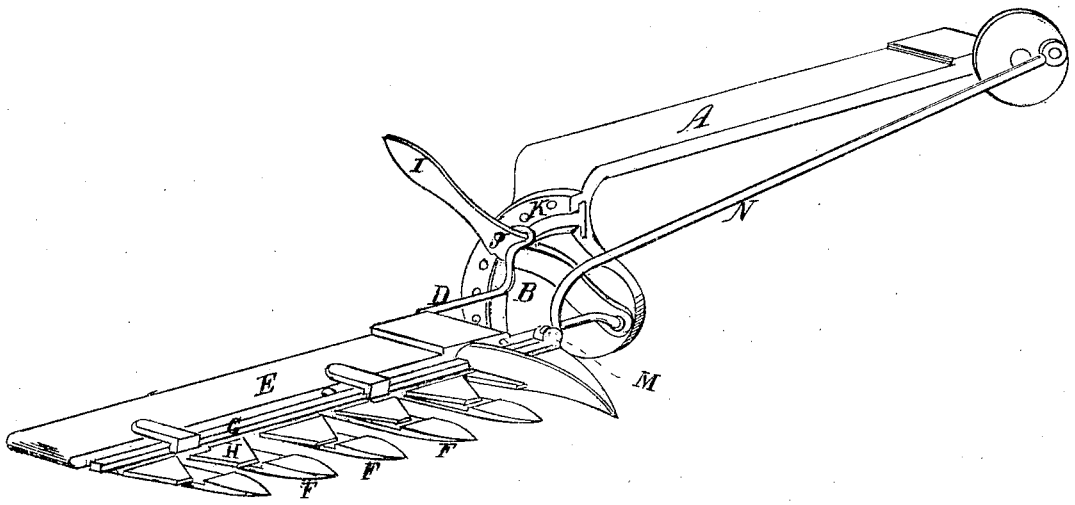
A. J. Manny,
Harvester Cutter.

No. 51203. Patented Nov. 28. 1865.



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ABRAHAM J. MANNY, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **51,203**, dated November 28, 1865.

To all whom it may concern:

Be it known that I, ABRAHAM J. MANNY, of Freeport, in the county of Stephenson and State of Illinois, have made new and useful Improvements in Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of the same, reference being had to the accompanying drawing, which is made part of this specification, and in which my invention is represented by a perspective view.

The object of my improvement is to make the finger-bar adjustable on a pivot, whose axis is coincident with the plane of motion of the sickle-bar, so that as the finger-bar is rotated to change its angle with the ground, the relative position of the pitman to the sickle-bar shall not be disturbed.

It is frequently desirable to change the position of the finger-bar, so that the guards shall be presented more effectively to the grass or grain when the same is lodged or straw-fallen, and unless the pivoted points on which the finger-bar is rotated be coincident with the plane of motion, the pitman which is connected to the sickle-bar, and also the bar itself, are strained laterally so as to produce greater frictional wear and require a greater power.

The desired object is attained by jointing the finger-bar to the frame by means of a rod, D, which, in projecting from the frame, affords a pivoted point, bearing the described relation to the finger-bar, and also forms a pintle or axis, on which the finger-bar is capable of vertical deflection, so as to elevate its outer end and bring it to a vertical position in passing obstacles, entering gateways, or in the other familiar circumstances, where it is desirable to reduce the width of the machine. Beyond the portion which forms the said pintle or axis of vertical vibration of the cutter-bar, the said rod D is bent, and entering an arc-shaped slot, L, in a plate on the frame, is enlarged so as to occupy a dovetailed or undercut recess, where it traverses as the finger-bar is rotated.

A is a portion of the frame of the machine; B, the vertical plate, which is slotted to receive the enlargement or head C on the end of the bent rod D, which at other portions of its length forms the axis of vertical vibration of the finger-bar E, and at another, where it enters the plate B, forms the axis of rotation of the finger-bar, as the position of the latter is changed to elevate or depress the points of the guards F.

N is the pitman, G the sickle-bar, and H the knives. The arm L carries one end of the rod D, and by its motion rotates the finger-bar in the required position.

M is a box inclosing a ball on the end of the pitman, and with it forming a universal joint.

By withdrawing the enlarged head C from the arc-shaped slot, and supporting it against the plate, the cutter-bar may be maintained in a horizontal position folded back against the machine and with the guards pointing downward.

To insure a proper understanding of my invention, I will restate that the improvement consists in attaching the finger-bar to the frame of the machine in such a manner that the cutting apparatus may be deflected upward in order that it may more readily pass bogs or other obstruction, or downward to comb up lodged or fallen grain or grass, and present the same to the cutting-edges, at the same time the relative positions between the sickle and pitman are not changed. This is accomplished by placing the axis of the pivot for lateral deflection, in a direct line with the center of the connection between pitman and sickle—that is, such will be the position when the finger-bar is kept horizontal lengthwise; and however much the outer end of the finger-bar may be raised or lowered, this position will be attained each time the sickle is at half-stroke, or, in other words, each time the center of connection between pitman and sickle is coincident with the extended axis of the joint upon which the finger-bar deflects lengthwise. Therefore so long as the finger-bar is horizontal lengthwise, any deflection may be made laterally without changing the relation between pitman and sickle, and when the finger-bar is allowed to rise or fall at its outer end, the relation is less disturbed than though the pivot for lateral deflection were placed at any other point.

When the sickle is at half-stroke, the center of the ball which is inclosed in the eye of the sickle, and which forms the universal joint, is coincident with the point at which the extended axis of the pivot for lateral deflection crosses the extended axis of the joint for longitudinal deflection. Therefore, at this point the center of connection between pitman and sickle will

remain unmoved, while any necessary degree of deflection is made both lateral and longitudinal.

I would also remark that this device for lateral deflection is equally as well adapted to a rigid bar as to a jointed one.

The arm of the attachment, which enters and moves in the slot, is held therein by a bead or nut upon its end. Any degree of deflection may be given the cutting apparatus by moving this arm in the slot by means of the lever, which, by springing the pin into the notches prepared for it, will hold it secured at any point desired.

The most important feature of this improvement consists in placing the pivot for lateral deflection so that when the finger-bar is horizontal its extended axis will be coincident with the center of the connection between pitman and sickle, and also when the sickle is at half-stroke, the point of crossing of the extended axis of the pivots for lateral and longitudinal deflection shall be coincident with the center of the connection between the pitman and sickle.

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

1. In a folding hinged cutting apparatus so arranged as to have a rotation on a longitudinal axis to vary the angle of presentation of the fingers to the ground, making the pivoted point on which the finger-bar rotates coincident with the plane of motion of the sickle-bar.

2. Hinging the finger-bar to the frame by a rod, which at one point forms the axis of rotation of the cutter-bar in a plane parallel to the line of motion of the knives, and at another point forms the pintle or axis of vibration for the vertical vibration of the outer end of the cutter-bar.

3. In combination with the above, making the said rod by an enlargement or hook, which is retained in the curved slot to form the traversing point of attachment and support for the pintle, by which the finger-bar is hinged to the frame of the machine.

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