No. 812,319. PATENTED FEB. 13, 1906.

G. I. ZIEMS.

CONVEYER.

APPLICATION FILED OCT. 18, 1905.

2 SHEETS—SHEET 1.

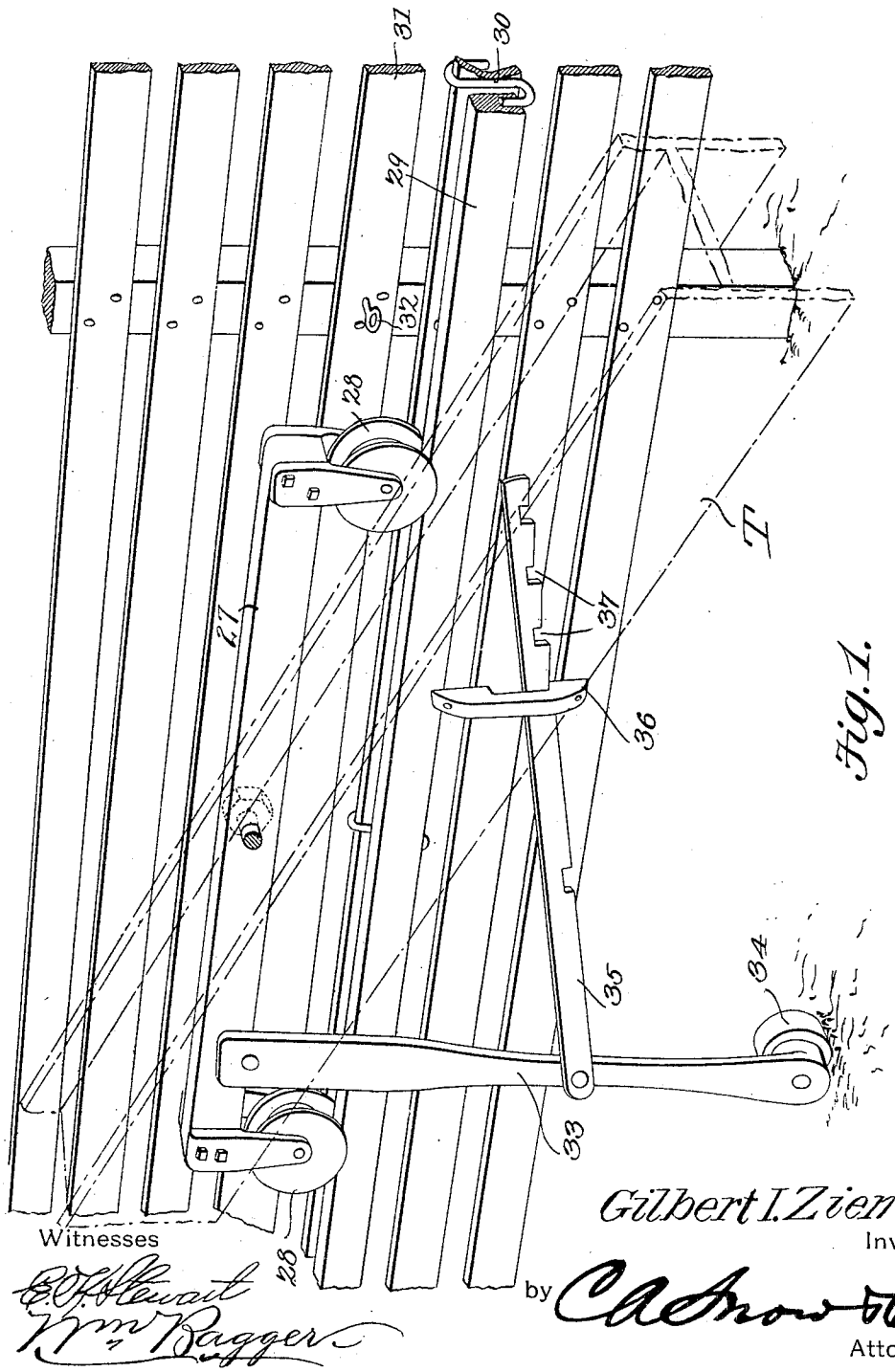

Fig. 1.

Witnesses

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2 SHEETS—SHEET 2.

