

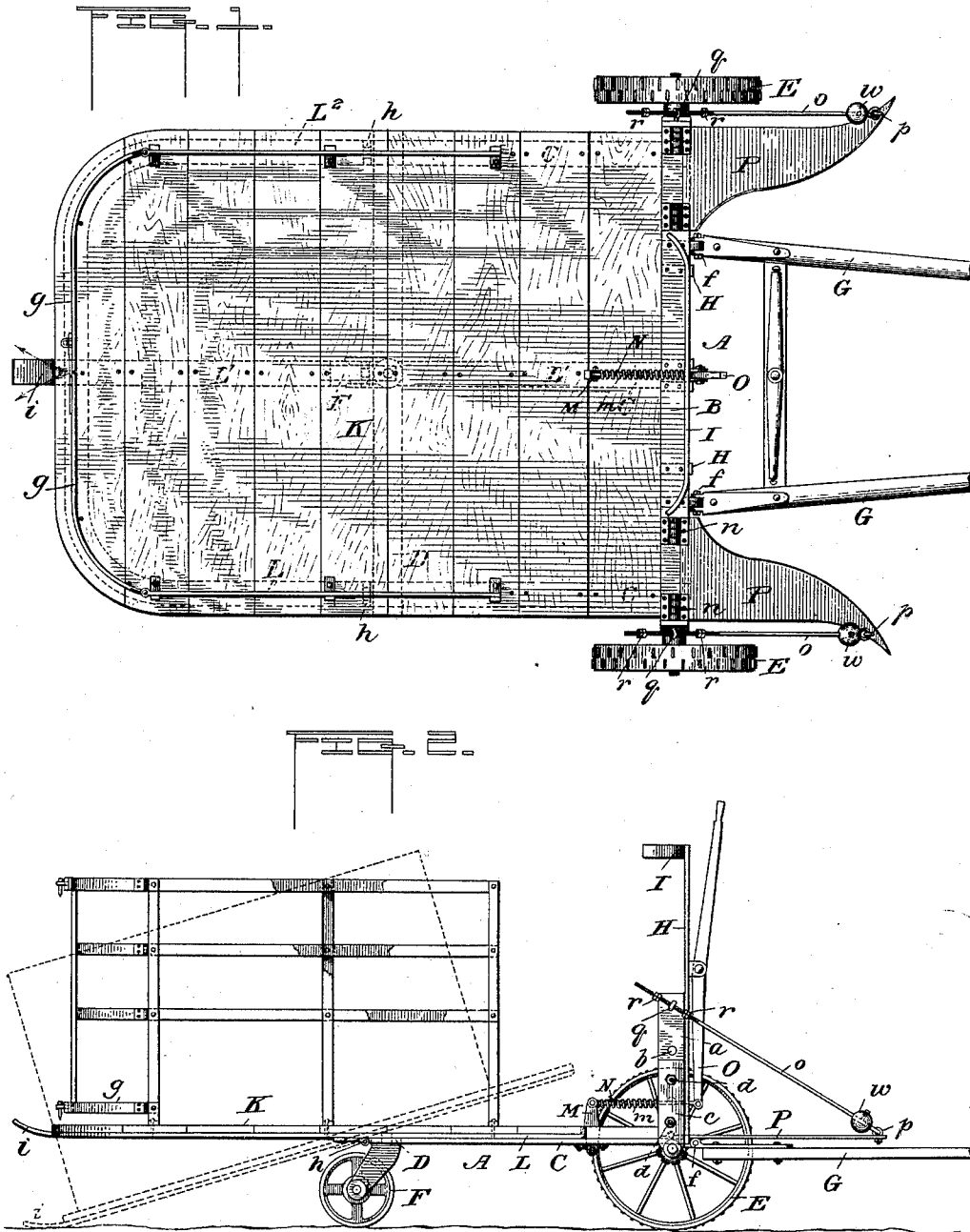
(No Model.)

2 Sheets—Sheet 1.

D. H. GLIDDEN.
CORN HARVESTER.

No. 477,050.

Patented June 14, 1892.



