(No Model.) 2 Sheets—Sheet 1.

S. C. KENAGA.

CORN HARVESTER.

No. 264,708. Patented Sept. 19, 1882.

Fig. 1.

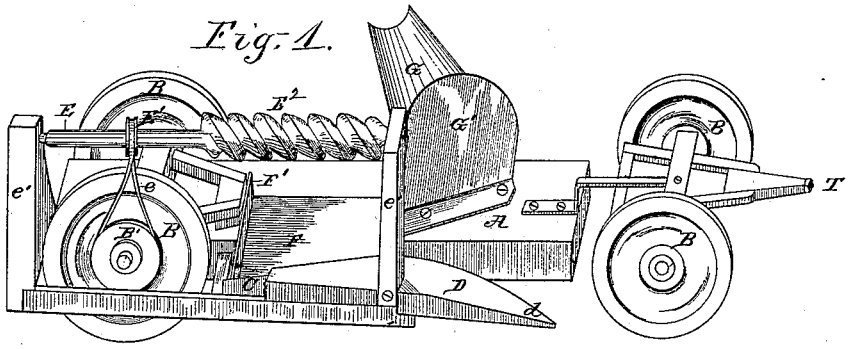


Fig. 2.

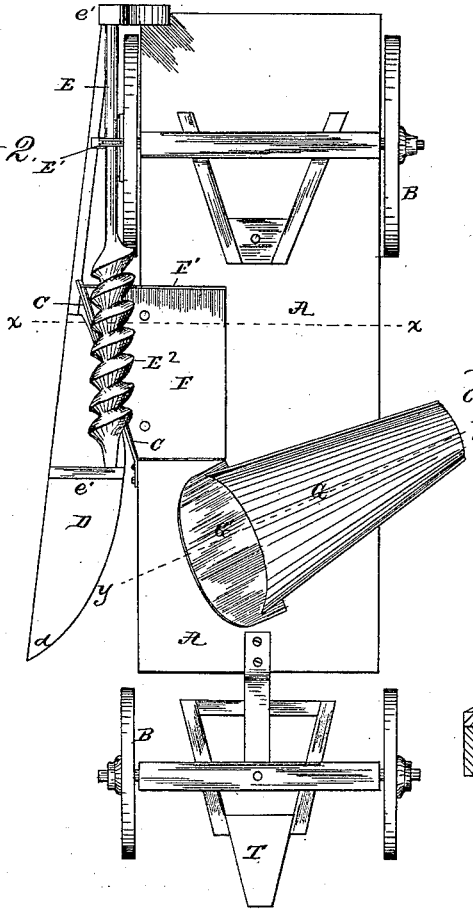


Fig. 3.

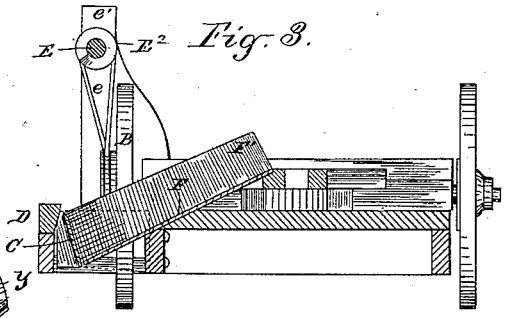
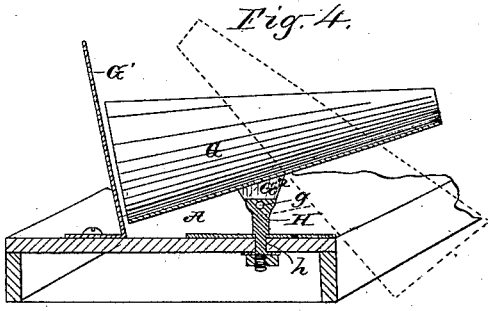


Fig. 4.



WITNESSES—
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W. D. Adams

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per M. E. Dayton
Attorney

(No Model.) 2 Sheets—Sheet 2.

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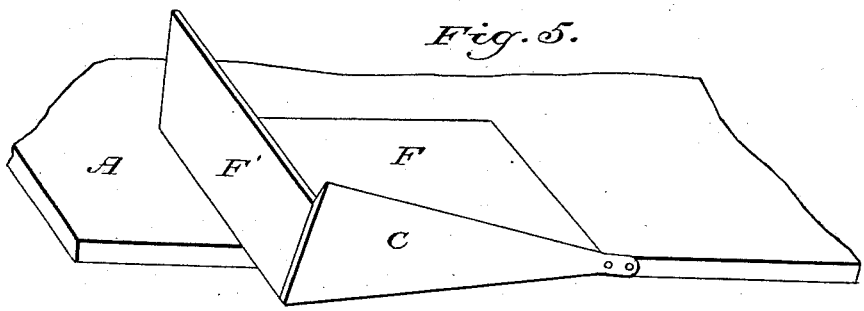
Fig. 5.



Witnesses.
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D. W. Adams

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UNITED STATES PATENT OFFICE.

SAMUEL C. KENAGA, OF KANKAKEE, ILLINOIS, ASSIGNOR OF ONE-HALF TO J. SMITH BRIGGS AND CHARLES H. BRIGGS, OF SAME PLACE.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 264,708, dated September 19, 1882.

Application filed October 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. KENAGA, of Kankakee, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Corn-Harvesters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for harvesting standing corn, provided with a cutter for severing the stalk as the machine advances. Its main objects are to sever the stalks with the least practicable expenditure of power, and to provide for the formation of sheaves on the machine, and for the delivery of the sheaves upon the ground in a proper standing position.

