

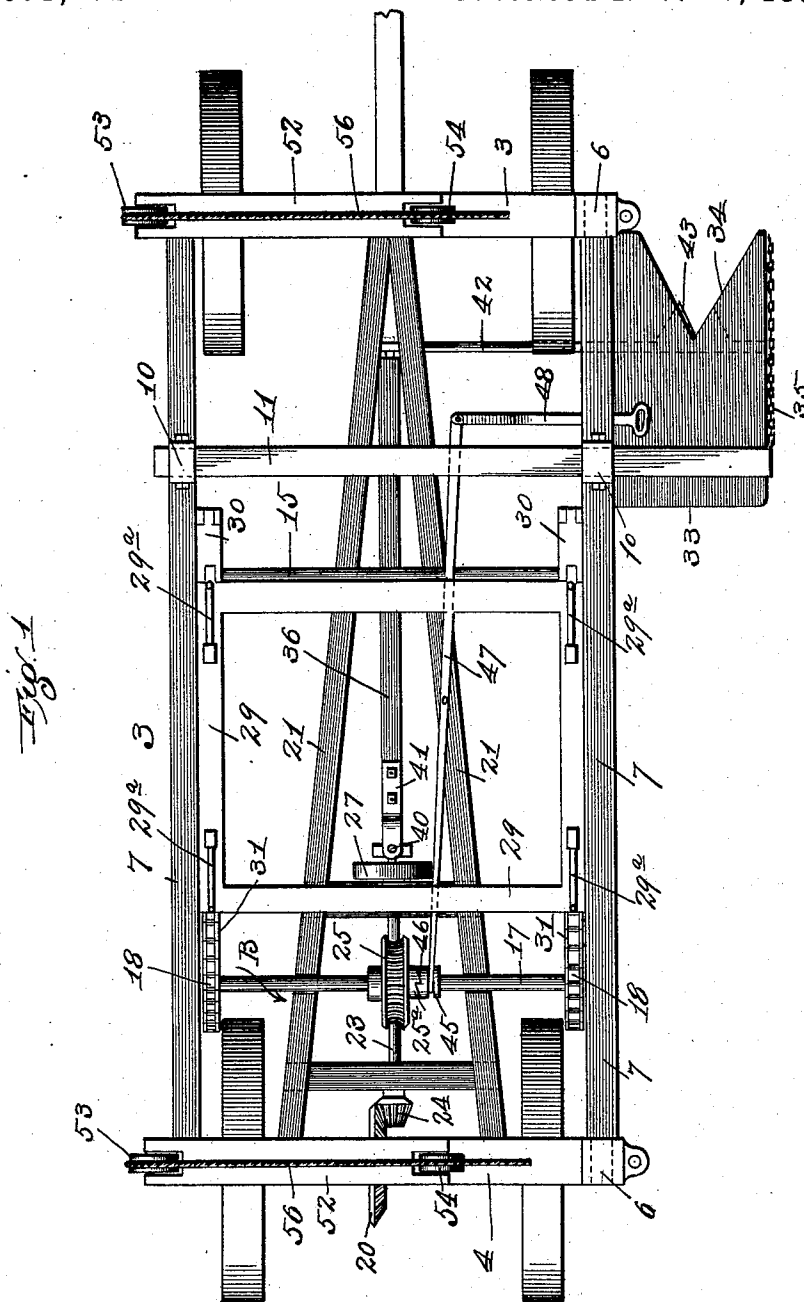
(No Model.)

3 Sheets—Sheet 1.

C. SCHULZE.
CORN HARVESTER.

No. 571,202.

Patented Nov. 10, 1896.



Attest.
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W.R. Smith.

