

(No Model.)

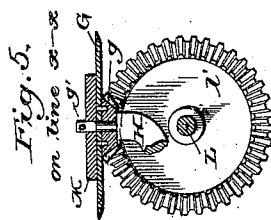
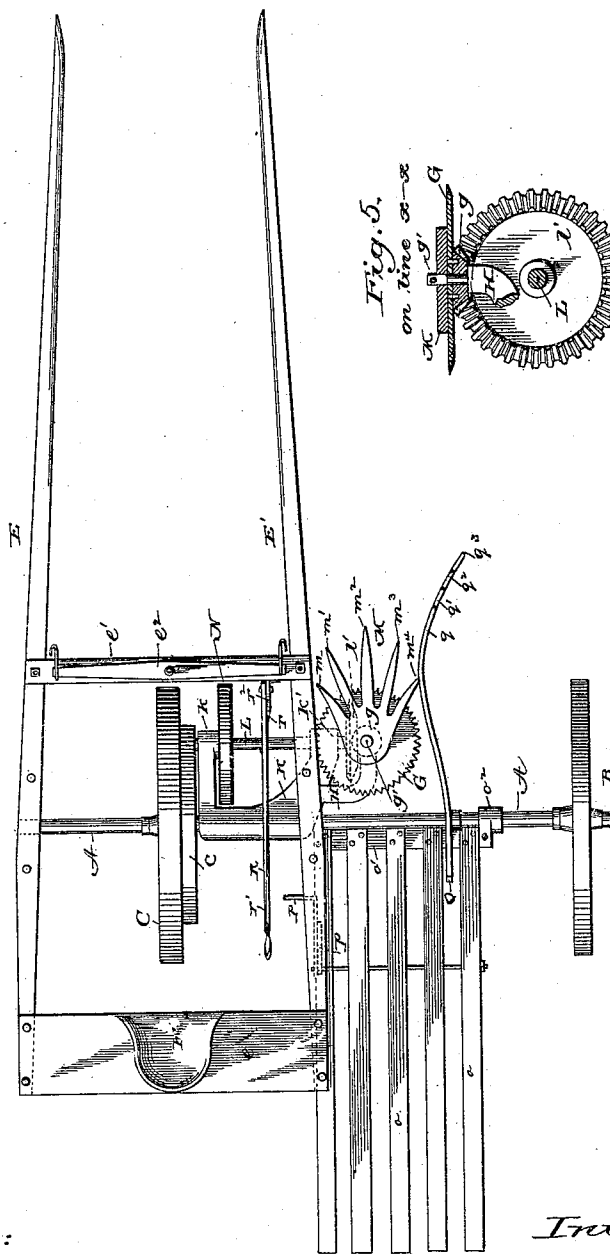
2 Sheets—Sheet 1.

A. WICKEY.
CORN HARVESTER.

No. 461,539.

Patented Oct. 20, 1891.

Fig. 1.



Witnesses:

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Inventor:

Andrew Wickkey
By his Atty.
Phil. T. Dodge

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Fig. 2.

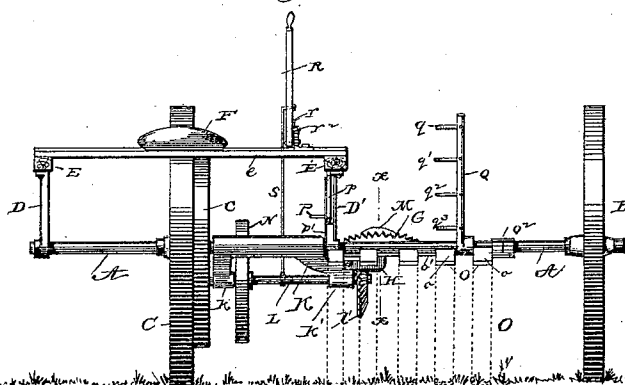


Fig. 3.

