

(No Model.)

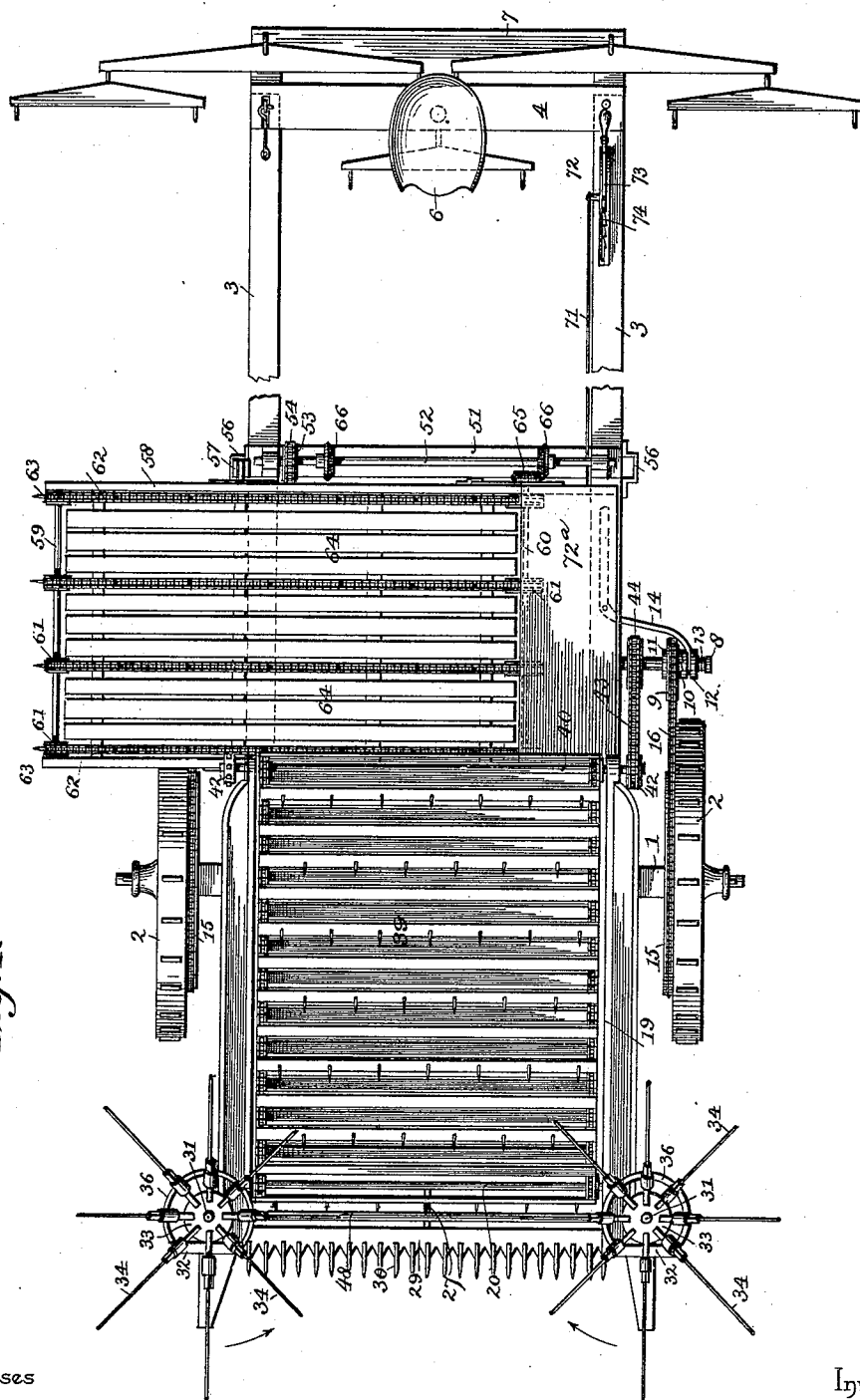
3 Sheets—Sheet 1.

M. K. LEWIS.
CORN HARVESTER.

No. 464,573.

Patented Dec. 8, 1891.