To these and other ends, that will be hereinafter stated, the invention consists in certain features of construction and arrangement of the knife, and in its combination with co-operating parts, and in the provision of a receptacle in which the cut corn may be accumulated and bound, and from which it may be discharged by the attendant, as will be hereinafter more fully set forth, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the apparatus. Fig. 2 is a top view thereof. Fig. 3 is a transverse vertical section through *x x* of Fig. 2, and Fig. 4 is a transverse vertical perspective section through *y y* of Fig. 2. Fig. 5 is a view of the knife and plate upon which the corn is to fall, seen from a point of vision at the side and rear of the knife and in the plane of the harvester-bed.

A represents a bed or platform, mounted low on wheels B. Said wheels and their axles may be those of an ordinary farm-wagon, and the bed A may be connected therewith, as shown, in place of the reach of such wagon.

C is the knife or cutter, which is stationary.

D is a guide for directing the standing corn to the knife.

E is an elevated shaft or rod mounted, to rotate in the standards *e'*, and provided with a worm or spiral wing, E^2, and also with a pulley, E', by which it is rotated from the adjacent hind wheel, B. Said shaft operates to tilt the corn inward, as will be explained.

F is an inclined plate or board, upon which the corn falls when cut. F' is a rear vertical end piece, secured to the board F to retain the corn.

G is a receptacle into which the cut corn is first thrown and then bound, and from which it is subsequently thrown by a rotary movement of the receptacle.

G' is a stationary end piece for said receptacle G.

A distinctly novel feature of my invention is found in the position and direction of the knife-edge. Said knife is located at one side of the platform A, mainly outside the track of the adjacent front wheel, B. It is here shown as a broad, flat plate set slightly inclined outward or overhanging at its upper sharpened edge. It also inclines outward from the front to rear, and its edge is preferably higher at its rear than at its front end. Relative to the inclination of the knife from the vertical, said knife may incline to the extent of, say, forty-five degrees, or thereabout; but it is preferably more nearly vertical, somewhat as shown in Fig. 3. The edge is sharpened from the inside.

The guide D at its point *d* stands off from the platform A, so as to reach outside the row of corn to be cut, and has its inner edge directed inward, so as to guide the corn against the knife. Space is, however, provided between the inner end of the guide and the knife, so that the former does not arrest the corn at this point, but allows it to pass back along the knife-edge, and to be thereby gradually and more easily cut. Co-operating with the knife so placed and so acting throughout its entire length to gradually cut the corn, and located at a suitable distance above the knife, the shaft E is arranged longitudinally, with the bed A in position to incline the corn inward over the knife for at least a portion of its length, as more clearly indicated in Fig. 2. Said shaft is here shown as being mounted in the standards *e'* to rotate by means of the belt *e*, trained over the pulley B' on the wheel B and over the pulley E' on the shaft E. It is

also shown as being provided with the worm or spiral flange E^2 over the knife, whereby the tops of the cornstalks, when inclined, may, by proper arrangement of the belt *e*, be either drawn backward or pushed forward, according to the direction of their inclination. Ordinarily the worm will be rotated to draw them backward against the tendency to incline forward under the action of the knife C and guide D. When the knife is set in the position and at the inclination from the vertical described, it is found to sever the corn with great ease, so as to require little power to do the work. This result is obvious from the evident fact that the draft upon the corn is downward or nearly opposite to the direction at which the edge is set, and is very slightly lateral to said edge, as would be the case wholly if the blade C were horizontal. The board F catches the corn as it is severed, and the end board, F′, retains it in place thereon. Said board F′ is inclined upward toward its inner edge, so that the operator, who stands on the platform A near the board and at the rear of the shock-holder, may readily reach under the corn lying thereon and lift it into the trough G for the purpose of forming a sheaf. Said trough is mounted on a rotating post, H, located centrally beneath it, and is pivotally connected therewith by means of a lug, G^2. The trough is therefore universally jointed to the bed A, and is capable of being swung around and tilted into the position shown in full lines in Fig. 4, and also shown in Figs. 1 and 2. The fixed board G′ serves as a stop against which the butts of the cut corn are placed to give evenness to the sheaf. When enough corn has been gathered into the trough to form a sheaf it is bound, and the trough is swung and tilted, as described, throwing out the sheaf with its butts down and so as to stand said sheaf upright on the ground. The trough being further turned or brought back to its original position, another sheaf is similarly formed and discharged, and so on. Obviously any other form of universal joint than that shown may be employed for the proper movement of the trough G.

For the general purpose of tilting the corn over the knife C and upon the platform F, the shaft E may be a simple stationary guide-bar or feeder without the worm-flange.

I claim as my invention—

1. In a corn-harvester, a stationary flat knife, C, set nearly vertical, having a practically-straight upper cutting-edge arranged to strike the stalks as the harvester advances, and outwardly, rearwardly, and upwardly inclined, substantially as described.

2. In combination with the outwardly and rearwardly inclined stationary knife C, the guide D, arranged to direct the corn against the knife, but terminated in position to allow the corn to follow the edge of the knife after it is engaged thereby, substantially as described.

3. In combination with the outwardly and rearwardly inclined stationary cutter C, the spirally-flanged shaft E, arranged above and to cross the course of the knife, as shown.

4. In combination with the stationary knife C, set and arranged as shown, the inclined plate F, substantially as described, and for the purposes set forth.

5. The platform or bed A, provided with the cutter C, the guide D, and rotating and tilting shock-holder G, together with standing place for the operator, and adapted to be mounted on the axles of an ordinary farm-wagon to constitute a portable corn-harvester, substantially as set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

SAMUEL C. KENAGA.

Witnesses:

WARREN R. HICKOX,

C. FRED WHITMORE.