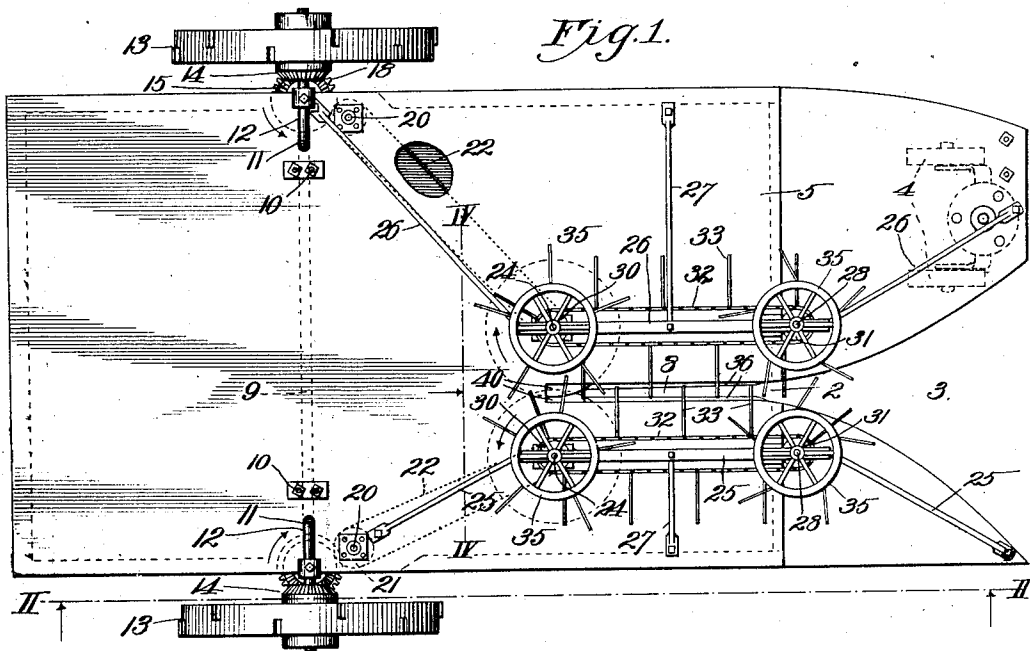
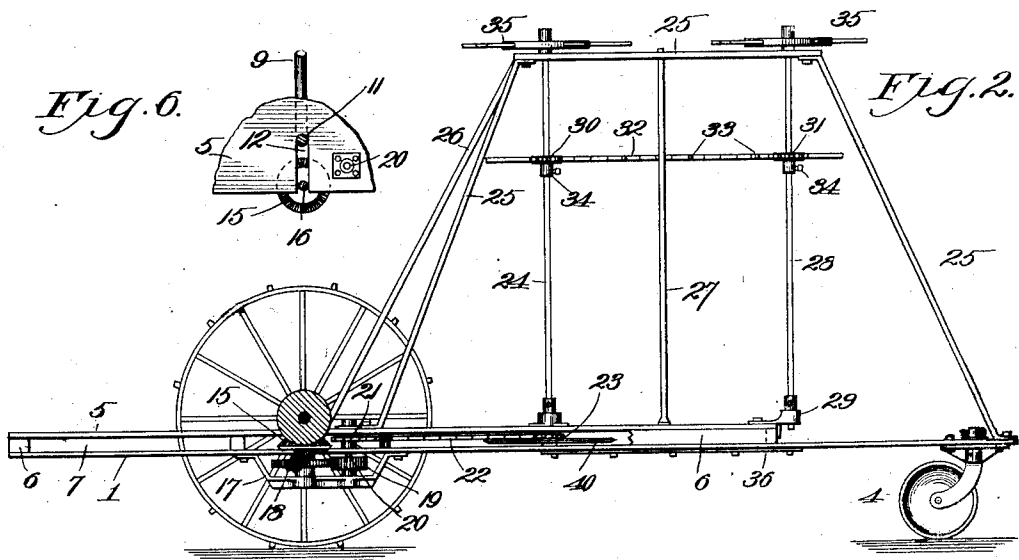


No. 833,190.