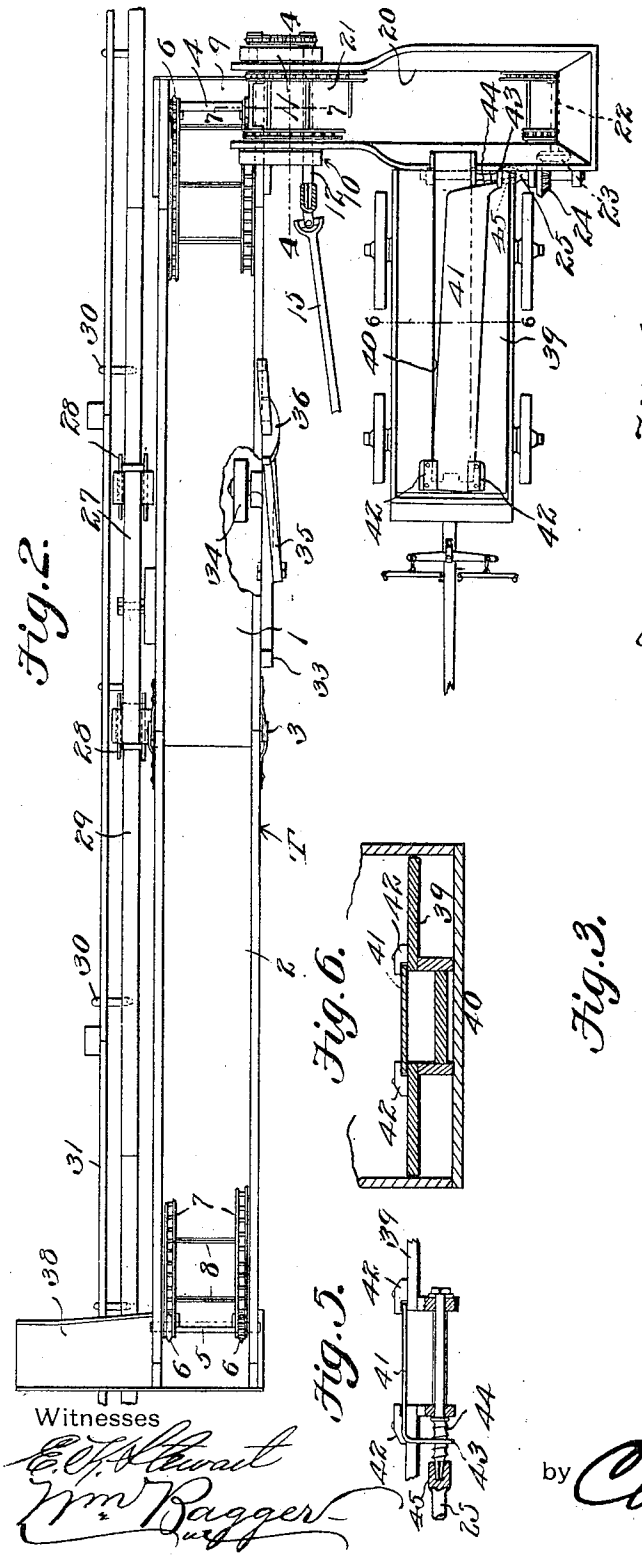

Fig. 2.

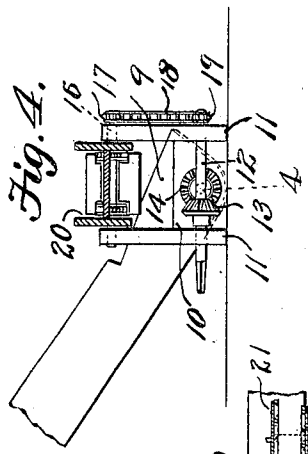

Fig. 4.

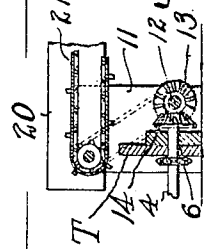

Fig. 7.

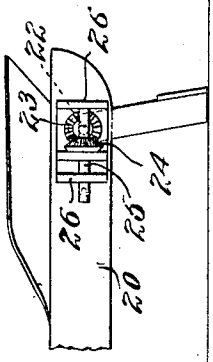

Fig. 3.

Fig. 6.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

GILBERT I. ZIEMS, OF GLENAVON, ILLINOIS.

