(No Model.) 3 Sheets—Sheet 1.

I. M. BLANCHARD.

CORN HARVESTER.

No. 586,960. Patented July 27, 1897.

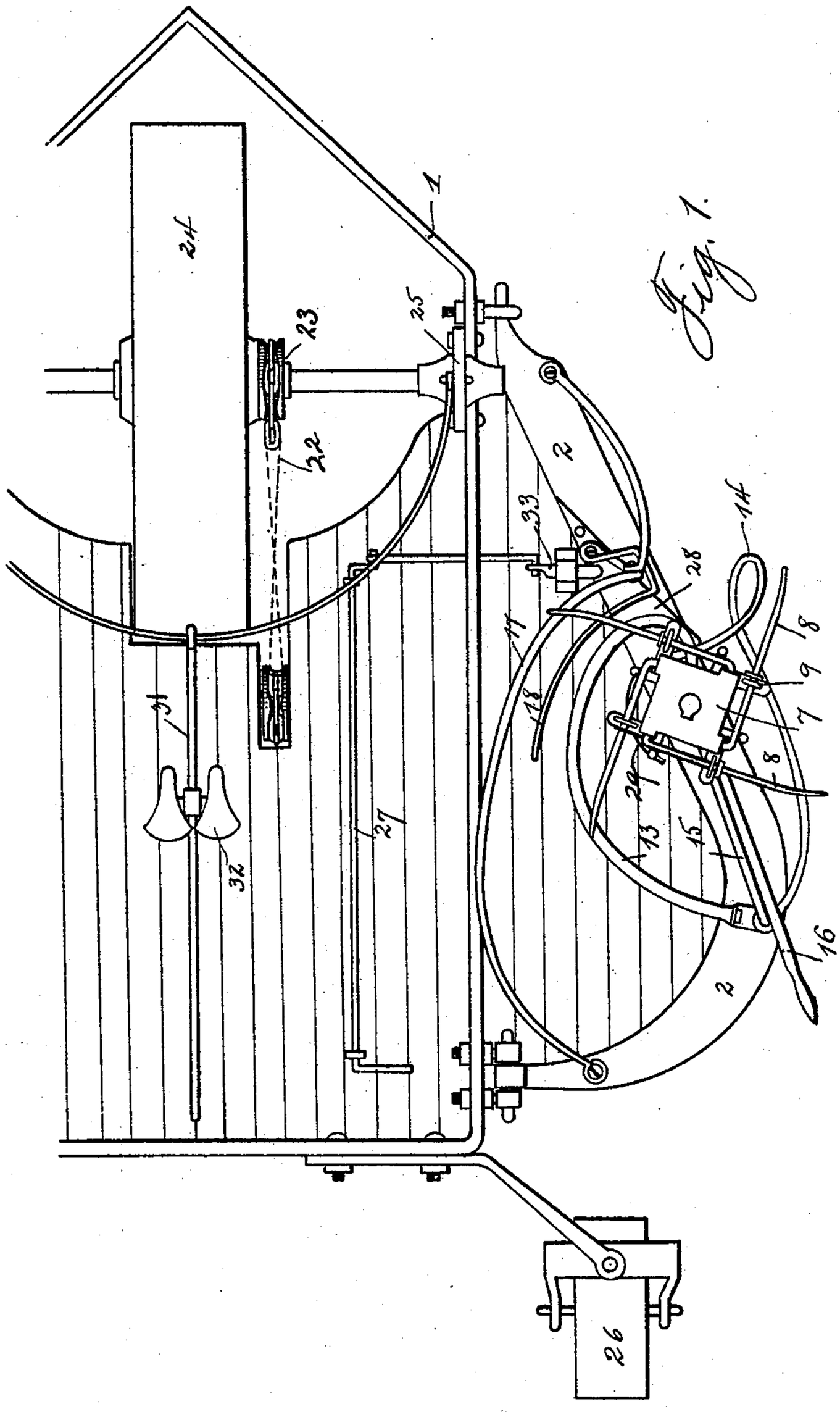

Fig. 1.

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Inventor
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(No Model.)

