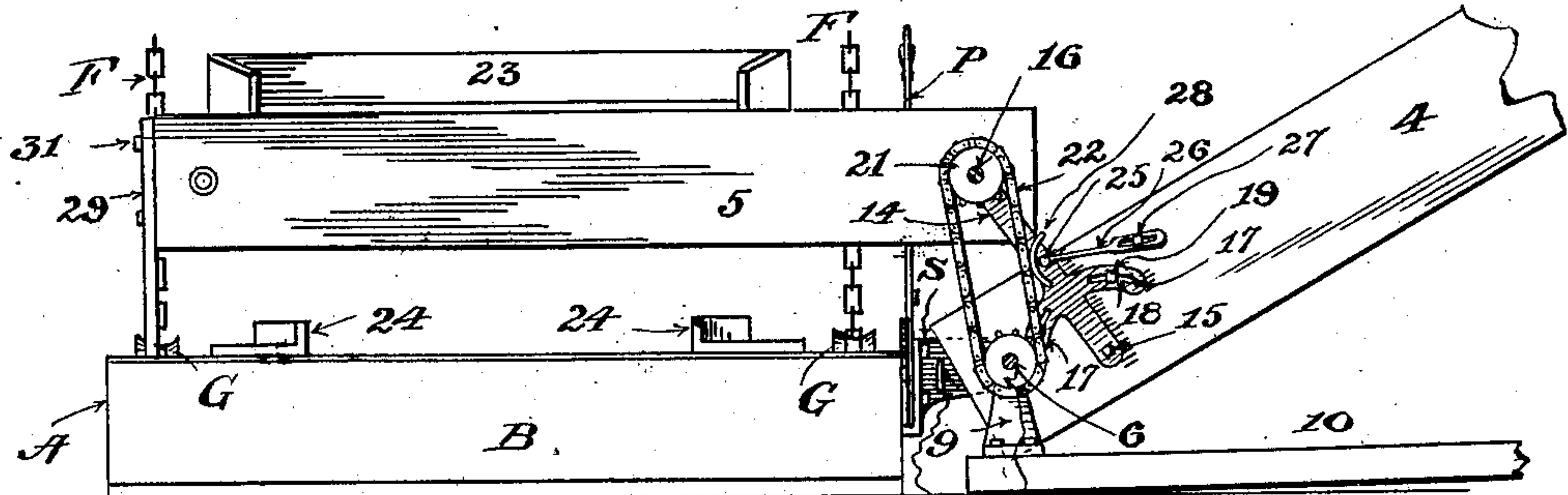