Inventor.
Charles Schulze.
By Higdon & Higdon & Morgan
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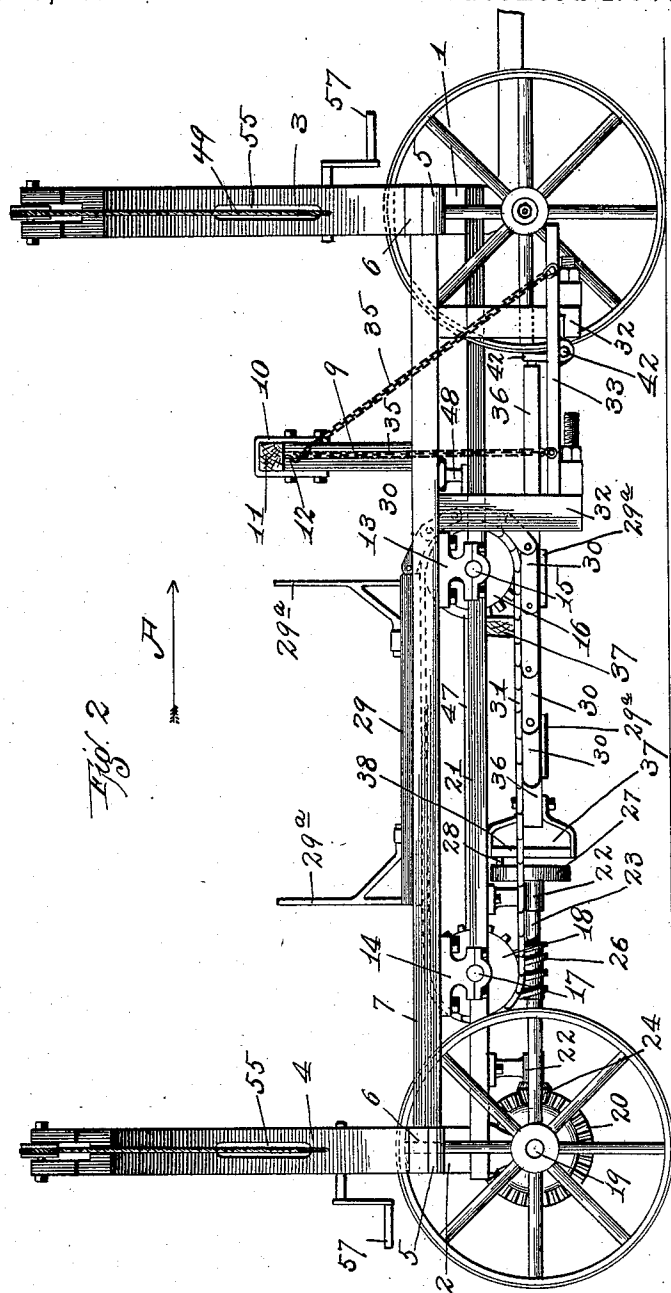
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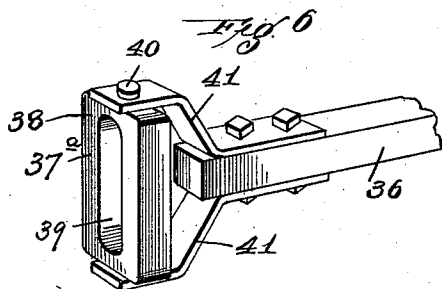
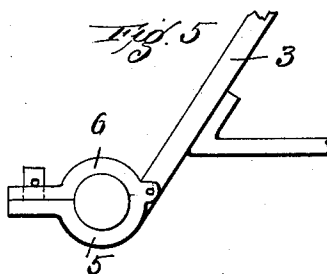
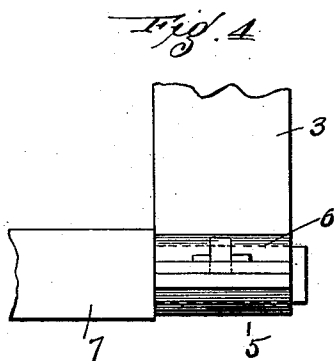
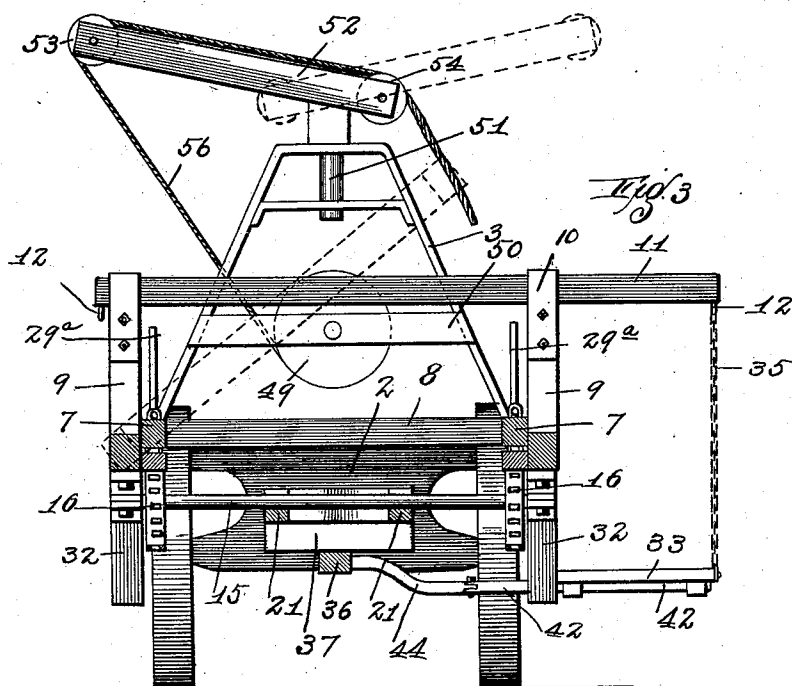
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3 Sheets—Sheet 3.