3 Sheets—Sheet 2.

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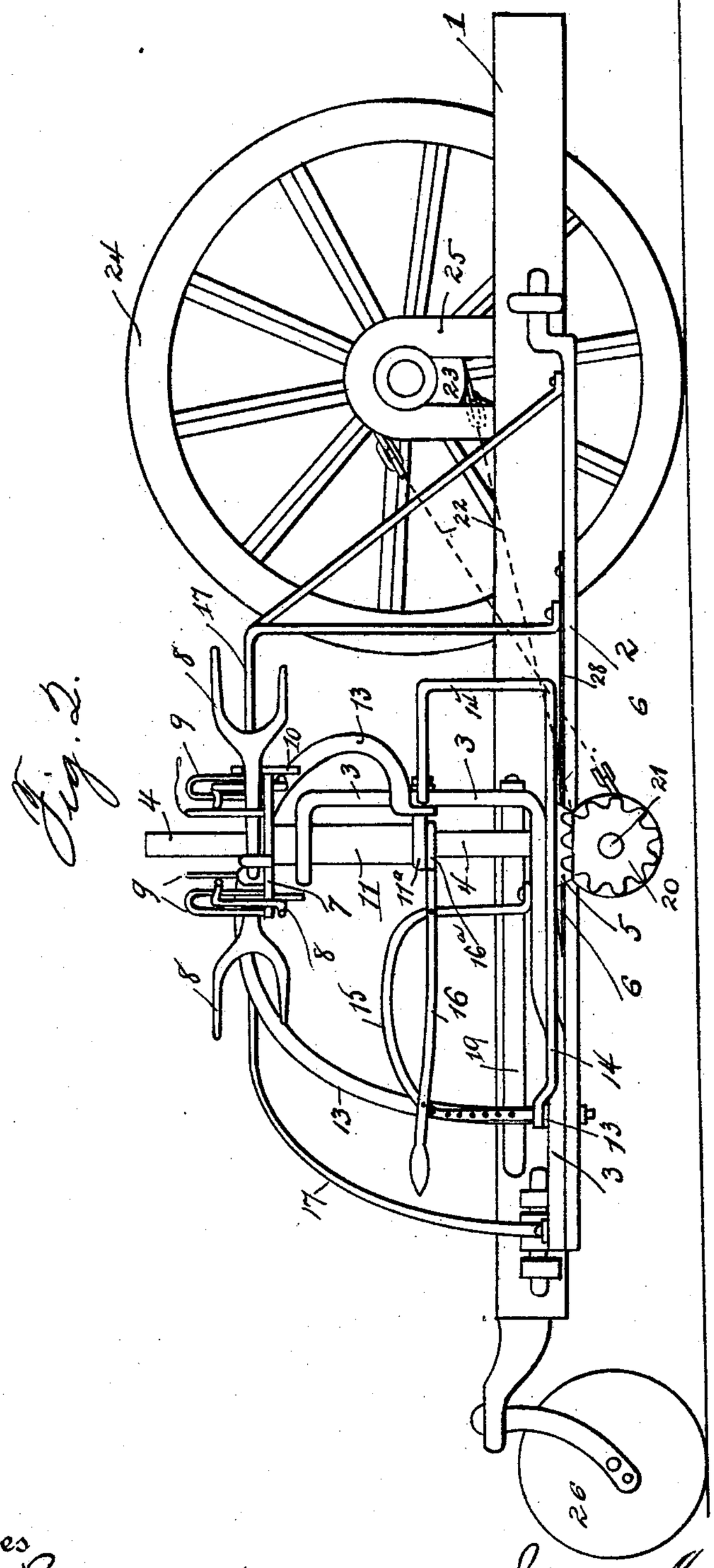
Fig. 2.