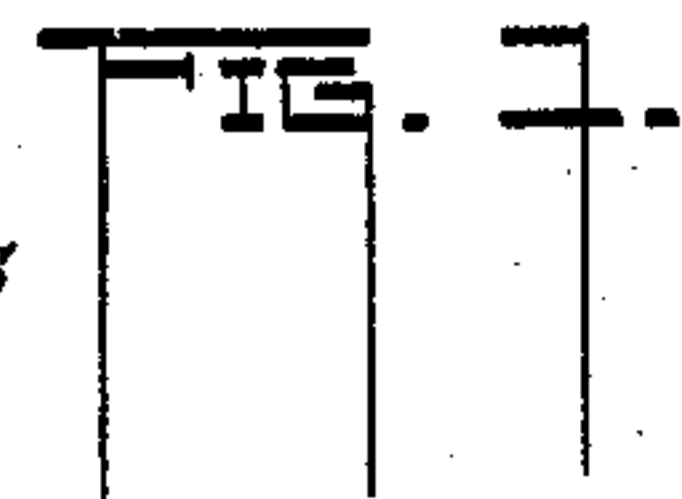
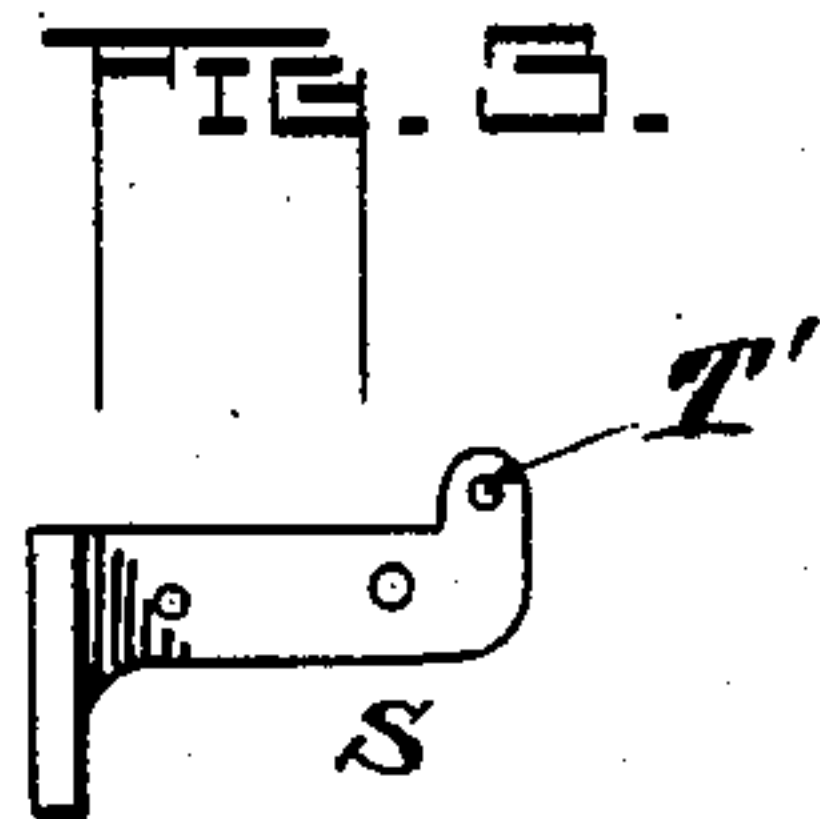
