

No. 756,577.

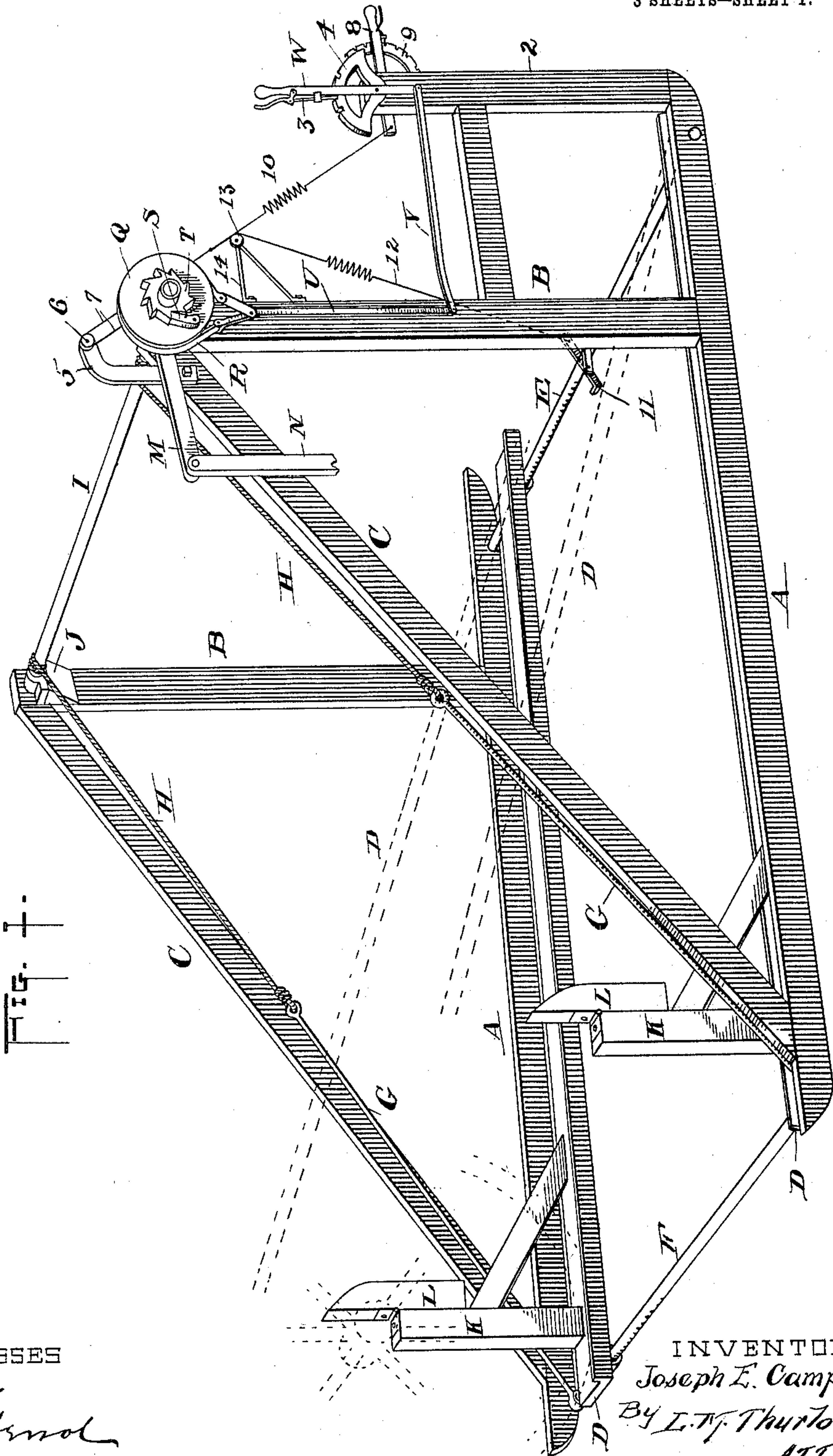
PATENTED APR. 5, 1904.