PATENTED OCT. 16, 1906.

J. M. WILLIAMS.
CORN HARVESTER.
APPLICATION FILED APR. 3, 1906.

2 SHEETS—SHEET 1.



Witnesses:

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2 SHEETS—SHEET 2

Fig. 3.

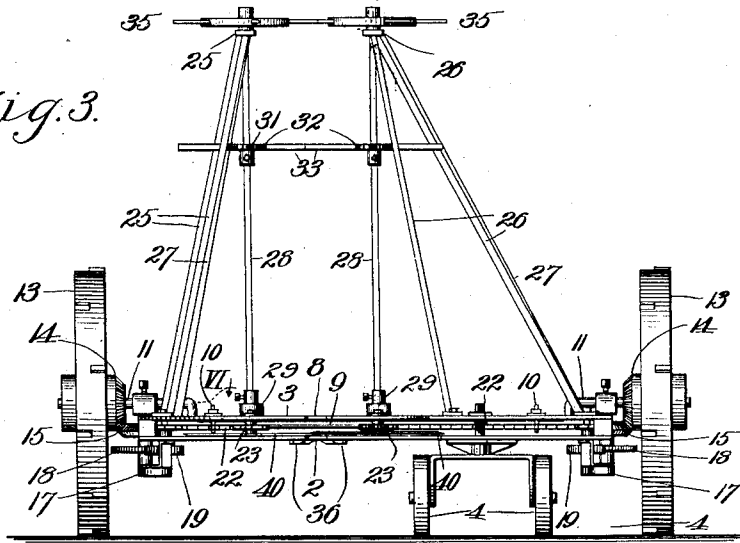


Fig. 4.

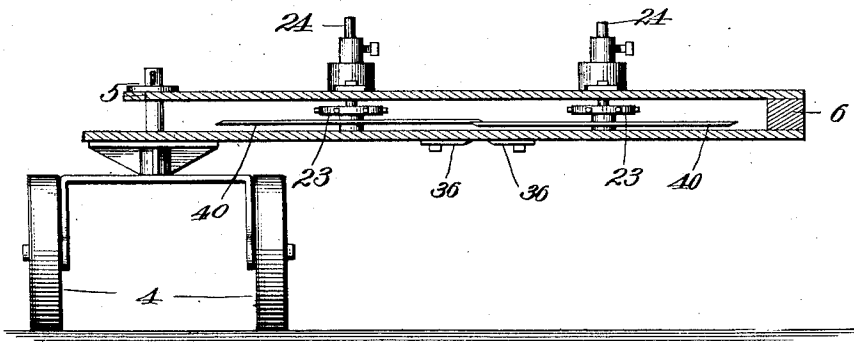
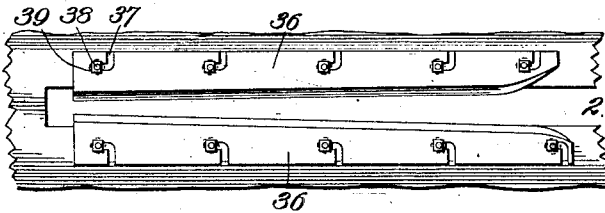


Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES M. WILLIAMS, OF WILMORE, KANSAS.

CORN-HARVESTER.

No. 833,190.

Specification of Letters Patent.

Patented Oct. 18, 1906.

Application filed April 3, 1906. Serial No. 309,590.

To all whom it may concern:

Be it known that I, JAMES M. WILLIAMS, a citizen of the United States, residing at Wilmore, in the county of Comanche and State of Kansas, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a specification.

This invention relates to corn-harvesters; and my object is to produce a machine of this character provided with means for reliably cutting and piling the corn upon the rear portion of the deck of the platform.

