

(No Model.)

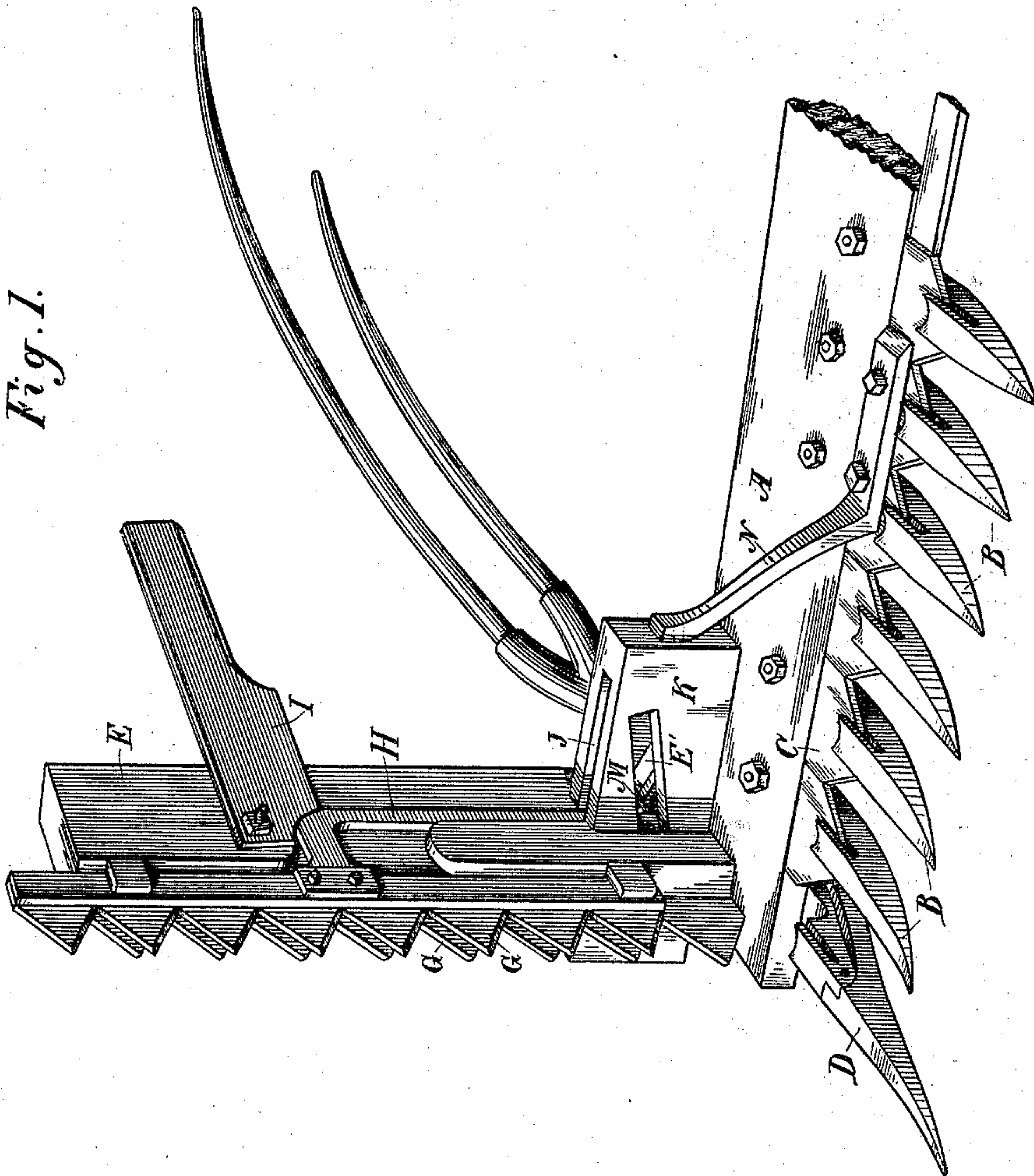
2 Sheets—Sheet 1.

