No. 688,806. Patented Dec. 10, 1901.

E. C. YOUNG.

GRAIN CONVEYER FOR SEPARATORS.

(Application filed May 27, 1901.)

(No Model.)

Fig. 1.

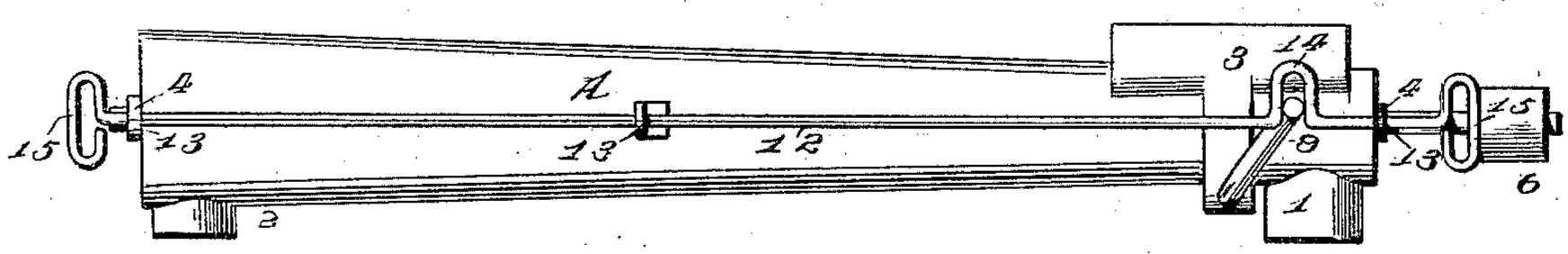


Fig. 2.

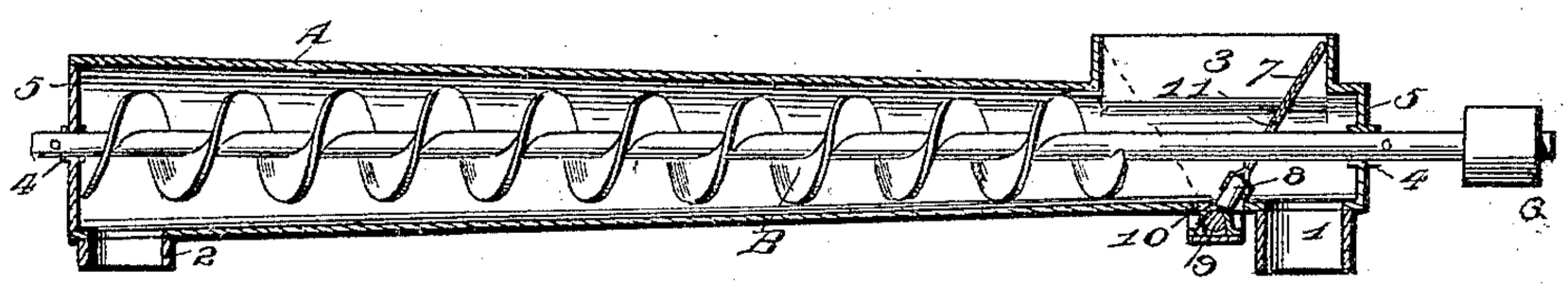


Fig. 3.

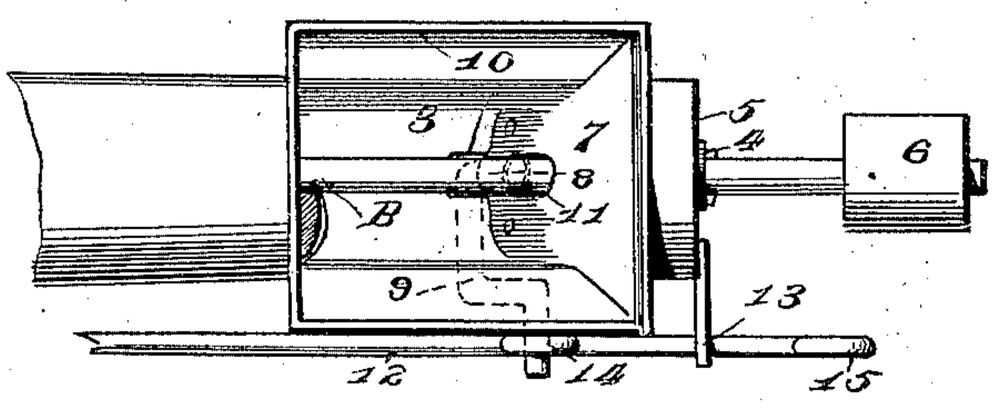
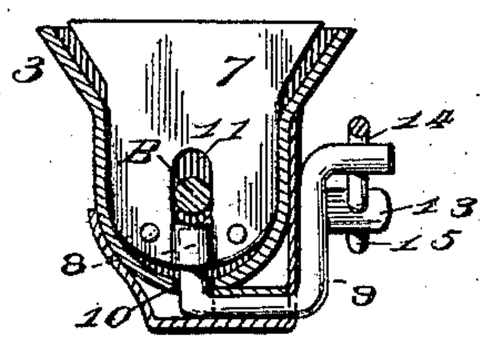


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

ELMER C. YOUNG, OF PEORIA, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM T. EATON, OF CHICAGO, ILLINOIS.