Fig. 1.



Witnesses

Chas. H. Curand,

N. J. Collier,

By his Attorneys,

C. A. Snow & Co.

Inventor

Miles K. Lewis

M. K. LEWIS.
CORN HARVESTER.

No. 464,573.

Patented Dec. 8, 1891.

Fig. 2.

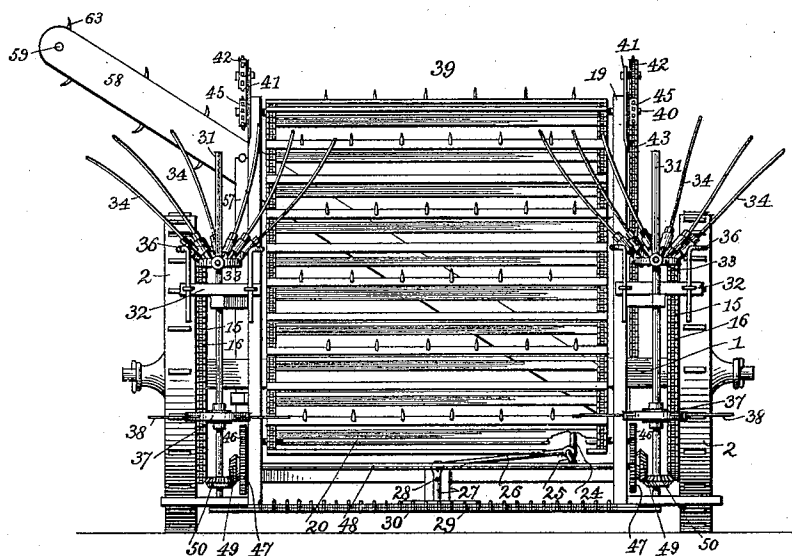
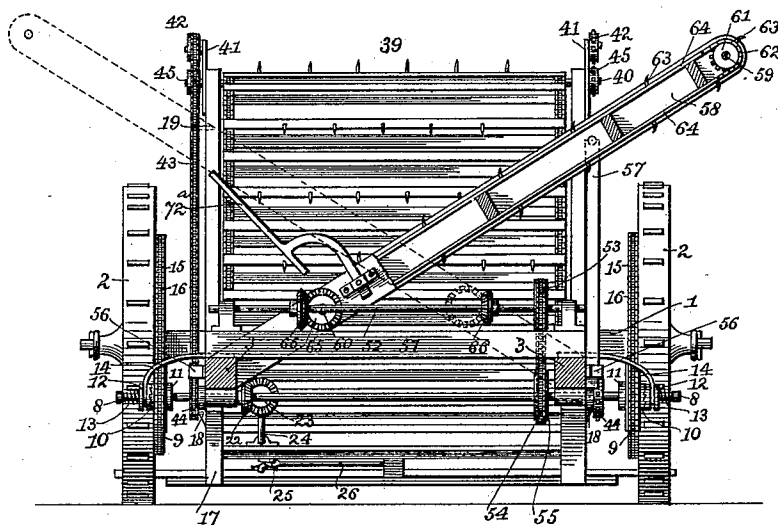


Fig. 4.



Witnesses

Chas. H. Ourand.

Inventor

Miles K. Lewis

By his Attorneys,

N. S. Gollamer.

C. A. Snow & Co.

(No Model.)

3 Sheets—Sheet 3.

M. K. LEWIS.
CORN HARVESTER.

No. 464,573.

Patented Dec. 8, 1891.