Other objects of the invention will hereinafter appear, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a top plan view of a corn-harvester embodying my invention, the top portion or deck of the platform being broken away to expose a portion of one of the chains thereunder. Fig. 2 is a section on the line II II of Fig. 1, the machine being partly broken away to expose mechanism which would otherwise be hidden. Fig. 3 is a front view of the machine. Fig. 4 is an enlarged section taken on the line IV IV of Fig. 1, the driving-chains being omitted from said figure. Fig. 5 is an inverted plan view of a portion of the platform with the stationary knives detachably secured thereto. Fig. 6 is a detail sectional view taken on the dotted line VI of Fig. 3.

In the said drawings, 1 indicates a platform having a longitudinal slot 2, provided with a flared mouth 3 in order that corn leaning to the right or left shall be gathered and straightened up so as to enter slot 2 as the machine is drawn across the field, the front end of said platform being mounted upon double caster-wheels 4 or other suitable supports.

5 indicates a deck above said platform and separated therefrom by spacing-bars 6 or otherwise, so as to provide a chamber 7 between the platform and the deck. The deck preferably extends forward to the point where the slot 2 begins to flare and is provided with a slot 8, corresponding to and vertically above slot 2.

9 indicates a transverse axle extending through chamber 7 and secured rigidly to the deck by U-bolts 10 or by other means. The axle is provided with upwardly-projecting cranks 11 at its ends, and to accommodate said cranks I preferably slot the outer edges of the deck 5, as at 12, and journaled upon

the ends of said axle are drive and carrying wheels 13, provided at the inner ends of their hubs with bevel-gears 14, meshing with horizontal gears 15, journaled on stub-shafts 16 60 on brackets 17, secured to and depending from the platform 1. Rigid with bevel-gears 15 are gear-wheels 18, meshing with gears 19, rigidly secured on short shafts 20, journaled in the platform and deck in any suitable 65 manner and equipped with sprocket-wheels 21, disposed between the platform and deck and connected by chains 22 with sprocket-wheels 23, rigidly secured to the lower ends of the vertical shafts 24, journaled in the plat- 70 form and deck at opposite sides of the rear end of slots 2 8, the upper ends of said shafts being journaled in longitudinal frames 25 and 26, respectively, said frames being secured at their rear ends to the deck and at their front 75 ends to the platform. They are also braced from lateral movement by braces 27.

28 represents similar shafts journaled at their upper ends in frames 25 and 26 and at their lower ends in brackets 29, secured to 80 the front end of the deck, shafts 28 being in longitudinal alinement, by preference, with shafts 24 at the corresponding side of slots 2 8, and motion is transmitted from shafts 24 and 28 through the medium of the sprocket- 85 wheels 30 and 31, connected by chains 32, provided with outwardly-projecting fingers 33, the fingers being of such length that when they project inwardly they project across the slots 2 8, said fingers being staggered with re- 90 lation to each other, so as to avoid conflict and also to more effectively engage and carry the corn. The fingered chains 32 are arranged at a suitable height to accommodate the work in hand, the sprockets 30 and 31 be- 95 ing slid upward or downward on the shaft and then clamped at the desired point by set-screws 34.

To cooperate with the chains in maintaining the corn in an upright position during the 100 progress of the machine, each shaft 24 28 is provided with a reel 35, the rear reels being useful mainly in pushing the upper portion of the cornstalk rearward at the moment it is completely severed, so that it shall fall flatly 105 and longitudinally upon the rear portion of the platform.

The corn-cutting mechanism is constructed as follows: 36 indicates a pair of knives which are secured, by preference, to the under 110 side of the platform and project inwardly beyond the edges of slot 2 thereof, the knives

being preferably so arranged that their inner or cutting edges shall converge rearwardly. They are provided, by preference, with angle-slots 37, through which extend bolts 38, carried by the platform, nuts 39 engaging the ends of the bolts to clamp the knives rigidly in position. To cooperate with the stationary cutting-knives 36, I provide shafts 24 with a pair of rotary knives 40, having their cutting edges lapping and intersecting the vertical plane of the passage between the stationary knives. The rotary knives are shown just above the platform 1, but obviously may be below the same, if desired.