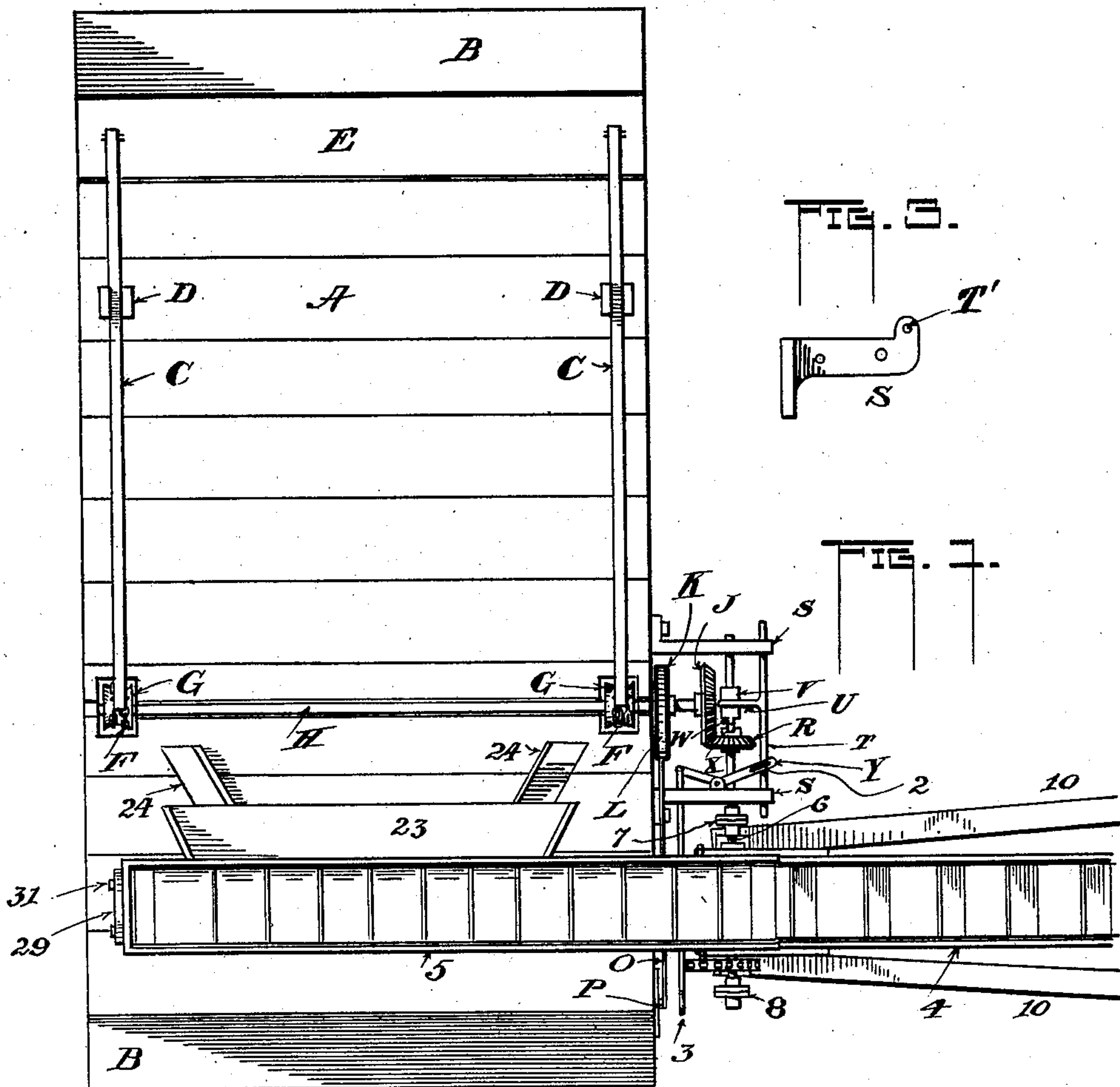