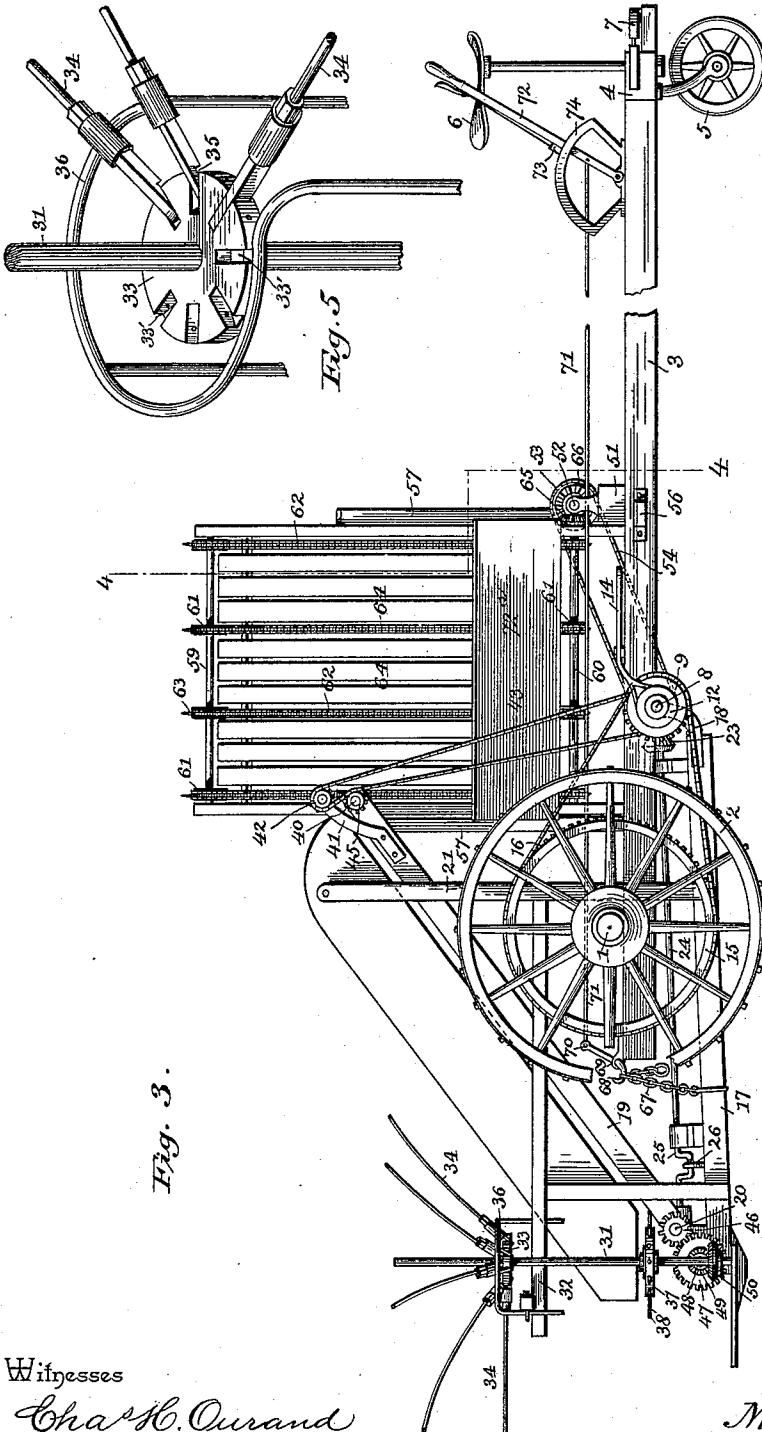


Fig. 3.

Fig. 5.

Witnesses

Chas. H. Curand

Inventor

Miles K. Lewis

By his Attorneys,

A. J. Bollinger.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

MILES K. LEWIS, OF HASTINGS, NEBRASKA.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 464,573, dated December 8, 1891.

Application filed June 9, 1891. Serial No. 395,692. (No model.)

To all whom it may concern:

Be it known that I, MILES K. LEWIS, a citizen of the United States, residing at Hastings, in the county of Adams and State of Nebraska, have invented a new and useful Corn-Harvester, of which the following is a specification.

This invention relates to corn-harvesters; and it has for its object to provide a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a plan view of a corn-harvester constructed in accordance with my invention. Fig. 2 is a front view of the same. Fig. 3 is a side elevation. Fig. 4 is a sectional rear elevation taken on the line 4 4 in Fig. 3. Fig. 5 is a perspective detail view of one of the reels and the cam for operating the arms of the same.

Like numerals of reference indicate like parts in all the figures.