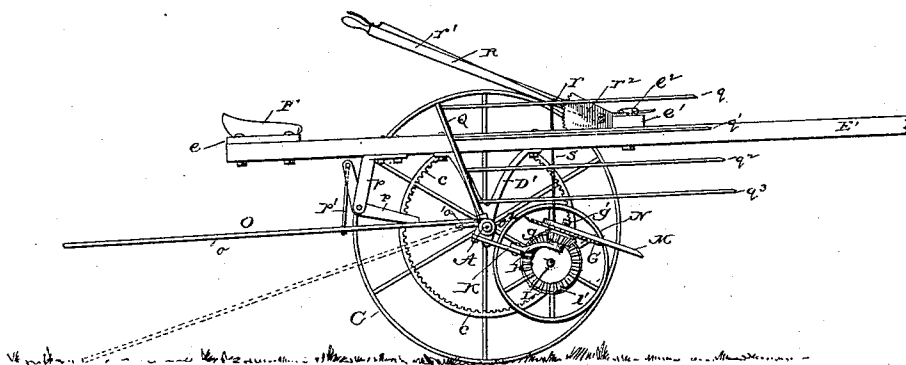
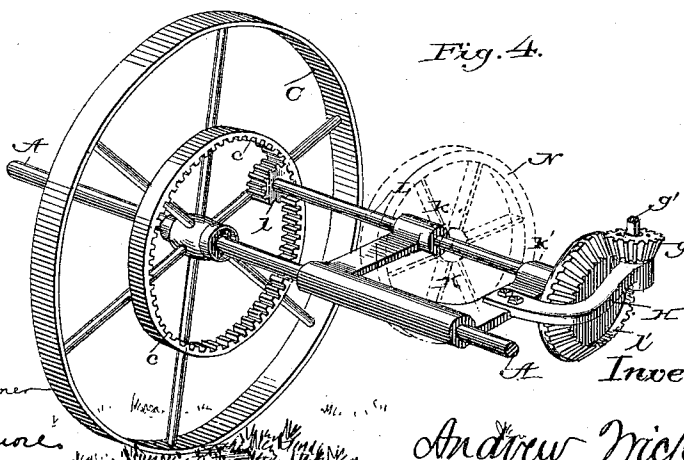


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ANDREW WICKEY, OF QUINCY, ILLINOIS.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 461,539, dated October 20, 1891.

Application filed July 1, 1889. Serial No. 316,231. (No model.)

To all whom it may concern:

Be it known that I, ANDREW WICKEY, of Quincy, in the county of Adams and State of Illinois, have invented certain Improvements in Corn-Harvesters, of which the following is a specification.

My invention relates to that class of corn-harvesters in which the stalks are severed by a circular knife or saw revolving upon an up-right shaft or axis as the machine travels at the side of the row of corn.

The invention consists in various improvements in this class of machines, designed to render its operation effective and the arrangements of its parts compact.

It further consists in the details of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of my machine. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation, one of the ground-wheels being removed. Fig. 4 is a perspective view of a portion of the cutter-driving mechanism and its hinged sustaining-frame. Fig. 5 is a vertical sectional view on the line xx of Fig. 2.

Referring to the drawings, A represents a horizontal axle, on one end of which a ground-wheel B is journaled and near the other end of which a main driving-wheel C is mounted to turn loosely. On either side of the main wheel I fix to the axle brackets or standards D D', as shown in Figs. 2 and 3, to the top of which thills E E' are bolted or otherwise rigidly secured. These thills are extended rearward some distance, where they are connected by a transverse board e , on which a seat F is fixed. The thills are connected forward of the main wheel by a beam e' , on which a singletree e^2 , of ordinary construction, is pivoted.

The cutter is located between the inner thill E' and the wheel B in front of the axle A. It consists of the circular-saw wheel G, which is bolted to the upper face of a bevel-wheel g , journaled on a vertical spindle g' , which latter is formed on the end of an arm H, bolted to a frame K. This frame is mounted loosely on the axle A and is provided at its ends with the forwardly-extending arms k k' . A horizontal shaft L is journaled in the ends of these arms and extends from the main

driving-wheel parallel to the axle A to the cutting mechanism. This shaft is provided at one end with a pinion l , arranged to be driven by a circular rack c , formed on the main wheel, and at its opposite end is provided with a bevel gear-wheel l' , keyed thereto in position to mesh with the bevel-wheel g , heretofore referred to. From the foregoing it will be seen that a rotary motion is imparted from the main wheel C through the horizontal shaft L to the cutter.

