

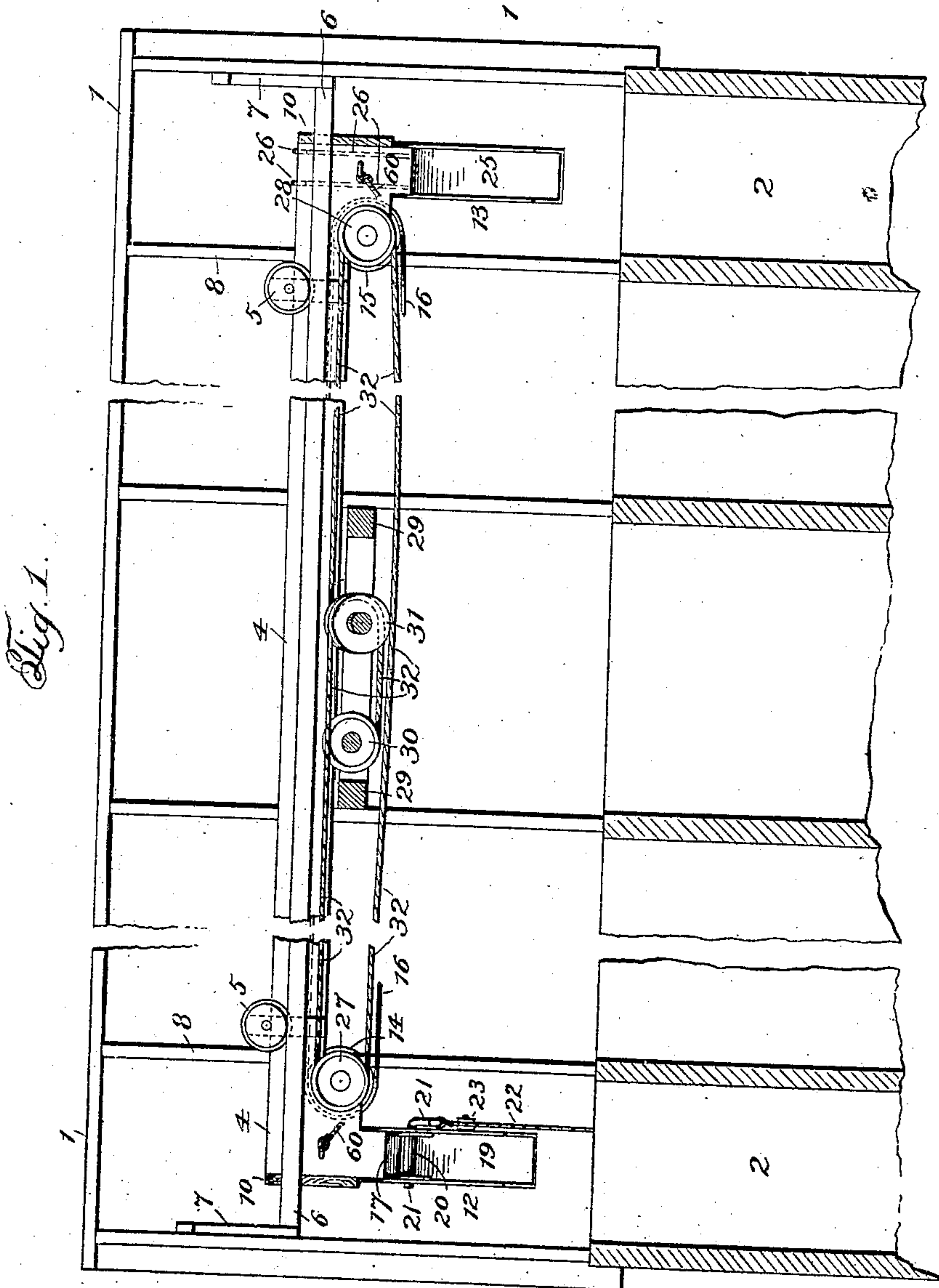
No. 883,801.

PATENTED APR. 7, 1908.

H. P. HARPSTRITE.
GRAIN DISTRIBUTING APPARATUS.

APPLICATION FILED JULY 6, 1906.