C. SCHULZE.
CORN HARVESTER.

No. 571,202.

Patented Nov. 10, 1896.



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UNITED STATES PATENT OFFICE.

CHARLES SCHULZE, OF DEER PLAIN, ILLINOIS.

CORN-HARVESTER.

SPECIFICATION forming part of Letters Patent No. 571,202, dated November 10, 1896.

Application filed July 29, 1895. Serial No. 557,433. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SCHULZE, of the city of Deer Plain, Calhoun county, State of Illinois, have invented certain new and useful Improvements in Corn-Harvesters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved corn-harvester; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of my improved corn-harvester. Fig. 2 is a side elevation of the same. Fig. 3 is a cross-sectional view taken near the center of Fig. 1 and looking toward the front. Fig. 4 is a side elevation of a bearing of which I make use in carrying out my invention. Fig. 5 is an end elevation of the bearing seen in Fig. 4. Fig. 6 is a view in perspective of a joint made use of in carrying out my invention.

Referring by numerals to the accompanying drawings, 1 indicates the front bolster of my improved corn-harvester, and 2 the rear bolster thereof. Rigidly mounted upon said bolsters are A-shaped frames 3 and 4, which extend slightly beyond the ends of the bolsters 1 and 2, and are provided at their ends with boxes 5. The caps 6 of these boxes 5 are hinged to the A-shaped frames for a purpose hereinafter to be described.

7 7 indicate longitudinally-extending bars, the ends thereof being journaled in the boxes 5. Fixed to said bars 7, a short distance from either end thereof, are transversely-extending bars 8. Framed into the longitudinally-extending bars 7 and adjacent the forward ends thereof are upright timbers 9, the same being provided at their upper ends with inverted-U-shaped straps 10. Arranged to slide transversely in the bearings formed by the upper ends of the vertical timbers 9 and inverted-U-shaped straps 10 is a transverse bar 11, the ends thereof being provided with hooks 12 on its lower side.

Depending from the under sides of the longitudinally-extending bar 7 and adjacent the vertical timber 9 is a pair of bearings 13, and depending from the bar 7 and adjacent the rear end thereof is a pair of similar bearings 14. Journaled in the bearings 13

is a transverse shaft 15, and mounted upon said shaft is a pair of sprocket-wheels 16, and journaled in the bearings 14 is a transverse shaft 17, upon which is mounted sprocket-wheels 18, that are in alinement with the sprocket-wheels 16.

Journaled in the rear bolster 2 is a transverse shaft 19, on which the rear wheels are rigidly mounted. Fixed upon this shaft and midway between the ends thereof is a beveled cog-wheel 20.