No. 889,303.

PATENTED JUNE 2, 1908.

S. GUTH.
WAGON DUMP.
APPLICATION FILED FEB. 26, 1907.

2 SHEETS—SHEET 1.



Witnesses:
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FIG. 2.

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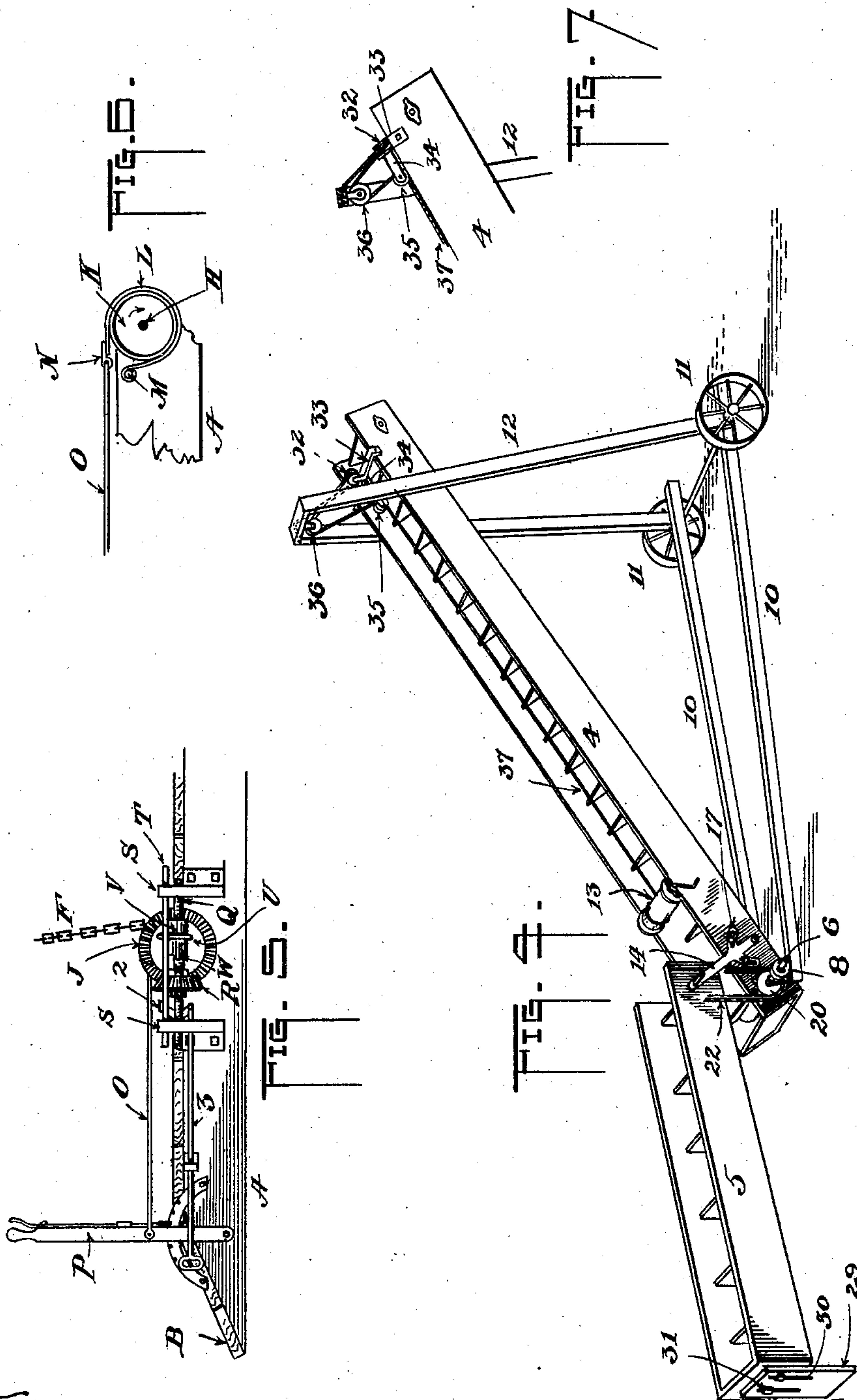
No. 889,303.

PATENTED JUNE 2, 1908.

S. GUTH.
WAGON DUMP.

APPLICATION FILED FEB. 25, 1907.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SAMUEL GUTH, OF WASHINGTON, ILLINOIS.

WAGON-DUMP.

No. 889,303.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed February 25, 1907. Serial No. 359,313.

To all whom it may concern:

Be it known that I, SAMUEL GUTH, citizen of the United States, residing at Washington, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Wagon-Dumps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to portable wagon dumps.

It has for one of its objects the simplification of devices of this character.

It has for another object to provide driving mechanism for the same having in connection therewith a brake device which acts automatically to sustain the wagon at any height when the power mechanism is stopped.

A further object is to provide an automatic friction brake which will permit the elevation of the wagon through the driving mechanism and sustain the wagon in the position to which it may be elevated at the time the raising movement is interrupted.

A further object is to provide a dump with driving mechanism and elevating means for the wagon and combining therewith braking means which automatically sustains the wagon at any position.

A still further object of the invention lies in providing driving connection between the elevator and the power mechanism which operates the dump, of such a nature as to make it unnecessary to station the elevator and its conveyer or drag with its driving shaft axially coincident with the power shaft of the dump.

A still further object is to provide a driving connection between the dump and the elevator which will admit of the latter being connected and disconnected from the power means of the dump at will without making it necessary to exactly aline the shafts.