3 SHEETS—SHEET 1.



Witnesses:

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Inventor:

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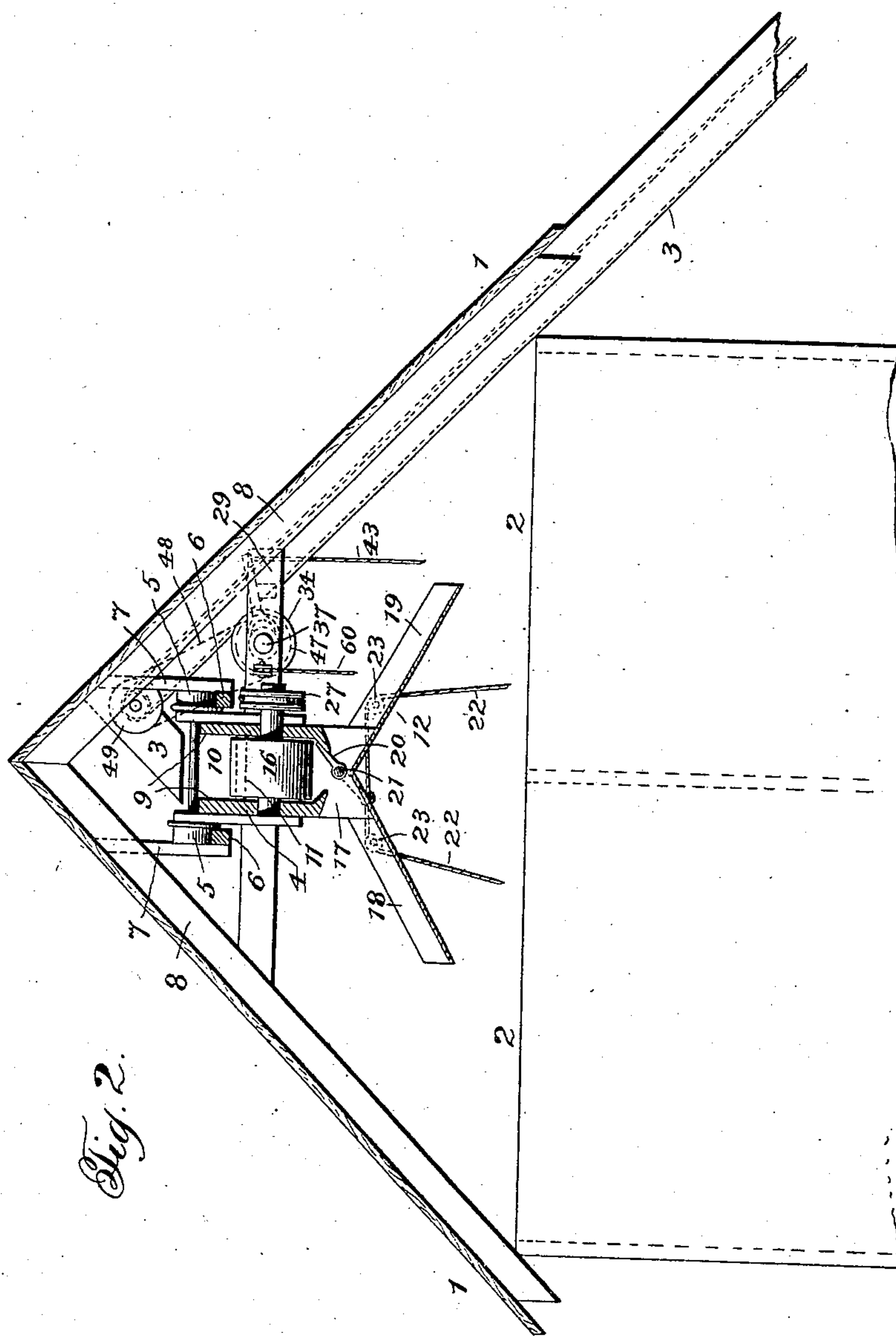


Fig. 2.