J. M. PATTERSON & E. A. HIMEBAUCH.

TRACK CLEARER FOR MOWERS.

No. 335,769.

Patented Feb. 9, 1886.



Witnesses,
Geo. H. Strong,
J. H. House.

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(No Model.)

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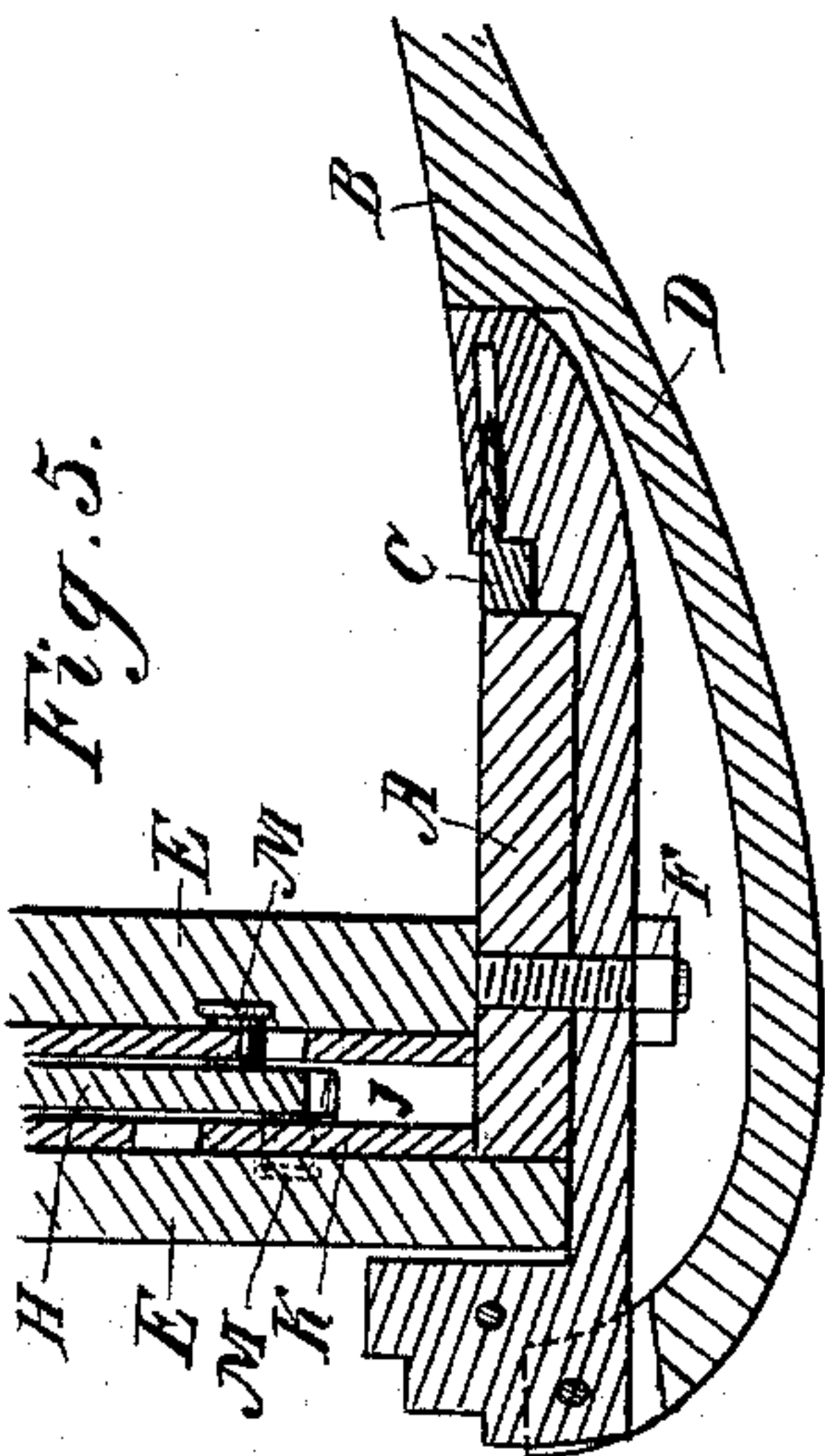


Fig. 5.