Another object is to provide adjusting means between the elevator and the conveyer for permitting the vertical adjustment of the former without changing the position of the conveyer relatively to the platform of the dump.

To the end that my invention may be understood I have provided the accompanying drawings in which

Figure 1 is a top view of the dump in its entirety. Fig. 2 is an end elevation of a por-

tion thereof. Fig. 3 is a side elevation of a bearing for the power shaft of the dump. Fig. 4 is a perspective view of the elevator and its conveyer or "drag". Fig. 5 is a side elevation of a part of the dump. Fig. 6 is a side view of a friction brake. Fig. 7 is a side view of the head of the elevator.

The letter A indicates the platform of the dump having the usual approaches B. At each side of the platform and extending longitudinally thereof is a lever arm C fulcrumed upon uprights D. Beneath the short end of the levers is a raisable plank E for the front wheels of the wagon to be dumped. Attached to the rear ends of the said lever arms are chains F whose opposite ends are attached to and adapted to be wound upon drums G carried on a transverse shaft H. I have not illustrated the levers and the plank E fully since it is clearly shown and described in my Patent No. 760,862 issued May 24th, 1904. Said shaft H is suitably journaled in the platform and extends beyond the same at one end and carries a beveled gear wheel J. Adjacent to the said wheel is a friction drum K provided with a brake-band L as clearly shown in Fig. 6 one end being attached to a stationary pin M or to other equivalent means so as to be fixed at that end. At the opposite end of the band is fastened a member N to which is loosely attached a rod O the opposite end of the latter being pivoted to a hand lever P by which the said band is tightened and loosened and held by means of a suitable latch and notched quadrant common to many different classes of machines.

Extending at right angles to the shaft H is a power shaft Q carrying a loose beveled pinion R. This latter shaft has its bearings in members S secured to the side of the platform, one of them being shown in detail in Fig. 3. Extending parallel to the shaft Q is a shiftable rod T, also having bearings in the members S described, in the holes T' thereof. Attached to or formed with the shifting rod is a fork U which straddles and engages a sleeve V which is slidable upon the power shaft Q and rotatable therewith as for instance by means of a key way and feather (not shown), said sleeve having a projection thereon as at W for engaging a notch X of the same form in the hub of the pinion R. Upon one of the members S is pivoted a lever Y (Fig. 1) the other end of the lever having attached thereto a pull-rod 3 ex-

tending within reach of the operator stationed behind the conveyer.

At 4 is the elevator on which the conveyer or drag 5 is pivotally supported, the shaft of said elevator being indicated at 6 and connected by a knuckle-joint 7 of any approved form to the power shaft Q; the opposite end of said elevator shaft having a similar knuckle joint 8 for receiving the shaft of the horse power. The elevator is mounted upon the ends of beams 10 by means of supporting bearings, the opposite ends of the beams having support on wheels 11, Fig. 4, there being a derrick 12 pivoted on the said beams, the elevator extending therethrough has shown, there being suitable pulley on the elevator and derrick, to be described later.

I employ means on the elevator for adjustably carrying one end of the conveyer and this consists of a cast-arm 14 at each side of the elevator, but one of which is shown, having pivotal connection with the elevator at 15, the upper ends having the shaft 16 of the conveyer extending therethrough as shown in Fig. 2. At each side of the said arm 14 is an extension 17 slotted at 18, said slots being arranged in the arc of a circle described from the pivot point 15. Suitable bolts at 19 serve to clamp the arms 14 to the side of the elevator and the loosening thereof permits the tilting of the arms on their pivots at 15 described. On the shaft 6 of the elevator is a sprocket wheel 20, while a similar wheel 21 is carried on the shaft 16 of the conveyer and a sprocket chain 22 serves to impart power from the former to the latter to drive the drag-chain within the conveyer.