Witnesses
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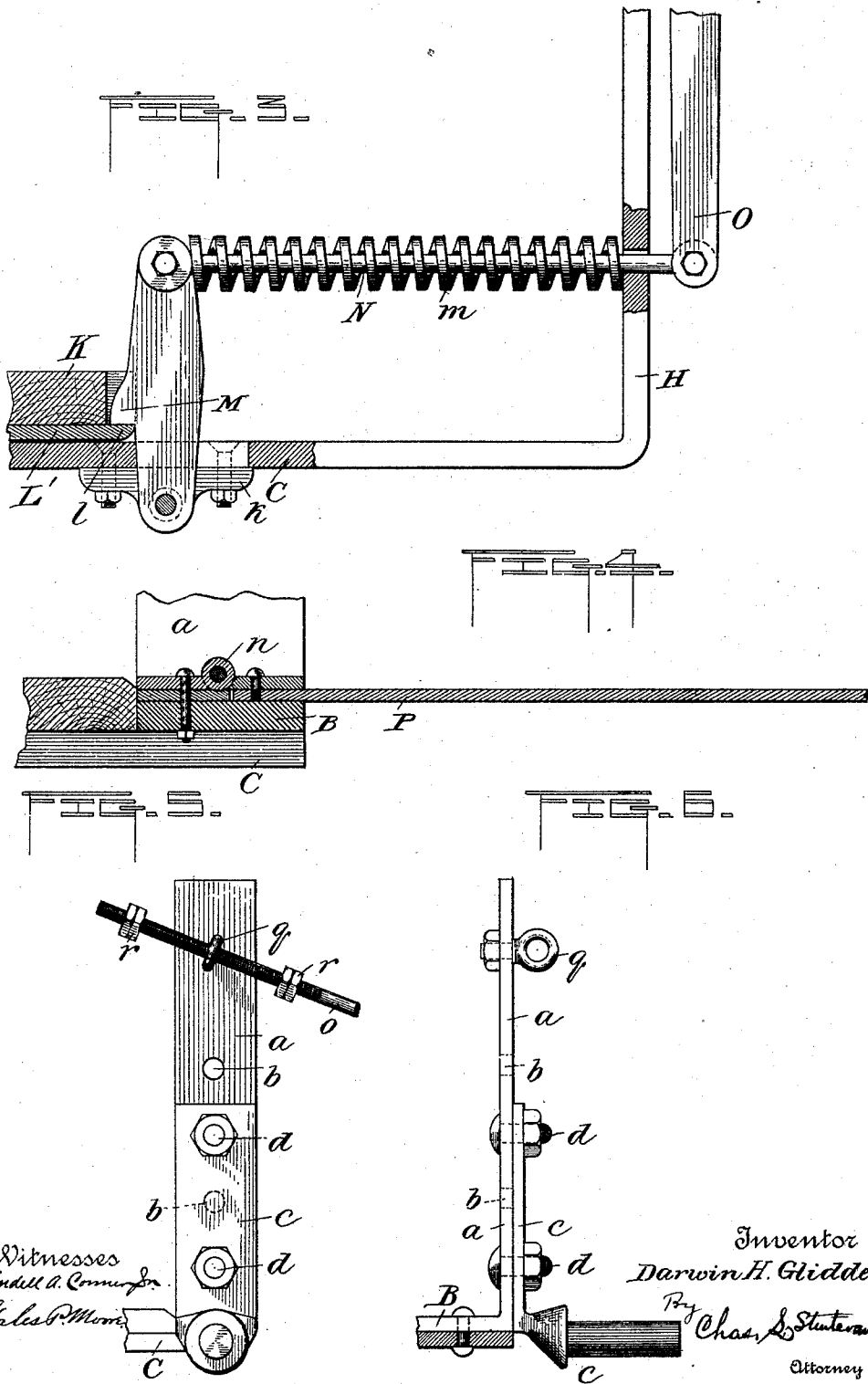
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UNITED STATES PATENT OFFICE.

DARWIN H. GLIDDEN, OF BROOKLYN, WISCONSIN.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 477,050, dated June 14, 1892.

Application filed October 19, 1891. Serial No. 409,099. (No model.)