CONVEYER.

No. 812,319. Specification of Letters Patent. Patented Feb 13, 1906.

Application filed October 18, 1905. Serial No. 283,295.

To all whom it may concern:

Be it known that I, GILBERT I. ZIEMS, a citizen of the United States, residing at Glenavon, in the county of McLean and State of Illinois, have invented a new and useful Conveyer, of which the following is a specification.

This invention relates to conveyers, and especially to that class of conveyers which are used for elevating and conveying grain, corn, and the like from wagons and into bins or storage places, the material to be handled being carried to and dumped into the conveyer by wagon-loads; and the invention has among its objects to improve and simplify the construction and operation of this class of devices and to facilitate the handling and manipulation thereof, especially as regards the moving of the device from one place to another alongside of a crib or bin.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations, and modifications within the scope of the invention may be made when desired.

In the drawings, Figure 1 is a perspective view illustrating a portion of a bin or crib and showing the supporting means of the conveyer, the trough of the conveyer being indicated in broken lines. Fig. 2 is a plan view showing the invention applied in operative position, parts having been broken away for the purpose of showing subjacent parts. Fig. 3 is a detail side elevation of a portion of the receiving-chute. Fig. 4 is a transverse sectional view taken on the plane indicated by the line 4 4 in Fig. 2. Fig. 5 is a detail view of the operating means for the slide used in connection with the chute in the bottom of a wagon operating in connection with the device. Fig. 6 is a sectional detail view taken on the plane indicated by the line 6 6 in Fig. 2 of the drawings. Fig. 7 is a sectional detail view taken on the plane indicated by the line 7 7 in Fig. 2.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

In carrying this invention into practical operation there is provided a conveyer-trough T, which is preferably composed of a plurality of sections hingedly connected in order that they may be folded together into small compass for the purpose of moving or storing the device. Two such sections 1 2 have been shown in Fig. 2 of the drawings, 1 being the lower and 2 the upper section, while 3 designates the connecting-hinge. Near the lower and upper ends of the conveyer-trough are shafts 4 and 5, supported for rotation and equipped with sprocket-wheels 6 for the conveyer-chains 7, which are connected at intervals by cross-bars 8, which in their upward flight engage the bottom of the conveyer-trough in the usual well-known manner for the purpose of elevating material which is dumped into the hopper 9 at the lower end of the trough.

Pivotally mounted upon an extended end of the shaft 4 at the lower end of the conveyer is a frame 10, having side members 11, constituting brackets, the lower ends of which afford bearings for a transverse shaft 12, carrying a bevel-pinion 13, meshing with a bevel-pinion 14 upon the protruding end of the shaft 4. The shaft 12 is driven, as by means of a tumbling-rod 15, from any convenient source of power. The upper ends of the brackets 11 afford bearings for a shaft 16, one end of which has a sprocket-wheel 17 connected by a chain 18 with a sprocket-wheel 19 upon the shaft 12, from which motion is thus transmitted to the shaft 16. The latter shaft pivotally supports a trough or chute 20, into which the material that is to be elevated is dumped and which serves to deliver said material into the hopper 9. The trough or chute 20 contains an endless carrier 21, one end of which is supported upon the shaft 16 and the other end of which is similarly supported upon a shaft 22 near the outer end of the chute, said endless carrier being preferably driven by the means herein described for conveying motion to the shaft 16. The shaft 16 has been shown as provided at one end with a bevel-gear 23, meshing with a bevel-gear 24 upon a shaft 25, which is journaled in brackets 26 upon the side of the trough. The main body of the conveyer is to be supported in position for operation by means including a bar 27, pivotally supported upon one side of one of the sections of the main conveyer-

trough, said bar carrying at the ends thereof flanged wheels or rollers 28, suitably supported for rotation. These rollers are adapted to travel upon a track-bar 29, provided at intervals with supporting-hooks 30, whereby it may be detachably supported upon one of the planks 31 which constitute the side of the crib or bin and which are usually spaced apart, as clearly shown in Fig. 1 of the drawings. When the planks constituting the wall of the bin are not spaced apart, supporting means, such as screw-eyes, may be provided to be engaged by the hooks 30, such an eye having been indicated at 32 in Fig. 1 of the drawings.