J. E. CAMP.
PORTABLE GRAIN DUMP.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES

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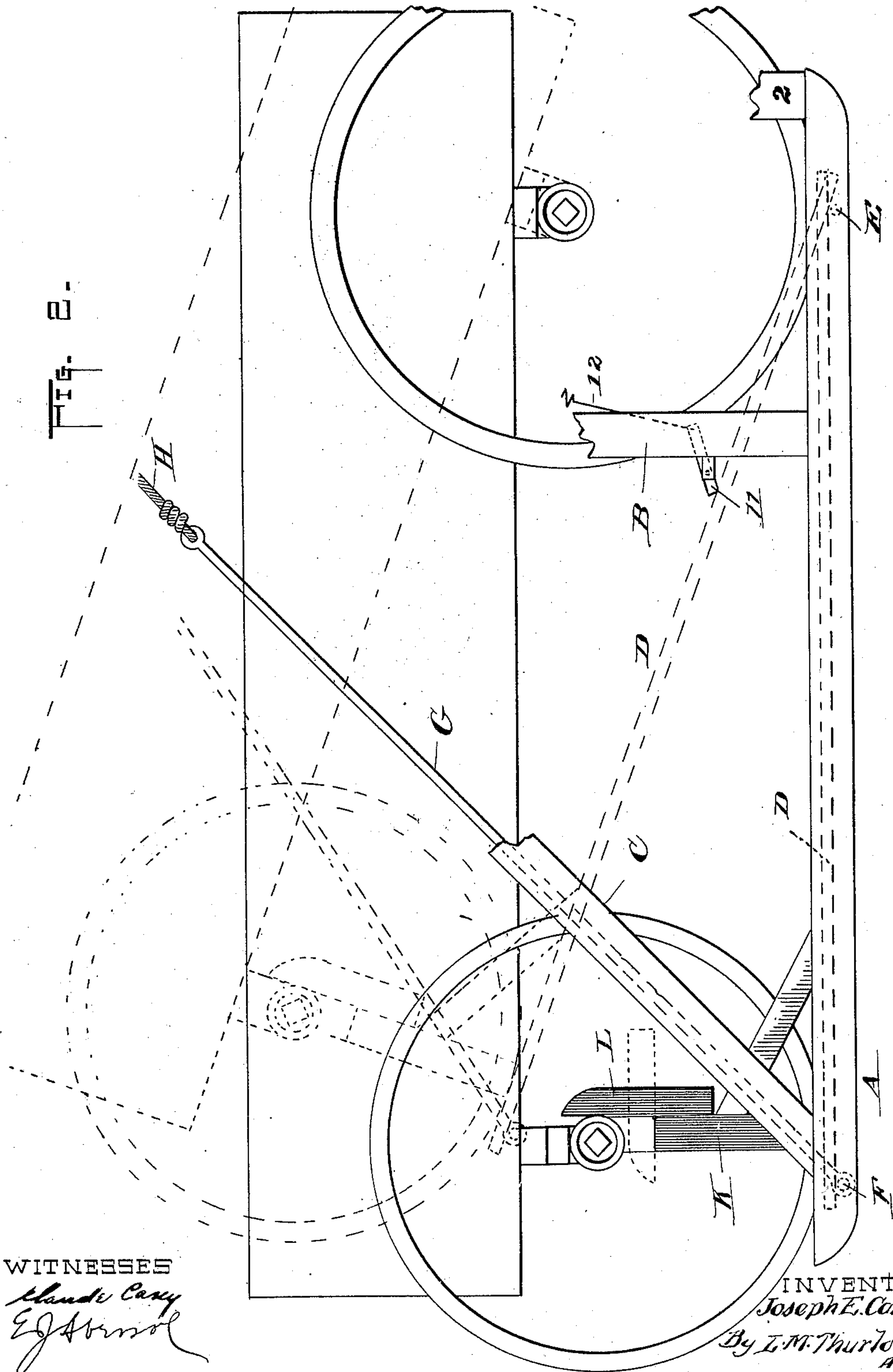
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3 SHEETS—SHEET 2.

