame on the side farthest from the operator, a link connecting this bracket-arm with the adjacent end of the knife-plate, a slotted arm secured to the frame at the side nearest the operator, and a projection or roulette on said knife-plate arranged to engage the slotted arm, substantially as set forth.

2. In a feed-cutter, the combination, with the box, of the supporting-frame having a front standard on the side farthest from the operator vertically extended above said box, suitable blocks secured to both front standards, a bar supported on the blocks, a vertical post secured to the vertically-extended front standard outside the block thereon, a lever fulcrumed between the upper ends of this standard and post, a suitable plate carrying a knife and connected by a link to the lever, a bracket-arm secured to said vertically-extended standard, a link connecting this bracket-arm with the adjacent end of the knife-plate, a slotted arm connected to the front frame-standard on the side nearest the operator and extended in an outward direction above the box, and a projection or roulette on said knife-plate arranged to engage the slotted arm, substantially as set forth.

3. In a feed-cutter, the combination, with the box and supporting-frame, of a lever-actuated knife having the outer face of its plate provided with a suitable lug, a hinged apron arranged outside said knife and provided upon its inner face with a lug arranged to be acted upon by the one on the knife-plate, and a spring arranged to normally hold said apron in a vertical position, substantially as set forth.

4. In a feed-cutter, the combination, with the box, of the supporting-frame having a front standard thereof on the side farthest from the operator vertically extended above said box, a vertical post secured to said extended standard, a slotted arm secured to the front frame-standard nearest the operator, a lever fulcrumed between the upper ends of said extended standard and post, a suitable plate carrying a knife and provided on its front face with a lug, a bracket-arm secured to the first-named standard, links connecting the lever and bracket-arm with the knife-plate, a projection or roulette arranged on said knife-plate to engage the slotted arm, a transverse bar having its ends bolted to said vertical post and slotted arm, an apron hinged to this bar and provided on its inner face with a lug arranged to be acted upon by the one on the knife-plate, and a spring operatively connecting said frame and apron to hold the latter normally in a vertical position, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

EBENEZER W. RIDER.

Witnesses:

N. E. OLIPHANT,

MAURICE F. FREAR.