

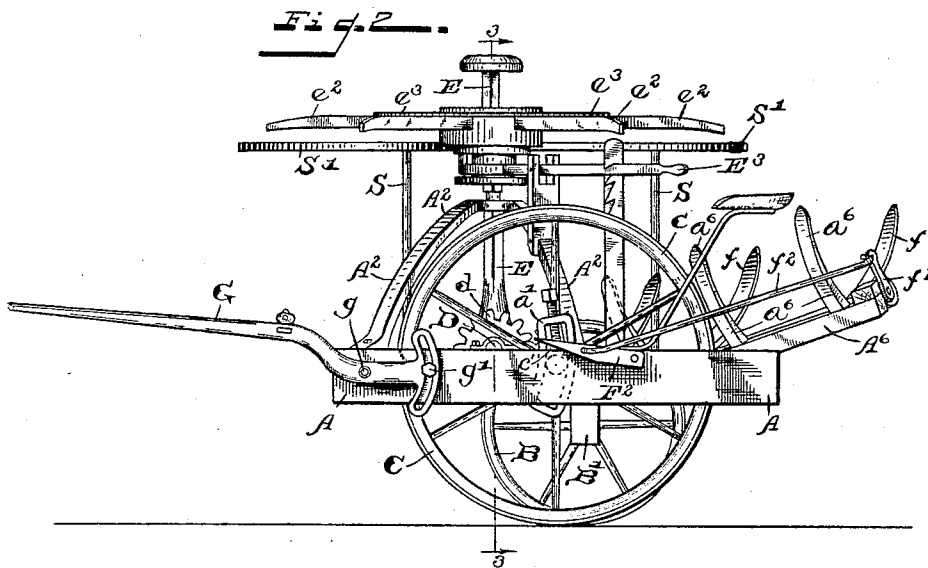
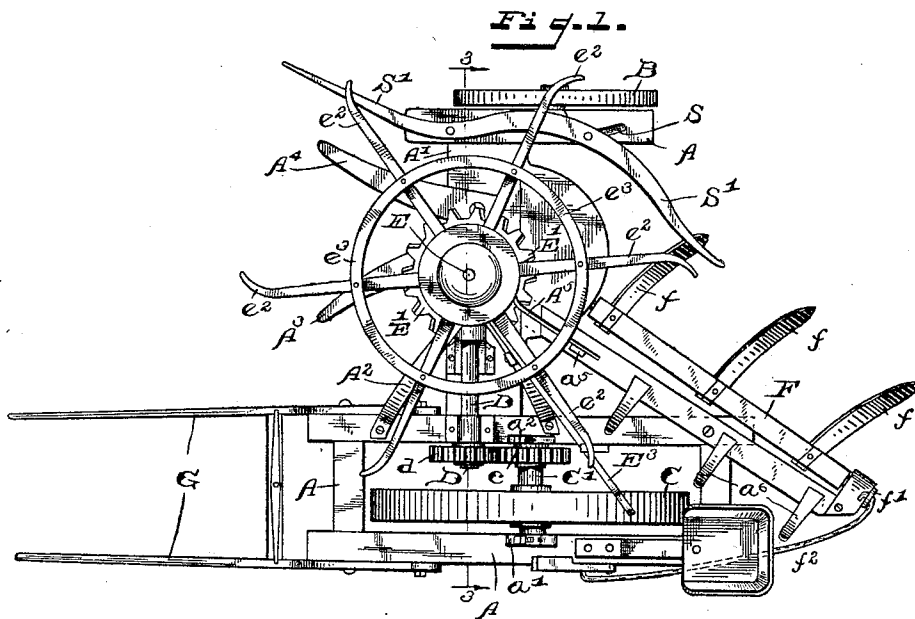
(No Model.)

2 Sheets—Sheet 1.

G. N. CLEVELAND.
CORN HARVESTER.

No. 500,055.

Patented June 20, 1893.



WITNESSES:

