(No Model.)

M. C. GATES.

CORN HARVESTER.

No. 474,007. Patented May 3, 1892.

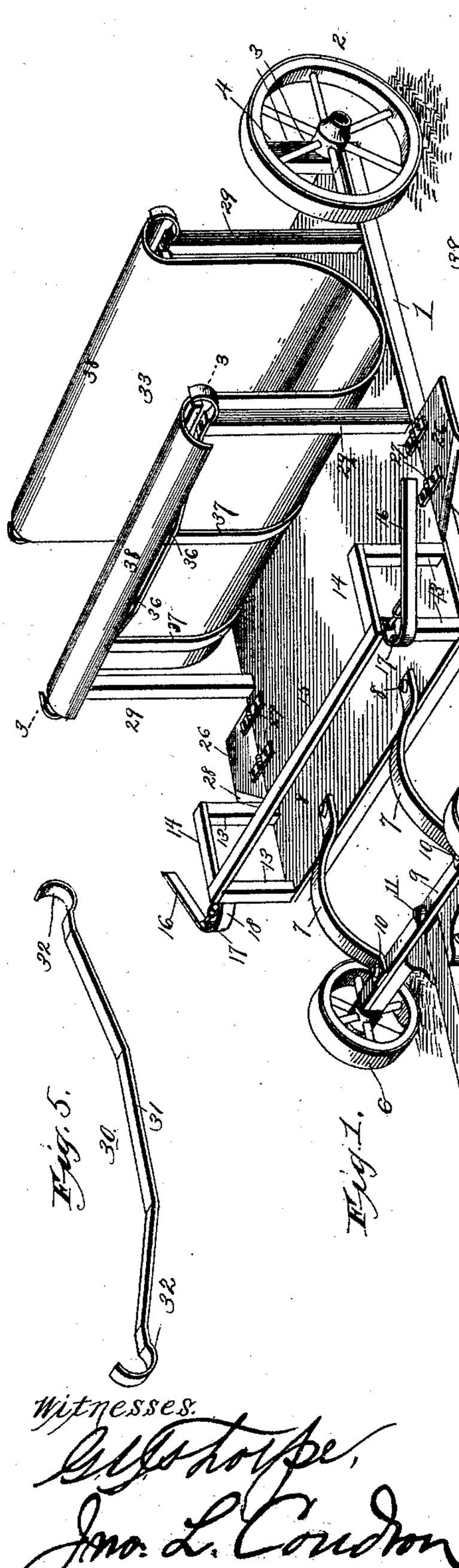

Fig. 1.

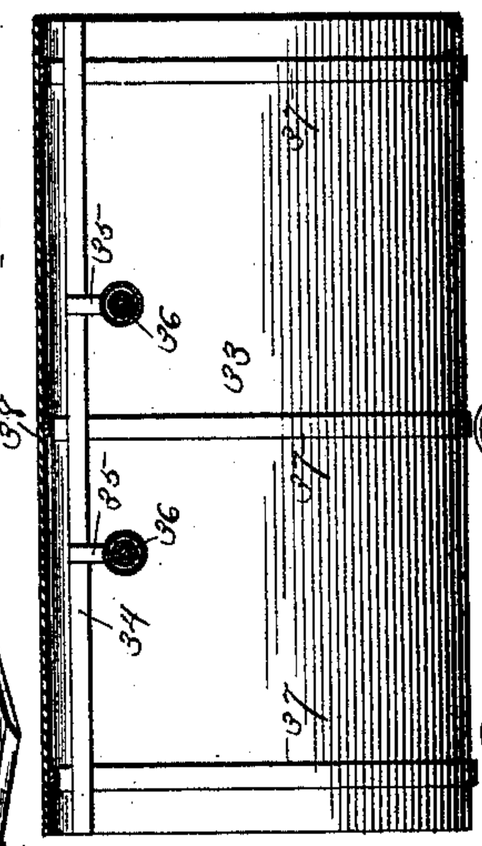

Fig. 3.

