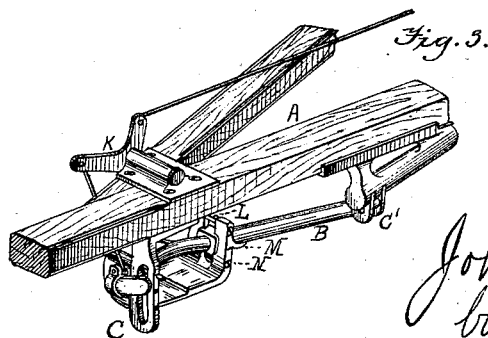
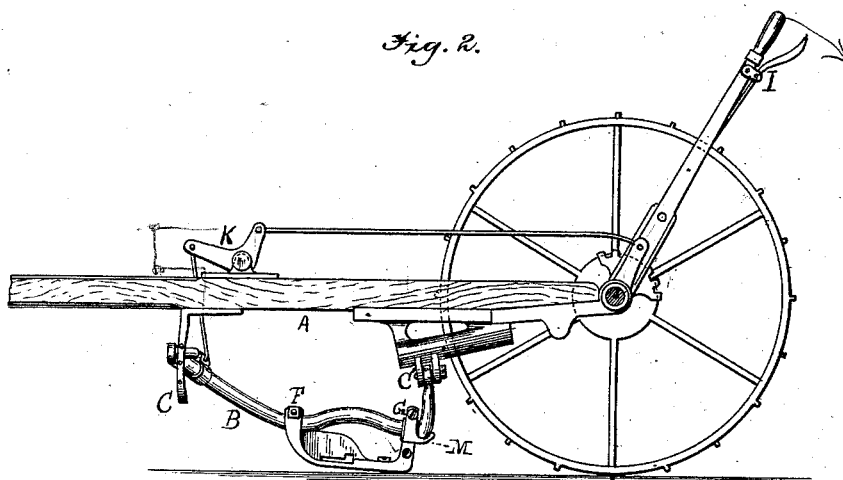
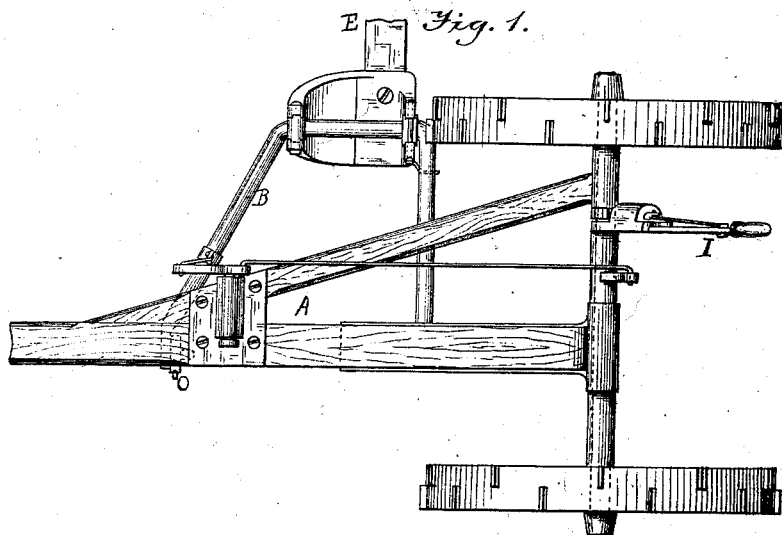


J. P. MANNY.
Harvesters.

No. 216,745.

Patented June 24, 1879.



Witnesses;
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UNITED STATES PATENT OFFICE.

JOHN P. MANNY, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **216,745**, dated June 24, 1879; application filed October 15, 1877.

To all whom it may concern:

Be it known that I, JOHN P. MANNY, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Harvesters, of which the following is a specification.

The object of the present invention is to provide means for carrying the cutting apparatus of a front-cut harvesting-machine forward without downward pressure on the ground other than that arising from the weight of the parts, and also to provide a ready means of regulating the tilting or rocking of the cutters.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a plan view of a machine embodying the invention. Fig. 2 is a side elevation, one wheel being removed; and Fig. 3 is a perspective of the shoe, coupling-frame, and a part of the main frame.

In the drawings, A represents the draft-frame, the gearing which drives the cutters being mounted in boxes secured to the under side of this frame. B is the coupling-frame, pivoted to the down-hangers C C', the front one, C, of which is located underneath the draft-frame in advance of the forward end of the shoe D, to the heel of which the finger-beam E is attached, in the usual manner.