It will be observed that when the elevator is raised or lowered on its pivot on the shaft 6, (see Fig. 2) the conveyer will be shifted in the direction of its length; this occurring if the arms 14 are relatively rigid with the said elevator through the bolts 19. This shifting movement particularly if the hopper 23 is secured thereto will be of such an extent that the wagon and conveyer will not be in proper relative position and the result will be that grain will be spilled outside the conveyer.

Upon the platform are slide-irons 24 in an angling position being so placed with reference to the wheels of the wagon as they approach them, that said wagon is always positioned exactly in the same place. It is necessary, therefore, to shift the conveyer so that it will properly register beneath the delivery end of the wagon by means of the arms 14.

Longitudinal adjustment of the conveyer may be had irrespective of the angle of inclination of the elevator at any time. When the desired position of the conveyer is found, and that of the elevator as well, the bolts 19 are tightened and the entire apparatus is

ready for work. The conveyer is then vertically tiltable upon its shaft 16, as in usual practice, without having changed its position relative to the platform or the positively located wagon thereon when again lowered to the normal position. It is evident that the lower ends of the arms 14 instead of being pivoted at 15 could be pivoted at the shaft 6 of the elevator and the extensions 17 secured by bolts 19 as already described. This would allow adjustment of the elevator and would likewise permit longitudinal adjustment of the conveyer. There is little difference, however, between these two methods since in any case it is necessary to, at times, adjust the conveyer in the direction of its length for the purposes hereinbefore mentioned and it would not always be convenient, in some structures, to place the arms 14 at the shaft 6 on account of lack of working space.

As I construct the mechanism it is evident that the sprocket chain 22 will become tightened or loosened according to the direction of adjustment of the elevator and conveyer relatively, and I provide means by which the chain can be given its proper adjustment. This consists in providing a pin at 25 on one of the arms 14 which has a hole therethrough (not shown) through which passes a rod 26 flattened and slotted at one end as shown and secured by means of a bolt 27 to the side of the elevator, the opposite end of the said bar having a curved head 28 to bear against the chain. When the chain needs adjustment, the bolt 27 is loosened and the bar 26 moved in the direction of its length to permit the chain to slacken or to take up the looseness thereof as the case may be, the said bolt being afterwards tightened. However, any other means may be employed to accomplish this purpose.

On the free end of the conveyer I attach a vertically adjustable member 29, said member having adjustment through slots 30 and bolts 31. This is provided in order that that end of the conveyer may be raised and lowered to adapt it to various heights of wagons while the other end can be adjusted vertically to a limited extent by the members 14 described. As a matter of fact other equivalent means for supporting the free end of the conveyer and other means for adjusting it may be used.

I provide a peculiar adjusting tackle at the head of the elevator which is clearly shown in Figs. 4 and 7, in which 32 is a pulley carried by a strap 33 extending across the elevator head, there being affixed to the said strap 33 a projecting arm 34 carrying a pulley 35, the plane of which is parallel to the length of the elevator while the plane of the pulley 32 is at right angles thereto. To the top of the derrick 12 is hung a pulley 36. A rope 37 having one end secured to the windlass 13, before described, extends towards

the top of the elevator beneath the pulley 35, up over the pulley 36, down around the pulley 32 thence up and is secured at its end in suitable manner to the top of the derrick.

5 It will be seen that this arrangement requires little power on the part of the operator to control the elevator no matter what its weight may be.

10 In operation the power applied to the elevator shaft 6 is transferred to the shaft Q through the knuckle 7. The latter shaft runs free when the clutch-sleeve V is out of engagement with the pinion R, and revolves said sleeve free of the pinion. If, however, 15 the rod 3 is pushed to shift the fork W toward the said pinion R the sleeve will engage the latter and motion will immediately be imparted to the shaft H thus winding the chains F upon the drums G to tilt the levers C and raise the wagon. Preferably the band 20 brake L is set by means of its lever P at a point where there will be sufficient friction to sustain the weight of the wagon through the shaft H; yet this friction is not so great 25 as to have any appreciable effect upon the power used in driving the machine.