Witnesses
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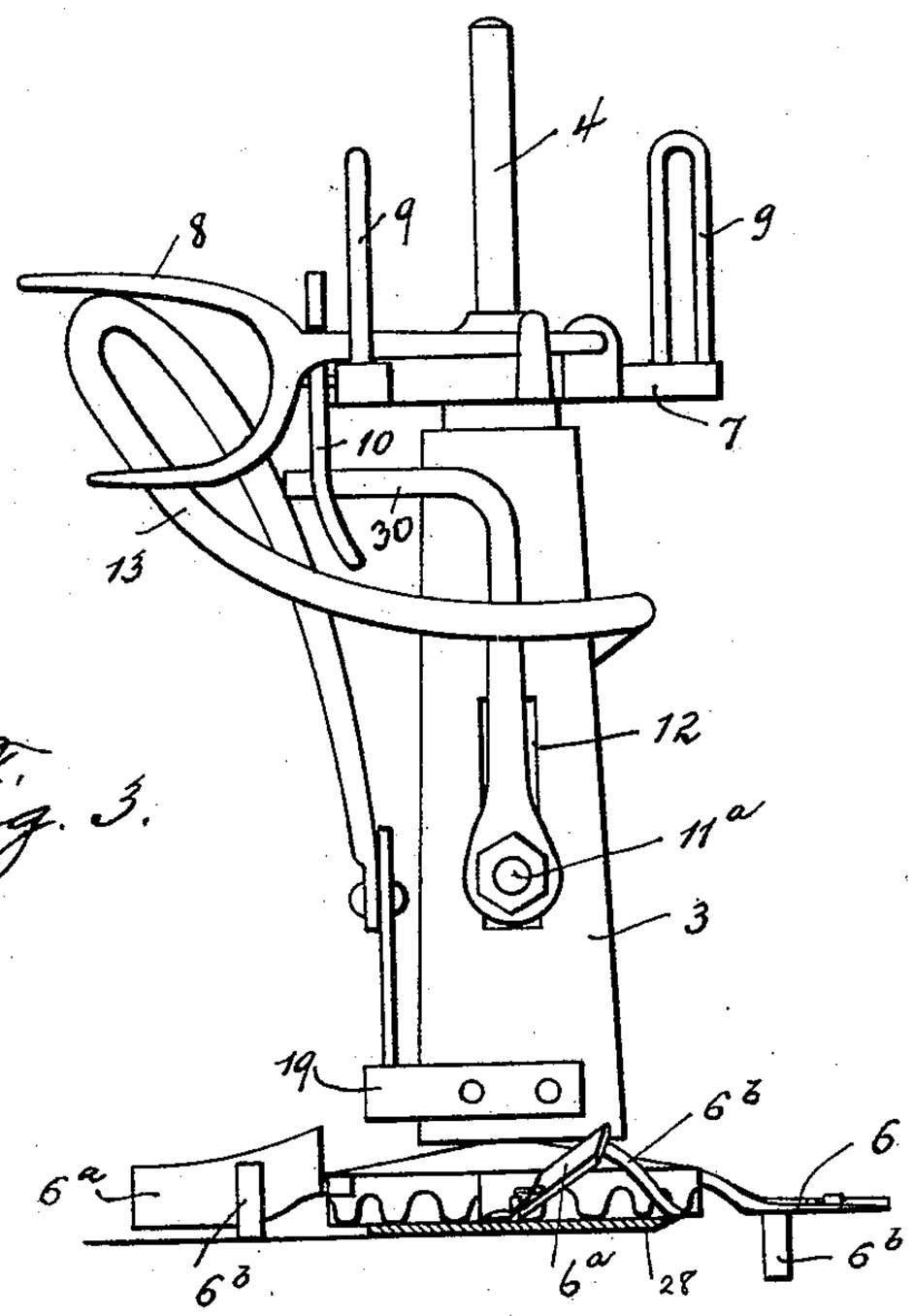

Fig. 3.

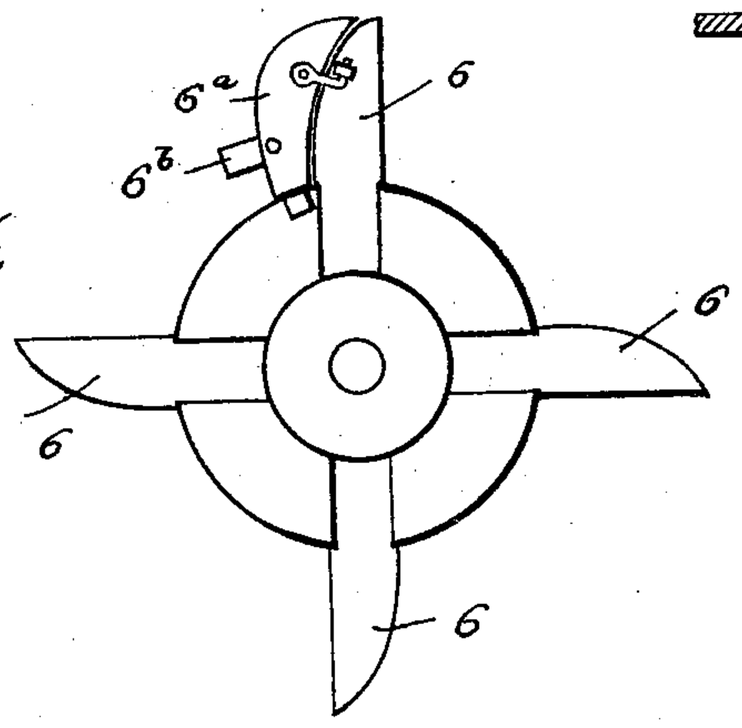

Fig. 4.

