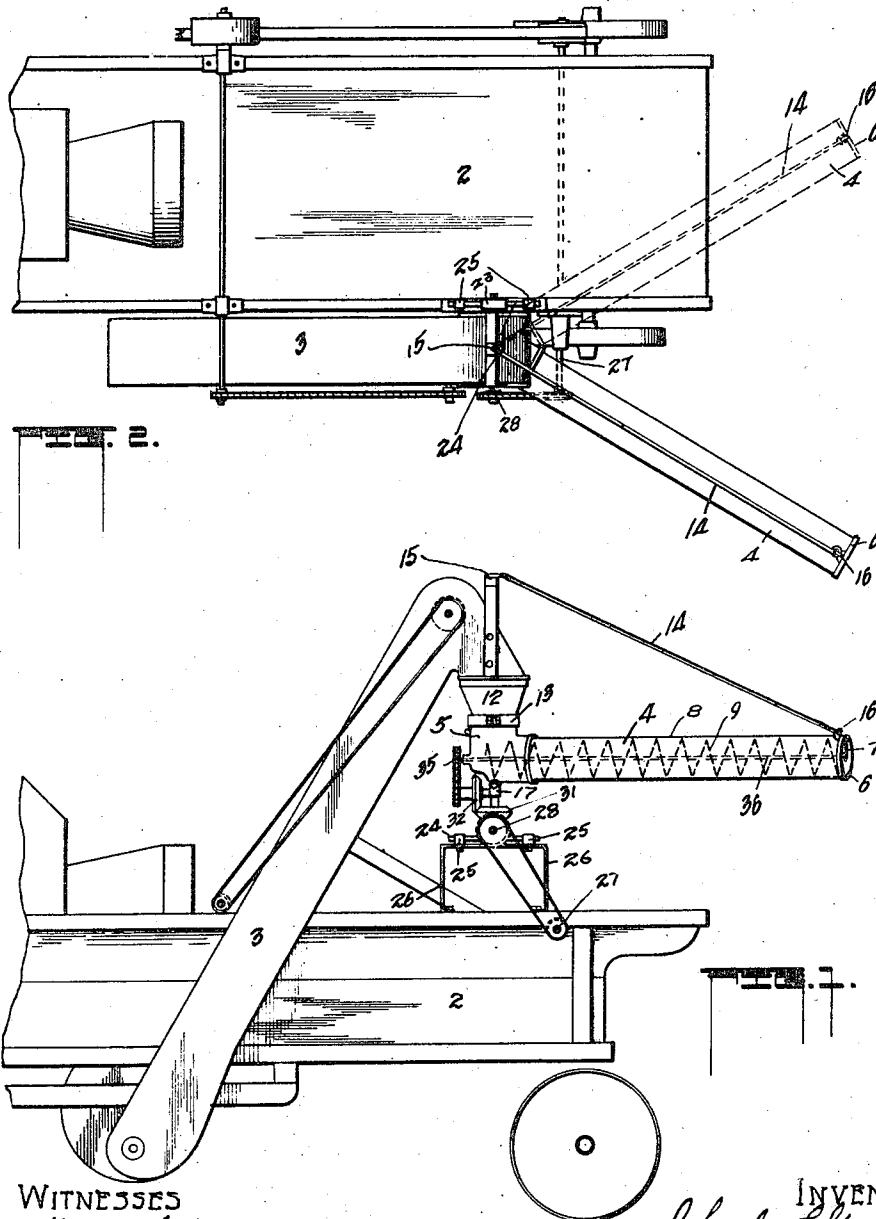


C. L. GARDNER.
SWINGING CONVEYER.
APPLICATION FILED OCT. 24, 1910.

1,052,579.

Patented Feb. 11, 1913.
2 SHEETS—SHEET 1.



WITNESSES
Wm. A. ...
W. A. ...