Fig. 2.



WITNESSES

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3 SHEETS—SHEET 3.

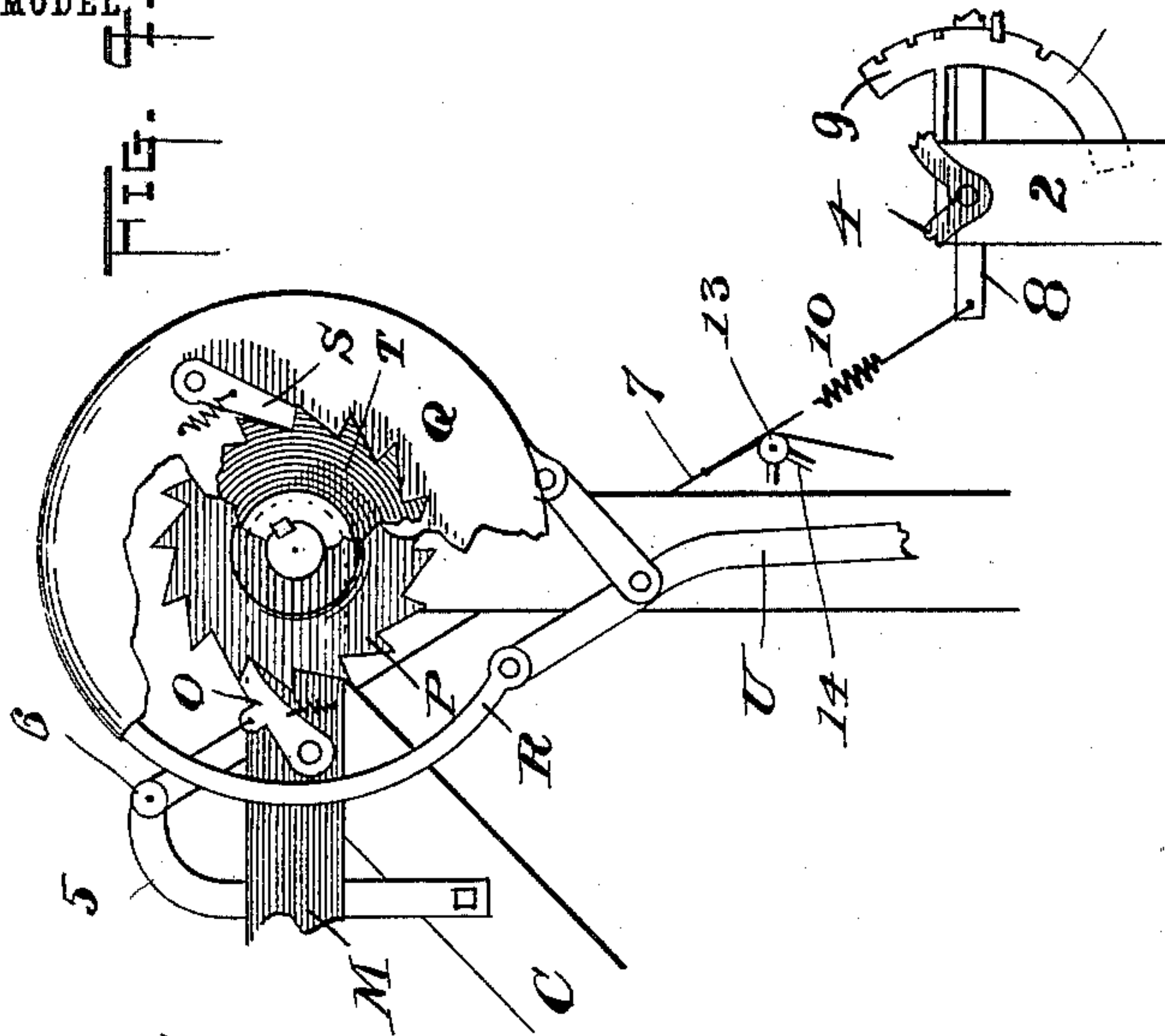