J. H. Warner.
J. M. Walsh.

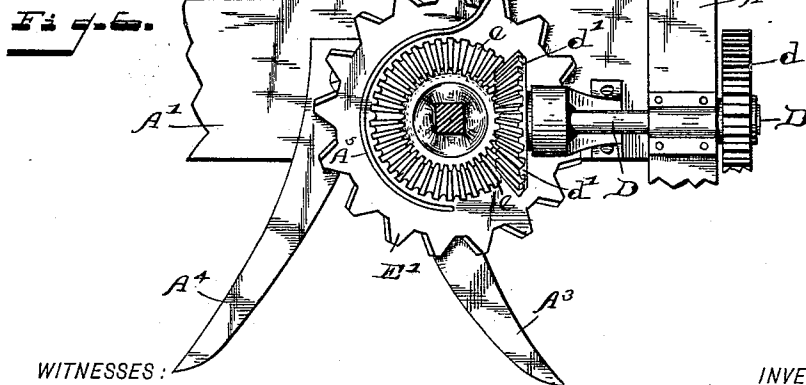
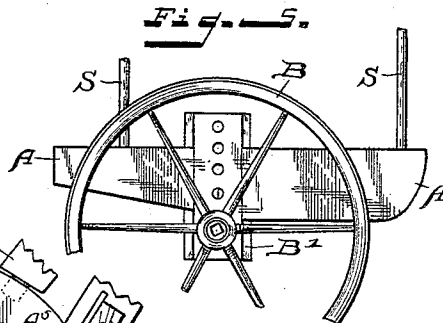
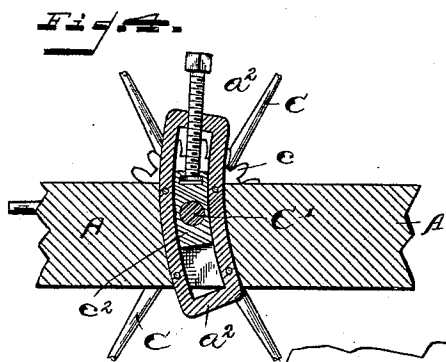
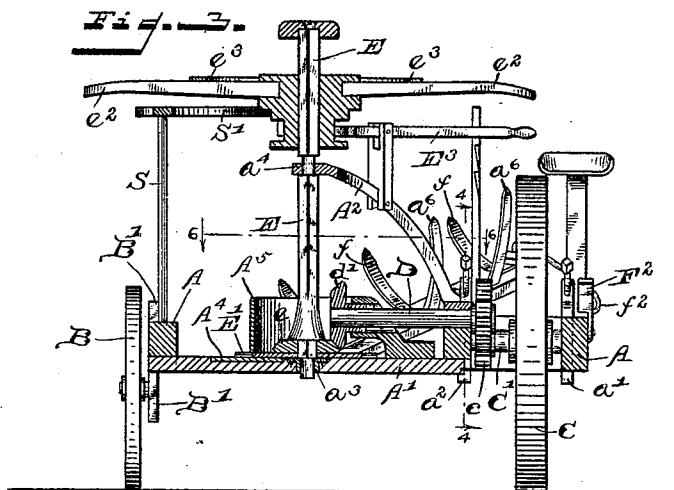
INVENTOR

per George N. Cleveland,
at Geo. W. Bradford,
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

GEORGE N. CLEVELAND, OF FREELANDSVILLE, INDIANA.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 500,055, dated June 20, 1893.

Application filed May 28, 1892. Serial No. 434,782. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. CLEVELAND, a citizen of the United States, residing at Freelandville, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a top or plan view of a machine embodying my said invention; Fig. 2 a side elevation; Fig. 3 a transverse sectional view looking toward the right from the dotted line 3 3 in Fig. 1; Fig. 4 a detail view of one of the adjustable boxes carrying the larger wheel; Fig. 5 a detail sectional view of the adjustable box carrying the smaller wheel, and Fig. 6 a detail horizontal sectional view looking downwardly from the dotted line 6 6 in Fig. 3.

In said drawings the portions marked A represent the frame-work of the machine; B and C the smaller and larger carrying wheels, respectively; D an intermediate shaft driven from the shaft of the larger wheel; E the vertical shaft to the cutter and reel; F a rotating bar, which is the main member of the rack for receiving the corn as cut, and G the thills or shafts whereby the machine is drawn.

The frame A is of suitable form to carry the mechanism, a preferred form being illustrated in the drawings. It is provided with bearings and supports for such mechanism, as will be explained in connection with the description thereof. Standards S extend up from this frame near the reel, and a guide-bar S', of a form to aid the reel in gathering in the corn, is mounted thereon.

The smaller wheel B is mounted on a bearing block B', which is vertically adjustable in a preferably dovetailed groove or way in the adjacent portion of the frame A. The adjustability is provided for so that the cutting mechanism may be positioned nearer to or farther from the roots of the corn being cut, according to circumstances.

The wheel C is larger than the wheel B, is fast on its axle, and carries the greater portion of the weight of the machine, and of the driver. A toothed pinion *c* is mounted on its

axle C' by means of which the mechanism is driven. Said axle is mounted in adjustable bearings *c'* *c*², which are carried in segment-shaped ways *a'* *a*² on the frame-work, whereby this side of the machine may be raised or lowered in positioning the cutting apparatus.