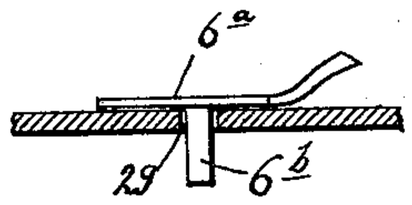

Fig. 5.

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UNITED STATES PATENT OFFICE.

ISAAC M. BLANCHARD, OF NEW ALBANY, OHIO.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 586,960, dated July 27, 1897.

Application filed July 16, 1896. Serial No. 599,355. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. BLANCHARD, a citizen of the United States, residing at New Albany, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Corn-Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide an improved machine for harvesting corn, of comparatively simple and economical construction, which shall be adapted to harvest corn of different heights and in which the corn as fast as it is cut may be taken in the arms of the workman while he is in a standing position to be carried to the stack.

My invention consists in the various details of construction hereinafter described, and pointed out in the claims following the description.

In the annexed drawings, in the different views of which the corresponding parts are designated by like characters of reference, Figure 1 is a top plan view of one side of the machine. As one side is the symmetrical duplicate of the other, an illustration and description of one will be sufficient. In this figure the rotary cutters, which are shown elsewhere, are omitted for the sake of clearness. Fig. 2 is a view in side elevation. Fig. 3 is a view in elevation, on a larger scale, of the cutting and gathering devices, looking at the front side of the standard or support for the vertical shaft. In this view I have shown but one of the gathering-arms. Fig. 4 illustrates in top plan view the rotary cutters, one of them being shown with my improved attachment for carrying the butt or cut end of the stalks. Fig. 5 is a detail view showing a groove in the platform or wing to receive a finger attached to plates hinged to the cutters.

1 designates the main frame or skeleton of the machine. This consists of a flat bar of iron or steel bent to form a rectangular frame with a V-shaped end to permit the placing of the main supporting and driving wheel. Within and at the sides of this frame is constructed a suitable floor or platform. Hinged to each side of the frame 1 is a curved wing 2, upon which is mounted in a standard 3, fixed upon the wing, a vertical shaft 4. This shaft has secured to its lower end a gear 5, in the upper side of which are set knives 6, and at its upper end a square head 7, to the side of which are pivoted, so as to rise and fall vertically, gathering-fingers 8. These fingers are held and guided to move in vertical planes by loops 9, fixed to the head. There are also gravity-latches 10, pivoted to the side of the head to hold the gathering-fingers down during a part of their rotation. The head 7 is placed upon the shaft so as to be capable of vertical movement thereon, but to be rotatable therewith. For this purpose the upper end of the shaft is furnished with a feather, which engages a notch in the side of the orifice in the head through which the shaft passes. Arranged on the shaft below the head is a sleeve 11, having fixed thereon a projection 11^a, passing through a slot 12 in the side of the standard 3, and to this projection are secured the forward end of an inclined guide-rail 13 and a gathering-arm 14, the rear parts of the two latter being attached so as to move vertically upon the rear vertical leg of a rail 15. The rail 15 is bolted to the wing 2, and has pivoted to its forward part a lever 16, having a forked end 16^a, which rests under the lower end of the sleeve 11.

By the operation of the lever 16 the sleeve 11, the head 7, the guide-rail 13, and the gathering-arm 14 may all be raised or lowered upon but independently of the shaft 4 to adapt the gathering mechanism to different heights of corn, and this mechanism can be fixed in any of the positions to which it may be adjusted by means of a pin passed through holes in the lever and the rail 15, to which it is pivoted. Upon the curved wing 2, inside of the guide-rail 13, is fixed a guide-rail 17, the upper part of which is about on a level with the top of the rail 13, and they are arranged substantially parallel to each other in

the forward part of their upper portion, so as to afford a passage-way for the upper part of the cut standing stalks of corn as they are carried rearwardly upon the machine. At the foot of this passage-way is arranged a guide-rail 18, corresponding in curvature to the upper portion of the rail 17, the rail 18 being also secured to the wing 2. This foot-rail 18 prevents the butt or lower ends of the stalks from slipping inward upon the machine, and a rail 19, fixed to the standard 3, may be added to prevent them from slipping outward.

The curved wing, together with all the parts attached thereto, may be turned upward and inward upon the machine to allow it to pass a "gallows hill" or obstruction in the path of the machine.