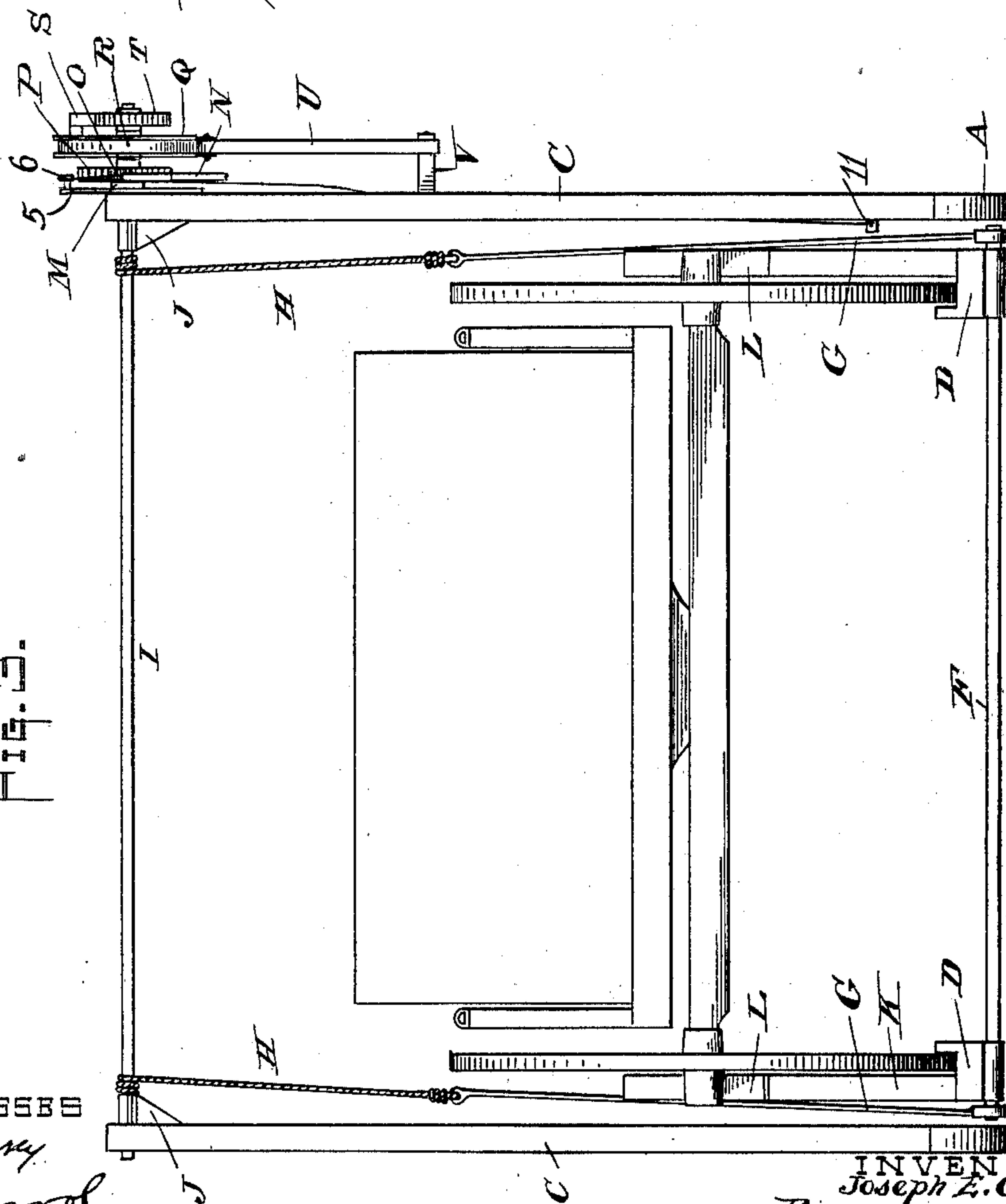


FIG. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOSEPH E. CAMP, OF WASHINGTON, ILLINOIS.