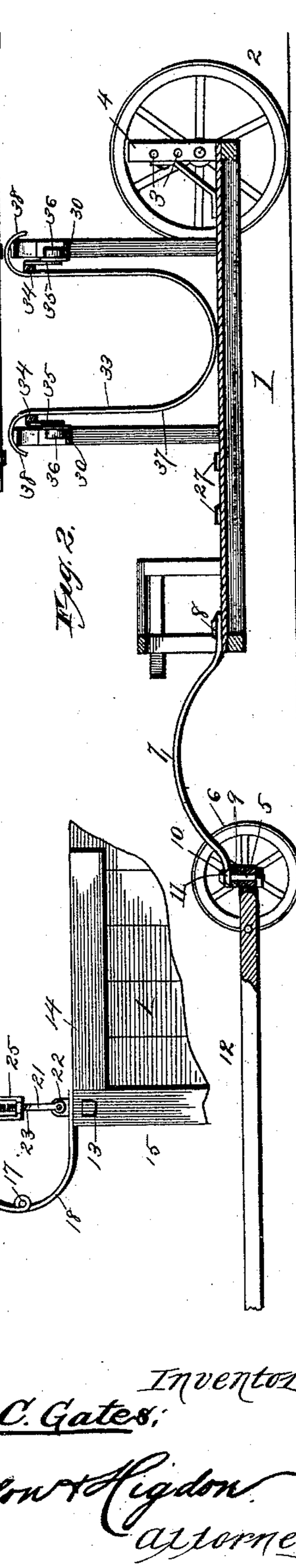

Fig. 2.

Fig. 5.

Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

MERRIT C. GATES, OF DENISON, KANSAS.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 474,007, dated May 3, 1892.

Application filed May 28, 1891. Serial No. 394,338. (No model.)

To all whom it may concern:

Be it known that I, MERRIT C. GATES, of Denison, Jackson county, Kansas, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to machines for harvesting corn and similar crops while standing in the field; and the object of my invention is to produce a simple, durable, and comparatively inexpensive machine which shall be rapid and effective in its action and by means of which the cornstalks can be readily cut, bundled, bound in shocks, and deposited in the field at the ends of the rows, so as to leave a clear field for plowing, seeding, or other operations.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved cornstalk-harvester. Fig. 2 is a central vertical longitudinal section of the same. Fig. 3 is a vertical longitudinal section of the bundle receiving and dumping mechanism on the line 3 3 of Fig. 1. Fig. 4 is a plan view of one of the stalk-deflectors and its operative connections. Fig. 5 is a detached perspective view of one of the track-bars for the dumping-receptacle.

In the said drawings, 1 designates the body or frame-work of the harvester, the said body or frame-work being supported at its rear end upon two rear carrying-wheels 2. The axle of each of these carrying-wheels is inserted removably into one or another of a number of holes 3, arranged in vertical series in a vertical standard 4, there being thus two of said standards 4 located at opposite rear corners of the body or frame-work 1. The purpose of this arrangement is to effect the required adjustment of the cutters, as hereinafter more fully explained.

The front end of the frame or body 1 is supported upon a turning axle 5, which is provided with front carrying-wheels 6. The front axle 5 is connected to the front end of the body or frame-work 1 by two upwardly-arched bars 7, which are arranged parallel with each other and the rear ends of which are bolted or otherwise suitably secured to the front of the body 1, as indicated at 8. The front ends of these bars 7 are similarly secured to the ends of a cross-bar 9, as indicated at 10, the said cross-bar being secured midway of its length to the upper side of the front axle 5 by a king-bolt 11. It will be seen that the upward curvature of the bars 7 is such that the front carrying-wheels 6 can be turned freely under said bars, and by virtue of this arrangement the machine can be turned in a very confined space and can thus be easily brought to its work. To the front axle 9 is secured a tongue 12, to which the draft-animals are to be suitably harnessed for drawing the machine along for its work.

Upon the front end of the body 1 of the machine and at one side thereof are placed two uprights 13, which are connected together at their upper ends by a cross-piece 14, extending longitudinally of the machine. The front uprights 13 at opposite sides of the machine are connected together by a cross-piece 15, which extends transversely of the body.

16 designates two deflectors, each of which consists of a metal bar or plate of elongated form, and each of which is hinged at its inner end, as shown at 17, to a support 18, which is secured to the outer side of one of the posts or uprights 13. It will thus be seen that the deflectors 16 extend horizontally outward and rearward from opposite sides of the machine. In order to vary the inclination of these deflectors 16 each of said deflectors is connected to the outer side of its supporting-upright 13 in the following manner: To the inner surface of each deflector is pivoted, as at 19, the outer end of a rod 20, the inner end 24 of which is externally screw-threaded, while to the outer side of each upright 13 is pivotally connected, as at 22, a similar rod 21, the outer end 23 of which is externally screw-threaded; but the threads of which are of opposite pitch from those on the inner end of the rod 20. The two screw-threaded ends of the rods 20 and 21 are connected by a turn-buckle 25, and it will be seen that by revolving the turn-buckle

25 in one or the opposite direction, the deflectors 16 will be moved outward or inward, as desired.

26 designates two cutter-plates, each of which is connected at its inner edge by a pair of hinges 27 to one of the outer sides of the body 1, just back of one of the rear uprights 13. The sharp cutting-edge 28 of each of these cutter-plates extends obliquely outward and rearward, as shown, and the arrangement is such that when one of the cutters is in use the other cutter can be raised and laid over upon the body 1 out of the way.