1 designates the axle of the machine having the transporting-wheel 2 2, the rims of which are corrugated in the usual manner to prevent slipping. Suitably secured to the axle are the frame-bars 3 3, which are extended rearwardly, as shown. To one of said bars is hinged the gate-bar 4, to the under side of which is swiveled the caster-wheel 5, which supports the rear end of the frame. A seat 6 for the driver is supported upon the said gate-bar, to which is also attached the whiffletree 7 for the attachment of the draft. Three horses are ordinarily employed, one walking between and one on each side of the frame-bars 3 3. The middle horse may be admitted by opening the gate-bar 4, and the latter also serves to connect and re-enforce the frame-bars 3 3.

8 designates a transverse shaft, which is journaled in the frame-bars 3 a suitable distance in rear of the axle. This shaft, which I call the "main shaft" of the machine, is provided with sprocket-wheels 9 9, provided

on their outer sides with clutch members 10. The sprocket-wheels 9 are mounted loosely upon the main shaft 8 and are confined between the collars 11 and clutch members 12, which latter are feathered upon the shaft and forced in the direction of the sprocket-wheels 9 by coiled springs 13. The clutch members 12 are annularly grooved and are engaged by hand-levers 14, by means of which they may, when desired, be thrown out of engagement with the sprocket-wheels 9. By this mechanism motion is transmitted to the main shaft 8 from the transporting-wheels, which latter are provided on their inner sides with sprocket-wheels 15, connected with the sprocket-wheels 9 by means of chains 16. When the machine travels in a forward direction, the main shaft 8 will be rotated. When the machine is being backed or turned, both of the sprocket-wheels 9, or one of them, as the case may be, will slip idly over the teeth of the adjoining clutch; and when the machine is to be transported over the road or from one field to another both of the clutches may be thrown out of engagement by means of the hand-levers 14.

17 designates an auxiliary frame, which is provided at its rear end with brackets 18, mounted upon the main shaft 8 near the ends of the latter. At the front end of the frame 17 is the front elevator-frame 19, mounted pivotally upon a transverse shaft 20. The rear end of said elevator-frame is supported by uprights or brackets 21, rising from the side beams of the auxiliary frame 17, as shown.

The main shaft 8 carries a bevel-gear 22, meshing with a pinion 23 upon the rear end of a shaft 24, which is mounted in suitable bearings upon the frame 17. Shaft 24 is provided near its front end with a crank 25, which is connected by a pitman 26 with one end of a lever 27, which is pivoted at 28, and the opposite end of which is suitably connected with the transversely-reciprocating cutter-bar 29, which is mounted in the usual manner in the finger-bar 30 of the cutting apparatus. The latter, which is of ordinary construction, may be suitably mounted upon the front end of the frame 17. At each end of said cutting apparatus is stepped or journaled a vertical reel-shaft 31. Additional bearings for the

said reel-shafts may be formed in arms or brackets 32, extending forwardly from the up-
rights 21, which support the rear end of the
front elevator-frame. The reel-shafts 31 are
5 provided near their upper ends with heads 33
in recesses 33', in which are pivotally mount-
ed the radial arms 34, which are supported in
a horizontal position by means of the shoul-
ders 35 striking the bottoms of said recesses,
10 but which are capable of swinging in an up-
ward direction when the said arms come in
contact with the incline or cam-shaped tracks
36, which are suitably secured to the sides of
the brackets 32. These cam-shaped tracks
15 extend a little more than half-way around di-
rectly over the elevator-frame, and they serve
to guide the arms of the reels out of engage-
ment with the cornstalks, which, by the action
of the said reels, are forced into engagement
20 with the cutting apparatus. The reel-shafts
31 are provided near their lower ends with
drums or disks 37, having radially-extending
spikes 38, which serve to guide the lower ends
of the cornstalks into engagement with the
25 cutting apparatus and away from the ends or
corners of the same.