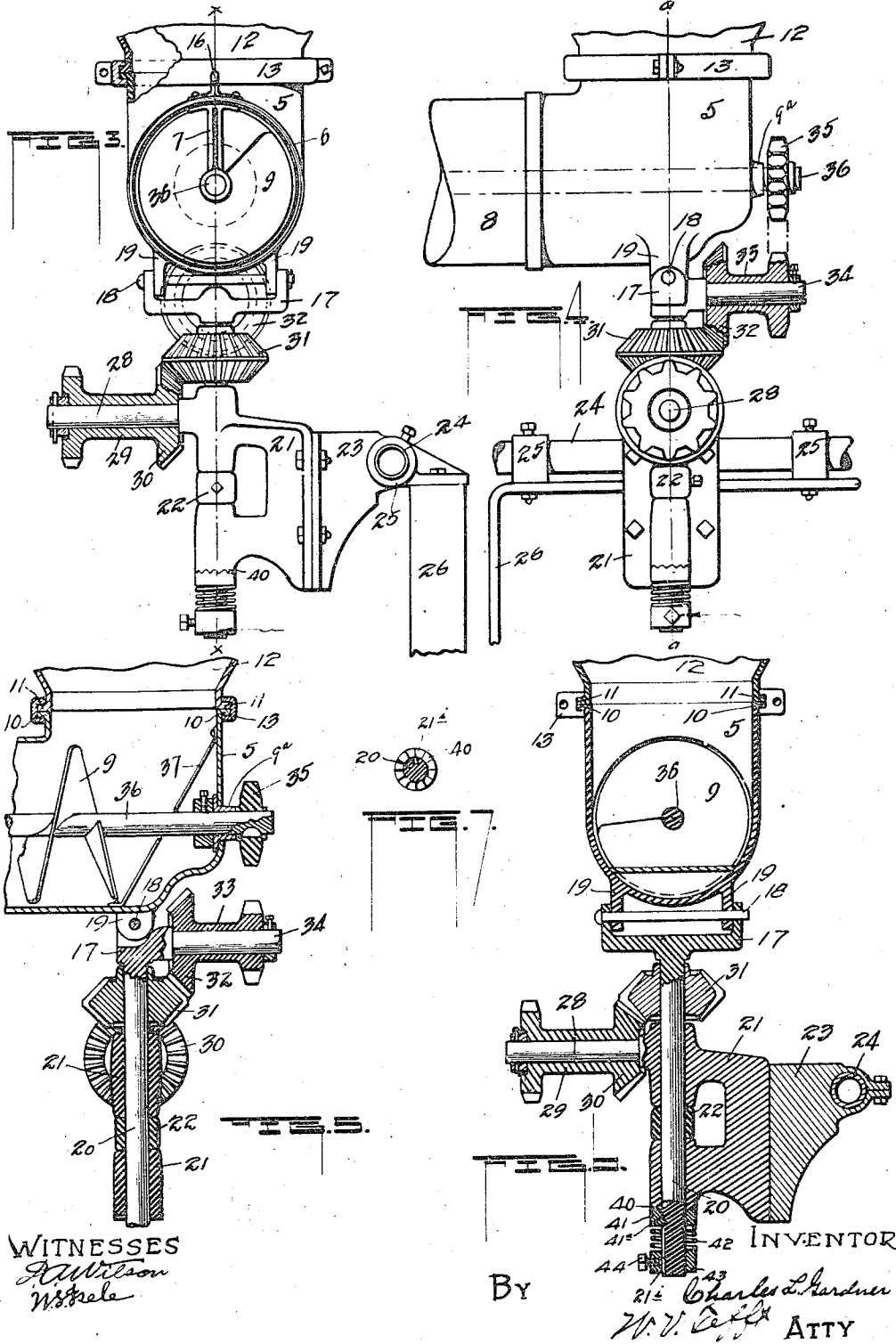
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UNITED STATES PATENT OFFICE.

CHARLES L. GARDNER, OF PEORIA, ILLINOIS.

SWINGING CONVEYER.

1,052,579.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed October 24, 1910. Serial No. 538,768.