The vertical shafts are driven by gears 20 on the ends of a counter-shaft 21, extending horizontally and transversely across the under side of the machine, which shaft is in turn driven by a chain 22, running over a sprocket-pulley 23 on the main carrying-wheel 24.

The forward end of the machine is supported upon the ends of the axle of the main carrying-wheel by means of ∩-shaped boxes 25, which are secured to the frame 1, the said boxes fitting in the grooves formed upon the ends of the axle. The rear end of the machine is supported by two smaller wheels 26, which are swiveled to arms on the rear part of the frame 1.

The wing 2 may be locked in its lowered or horizontal position by means of a bolt 33, operated by a lever-arm 27, extending to the rear part of the machine.

The rotary cutter-blades 6 act against a stationary blade 28, fixed upon the machine, to cut the cornstalks after the manner of a pair of shears. Each of the cutter-blades is furnished with plate 6^a, hinged to its rear edge in any suitable manner, and the rear under side of this plate is furnished with a finger 6^b, set at an angle thereto, which, when brought around over the fixed cutter 28, causes the plate to rise, forming an abutment or shoulder against which the butt or cut ends of the stalks rest and by which they are carried rearwardly upon the machine. To allow the plate 6^a to pass from under the ends of the stalks of corn when they have been carried as far as they may be by the plate 6^a, I provide a groove 29 in the platform into which the finger falls, so restoring said plate to its horizontal position.

As the gatherer-fingers 8 in their revolution pass over the guide-rail 13 they are elevated by the latter, and in order to release the latches 10 I provide a stop 30, which is secured to the end of the projection 11^a on the sleeve 11. This stop throws the latch before the gatherer-finger strikes the rails and permits the finger to rise, and when the gatherer-finger passes the rail the latch is restored to its locking position by the weight of its lower end.

A rail 31, secured upon the platform, may be provided with adjustable seats 32 for the use of the men who gather and shock the corn.

As before stated, I show in my drawings but one side of the machine. The opposite side is the symmetrical duplicate of that shown, so that the machine shall be adapted to harvest two rows of corn at the same time and two men stand upon the platform and take armsful as fast as it accumulates at the rear portion of the platform.

With the aid of my invention much of the heavy work and back-tiring and back-straining effects are avoided and the crop is far more expeditiously harvested than is possible by the old methods.

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

1. In a corn-harvester, the combination of a platform or wing 2, a rotatable shaft 4 supported vertically thereon, cutters at the lower end of said shaft, an adjustable head 7 carrying pivoted gathering-fingers on the upper end of the shaft, a longitudinally-movable sleeve on said shaft 4 adapted to engage the adjustable head, the inclined stationary guide-rail 13 for the corn attached to the sleeve and adapted to elevate the gathering-fingers, and means for adjusting the sleeve, substantially as shown and described.

2. In a corn-harvester, the combination of a platform or wing 2, a rotatable shaft 4 supported vertically thereon, cutters at the lower end of said shaft, an adjustable head 7 carrying pivoted gathering-fingers on the upper end of the shaft, a longitudinally-movable sleeve on said shaft adapted to engage the head 7, an inclined stationary guide-rail 13 for the corn attached to the sleeve and adapted to elevate the gathering-fingers, latches to lock the fingers when not in contact with rail 13, a stop 30 attached to the sleeve adapted to be engaged by the latches to release the fingers, and means for adjusting the sleeve, substantially as shown and described.

3. In a harvesting-machine, a vertical rotatable shaft, cutters at the lower end of said shaft, a head carrying pivoted gathering-fingers on the upper end of said shaft, the guide-rail 13 arranged in the path of revolution of the gathering-fingers adapted by contact to elevate the same on their pivots and gravity-latches adapted to lock said gathering-fingers in fixed position when they are not in contact with said rail, and means for rotating said shaft, substantially as described.

4. In a corn-harvesting machine, a cutter-blade having a hinged plate attached to its rear edge, with means for temporarily inclining the same to afford an abutment against

which the cut end of the cornstalk is supported while being carried on the cutter-blade, substantially as described.

5. In a corn-harvesting machine, a cutter-blade having a plate hinged to its rear edge, and an inclined finger on said plate to elevate the latter by its contact with the machine to afford an abutment against which the cut end of the cornstalk is supported while being carried on the cutter-blade, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC M. BLANCHARD.

Witnesses:
JAS. S. RICKETTS,
GEORGE M. FINCKEL.