PORTABLE GRAIN-DUMP.

SPECIFICATION forming part of Letters Patent No. 756,577, dated April 5, 1904.

Application filed January 26, 1903. Serial No. 140,610. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. CAMP, a 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 Portable Grain-Dumps; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved portable grain-dumping apparatus of that class used for unloading wagons into elevators, bins, and the like.

The object of the invention is to provide a simple, cheap, and efficient dump for the purposes described which may be operated by horse-power or other source.

A further object of the invention is to provide a device of the class described that can be stopped or started by hand or automatically, as desired.

The invention further relates to certain details of construction, as will be pointed out in the specification and in the claims.

In the drawings forming a part of this application, Figure 1 is a perspective view of my grain-dump. Fig. 2 is a side elevation of a portion of the same, showing a wagon thereon. Fig. 3 is a view of the device as seen from the front. Fig. 4 is a detail view of some of the operating portions of the driving-gear.

In the figures, A A indicate two parallel runners having mounted near their rear ends two uprights B B, which are braced from the front ends of said runners by the angling beams C C. Lying inside of such runners are beams D D, which form a track for the wagon to run upon, their inner edges having vertical flanges which serve to prevent the wheel of the vehicle running off. The rear ends of the said beams D D are carried in a pivotal manner on a rock-shaft E, carried in the runners A A. The forward ends of the beams D D are braced by a bar F, connecting the two and whose ends project beyond such beams and receive the end of a rod G, the upper end of which connects with a rope or cable. The latter are adapted to wind upon a revolving shaft I, carried in bearings J J,

secured to the uprights B B. The revolution of the shaft in the proper direction winds the cables upon it and being attached to the bar F raises the beams on the rock-shaft E, as will be understood, to a position as indicated in broken lines in Fig. 2. In use the wagon to be delivered of its load is driven upon the tracks D D from the rear of the machine and after reaching the proper position is raised on said tracks, as shown in said Fig. 2. It becomes necessary to lock the vehicle, so that it will maintain a fixed position while being relieved of its grain. The means for doing this is shown clearly in Figs. 1 and 2, in which K K are two upright posts mounted on the tracks D D and suitably braced, as shown, such posts being placed near the outside of said tracks, so that the wheels may pass by them, as shown in Fig. 3. Hinged in proper manner upon the top of each post is a latch L, said latch being placed at the rear side of the post, as shown. As shown clearly in Fig. 2, the post is of such a distance from the hub of the wheel that there is sufficient space between the said hub and the top of such post to allow the latch to turn down upon the post and allow the said hub to pass over, as indicated in the figure last named. The latch is heaviest at its lower end, so that after the hub has turned it down and passed over it said latch will regain its normal position. (Shown in full lines.) The wagon is now backed until the hub rests against the latch, and retrograde movement of the vehicle is prevented.

The mechanism for driving the shaft I consists, first, of lever M, which is designed to have an up-and-down movement, using the shaft as the pivot therefor at one end. The other end of the lever carries a depending rod or pitman N, Fig. 1, which may have connection with the source of power. Said lever carries a pawl O for engaging a ratchet-wheel P, secured to the said shaft I, and therefore caused to move therewith. An up-and-down motion of the lever will cause the pawl to engage the teeth of the ratchet-wheel and impart a rotating movement to the shaft, as will be understood. Adjacent to the wheel P is a drum Q, surrounded by a band R to constitute