39 designates the front elevator or endless
carrier, which is mounted upon suitable rollers
or cylinders upon the shaft 20 at the lower
30 end of the elevator-frame, and upon a shaft
40 at the upper end of said frame. Near the
upper end of said frames are mounted brack-
ets 41, having sprocket-wheels 42, which are
connected by chains 43 with sprocket-wheels
35 44 upon the main shaft 8. The ends of the
upper elevator-shaft 40 are also provided with
sprocket-wheels 45, which are engaged by the
front sides of the chains 43, thus transmitting
motion in the proper direction to the endless
40 carrier or elevator 39. The lower elevator-
shaft 20 is provided with pinions 46, meshing
with spur-wheels 47 upon a transverse shaft
48, journaled in the sides of the frame be-
tween the lower ends of the reel-shafts and
45 the shaft 20. The said transverse shaft 48 is
provided with bevel-gears 49, meshing with
bevel-gears 50 upon the lower ends of the
reel-shafts 31, to which motion is in this man-
ner transmitted.

50 The frame-bars 3 support the cross-bar 51,
upon which a shaft 52 is mounted in suitable
bearings. Said shaft has a sprocket-wheel
53, which is connected by a chain 54 with a
sprocket-wheel 55 upon the main shaft 8,
55 from which motion is thus transmitted to the
shaft 52. The side bars 3 of the frame are
provided with sockets 56, in which are mount-
ed the uprights 57, which are interchangeable
from one side of the machine to the other. At
60 the upper ends of said uprights is pivoted an
elevator-frame 58, which is provided at its up-
per and lower ends with the shafts 59 and 60,
both of which have sprocket-wheels 61, sup-
porting the endless carrier, which is com-
posed of endless chains 62, having upwardly
65 and outwardly extending teeth or prongs 63,
projecting above the bottom boards 64 of the

elevator-frame. The lower end of the ele-
vator-frame 58 is adapted to rest upon the
sill or frame beam 3 opposite to that which
70 supports the uprights 57. The latter being
connected with the elevator-frame at a point
nearer its upper than its lower end, the said
elevator-frame will readily be supported in
position for operation. The lower shaft 60 of
75 the elevator-frame is provided with a bevel-
gear 65, which is adapted to engage either
one of the bevel-gears 66, which are mounted
upon the transverse shaft 52 near the ends of
the latter. It will be seen that by this ar-
80 rangement the elevator 58 may be readily ad-
justed, so as to discharge the corn at either
side of the machine by simply changing the
uprights 57 from one side of the frame to the
other and at the same time reversing the po-
85 sition of the elevator-frame, as will be seen
in dotted lines in Fig. 4 of the drawings.

To the front end of the auxiliary frame 17
are attached chains 67, which are connected
adjustably with hooks 68 upon the rock-shaft
90 69, which is journaled in suitable bearings at
the front ends of the sills or frame-bars 3.
The rock-shaft 69 has an upwardly-extend-
ing arm 70, which is connected by a rod 71
or other suitable connection with a hand-le-
95 ver 72 suitably pivoted to the frame of the
machine within reach of the driver, who is
thus enabled to raise or lower the front end
of the auxiliary frame carrying the cutting
apparatus, the reels, and the front elevator-
100 frame. The lever 72 is to be provided with
a spring-catch 73, engaging a rack-bar 74 for
the purpose of retaining it in any position to
which it may be adjusted.

The operation of this invention will be
105 readily understood from the foregoing de-
scription, taken in connection with the draw-
ings hereto annexed.

While the machine is principally intended
for harvesting corn, it may be used for cut-
110 ting any kind of grain that may be desired.
The machine is pushed over the field by the
horses, which are hitched at the rear end of
the frame, and the stands of corn are brought
into contact with the cutting apparatus by the
115 revolving reels. When the cornstalks are
severed, they drop upon the carrier 39 and
are carried by the latter in an upward and
rearward direction until they drop upon the
transversely-arranged carrier, the frame 58 of
120 which may be arranged to discharge the corn
at either side of the machine. An apron or
guide 72^a, suitably arranged at the lower end
of the elevator-frame 58, prevents the corn
from dropping off the transverse carrier. The
125 corn may be discharged directly upon the
ground in bunches for shocking, or it may be
discharged into a wagon, which may be driven
alongside of the harvester. When the ma-
chine is turned at the end of the field, the car-
130 rier-frame 58 is reversed, so as to discharge
the corn in an outward direction from the
standing corn.