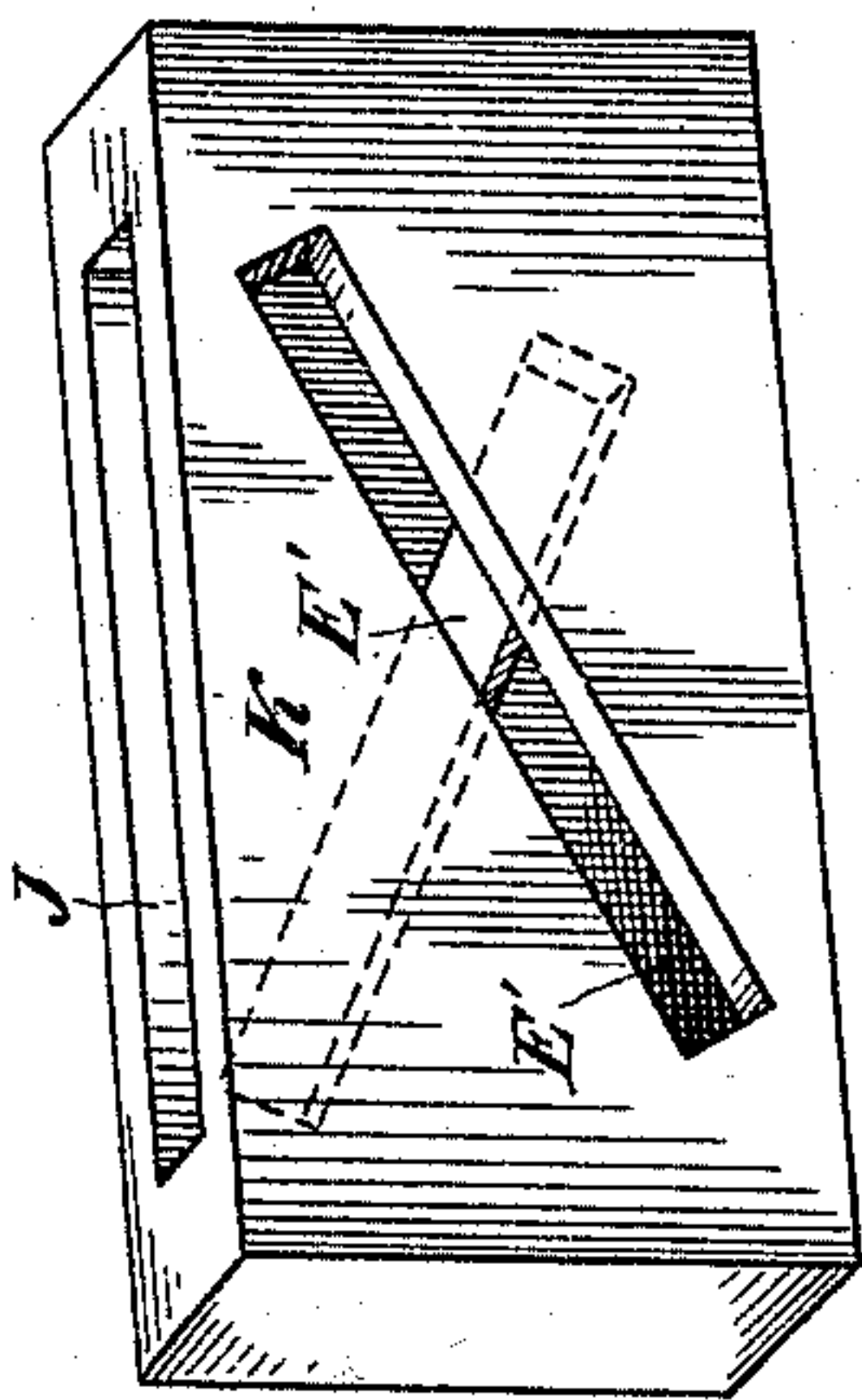


Fig. 4.