To all whom it may concern:

Be it known that I, DARWIN H. GLIDDEN, a citizen of the United States, residing at Brooklyn, in the county of Green and State of Wisconsin, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in corn-harvesters designed for cutting standing corn in the field and delivering it onto a suitable platform, where it is bound and placed in shocks and kept thereupon until a sufficient amount is accumulated, when the platform is tilted and the shocks slid off into a standing position on the ground.

Heretofore many forms of corn-harvesters have been devised, but they are usually very complicated, easily get out of order, or are more or less defective in many respects.

The object of the present invention is to provide an apparatus comparatively simple in construction which shall accomplish the work of these more complicated devices and yet be free from the defects attending their use.

It is well known that fibrous substances like the bodies of plants and trees are more easily cut through by passing the cutting-blade through them on a plane somewhat at an angle with the axis of their bodies than if the knife were passed through on a plane perpendicular to the axis of their bodies, and, furthermore, this operation is facilitated by giving the blade a sliding motion across the fibers of the body cut through.

One of the objects of the present invention is to construct an apparatus embodying the principles above mentioned.

My invention therefore comprises, primarily, certain details of construction of the whole apparatus; secondly, it consists in the manner of adjusting the cutting-edge of the blades with respect to the line of progress and in the manner of securing the blade to its moving support, whereby a vertically-swinging movement is given to the same.

Finally, the invention comprises various other details of construction, all as hereinafter described, and specifically claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my apparatus. Fig. 2 is a side elevation, the position of the platform when tilted being shown in dotted lines. Fig. 3 is a detail view showing the manner of locking the tilting platform on the main frame. Fig. 4 is a detail, partly in section, showing the manner of securing the cutting-knives to the moving support. Figs. 5 and 6 are respectively side and front elevations in detail of the means for securing the axle to the main body of the apparatus.

In the drawings, A represents the main body or movable support for the apparatus. The axle B is composed, preferably, of a flat bar of iron, with the upwardly-bent ends *a*, as shown in Fig. 6. Securely attached to the extremities of the axle B and extending rearwardly therefrom are the bars C C, these, with the bar D, which connects their rear ends, forming the rectangular frame or support A above referred to. The upwardly-bent ends *a* of the axle B are provided with suitable bolt-holes, as *b*, and the wheels E, journaled on the longitudinally-extending portion of the angle-irons *c*, are adjustably secured to the upwardly-bent ends of the axle B by means of bolts *d*, passing through openings in the vertical portion *e* of the angle-irons *c* and the openings in the upwardly-bent ends of the axle. By this arrangement the wheels E can be adjusted as to height for an obvious purpose.

Secured to the center of the cross-bar D is a caster-wheel F, of any well-known type, this, with the two wheels E, forming the supporting-wheels for the apparatus, the two outer wheels E running in the rows outside the hills of corn being cut, while the caster-wheel runs in the row between.

Attached directly to the axle B by means of the pivot-joints *f* are the thills G, to which is attached the animal furnishing the power to draw the apparatus, though it will of course be obvious that any means may be used for driving the harvester. Standards H extend upward from the axle, and upon these is supported a guard-rail I, against which the operators lean for support while receiving the corn as cut.

Supported by the main rectangular frame A is a tilting platform or support K. This consists of the bottom rails L L' L², having uprights attached to them and a suitable railing attached to the uprights. Doors g g are provided at the rear of said platform to allow of the removal of the shocks of corn. The two bars L L² are connected to the cross-bar D on the main frame by means of hinges h, which allow the platform to tilt when it is desired to discharge the corn. The central bar L' of the tilting platform is curved on its rear end, as shown at i, so that when the platform is tilted the bar will rest in a horizontal position on the ground, thus forming a support or shoe, upon which the platform slides when being drawn from under the shock of corn while it is being deposited on the ground.

For securing or locking the tilting platform in a closed position I have devised the means shown in Fig. 3. Pivoted at its lower end to an ear k, secured upon the central longitudinal bar C, is a dog M, having a lip l, extending over the central bar L' of the tilting platform. This dog M is attached at its upper end to a rod N, passing through one of the uprights H and having pivoted to its outer end a lever O, adapted to be grasped by the hand of one of the operators. Upon the rod N and bearing at one end against the upright H and at the other end against the dog M is a spring m, which normally keeps the upper end of the dog forced toward the rear, and the lip l over the end of the central bar L' of the tilting platform, thereby holding the same securely in position. By drawing backward the top of the lever O the top of the dog is drawn forward, and the forward end of the tilting platform being released the rearward end tips down in position to have the accumulated corn, which has been packed and bound in a compact form, slid off in a standing position on the ground.