GRAIN-CONVEYER FOR SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 688,806, dated December 10, 1901.

Application filed May 27, 1901. Serial No. 62,107. (No model.)

To all whom it may concern:

Be it known that I, ELMER C. YOUNG, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented a new and useful Improvement in Grain-Conveyers for Separators, of which the following is a specification.

My invention relates to an improvement in grain-conveyers for separators, and more particularly to the screw-conveyer type, the object being to provide an attachment which is simple in construction, easily controlled, and effectual in operation; and it comprises in the main two features—to wit, a conveyer or tube having a hopper at one end in which to receive the grain, the tube gradually increasing in diameter from the hopper to the other end, in connection with a screw of the same size throughout its length and having bearings at its opposite ends in the conveyer.

It further consists in a deflecting-plate pivoted centrally in the bottom of the hopper and conforming in shape to the sides of the hopper, so that it may be swung forward or backward to deflect the incoming grain in one direction or the other, and means for swinging the deflecting-plate from one end of the conveyer or the other.

It further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved conveyer. Fig. 2 is a longitudinal sectional view. Fig. 3 is a plan view of the hopper portion, and Fig. 4 is a transverse section through the crank and showing the deflector-plate in elevation.

A represents the conveyer-spout, provided with outlets 1 and 2 at its opposite ends for the discharge of grain. A hopper 3 is located at the upper end, in which to receive the grain, and from this hopper the spout gradually increases in size to the discharge end in order to prevent the grain from choking it as it travels from the hopper to the discharge 2. Screw conveyer B extends the length of the spout and revolves in bearings 4 4, formed in the ends 5 5 of the spout, and it is driven by a belt on the pulley 6. The screw portion is cylindrical, so that it does not fit the spout throughout its length, thus reducing friction to a minimum and at the same time avoiding the choking incident to the constant flow of grain through a perfectly cylindrical spout. A deflecting-plate 7 for directing the flow of grain is secured at its lower end to an end 8 of the crank 9, which projects up through a slot 10 in the bottom of the hopper portion of the spout made to receive it. The plate has an elongated slot 11, through which the shaft of the conveyer passes, its length being sufficient to permit the plate to be swung back and forth. This plate is thrown in one direction or the other by means of the rod 12, which is supported in brackets 13 13 at one side of the conveyer. This rod is provided with a loop 14, which receives the crank 9, and it preferably has a handle 15 15 at each end, by means of which it is grasped by the operator stationed at either end, who pulls or pushes it to shift the deflector-plate to the position desired to direct the grain down the spout to the outlet 2 or in the other direction to the outlet 1 into a bag or where it may be desired.

It will be observed that the deflector-plate fits the interior of the hopper and that it swings from its center of oscillation at the bottom of the hopper to the extreme ends of the hopper at its upper end, thus practically throwing open the entire capacity of the hopper to the ingress of grain whichever way the plate is thrown. At the same time it feeds the grain gradually by reason of the grain striking the inclining surface of the plate and gradually sliding therefrom, the plate feeding the grain directly to outlet 1 when in one of its positions and directly to the conveyer-screw when in the other position. It will be understood that the conveyer-screw continues to rotate regardless of the position of this plate, as it never reverses, and there is no necessity for stopping it when the grain is disharged through outlet 1.

It is evident that slight changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not desire to limit myself to the exact construction herein set forth; but,

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

1. In a conveyer the combination with a spout having a hopper at one end and gradually increasing in diameter from the hopper to its extreme end, of a cylindrical conveyer journaled in the ends of the conveyer-spout.

2. In a conveyer, the combination with a spout larger at one end than at the other and having a hopper at the smaller end, of a cylindrical conveyer, revolubly supported in the spout.

3. The combination with a spout having a hopper at one end and provided with two outlets for the grain, of a conveyer-screw, and a deflector-plate pivoted in the hopper and adapted to deflect the grain in one direction or the other according to its position in the hopper.

4. The combination with a spout having a hopper formed therein, and a conveyer-screw adapted to turn therein, said spout having two outlets, of a deflector-plate pivoted at its lower end at the center of the hopper and fitted at its edges substantially to the sides of the hopper, and means outside of the conveyer for shifting the plate.

5. The combination with a spout having a hopper therein, of a screw conveyer, and a deflector-plate pivoted in the hopper and adapted to deflect the grain in one direction or the other, and means for swinging this deflecting-plate.

6. The combination with a spout and hopper therein, of a conveyer-screw, a deflector-plate pivoted in the hopper for deflecting grain one way or the other, a crank pivotally supported, projecting up through a slot in the bottom of the hopper to which the plate is secured, and a rod having a loose connection with the crank, said rod provided with a handle at each end, either of which may be grasped to shift the deflecting-plate.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ELMER C. YOUNG.

Witnesses:
JAS. A. THOMPSON,
THOS. F. CARROLL.