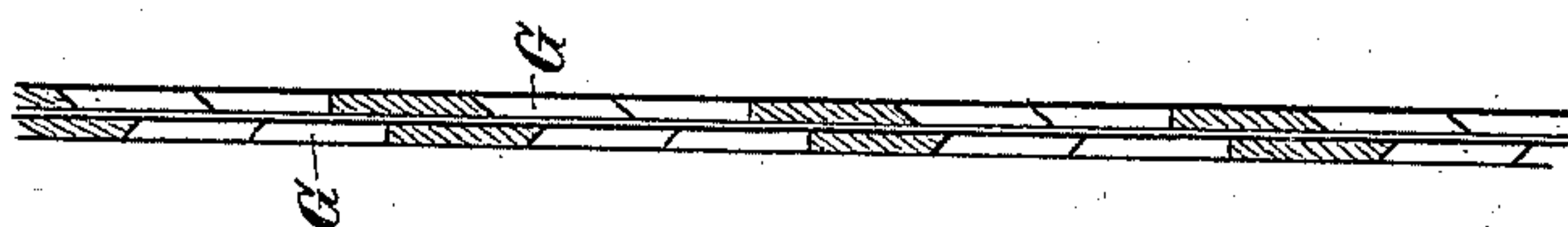


Fig. 3.