The direction of drive of the shaft H is indicated in Fig. 6 by means of the dart this direction being clockwise and tends to pull 30 upon the lever P to keep the band free thereof, but the moment the power is disconnected the tendency of the shaft H is to rotate in the opposite direction from that indicated, and this tends to tighten the band upon the drum 35 since the end of the band M is fixed. The wagon is, therefore, sustained in position by mere friction. When desired to lower the wagon the lever is released by means of its latch and the wagon is dropped slow or fast 40 as may be desired, this depending upon the amount of friction that is kept upon the drum. It will be thus seen that the brake is automatic to the extent that it sustains the wagon at any height to which it may be carried on disconnecting the power at the same 45 time permitting the dump to operate without interruption or being affected in any way. In the raising movement but one lever is necessary for the complete control and it is 50 not necessary to make use of the band brake except when the wagon is to be lowered. As distinguished from other devices of this class the brake is normally set or in engagement with the power means so that at any time the 55 power is thrown off the wagon is sustained in the raised position. Other devices apply the brake after the wagon sustaining means have been disconnected. Such a method requires mechanism I am able to dispense with 60 thereby greatly simplifying my construction, providing a machine of small cost, and one very simple of operation.

An advantage in my dump is that the platform A with its attached mechanism can be 65 transported free of the elevator and con-

veyer, the latter two elements being portable as a unit by themselves as well. In setting up the machine the two parts *i. e.*, the dump, and the combined elevator and conveyer, are each taken to their destination, the platform being placed in position and the elevator brought up beside it and the shaft Q inserted into the socket of the knuckle 7 without adjustment of any kind. The elevator and conveyer, being portable by themselves, 75 can be used also with any other dump. The platform is kept light in weight so that less work is required in moving it from place to place.

Having described my invention in its preferred embodiment while retaining for myself such changes as may come within the meaning and spirit of the invention, I claim: 80

1. An elevator and conveyer, and means connected to each and connecting one with 85 the other and through and by which said conveyer is permitted to bodily shift lengthwise relative to said elevator.

2. In combination with a wagon dump of an elevator and conveyer, means connected 90 to both said elevator and conveyer and connecting one with the other, said means being capable of adjustment relative to each of the described members by which to permit longitudinal movement of the conveyer relative 95 to the elevator.

3. An elevator and conveyer, a single means at each side thereof for connecting them, and connected pivotally with each and by the adjustment of which the conveyer is 100 movable longitudinally with respect to the elevator.

4. An elevator and conveyer, a single means at each side thereof for connecting them, such means having pivotal connection 105 with each and having adjustment on one of them by which to permit longitudinal movement of the other relative thereto.

5. An elevator and conveyer, and means attached to each of the members by which 110 to connect one with the other, such means being adjustable on and relative to both members by which to permit adjustment of said members relatively and devices for securing the said means to one of the members 115 after adjustment.

6. In combination with a wagon dump of an elevator, a conveyer arranged to deliver grain therein, a drag-chain for each, a driving connection from one to the other, means 120 adjustably secured on the elevator and on which the conveyer is pivotally carried at one end, said conveyer having bodily adjustment lengthwise and relative to the elevator, through said means, and means for securing 125 the first said means in a fixed position on the elevator.

7. In a device of the character described, wagon raising means, power mechanism in connection with the same, a grain receiving 130

conveyer and elevator for connection with the power mechanism, and by which both are operated, and means for adjusting the conveyer in the direction of its length relative to the elevator.

8. In a device of the class described wagon raising means, power mechanism in connection therewith, a device for receiving the grain from the wagon, such means having driving connection with the said power mechanism, an elevator in driving connection with the grain receiving device and power means, means for positively locating the rear end of the wagon, and means in connection with the grain receiving device for permitting longitudinal movement of the latter relative to the elevator while retaining driving connection with the power means.