Inasmuch as the cutter and operating-gearing are sustained by the gear-frame K, which, as before stated, is mounted loosely on the axle A, it is obvious that the height of the cut may be varied by raising or lowering the forward end of this frame. To accomplish this I provide a hand-lever R, which is pivoted to the beam e' and extends therefrom to a point within reach of the attendant. This lever is provided with the usual spring-latch r , having the operating-rod r' , and arranged to engage a rigid toothed arc r^2 . The lever is connected to the frame K by means of a link S. By raising or depressing this lever the cutter and its operating mechanism are correspondingly raised or lowered, and can be fixed in the desired position by means of the spring-latch and toothed arc.

In order that the cutter may not be clogged by the accumulation or crowding of the stalks, I provide a guard M, consisting of the flat body portion and the series of radiating fingers m m' m^2 , &c. This guard is rigidly fixed in any suitable manner immediately above the cutter to the spindle g' , and is so arranged that the fingers extend beyond the cutter. The space between these fingers at the edge of the cutter is such that but one stalk of ordinary area in cross-section can be accommodated therein adjacent to the cutter at one time. This construction is highly advantageous, in that but a limited number of stalks can be operated on at one and the same time, thereby preventing any crowding or clogging of the cutter. As a result of this arrangement the rate of work performed by the cutter is practically constant. The fingers serve to hold or stay the stalks while being severed, so that the effectual and prompt action of the cutter is secured.

In order that the rotation of the cutting-

wheel may be regular and that it may readily overcome the resistance offered by the stalks, I key to the shaft L a balance-wheel N. In practical tests I have found that the employment of a balance-wheel in connection with a cutter subjected to sudden and great resistances has added greatly to its proper operation, and as a result of the arrangement the sudden and violent blows which would otherwise come upon the gearing in the vicinity of the cutter are entirely avoided.

To enable the cut stalks to be deposited at suitable intervals in heaps upon the ground in condition to be readily bound, I provide the machine with a dropper O. The dropper is located in the rear of the cutter, and consists of a series of slats *o*, having their forward ends fixed to a cross-bar *o'*, which is provided at its ends with eyes *o''*, adapted to loosely encircle the axle A. This dropper is operated by means of a foot-lever P, pivoted at its middle to a hanger *p*, attached to the under side of the thill E'. The lever is provided with two arms, one of which is connected by a link *p'* to the dropper, while the other is fashioned into a pad for the foot of the attendant. By pressing the foot against this lever the attendant is enabled to hold the dropper in a horizontal position to receive the cut stalks, and when a sufficient number have accumulated by removing the pressure on the lever the dropper will fall under the weight of the load and discharge the stalks.

In order that the stalks may be guided to the cutting mechanism to be severed and then guided to the dropper I fix to the axle in any suitable manner a rearwardly and upwardly extending sustaining-rod Q and provide the same with a series of forwardly-extending bars *q q' q''*, &c., curved outward, as shown, at the side of the cutter.

The operation of my machine is as follows: The machine is driven at the side of a row of corn, so that the cutter will operate thereon.

As the machine advances the balance-wheel acquires a high degree of velocity, which is transmitted through the intermediate gearing to the cutter. The standing stalks, guided by the divider and fingers *m m'*, &c., enter the spaces between the latter and are acted on by the cutter and severed. As they fall they are directed upon the dropper, from which they are discharged upon the ground at suitable times. When prostrate stalks are encountered too low down to be operated upon by the cutter, the attendant standing on the board *e*, raises them by means of a hooked rod or other suitable instrument.

Having thus described my invention, what I claim is—

1. In a corn-harvester, the combination, with the axle provided with the ground-wheels, of the main frame sustained by said axle, the forwardly-extending gear-frame pivoted on the axle independently of the main frame, the cutting mechanism sustained by the gear-frame, suitable mechanism for raising and lowering the gear-frame, the dropper pivoted on the axle independently of the main and gear frames, and suitable mechanism for operating the dropper to discharge its contents, whereby the adjustment of the cutting mechanism may be effected without altering the position of the dropper.

2. In a corn-harvester, the combination of the rotary cutter, its driving-pinion fixed rigidly thereto, the spindle *g'*, on which the cutter and its driving-pinion are loosely mounted, and the cutter-guard fixed to the spindle and sustained thereby in position above the cutter.

In testimony whereof I hereunto set my hand, this 18th day of May, A. D. 1889, in the presence of two attesting witnesses.

ANDREW WICKEY.

Witnesses:

U. H. KEATH,
HENRY FUERHOFF.