In practical operation the machine is drawn across the field by the draft-animals, (not shown,) with the slot in line with the row of corn to be cut, any corn leaning to the right or left being straightened up by one side or the other of the flaring mouth 3. In the progress of the machine the front reels and fingered chains engage the corn just before it comes into engagement with the stationary cutting-knives, and the speed of movement of the reels and chains is so proportioned to that of the machine that the corn is maintained in an upright position as it is cut from either side by the stationary cutting-knives and eventually completely severed by the rotary knives, if such severance does not occur through the action of the stationary knives alone. An instant before said stalk is completely severed the rearward pressure against its upper end applied by the reels tends to cause it to incline rearwardly, so that when completely severed it will fall and assume a longitudinal position upon the rear portion of the deck. Whenever sufficient corn has accumulated upon the deck, the driver will stop the draft-animals and discharge said corn, preferably by erecting a shock, though what disposition he makes of it is immaterial in this connection. The movement is imparted through the drive-wheels 13, the several movable parts traveling in the directions indicated by the contiguous arrows.

From the above description it will be apparent that I have produced a corn-harvester possessing the features of advantage enumerated as desirable, and I wish it to be understood that I do not desire to be limited to the exact construction shown and described, as various modifications in the form, proportion, detail construction, and arrangement of the parts will obviously suggest themselves to one skilled in the art.

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

1. A corn-harvester, comprising a wheeled platform having a slot extending longitudinally and having its front end flared and opening through the corresponding end of the platform, stationary knives projecting in-

wardly of the opposite sides of said slot, a pair of vertical shafts at each side of said slot, reels mounted on the upper ends of said shafts, sprocket-wheels on said shafts, chains connecting the sprocket-wheels at the same side of the slot and provided with fingers which bridge said slot when projecting inwardly, a pair of rotary knives at opposite sides of and intersecting the rear end of said slot, and means for transmitting motion from certain of the wheels supporting the platform to said shafts and rotary knives.

2. A corn-harvester, comprising a wheeled platform having a slot extending longitudinally and having its front end flared and opening through the corresponding end of the platform, stationary knives projecting inwardly of the opposite sides of said slot, a pair of vertical shafts at each side of said slot, reels mounted on the upper ends of said shafts, sprocket-wheels on said shafts, chains connecting the sprocket-wheels at the same side of the slot and provided with fingers which bridge said slot when projecting inwardly, a pair of rotary knives at opposite sides of and intersecting the rear end of said slot, sprocket-wheels on the vertical shafts at the rear end of the slot, a pair of sprocket-wheels rearward and outward thereof, sprocket-chains connecting each rear sprocket with one of the sprockets on said shafts, and a train of gearing between certain of the wheels supporting the platform and said rear sprocket-wheels.

3. A corn-harvester, comprising a wheeled platform having a slot extending longitudinally and having its front end flared and opening through the corresponding end of the platform, stationary knives projecting inwardly of the opposite sides of said slot, a pair of vertical shafts at each side of said slot, reels mounted on the upper ends of said shafts, sprocket-wheels on said shafts, chains connecting the sprocket-wheels at the same side of the slot and provided with fingers which bridge said slot when projecting inwardly, a pair of rotary knives at opposite sides of and intersecting the rear end of said slot, sprocket-wheels on the vertical shafts at the rear end of the slot, a pair of sprocket-wheels rearward and outward thereof, sprocket-chains connecting each rear sprocket with one of the sprockets on said shafts, a train of gearing between certain of the wheels supporting the platform and said rear sprocket-wheels, and a deck supported above the platform and above said last-named sprocket wheels and chains.

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

JAMES M. WILLIAMS.

Witnesses:

D. H. GOVE,
J. S. HALLIDAY.