Fixed to the lower side of a frame 21, connecting the front and rear bolsters, are bearings 22, and mounted for rotation in said bearings 22 is a shaft 23, upon the rear end of which is a beveled pinion 24, that meshes with the beveled cog-wheel 20. Fixed upon the shaft 17, directly above the shaft 23, is a worm-wheel 25, the hub of which is formed with ordinary clutch-teeth 25^a, and a worm 26, fixed upon said shaft 23, engages with said worm-wheel 25.

Fixed upon the forward end of the shaft 23 is a disk 27, provided on its face with a pin 28.

29 indicates a movable carrier arranged to slide longitudinally between the bars 7. The forward end of this carrier 29 is composed of a series of links 30, and said carrier is fixed upon sprocket-chains 31, which are passed over the sprocket-wheels 16 and 18.

29^a indicates uprights which are mounted to be folded upon the carrier 29.

The carrier 29 is a rectangular frame filling but a part of the bed of the harvester. A stake or upright 29^a is located near each corner of the carrier 29, as shown in Fig. 2. The links 30 form a continuation of each of the side pieces of said carrier, thus making so much of the carrier-frame flexible. This construction is clearly shown in Fig. 2. The object is to get the front of the carrier out of the way while the rear of the carrier is being filled. When the space on the carrier 29 between the uprights 29^a (shown in an upright position in Fig. 2) is filled with corn, the said carrier is moved back, as herein described, until the upright 29^a on the middle link 30 is brought to the position previously occupied by the front upright 29^a on the rectangular frame of the carrier. The uprights 29^a, which are located on the links 30, fold down when not in use. When the carrier is moved back

with its load, the uprights 29^a on the links 30 are raised to a horizontal position, making a new space to be filled with corn. When this space is filled, the carrier is again moved backward and the uprights on the last links 30 are brought into use.

Fixed to and depending from the forward end of the bars 7 are timbers 32, and connected to said timbers is a platform 33, the same being provided with a V-shaped notch 34 in the forward end thereof. Chains or cables 35, fixed to the outer side of the platform 33 and to the hooks 12 upon the bar 11, rigidly support said platform 33.

36 indicates a bar fulcrumed at a point adjacent its center to a bar 37, depending from the lower side of the frame 21. The rear end of this bar 36 is located adjacent the disk 27 on the shaft 23, and said rear end is provided with a joint 37^a, said joint consisting of a vertically-arranged block 38, provided with a vertical slot 39, in which the pin 28 upon the disk 27 operates. The upper ends of the block 38 are provided with pins 40, journaled in straps 41, fixed to the bar 36.

Arranged to operate transversely upon the lower side of the platform 33, adjacent the notch 34, is a rod 42, the same being provided with V-shaped knives 43, that reciprocate across the rear end of the V-shaped notch 34. A link 44 connects the rod 42 with the forward end of the bar 36.

45 indicates a clutch-collar arranged to slide upon the shaft 17, and the face of said collar adjacent the hub of the wheel 25 is formed into teeth 46, which are adapted to engage in the clutch-teeth 25^a, fixed to the worm-wheel 25. A lever 47, fulcrumed upon the frame 21, engages with the clutch-collar 45 and operates to throw said clutch in or out of engagement with the clutch-teeth 25^a. Pivoted to the forward end of the lever 47 is a bar 48, having a handle formed on its outer end.

49 indicates a drum journaled in a cross-bar 50, fixed to the A-shaped frame 3. Journaled for rotation in the upper portion of the A-shaped frame 3 is a vertical shaft 51, and fixed to the upper end of said vertical shaft 51 and extending upwardly at a slight angle is an arm 52. Grooved wheels 53 and 54 are mounted in the ends of this arm 52, and passing through slots 55, formed in the sides of the frame 3, and over the grooved wheels 53 and 54 is a rope or cable 56. Crank-handles 57 are provided for rotating the drum 49.