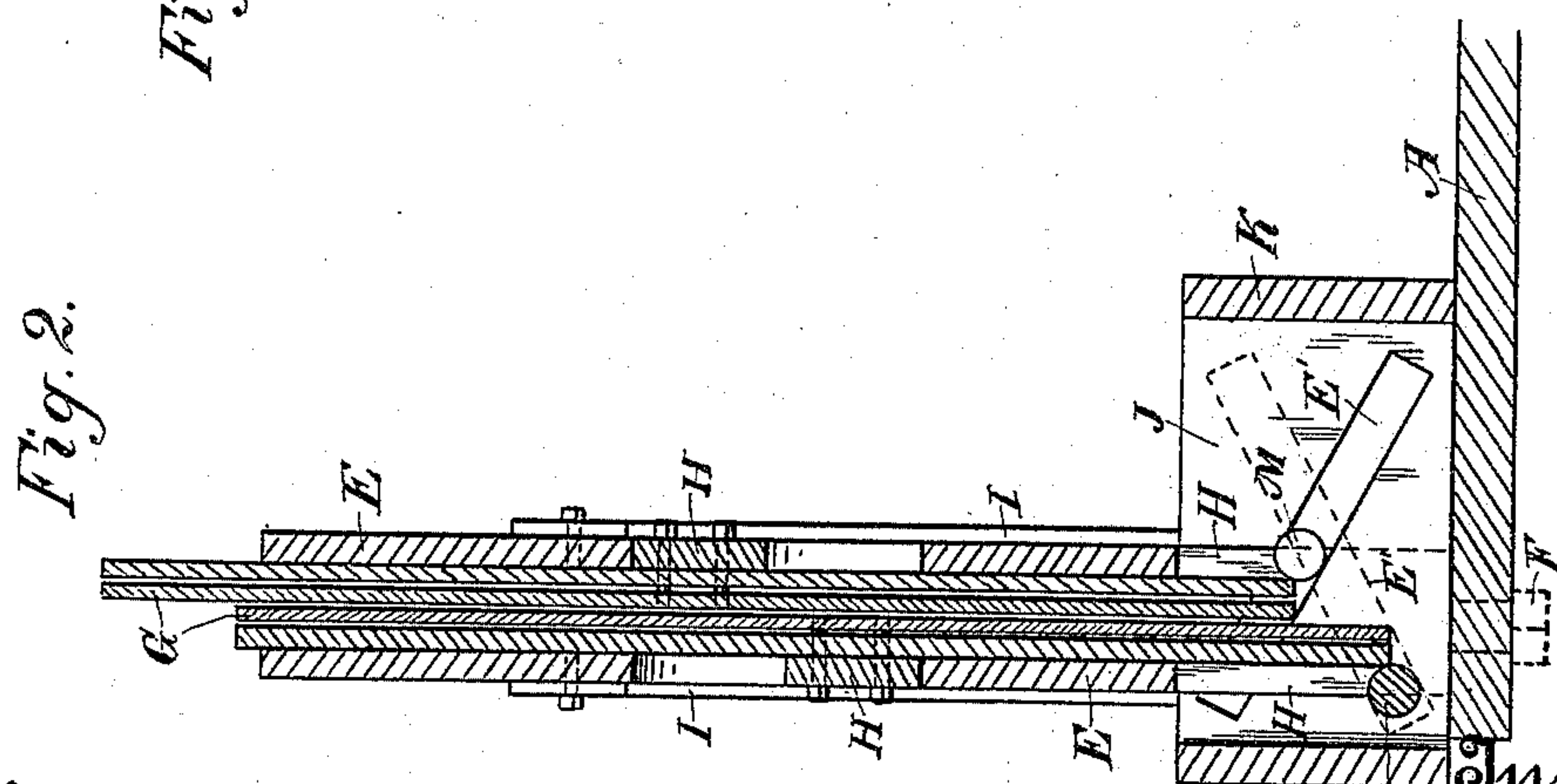


Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES M. PATTERSON AND ELI A. HIMEBAUCH, OF TIPTON, CALIFORNIA.

TRACK-CLEARER FOR MOWERS.

SPECIFICATION forming part of Letters Patent No. 335,769, dated February 9, 1886.

Application filed August 7, 1885. Serial No. 173,876. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. PATTERSON and ELI A. HIMEBAUCH, of Tipton, Tulare county, State of California, have invented an Improvement in Mowing-Machines; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to certain improvements in mowing-machines; and it consists, particularly, in the employment of vertical reciprocating sickles or cutters operating at the end of the horizontal finger-bar and in line with the track-clearer, of a novel construction of these vertical cutters, a means by which they are actuated, and in certain details of construction, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of our apparatus. Fig. 2 is a section showing the mechanism for operating the vertical sickle. Fig. 3 is a vertical section across the edges of the cutter. Fig. 4 is a view of the diagonally-slotted block which drives the vertical cutters. Fig. 5 is a sectional view showing the outer shoe, the manner of securing the vertical standard, and the lower ends of the sickles G G.

A is a horizontal finger-bar, which may be of the usual or any suitable form, having the fingers or guards B and the horizontally-reciprocating sickle C; and D is a shoe at the outer end of the finger-bar, by which the grass is divided, so as to separate that which is to be cut from that which is to be left standing. Upon the outer end of this cutter-bar a vertical standard, E, is fixed, extending upwardly, as shown. This standard may be fixed to the finger-bar of any mowing-machine by simply making a hole or slot through the end of the bar, and the vertical standard has an extension or shank, which passes down through this hole, and is secured by nut F upon the lower end and between the finger-bar and the lower curved part of the shoe. The shoulder formed between this shank and the square lower end of the vertical standard gives it rigidity and solid support without other bracing, and renders it easy to apply our improvement to any mowing-machine.