I will now proceed to describe the manner in which the knives are hung and the mode of operating them to accomplish the objects aimed at by me. The knives P are preferably of the form shown in Fig. 1. They are secured directly to the axle B by means of hinges n, which allow of their swinging vertically. The outer end of each of the knives P is supported in an approximately-horizontal position by means of the rod o, pivotally attached to the eyebolt p on the outer end of the knife and at the other end passing through and sliding in an eyebolt q, attached to the upright portions of the axle B, a weight w on the forward end of the knife acting to return the same to its horizontal position after a hill of corn has been cut; but it is obvious that a spring on the rod o would act in the same way. The end of the rod o which slides in the eye of the bolt q is screw-threaded and is provided with nuts r r upon each side of the eye of the bolt, whereby the amount of movement of thread, and thereby the amount of

vertical swing of the knives P, may be regulated.

The cutting action of the blades is about as follows: The blade when in practically a horizontal position comes in contact with the stalk of corn. The first tendency is to bend the stalk inward and forward, and at the same time the blade is inclined upward, and by these combined movements the blade is brought to an inclined position with respect to the axis of the stalk of corn and the progress of the blade through the stalk is on an upward incline, while different points of the cutting-edge are being passed diagonally across the fiber of the stalk. It will therefore be seen that when the blade strikes a hill of corn the point is elevated and the hill of stalks severed, after which the blade falls back to its horizontal position in readiness for the next hill. The cut stalks are then passed out to the platform, taken by the operators, bound into shocks, and placed on the tilting platform toward the rear, and when a sufficient number have been accumulated the platform is tilted and the shocks discharged, or the corn as cut from the hills may be set up in shocks on the platform, and when bound the platform is tilted and the corn left standing, as when cut by hand.

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

1. In the herein-described corn-harvester, a main frame, hinges secured to said frame, cutting-knives attached at one end to said hinges, rods pivoted at one end to the outer extremity of the cutting-knives and at the opposite end passing through a guide in the frame, and stops upon said rods for limiting their movement, substantially as described.

2. In a corn-harvester, a main axle provided with upturned ends, cutting-knives hinged to said main axle, rods secured at one end to the cutting-knives and at the other end movable in guides on the upturned ends of the axle, and stops upon said rods for limiting the movement of the knives, substantially as described.

3. In the herein-described corn-harvester, in combination with the main frame and the axle having upturned ends, hinges secured to said axle, cutting-knives attached at one end to said hinges, a rod pivoted at one end to the outer extremity of the cutting-knives and at the opposite end movable in guides on the axle-uprights, and means for limiting the movement of said rod, substantially as described.

4. The herein-described corn-harvester, in combination with the main frame and the axle provided with upturned ends, hinges secured to said axle, cutting-knives attached at one end to said hinges, a rod pivoted at one end to the outer extremity of the cutting-knives and at its opposite end movable in guides on the axle-uprights, and nuts on said rod for

limiting its movement, substantially as described.

5 5. In the herein-described corn-harvester, in combination with the main frame and the axle having upturned ends, an eye secured to each of said upturned ends, hinges secured to said axle, cutting-knives attached at one end to said hinges, a rod pivoted at one end to the outer extremity of the cutting-knives and at
10 the opposite end passing through the eye secured to the axle-uprights, and stops upon said rod for limiting its movement, substantially as described.

6. A corn-harvester comprising a suitable

frame, an axle-bar forming part of said frame, 15 vertically-swinging cutting-knives secured to said axle-bar, rods at one end secured to said knives and at the other end movable in guides on the axle-bar, and weights adjustable upon said rods for keeping the knives normally in a
20 horizontal position, substantially as described.

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

DARWIN H. GLIDDEN.

Witnesses:

WM. FLOOD,

P. A. HAYNES.