The general construction of my improved

corn-harvester is simple and inexpensive, and the draft being attached in rear of the harvester-frame, the progress of the horses will not be impeded by the standing corn. It will be observed that the corn, as soon as cut, is carried directly in a rearward direction by the carrier 39, and not to one side, as is customary in this class of harvesters. By this arrangement the cornstalks are kept in proper shape, and width of the machine is economized.

Having thus described my invention, what I claim is—

1. In a machine of the class described, the combination of the main frame having the transverse main shaft, brackets mounted upon the latter and having the forwardly-extending auxiliary frame carrying the cutting apparatus, the front elevator-frame connected with said forwardly-extending frame by the lower elevator-shaft, the uprights upon the auxiliary frame supporting said elevator-frame, the brackets extending forwardly from said uprights, the reel-shafts journaled in said brackets and in suitable steps at the ends of the cutting apparatus, the endless carrier, and suitable mechanism for operating the latter and the reels, substantially as set forth.

2. The combination of the main frame having the transverse main shaft, the auxiliary frame mounted upon the latter and having the cutting apparatus, the front elevator-frame connected with the auxiliary frame by the lower elevator-shaft and supported by uprights rising from the auxiliary frame, the vertically-arranged reel-shafts at the ends of the cutting apparatus, means for transmitting motion from the transporting-wheels to the main shaft and from the latter to the upper elevator-shaft, and means for transmitting motion from the lower elevator-shaft to the reel-shafts, substantially as set forth.

3. In a machine of the class described, the frame having the transporting-wheels and the rearwardly-extending side bars, in combination with the gate-bar hinged at the rear end of one of said side bars and having a caster-wheel swiveled to its under side, substantially as and for the purpose described.

4. In a machine of the class described, the frame having the transporting-wheels and the rearwardly-extending side bars, in combination with the cutting apparatus and elevating or carrying mechanism supported upon said frame, a gate-bar hinged at the rear end of one of the side bars of the frame and supporting the driver's seat, a caster-wheel swiveled to the under side of said gate-bar, and

the whiffletree attached to the latter, substantially as and for the purpose set forth.

5. In a machine of the class described, the combination of the main frame mounted upon the axle having the transporting-wheels and the main shaft, the auxiliary frame mounted upon the latter, the front elevator-frame connected with said auxiliary frame, the cutting apparatus and the reels mounted upon the latter, and the transversely-arranged elevator or endless carrier mounted reversibly upon the main frame in rear of the front elevator, substantially as set forth.

6. The combination, with the main frame, the front elevator, and the cutting apparatus, of a transverse shaft having a bevel-gear near each end, means for transmitting motion to said transverse shaft from the drive-gearing of the machine, sockets secured upon the sides of the main frame, the uprights mounted removably in said sockets, the transverse elevator-frame mounted removably in the upper ends of said uprights, the shafts at the upper and lower ends of said elevator-frame supporting the endless carrier, and a bevel-gear upon the lower elevator-shaft adapted to mesh with either of the bevel-gears upon the transverse shaft in the main frame, substantially as set forth.

7. In a machine of the class described, the combination, with the main frame, of a hinged auxiliary frame carrying the cutting apparatus, the reels, and the front elevator, and the uprights supported removably and interchangeably upon the sills of the main frame and carrying the pivoted and reversible auxiliary elevator arranged transversely to the front or main elevator, substantially as and for the purpose set forth.

8. In a machine of the class described, the combination of the main frame, the auxiliary frame connected with said main frame and carrying the cutting apparatus, the reels, and the front or main elevator, the uprights mounted removably in sockets upon the sills of the main frame, the auxiliary elevator supported at the upper ends of said uprights transversely to the main elevator, and an apron or guide at the lower end of said auxiliary elevator-frame, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

MILES K. LEWIS.

Witnesses:

R. A. BATTY,
H. S. DUNGAN.