To all whom it may concern:

Be it known that I, CHARLES L. GARDNER, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Swinging Conveyers, of which the following is a specification.

My invention relates to swinging conveyers for corn shellers and the like.

My invention relates particularly to means applied to corn shellers and the like adapted to receive the discharge of grain from an elevator portion and to transmit to a waiting receptacle.

The object of the invention is to provide a conveying means that may be swung from its connecting point with the elevator to any position with reference to the sides or end of the sheller or like machine and be fixed in certain defined positions, with a view of accomplishing by simple and effective means ready and quick manipulation to reach and deliver grain to the waiting receptacles.

My invention comprises a conveyer section supported at its receiving end in a connected turnable relation with an elevator portion of means for fixing it in different positions, means for supporting it in the proper relation to be turned and means for driving conveyer mechanism therein.

Referring to the drawings, Figure 1 is a side elevation showing my device applied; Fig. 2 is a top view showing the application of my device; Fig. 3 is an end view of my device and connecting and driving parts therebetween and its support in connection with the sheller body, a portion of some of the parts being broken away to show particular construction and manner of support; Fig. 4 shows a portion of my device in side elevation, a portion being shown in section, or broken away; Fig. 5 is a vertical section on the line $x-x$ of Fig. 3; Fig. 6 is a vertical section on the line $a-a$ of Fig. 4; and Fig. 7 is a sectional view of a shaft, showing clutch teeth on a sleeve thereon.

Referring to the drawings, 2 indicates a sheller body, 3 the housing of the ordinary sheller elevator and 4 refers generally to a swinging conveyer comprising receiving end sections and tubular section 8.

6 is a ring on the outer end of section 8.

9 is an angle supported at the receiving end of the conveyer in boxing 9^a supported in an opening in the rear wall of section 5, and at its delivery end in a suitable opening

in stud 7. The receiving end section 5 is provided at its upper portion with a flange 10 and is adapted to match with a corresponding flange 11 on a hopper 12 which hopper at its upper end is permanently connected with the discharge end of elevator 3.

13 is a sectional clamping ring formed with an interior groove adapted to embrace flanges 10 and 11 respectively of the end section 5 and the hopper 12 (best shown in Figs. 5 and 6) to connect the conveyer to the hopper in a relatively turnable relation. The outer end of the conveyer is supported from above by means of rod 14, its upper end turned downwardly and being seated in a socket 15, its forward end engaging a hook 16. The conveyer is supported from below upon a bracket 17 carrying a pin 18, which engages the depending lugs 19 on the section 5 of the conveyer and in a relation to allow the conveyer section to be raised or lowered. Bracket 17 is supported upon the upper end of stud shaft 20 which connects with said bracket integrally or otherwise as may be desired and the stud shaft is supported in bracket 21 by means of block 22 fixed upon said shaft, thus providing a turnable relation between said bracket and shaft. Bracket 21 is connected with bracket 23 by means of bolts as shown and bracket 23 is supported upon pipe frame 24 and fixed thereon by means of set screws as best shown in Figs. 3 and 4. The pipe frame 24 is supported and fixed to blocks 25 by means of set screws, and the block to frame 26 which connects with the deck of the sheller.

From the connections above described between the corn sheller elevator 3, the conveyer 4 and the sheller body 2, it is obvious that the conveyer is supported in a relation to permit vertical movement of its outer end, such vertical movement in a slight degree being desirable, also it will permit the conveyer to be turned from side to side without changing the relative position of the receiving end of the conveyer and the elevator or the hopper portion thereof.

I have provided means for fixing the elevator in any position desired. The means consists in providing a spline 21^a on the lower end of stud shaft 20 and forming the lower portion of bracket 21 with ratchet face as 40 (see Fig. 3) also providing a vertically movable block as 41 provided with a feather 41^a for engaging the spline 21^a

on the shaft and provided with an upper ratchet face.