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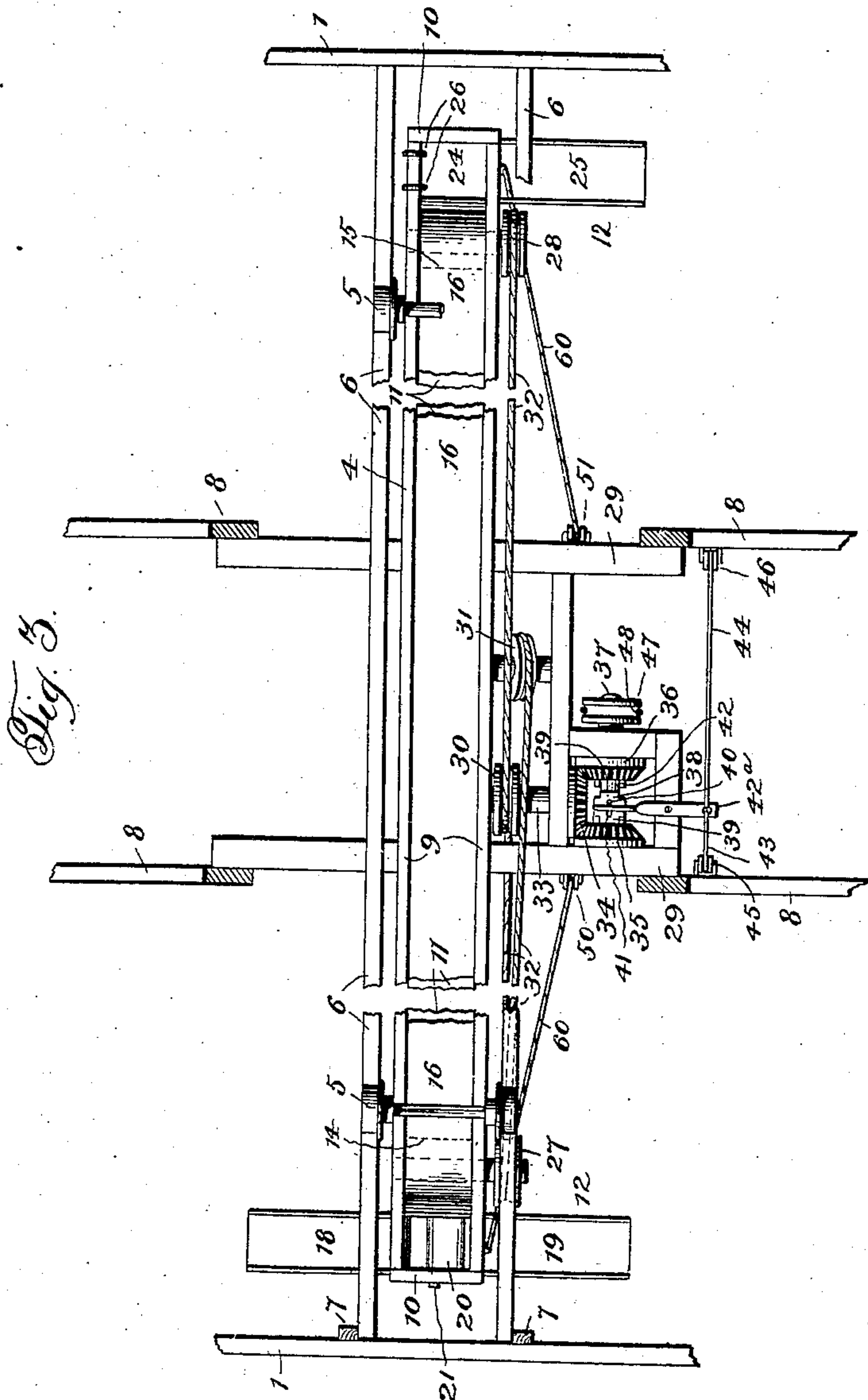
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3 SHEETS—SHEET 3



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY P. HARPSTRITE, OF MAROA, ILLINOIS.

GRAIN-DISTRIBUTING APPARATUS.

No. 883,801.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed July 6, 1906. Serial No. 325,006.