Along the front of the standard E two

sickles, G G, are fitted to work between suitable guides, so that the blades or cutters may pass each other as they reciprocate in opposite directions. No guards or fingers are employed with these sickles, as experience has shown that they become entangled in the grass and prevent its being properly cut by the sickles. In order to make them cut properly where the blades pass each other, and not carry the grass between the blades without cutting, the lower edges of each of the cutters are beveled, so as to make a sharp edge, but the upper edges are made perfectly square and straight, as shown in the section, Fig. 3, so that the beveled edges of each set of knives or cutters pass in contact with the straight edges of those of the other cutter which is reciprocating in the opposite direction. This produces a clean cut of anything that comes between the cutters, and prevents their overriding and becoming clogged. Each of these vertical cutter-bars has a pitman, H, which is bolted to the central portion of the bar, and extends backward from it into a recess in the vertical standard E, and is bent at right angles, so as to extend downward through a channel made in the center of one side of this vertical bar, which channel serves as a guide, within which the pitman reciprocates. The pitman is kept in place and covered by a plate or leaf, I, so that its lower end may swing downward to cover the pitman, or may easily swing back when it is desired to obtain access to the pitman. The lower ends of the two pitmen extend downward into the channel or slot J, which is made vertically through a block, K, that slides horizontally in a slot made through the bottom of the standard E, the lower edge of the block traveling up on and in contact with the top of the finger-bar A. The two sides of this block have inclined or diagonal slots E' made in them, the two slots inclining in opposite directions, as shown in Fig. 4. Each of the pitmen H has a stout pin, M, projecting from it, one pin projecting into the diagonal slot upon one side of the block, and the other projecting into the oppositely-inclined slot upon the other side; and they may be provided with anti-friction-rollers, which travel in these slots. When the block K is caused to reciprocate horizontally through its guide at

the bottom of the standard, the action of these inclined slots is to cause the pitmen H and the vertical sickles or cutters to which they are attached to reciprocate in opposite directions. In order to operate this horizontal sliding block, the inner end of it is connected by a bent or angular bar, N, with the horizontally-moving sickle. When this sickle is caused to reciprocate by the usual connections with the mowing-machine, it will cause the block K to move also, and through the diagonal slots and pitmen the vertical cutters are caused to reciprocate, as before described. The angularly-placed connecting-bar N has the additional benefit of acting as a sort of brace to prevent the horizontally-moving sickle from being forced back against the front of the finger-bar so as to make too much friction, as the tendency of this bar in connection with the sliding block is to force the horizontal sickle forward at the same time when it is pushed toward the outer end of its stroke.

We are aware that vertically-operating cutters have been employed upon a mowing-machine, and we do not claim these, broadly; but—

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

1. In a mowing-machine, a horizontal finger-bar with reciprocating sickle, and a vertical standard secured at its outer end and having two sickles or cutters guided to move vertically upon its front edge, in combination with pitmen secured centrally to said cutters extending downward through guides in the standard, and the horizontal sliding-block having oppositely-inclined diagonal grooves upon its opposite sides, into which pins from the lower ends of the pitmen project, substantially as herein described.

2. A horizontal finger-bar, with its reciprocating sickle, in combination with the vertically-reciprocating sickles and a horizontally-sliding slotted block with a diagonal bar or rod connecting said block with the horizontal sickle, substantially as herein described.

3. A horizontal sliding block having a vertical slot made through it to receive and guide the two pitmen by which the vertical sickles are driven, said block having diagonal slots made upon each side of the vertical channel and inclined in opposite directions, substantially as herein described.

4. The horizontal finger-bar and reciprocating sickle of a mowing-machine, and the vertical standard having sickles or cutters guided to reciprocate in opposite directions upon its forward edge, with channels made in its opposite sides to receive and guide the pitmen by which the sickles are reciprocated, in combination with swinging plates or covers by which these channels are inclosed and protected, substantially as herein described.

5. The vertical reciprocating cutters moving in close proximity with each other, the blades of said cutters having one edge beveled and sharpened, and the edge which passes and opposes the beveled edge of the opposite cutter made straight, substantially as herein described.

In witness whereof we have hereunto set our hands.

JAMES M. PATTERSON.
ELI A. HIMEBAUCH.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.