At each side of the body 1, at the rear part thereof, are placed two uprights 29, and the two opposite uprights of each pair are connected by a track-bar 30, each of which rests at its ends upon the upper ends of the posts 29, and which at its middle portion 31 is lower than at its ends. Each extremity of each of these track-bars is formed with a segmentally upwardly-curved guard 32 for a purpose to be hereinafter explained.

33 designates the bundle receiver and dumper, which is of sheet-iron or other suitable sheet metal bent into semi-cylindrical form, so as to be U-shaped in cross-section, and which is of such length as to correspond to the width of the body 1. To the upper parts of this dumping and receiving receptacle 33 are secured two bars 34, each of which extends throughout the length of the receptacle on the outer side thereof. To each of these bars are attached hangers 35, upon the lower ends of which are mounted carrier-wheels 36, which run upon the track-bars 30, and thus support the receptacle 33 thereon. The receptacle 33 is preferably reinforced or strengthened by a number of bands 37, which extend from one bar to the other outside of the receptacle, and the upper edges 38 are preferably bent into inverted-U shape, so as to protect the supporting devices described.

In using the harvester above described one of the cutters is turned up out of working position and the rear axles are adjusted, so as to set the machine at the desired cutting height. The deflectors 16 are also set to the proper inclination and the machine is drawn along beside the row of stalks to be harvested. As each stalk approaches the deflector of the side toward the row it is caught by said deflector and bent outward away from the machine. As soon as the deflector has been carried past the stalk the latter springs violently inward against the corresponding cutter, which quickly severs it from its stub before it can recover itself, this action being insured, also, by the draw or shearing cut of the cutter due to its inclined position. The stalk falls upon the body 1 in front of the receptacle 33 and is thrown by the driver or an attendant into the receptacle, or several of the stalks are so thrown into said receptacle after they have fallen upon the vehicle-body. When a sufficient number of the stalks have been thrown into the receptacle to fill the same, they are bound into a shock and when the machine, which by this time has reached the end of the row, is stopped the shock is dumped from the receptacle. This dumping is accomplished by pushing the receptacle across the machine until two of its carrying-wheels 36 come into contact with the two curved ends 32 at one side of the machine. The opposite end of the receptacle is now lifted up to an angle of about forty-five degrees, the lower edge of the shock resting upon the ground. The operator now grasps the upper end of the shock and tips it easily or readily outward, so that it assumes the desired upright position upon the ground. The cutter just used is now turned up out of working position and the opposite cutter is turned outward and the machine is drawn back beside the next row. The subsequent operations are repetitions of those previously described.

It will be observed that owing to the peculiar form of the deflectors and their operative position relative to the machine, in case the attendant fails to catch the stalk the instant it has passed the outer end of the deflector and has been severed by the knife the stalk will be thrown forward into the space behind the deflector and will be supported therein a sufficient length of time for the attendant to catch it before it can fall to the ground and be injured by the cutter or run over by the machine and lost. It will also be seen that by virtue of the peculiar described form of the dumping-receptacle it is impossible for the stalks of corn to be mixed up in the receptacle or blown out of the same by the wind, and also that there is no interference of the two attendants who stand upon the front of the machine, as they have ample room to pass each other and thus properly handle the stalks. It will be further seen that by the peculiar arrangement of the cross-bar 15 and longitudinal bars 14 the attendants are protected against all danger of being carried off upon the knives, and also that the draft-animals are prevented from coming into contact with the knives while turning the machine.

From this description it will be seen that the harvester is simple, durable, and comparatively inexpensive in construction, and that it is easily managed and operates with great rapidity and certainty. It will be further seen that after the machine has been over the field the stalks are left at the sides of the field, so that the latter is entirely clear for plowing, seeding, or other operations.

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

1. An improved cornstalk-harvester comprising a vehicle body or frame having at its sides a pair of outwardly and rearwardly extending cutters located at the front part of the machine, and a pair of horizontally-adjustable deflectors secured upon the front of

the machine in advance of the cutters and extending outwardly and rearwardly from the machine, substantially as set forth.

2. An improved cornstalk-harvester comprising a suitable vehicle-frame, a pair of truck-bars extending transversely of the frame and depressed at their middle and having upwardly-curved ends, and a U-shaped receptacle provided with carrier-wheels at its upper portions and having strengthening-bands, substantially as set forth.

3. An improved cornstalk-harvester comprising a vehicle body or frame having at its sides a pair of outwardly and rearwardly extending ver ically-movable cutters, horizontally-adjustable deflectors secured upon the front part of the machine in advance of the cutters and extending outwardly and rearwardly from the machine, screw-threaded arms arranged in pairs and secured to the outer parts of the machine and to the inner parts of the deflectors, and turn-buckles connecting each of the adjacent ends of each pair of said arms, substantially as set forth.

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

MERRIT C. GATES.

Witnesses:
G. G. THORPE,
H. E. PRICE.