The shaft D has a pinion *d* by which it is driven from the pinion *c* on the axle C'. At the other end it has a beveled gear wheel *d'* which engages with a similar wheel on the shaft E, and thus drives said shaft and its mechanism.

The shaft E is arranged in a vertical position, with its lower end stepped into a bearing *a*³ in the cross bar A' of the frame-work, and its upper end supported by a bearing *a*⁴ in the upper end of the bracket A², which is mounted on said frame-work, and extends upwardly, as shown. Near the lower end it carries the beveled gear wheel *e*, by which it is driven from a similar wheel *d'* on the shaft D; and below that is arranged a circular cutting knife or sickle E'. Said cutting knife is circular in form, with blades somewhat similar to saw teeth. The cutting edges of these blades are so inclined that when they come near to the stationary blade A⁴ below them, in the final act of cutting, their points will be very slightly closer to said blades than their heels. They naturally force the stalks to be cut, somewhat to one side before actually cutting them, and this, together with the action of the reel, as will be presently explained, gives a shearing direction to the cut, which is more certain, and requires somewhat less power than a direct cross-cutting movement. There are two blades A³ and A⁴ secured upon the cross bar A' of the frame-work directly below this cutter or sickle, which diverge from each other, and thus serve to gather the corn stalks to the apex, where they come in contact with said sickle and are cut. The blade A⁴ has a sharpened edge directly at the point where the sickle operates, which aids in the cutting operation. At the upper end of the shaft E is a reel composed of a hub, a number of arms *e*² (preferably curved at their ends), and a ring *a*³ secured upon said arms. This ring is of greater diameter than the cutting knife or sickle E', and, therefore, the stalks are inclined outwardly thereby, to a

greater extent than they are by said sickle and so, when said stalks are brought around to position for cutting, the ring and arms aid in securing the slanting direction most desirable for the shearing cut, as above stated. 5 This reel may be adjusted up and down on the shaft E by means of the hand-lever E³ or otherwise, so that it will operate more efficiently with the varying heights of stalks, it being, of course, adjusted nearer the top of the 10 shaft for the higher stalks, and farther down for the shorter ones. Above the knife or sickle E' and surrounding the gear wheel e' is a guard A⁵, which is preferably formed out of curved sheet metal, and is mounted on a 15 standard a⁵ on the frame-work.

The main member F of the rack is a rotating bar, which is mounted in bearings at its ends in the frame-work, and has arms f which 20 extend up therefrom. The timber A⁶ which constitutes a part of the frame-work, and which extends out parallel with the bar F, also has arms a⁶ similar to the arms f which extend up and form the other side of the rack. 45 Upon the end of the bar F is an arm f' from which a connecting rod f² runs forward and connects with the lever (preferably foot-lever) F². The operation is, when the desired quantity of stalks have been cut and deposited in 30 the rack, that the driver releases the lever F², permitting the bar F to rock in its bearings, which dumps the corn contained in the rack onto the ground. If desired, a laborer may come up behind the machine and lift the corn 35 from the rack in his arms, instead of having it dumped onto the ground, as above described.

The shafts G are similar in general form to those for many kinds of vehicles. They are 40 secured to the frame-work A by the pivots g. They extend back, however, beyond said piv-

ots, and are connected at or near their extreme ends to the frame-work A by an adjustable connection, which is shown as a segment-shaped end held by a clamp-bolt g'. By 45 adjusting this device, the inclination of the frame-work may be controlled, and the machine thus better adapted to cut corn when it is leaned over somewhat from an upright position, and the machine may also be similarly 50 adjusted to suit the varying heights of animals that draw the machine.

The machine as a whole is a simple and effective device for the purpose, requiring only 55 a comparatively moderate amount of power to drive it, and it is easily kept in order, and adjusted to the required uses.

Having thus fully described my said invention, what I claim as new, and desire to secure 60 by Letters Patent, is—

The combination, in a corn harvester, of the upright shaft E carrying the rotary sickle upon the lower end, the two blades A³ A⁴ secured to the frame-work and converging toward the cutting point of said sickle, to one 65 side of the shaft, a reel upon the upper end of the shaft, composed of arms, and a ring or center larger than the sickle, whereby the stalks are pushed outwardly to enable said sickle to have a shearing cut, and a guide S' 70 mounted upon standards and curved to guide the stalks between the arms of the reel and around to the rear thereof onto the dropper, said several parts being arranged and operating substantially as shown and described. 75

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 18th day of May, A. D. 1892.

GEORGE N. CLEVELAND. [L. s.]

Witnesses:

CHESTER BRADFORD,
J. A. WALSH.