The operation is as follows: The entire machine being moved in the direction of the arrow A, Fig. 2, the rear wheels will necessarily revolve, and the shaft 19 being fixed to said rear wheels will also be rotated, and through the beveled wheel 20 and beveled pinion 24 motion will be communicated to the shaft 23 and disk 27. Motion will also be communicated to the worm-wheel 25 through the worm 26, and the shaft 17 will be rotated in the direction as indicated by the arrow B, Fig. 1. By means of the pin 28 upon the disk 27

motion will be communicated to the bar 36 and rod 42 and knives 43. Said knives will thus be reciprocated past the rear end of the notch 34, and as the stalks of standing corn enter the notch 34 said corn will be cut by said knives 43. The operator stationed upon the platform 33 receives the cut corn and deposits the same between the uprights 29^a. When the space between said uprights 29^a has been filled, the operator so moves the bar 48 as to engage the clutch-collar 45 with the clutch-teeth 25^a, formed on the hub of the worm-wheel 25. Motion will now be communicated to the sprocket-wheel 18 and sprocket-chain 31, and as the movable carrier 29 is fixed to said sprocket-chain 31 said movable carrier will necessarily be moved rearwardly. When the carrier 29 has been moved rearwardly a sufficient distance, the operator disengages the clutch-collar 45 from the clutch-teeth 25^a, thereby stopping the motion of the carrier 29. The uprights 29^a, which have been previously folded upon the carrier, are now raised to an upright position, and thus new space is formed for the reception of the cut corn.

The operations just described are repeated until the carrier has reached its rearward limit of movement. After the desired load has been placed upon the rack it may be dumped upon the opposite side of the rack from the side to which the platform is attached, or the load may be hauled out of the field or to a dumping ground, and then it may be dumped from either side of the rack as is most convenient. The caps 6 of the boxes 5 upon the side of the machine opposite the side from which the load is to be dumped are now swung upwardly, the ends of the ropes or cables 56 are attached at suitable points at each end of one of the bars 7, and by manipulating said windlass the operator raises the frame comprising the bars 7 and transverse bars 8 into the position, as shown by dotted lines in Fig. 3, thereby allowing the corn to slide out of the movable carrier and leaving said carrier clear. The uprights 29^a are now folded upon the carrier 29 and said carrier is moved to its normal position, and the operations just described may be repeated.

I claim—

1. In a corn-harvester, A-shaped frames, cross-bars carried by said A-shaped frames, means of supporting said frames, U-bearings at the lower ends of said frames, caps for closing said U-bearings, longitudinally-extending bars journaled in said U-bearings and connecting said frames, connections between said longitudinal bars, drums journaled in the cross-bars of each of said A-shaped frames, a vertical shaft journaled for rotation in the upper part of each of said A-shaped frames, arms extending upwardly at an angle from each of said shafts, grooved wheels mounted in the ends of said arms, cables attached to said drums and passing over said grooved wheels and having their

opposite ends attached to either one of said longitudinally-extending bars as desired, and crank-handles for rotating said drums, substantially as specified.

5 2. In a corn-harvester, an intermittently-movable reciprocating carrier, comprising a rectangular frame and a flexible extension attached to said rectangular frame for the purpose of increasing the size thereof, up-
10 rights on said frame, uprights on said flexible extension, and folding transversely thereof, wheels around which said flexible extension operates, and means of supporting and oper-
ating said carrier, substantially as specified.

15 3. In a corn-harvester, an intermittently-movable reciprocating carrier, comprising a rectangular frame and a flexible extension attached to said rectangular frame for the purpose of increasing the size thereof, up-

rights on said frame, uprights on said flexi- 20
ble extension, and folding transversely there-
of, wheels around which said flexible exten-
sion operates, sprocket-chains attached to
said carrier, sprocket-wheels operating said
chain, a worm-wheel operating said sprocket- 25
wheels, a hand-operated clutch between said
worm-wheel and said sprocket-wheels, a worm
operating said worm-wheel, and connections
between said worm and the driving-wheels,
whereby said worm is operated, substantially 30
as specified.

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

CHARLES SCHULZE.

Witnesses:

E. E. LONGAN,
MAUD GRIFFIN.