While the conveying-trough is supported at its inner side in the manner and by the means described, the outer portion of said trough is provided with an arm or lever 33, pivotally connected therewith and having at its free end a ground-engaging wheel or roller 34. Pivotally connected with the wheel-carrying arm 33 is an adjusting-lever 35, that extends through a cleat 36 upon the outer side of the conveyer-trough and is provided with a plurality of notches 37, adapted to engage said cleat for the purpose of retaining the wheel-carrying arm in various positions to which it may be adjusted. It will be readily seen that by this simple mechanism the conveyer-trough, with its related parts, may be supported movably with relation to the crib or bin that is to be filled, the wheel-carrying arm being adjusted to and secured in a position where the wheel 34 shall engage the ground and at the same time preserve the trough of the conveyer in an approximately horizontal position.

The upper end of the conveyer-trough is preferably provided with a laterally-extending chute, as 38, for the purpose of discharging material into the crib or bin upon which the device is temporarily supported for operation.

In connection with the wagons that are used for carrying grain or other material to the improved conveying device there is used a detachable bottom member 39, having a longitudinal trough 40, which is normally covered by a slide 41, the forward end of which engages a pair of retaining-cleats 42 near the front end of the bottom member, and the troughed portion of the bottom member being extended beyond the tail-gate of the wagon-body in which it is placed, so as to be capable of reaching over the edge of the trough 20 when the wagon is in discharging position adjacent to said trough, into which position it may be conveniently driven by temporarily raising or elevating the free end of the trough. The slide 41 is provided with a downturned bifurcated lug 43, engaging a worm 44, which is journaled in brackets projecting from the bottom member 39 and which is adapted to be connected, as by a socket member or sleeve 45, with the driven shaft 25, whereby it will be operated for the purpose of gradually opening the slide 41, so as to permit of the gradual escape of the contents of the wagon-box, which latter need only be slightly tilted to cause said contents to pass into the trough or chute 20, whence it is conveyed to the hopper 9 of the main conveyer to be thereby elevated and eventually discharged into the bin or crib. The member 39 is detachable and may be readily transferred from one wagon-box to another, provided that such wagon-boxes are of the same dimensions.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood by those skilled in the art to which it appertains. The construction of the improved device is very simple. It may be easily operated, and it is very efficient for the purposes for which it is intended.

Having thus described the invention, what is claimed is—

1. A foldable casing, an endless carrier in said casing, shafts supporting the endless carrier, a frame pivoted upon a protruding end of the lower shaft, a driven shaft journaled in the frame, intermeshing bevel-gears upon the driven shaft and the protruding end of the carrier-shaft, an auxiliary shaft journaled in the pivoted frame, a carrier-trough hinged upon said shaft, an endless carrier in the trough supported at one end upon the auxiliary shaft, and means for transmitting motion from the latter to the driven shaft.

2. In a device of the class described, a casing, and a bar pivotally connected with one side of said casing and provided at the ends thereof with track-engaging rollers in combination with an arm pivoted upon the opposite side of the casing, and a ground-engaging wheel at the free end of said arm.

3. In a device of the class described, a casing, a bar pivoted upon one side thereof, track-engaging rollers supported by said bar at opposite sides of the fulcrum of the latter, and a movable supporting-track in combination with an arm pivoted upon the opposite side of the casing and a ground-engaging wheel at the free end of said arm.

4. A casing, rotary track-engaging means connected with one side of the casing, an arm connected pivotally with the other side of the casing, and a ground-engaging wheel at the free end of said arm.

5. A casing, rotary track-engaging means connected with one side thereof, a wheel-carrying arm connected pivotally with the other side of the casing, and means for adjusting said arm and for retaining it at various adjustments.

6. A casing, rotary track-engaging means connected with one side thereof, a wheel-carrying arm pivoted upon the other side of the

casing, a notched lever connected pivotally with said arm, and a cleat upon the casing confining said lever and adapted to engage the notches therein.

7. A portable elevator-casing provided upon one side with rotary track-engaging means and upon the other side with rotary ground-engaging means.

8. A portable elevator-casing, rotary track-engaging means connected with one side of the casing, rotary ground-engaging means connected adjustably with the other side of the casing, and a movable track provided with means whereby it may be supported in operative position.

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

GILBERT I. ZIEMS.

Witnesses:
OTTO ZIEMS,
NINETTA MCMURRAY.