9. In combination with a wagon dump of an elevator, a conveyer for discharging grain thereinto, drag members, a drive shaft therefor for both said elevator and conveyer, the conveyer adapted for longitudinal adjustment relative to the elevator the said shafts being adjustable relatively in the longitudinal movement of the conveyer, and driving connection between the two shafts.

10. In combination with a wagon dump, of an elevator adapted for adjustment for height at its delivery end, a conveyer for discharging grain into such elevator, and means for adjustably connecting the elevator and conveyer for permitting longitudinal adjustment of the latter relative to the elevator while the latter retains a fixed adjustment.

11. In combination with a wagon dump, of means for positively locating the wagon in a predetermined position upon the dump, a conveyer, an elevator adjustable for height at its delivery end, and means connecting said elevator and conveyer for permitting bodily adjustment of the latter upon the former in a longitudinal direction relative to the wagon and relative to said elevator after the latter has been adjusted for height at its delivery end, said means adapted for fixing the conveyer and elevator relatively rigid after such longitudinal adjustment but permitting vertical tilting of said conveyer substantially as described.

12. In a device of the class described, wagon raising means, power mechanism in connection therewith, clutch mechanism between the two, and a friction device normally in engagement with the wagon raising means for maintaining the same at any position at which the wagon may be raised.

13. In a device of the class described, wagon raising means, power mechanism, means by which to connect and disconnect the two, and a normally-set device adapted to have constant frictional engagement with the power mechanism while the wagon is being raised and also to sustain the latter in its

raised position, said device constituting the sole means of support for the wagon and its raising means both at the time and after the power has been disconnected.

14. In a device of the class described, wagon raising means, power mechanism, means by which to connect and disconnect the two, a device adapted for constant and positive engagement with the said wagon raising means and in such constant and positive engagement except when the wagon is to be lowered the same being manually operated to partially release said device to at will gradually permit the lowering of the wagon to its normal or lowest position.

15. In a device of the class described, wagon raising means, power mechanism, means by which to connect and disconnect the two, a device adapted for constant and positive engagement with the said wagon raising means, said device constantly tending to maintain such engagement, and means for at will but partially releasing it to permit the wagon raising means to lower.

16. In a device of the class described, wagon raising means, power mechanism, clutch mechanism between the two, means constantly and positively engaging the said wagon raising means and supporting it in a raised position and constituting the sole means of support therefore when the power is disconnected, said first described means constantly tending to maintain said engagement, and a manually operated lever for at will permitting the wagon raising means to lower by partially releasing said supporting means, substantially as described.

17. In a device of the class described, a conveyer for receiving grain from the wagon, an elevator to which it is adjustably secured, said conveyer adapted for bodily longitudinal movement relative to the elevator, means for permitting such movement without movement of the elevator, and means for adjusting the height of the free end of the conveyer while in the grain receiving position.

18. In a wagon dump, wagon raising means, a winding shaft in connection with the same, an elevator and conveyer, a shaft interposed between the elevator shaft and the winding shaft and having driving connection with both and from which said elevator shaft is detachable, means for at will connecting the intermediate shaft and the winding shaft, a friction drum on the winding shaft, a friction band adapted and arranged to normally engage the drum in positive manner to sustain the wagon raising means when raised and manually operated to permit the said wagon raising means to lower.

19. A combined elevator and conveyer, and a vertically adjustable standard on which the conveyer rests by which to adjust its free end.

20. A combined elevator and conveyer,
and a vertically adjustable standard at-
tached to said conveyer on which the latter
rests by which to adjust the height of its free
5 end.

21. A combined elevator and conveyer,
means for connecting and adjusting them
relatively, and a vertically adjustable stand-
ard at the free end of the conveyer for ver-

tically adjusting said free end for the pur- 10
poses described.

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

SAMUEL GUTH.

Witnesses:

L. M. THURLOW,
A. KEITHLEY.