To all whom it may concern:

Be it known that I, HENRY P. HARPSTRITE, a citizen of the United States, residing at Maroa, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Grain-Distributing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to grain distributing apparatus and comprehends the improvements of the general construction and arrangement of parts of that type of distributors, in which the grain or similar material is discharged from an elevator to a conveyer adapted to be shifted to deliver the grain to the different bins of a grain crib; and more particularly the provision of improved mechanism for driving and shifting the conveyer.

20 A further object of the invention is to provide improved delivery mechanism for the shifting conveyer together with means for controlling the discharge of the grain therefrom.

25 Other objects and advantages of the invention will appear from the annexed detailed description.

30 A convenient embodiment of the invention comprises the construction and arrangement of parts hereinafter described illustrated in the accompanying drawings and particularly pointed out in the appended claims.

35 In the drawings: Figure 1 is a longitudinal sectional elevation of a grain crib equipped with my improved apparatus. Fig. 2 is an end elevation, parts being shown in section; Fig. 3 is a top plan view.

40 Referring to a detailed description of the drawings, wherein like reference characters designate corresponding parts throughout the several views, 1 designates a grain crib having a plurality of bins 2 arranged along its side walls and an elevator 3 to deliver the grain centrally of the grain crib above the bins.

45 4 designates a conveyer frame provided with carrying wheels 5 to run upon tracks 6 suspended longitudinally and centrally of the grain crib by rods 7 secured to the roof rafters 8, said conveyer frame being adapted to be shifted from end to end of the grain

crib beneath the discharge of the elevator 3 and above the bins 2. The conveyer frame comprises side walls 9, end walls 10, bottom 11 and discharge troughs 12 and 13 at the ends thereof. Mounted for rotation in the ends of the conveyer frame at each end of the bottom 10 are carrier rolls 14 and 15 for an endless carrier 16, which operates over the bottom 11 and is adapted to convey the grain discharged from the elevator 3 to the discharge troughs 12 and 13, according as to which direction the carrier is driven.

60 Secured to the discharge trough 12 to receive the grain therefrom is a shell 17 formed with branch spouts 18 and 19, which are oppositely inclined to deliver the grain to the respective series of bins 2. Located in the shell 17 adjacent the inlets of the spouts 18 and 19 is a valve 20 adapted to be moved to close the inlets of either of the spouts or to be held in a neutral position to permit the grain to flow through both spouts simultaneously. The valve 20 is mounted on a rod 21 which is journaled in the walls of the shell 17, said rod extending without the shell and having a portion bent up at right angles terminating in an eye for securing operating ropes 22 that pass downwardly from the rod over pulleys 23 within easy reach from the floor of the grain crib.

85 24 designates a shell which is formed with an integral inclined spout 25 and is adapted to be secured to the conveyer frame to receive the grain from the trough 13 and deliver the same through the spout 25 to the bins at one side of the grain crib. The spout 25 is adapted to be reversed to deliver the grain to either side of the crib and with this object in view I provide the shell 24 with hooks 26 for detachably suspending it from the conveyer frame.

90 From one side of the conveyer frame, the journals of the carrier rolls 14 and 15 project for a short distance and carry sprocket wheels 27 and 28. In a frame 29, which is secured to the roof rafters preferably at the center of the grain crib and which extends beneath the conveyer frame is mounted a sprocket wheel 30 and an idle pulley or sprocket wheel 31 in substantially horizontal alinement with and intermediate of the sprocket wheels 27, 28. A sprocket belt 32 operatively connects

the sprocket wheels 27, 28, 30, 31, said belt passing around the wheels 27, 28, and over, under and around the wheels 30, 31, the sprocket wheel 31 being slightly inclined relative to the sprocket wheels 27, 28 and 30, in order to prevent interference between the stretches of the sprocket belt passing over the intermediate wheels 30, 31. On the shaft 33 which carries the sprocket wheel 30, is mounted a bevel pinion 34 in mesh with two bevel pinions 35, 36, mounted loosely on a shaft 37, which is journaled in the frame 29. A sleeve 38, which is provided with clutch lugs 39, is held to revolve with the shaft 37 by a key 40, which engages a slot 41 in the sleeve, so that the sleeve may be shifted along the shaft. Notches 42 are formed in the hubs of the pinions 35, 36, for the reception of the clutch lugs 39 on the sleeve. A lever 42^a pivoted to the frame 29 has a forked end pivoted to the sleeve 38, the other end of the lever projecting beyond the frame and having secured thereto operating ropes 43 and 44, which pass over pulleys 45 and 46 and extend down within convenient reach from the floor of the crib. A sprocket wheel 47 is mounted on the end of the shaft 37, and power is applied thereto through a chain 48 from a sprocket wheel 49 at the top of the elevator 3, which is driven in the usual manner from any suitable source of power.