43 is a block adapted to be adjustably secured by means of set screw 44 to stud shaft 20 and 42 is a coil spring adapted to be interposed between blocks 41 and 43. It will be seen that by releasing block 43, block 41 will then be free to move downwardly so that its ratchet face will disengage the ratchet face 40 of bracket 21, at which time the elevator may be swung into any desired position, then by renewing the engaging of the ratchet faces of bracket 21 and block 41 and fixing block 43 in position to exert, through spring 42, a compression force upon said block 41, the elevator will be fixed in position.

In providing means for driving the auger 9, it is necessary that the means shall be so devised and arranged that it will not interfere with the turning from side to side of the conveyer, and to accomplish this driving of the auger and at the same time obviate any interference with the turning of the conveyer, I have provided special forms and connections of parts that are essential to such accomplishment. In carrying out this object, I have provided means for driving the auger from a driven shaft 27 and connecting it by suitable belt or chain and sprocket or belt wheels, with sleeve 29 on stud shaft 28, as shown in Figs. 3 and 4, the sleeve being provided with a sprocket formation on the outer end thereof and the inner end thereof being provided with a bevel gear 30. The stud shaft being fixed in bracket 21, is held in a fixed and determined position.

31 is a double bevel gear loose on shaft 20, the lower gear section thereof meshing with bevel gear 30 and the upper gear portion thereof meshing with a bevel gear 32 on sleeve 33 supported to turn on stud shaft 34, fixed to bracket 17. Sleeve 34 is also provided with a sprocket formation thereon, which sprocket is connected with a sprocket wheel 35 fixed upon auger shaft 36, by means of a suitable sprocket chain.

37 is a deflector partition placed at an angle in the receiving end of the conveyer and is designed to deflect the grain toward the auger and at the same time keep the grain away from the connections between the auger shaft and the conveyer wall.

Normally, the conveyer will be disposed in a horizontal position and it is necessary only to adjust the outer end vertically to obviate any binding of the swivel joint connection between hopper 12 and the conveyer.

In operation the swinging conveyer is pivotally supported by suitable bracket supports connected with the deck of the sheller in a manner permitting it to be swung from side to side to reach and deliver to waiting

receptacles at either side of the sheller. The receiving end of the cross conveyer is adapted to have a swivel connection with the discharge spout or hopper as herein designated. The auger 9 is supported within the cross conveyer 4 and is driven through suitable gear connections from a driven part of the sheller. The driving connection is such as to permit the swinging conveyer to be turned freely without interfering with the driving of the auger.

My invention may be embodied in different mechanical operative forms without departing from the principle thereof.

What I claim is:

1. The combination with a swinging conveyer and a drive shaft therein, of a support for the conveyer and driving connection for the auger, the support comprising a spindle pivoted to the conveyer and depending therefrom, and a sleeved bracket supporting said spindle, the driving connection comprising a composite sprocket and bevel gear supported in connection with the bracket support for the spindle, and adapted to be driven through the sprocket, a composite sprocket and gear suitably supported in connection with the spindle, a sprocket wheel on the auger shaft connected to be driven from the sprocket of the last named composite sprocket and gear, and a double bevel gear loose upon the spindle and meshing respectively with the bevel gears of each of the composite sprockets and gears.

2. The combination with a swinging conveyer and a drive shaft therein, of a support for the conveyer and driving connection for the auger, the support comprising a spindle connected with the conveyer and depending therefrom and provided with a laterally extending stub shaft, a sleeved bracket on said spindle provided with a laterally extending stub shaft, and a block set upon said spindle for abutment with the bracket, the driving connection for the auger comprising a composite sprocket and bevel gear upon the stub shaft on the spindle bracket and adapted to be driven through said sprocket, a composite sprocket and gear upon the stub shaft on the spindle, a sprocket wheel on the auger shaft connected to be driven from the sprocket on the last named composite sprocket and gear and a double bevel gear loose on the spindle and meshing respectively with the bevel gears on each of the composite sprockets and gears.

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

CHARLES L. GARDNER.

Witnesses:

MARY E. COMEGYS,
W. V. TEFIT.