The coupling-frame is, by preference, made of a single bar or rod of iron, bent into a shape approximately triangular, and the shoe is attached to this coupling-frame by means of an ear, F, located at the forward end of the shoe, and a standard, G, upon the heel thereof. The aperture in the ear F, through which the coupling-frame passes, is made somewhat larger than the rod forming the frame, so that not only is the shoe capable of being revolved upon the rod around an axis substantially coincident with the line of progression, but also the heel of the shoe will be free to rise and fall independently of the coupling-frame. This is provided for by the slot in the standard G.

The coupling-frame is slightly arched between the ear F and the standard G, to permit of the free play of the pitman, and it should be so constructed as to have a bearing against either the ear F or the standard G.

As shown in the drawings, this bearing is secured by bending the coupling-frame sharply at right angles immediately in the rear of the standard.

The down-hanger C is made slightly curved, having the pivot of the rear arm of the coupling-frame as the center of the curve, and it is also slotted vertically, and the pin with which the front arm of the coupling-frame is pivoted to the hanger has a vertical movement in this slot. The lifting-lever I, mounted on the main axle, is connected by rigid connecting-rods and a bell-crank, K, or any other suitable appliances, to the front arm of the coupling-frame at a point between the shoe and the hanger C.

It follows from the above-described construction that when the lifting-lever is pressed backward the front arm of the coupling-frame will be the first to rise, and will lift the toe of the shoe and correspondingly tilt the finger-beam, and thus elevate the cutters and guards; and when the toe of the shoe is thus raised from the ground, the slot in the standard G permits the heel of the shoe and the connected parts (finger-beam, guards, and cutters) to rise and fall within certain limits independently of the vertical movements of the coupling-frame, or any part thereof, which contributes to the ease of operating the machine.

The foregoing will be the normal condition of the parts when in action; but if the character of the work requires the points of the cutters to be depressed, this may be done by crowding the lever I forward, which will act through the rigid connecting-rods to hold down the front arm of the carrying-frame, and with it the toe of the shoe. For exceptional kinds of work, or when the lifting-lever is connected with the coupling-frame by means of cords or chains instead of rigid rods, the coupling-frame may be confined to the bottom of the slot in the standard G. This is effected by setting down the adjusting-bolt L, and it serves to give to the cutters a downward pitch as compared with their direction if the bolt were set at the top of the slot.

Gibbed upon the standard G is a stop, M, upon which the coupling-frame acts to raise the outer end of the finger-beam, and this stop

is made vertically adjustable with and by means of the bolt L, since it is desirable to preserve a fixed relation between these two parts.

The slotted standard G is also provided with an adjustable bolt, N, which limits the upward movement of the heel of the shoe, and thus may be used when desired to give the cutters a fixed tilt or upward inclination, which will be wholly independent of and in addition to that which may from time to time be communicated to them by the raising of the front arm of the coupling-frame working in the slotted hanger C.

For work upon exceptionally rough ground, a pin, O, may be used in connection with the down-hanger C, to confine the pivot of the front arm of the coupling-frame to the bottom of the slot in such hanger. By thus lowering the joint on which the coupling-frame turns, the outer of the finger-beam can be thrown up higher and more rapidly than would otherwise be the case. This same pin may be used to confine the front arm of the coupling-frame to the highest point of the slot in the hanger C, and thus give a permanent tilt to the cutters, and this may be used in combination with the bolt N, and thus secure increased results. This may be found convenient in marshy or boggy ground.

By pivoting the front end of the coupling-frame to the draft-frame at a point in advance of and higher than the shoe, it acts at all times as a drag-bar to draw the cutting apparatus over the ground, the rear arm of the coupling-frame serving simply to aid in lifting or rocking the cutters, and to hold them at right an-

gles to the line of progression. This remedies a defect common to front-cut machines as heretofore constructed, in which the coupling-frame has been hinged to the main frame at a point in rear of the line of the finger-beam. As the finger-beam under such circumstances is pushed forward over the ground, and from a point higher than the plane in which it moves, it follows that when at work it is always subjected to a downward pressure and strain, which necessarily increases the draft and impairs the machine.

What is claimed as new is—

1. In combination with the cutting apparatus of a front-cut harvester, a coupling-frame having its forward arm pivoted to the draft-frame at a point in advance of the shoe, so as to act as a drag-bar to draw the cutting apparatus forward, substantially as described.

2. In combination with the coupling-frame and slotted hanger to which the front arm of such frame is pivoted, a lifting-lever connected with such arm, and arranged to operate substantially as described, so that the cutters may be both tilted or rocked and raised and lowered, at pleasure, by a single movement of such lever.

3. In combination with the coupling-frame and the slotted hanger to which it is pivoted, the pin O, for regulating the pitch of the cutters or the lifting of the finger-beam, substantially as described.

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Witnesses:

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