From the foregoing description, it will be understood that through the medium of the operating ropes 43, 44, the sleeve 38 may be shifted to engage either of the pinions 35 or 36 and the carrier driven in either direction to deliver the grain to the trough 12 or 13, or the sleeve 38 may be held out of engagement with the pinions when motion will not be transmitted to the carrier. Instead of employing the sprocket wheels 27, 28, 30, 31, and the sprocket chain or belt 32, friction pulleys and a friction transmission belt may be substituted therefor.

Means for shifting the conveyer frame from end to end of the grain crib is provided in the form of a rope 60, the ends of which are connected to the opposite ends of the conveyer frame and pass over pulleys 50, 51, down within convenient reach from the floor of the grain crib.

It will be understood that various changes in the construction and arrangement of parts hereinbefore described within the scope of the appended claims may be made without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

1. In a grain distributing apparatus, an elevator, a conveyer frame mounted for reciprocation beneath the discharge of the elevator, carrier rolls mounted for rotation in

the ends of the conveyer frame, an endless carrier mounted in the conveyer frame and engaging the carrier rolls, and mechanism for driving the carrier including drive wheels on the carrier rolls, a driven wheel, and an idle wheel arranged in substantially horizontal alinement with the wheels on the carrier rolls and intermediate thereof, and a flexible transmission member passing around the drive wheels on the carrier rolls and over, under, and around the driven wheel and idle wheel, said idle wheel being arranged at a slight incline relative to the other wheels.

2. In a grain distributing apparatus, a shiftable conveyer frame, a carrier in said frame, pulleys arranged at opposite ends of the carrier and having a driving connection therewith, a driven pulley and an idle pulley supported intermediate the ends of the carrier, said idle pulley being arranged at an angle to the other pulleys, and a flexible transmission member operatively connecting the pulleys.

3. In a grain distributing apparatus, a shiftable conveyer frame, a carrier in said frame, pulleys arranged at opposite ends of the carrier and having a driving connection therewith, a driven pulley and idle pulley supported independently of the conveyer frame, one of said pulleys being arranged at an angle to the other pulleys, and a flexible transmission member operatively connecting the pulleys.

4. In a grain distributing apparatus, a conveyer frame, a support for said frame, said frame being shiftable independently of its support, a carrier in said frame, a rotary driven member mounted independently of the conveyer frame to drive the carrier, an idle wheel, pulleys supported by the conveyer frame and connected with the carrier, and a flexible transmission member passing around said pulley and over, under and around the rotary driven member and idle wheel.

5. In a grain distributing apparatus, a conveyer frame, a support for said frame, said frame being shiftable independently of its support, a carrier in said frame, a rotary driven member mounted independently of the conveyer frame to drive the carrier, an idle wheel, pulleys supported by the conveyer frame and connected with the carrier, a flexible transmission member passing around said pulley and over, under and around the rotary driven member and idle wheel, a gearing for imparting motion to the driven member, and means for reversing the direction of revolution of said gearing to reverse the direction of movement of the carrier.

6. In a grain distributing apparatus, a shiftable conveyer frame, a carrier in said

frame, pulleys arranged at opposite ends of the carrier and connected therewith, a driven pulley and an idle pulley supported intermediate the ends of the carrier, all of said
5 pulleys being arranged in substantially the same horizontal plane and said idle pulley being arranged at an angle to the other pulleys, and a flexible transmission member passing around the pulleys, arranged at oppo-

site ends of the conveyer frame, and over, 10 under and around the driven pulley and idle pulley.

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

HENRY P. HARPSTRITE.

Witnesses:

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S. A. FRIEDMAN.