a band-brake. Said drum is loose on the shaft I and carries a pawl S for engaging a ratchet-wheel T adjacent to such drum and affixed to the shaft, but having its teeth set in a reverse direction to those of the first-named wheel. The band R of the drum Q is suitably connected to a lever-arm U, extending downward from the drum and having attachment at its lower end to a pull-rod V, whose other end is connected with a hand-lever W, pivoted on a post 2, erected on the rear end of one of the runners A, said lever being held in the position placed by means of the usual spring-catch device 3 used on such devices and which engages a notched rack 4. When the said lever W is set to lock the drum Q against turning, the pawl S thereon locks the ratchet-wheel, and consequently the shaft I, from turning, so that as the lever M is given a continuous movement in the manner explained the shaft is gradually turned to wind the cables H thereon, and as long as the band-brake is held tight the beams D will be elevated. When the wagon has been raised to the required height, the power may be stopped or the pawl O on the lever M may be disengaged from the ratchet-wheel P. This may be done in two ways—i. e., either by hand or in an automatic manner. Upon the frame of the machine is mounted an arm 5, having a pulley 6, over which passes a cord or wire 7, one end of which is attached to the pawl O and the other to a hand-lever carried on the post 2, already mentioned, and adjustable by means of a suitable rack 9. A spring 10 is interposed in the stretch of wire 7, so that the lever 8 may be set to withdraw the pawl O from the teeth of the ratchet even when the pawl is immovable by being held by friction in the teeth of said ratchet. In other words, when the friction on said pawl is removed the spring, which has been put under tension by the movement of the lever 8, will withdraw the pawl. Evidently if the pawl could be removed at any desired instant the spring would not be necessary; but as it is said spring will prevent any breaking of the wire.

The means just described constitutes the operating mechanism for hand use. The automatic portion consists in pivoting a lever 11 on the machine-frame in suitable manner and attaching a wire 12 thereto, which is also connected to the wire 7, as shown, said wire 12 running over a pulley 13 on a bracket 14, attached to the frame B. The free end of the lever 11 is adapted to receive the upward pressure of one of the beams D, so as to put strain on the wire 7 to lift the pawl, as before. This provides for automatically checking the raising of the wagon when it has reached the proper height. When the pawl is lifted, the power may be stopped, or the hand-lever 8 may permanently lift the pawl, or the mechanism may be arranged so that after the lever 11 has lifted the pawl such

pawl will be permanently held or until released by the operator. After the grain has been dumped the drum Q, which has hitherto been held stationary by means of its band R, is permitted to revolve by slacking by means of the lever W. The weight of the wagon then unwinds the cable and turns the shaft in the opposite direction from that used in winding the cables, the ratchet-wheel T turning the drum by means of the pawl S. The proper friction kept on the drum by the band-brake will permit the wagon to lower freely and safely, as will be seen.

Thus constructed the dump is light and portable and capable of handling all manner of vehicles, and the various parts may be changed in one way and another to suit the desires of the operator, such changes being within the scope of my invention.

Having described my invention, I claim—

1. In a grain-dump of the character described, a support for the wagon to be delivered of its load, a support for the rear end of such support, means for preventing backward movement of the wagon when on its support, winding means above the support and wagon, means attached to the forward end of the support and adapted to be wound around the said winding means for raising the support and wagon, driving means for the said winding means consisting of a ratchet-wheel mounted on the said winding means a power-driven pawl for engaging such ratchet-wheel, means for preventing an unwinding movement of the winding means when the wagon is being elevated, automatic means for stopping the winding mechanism when the wagon has reached its desired height and means also for releasing the winding means and lowering the wagon to the ground substantially as set forth.

2. In a grain-dump, the frame A, B, C, the supporting-beams D pivoted thereto, the winding-shaft I on the frame, the cables H attached to the beams D, the ratchet-wheel P on the shaft, the arm M at the side of the shaft adapted for an up-and-down motion, the pawl O on said arm for engaging the ratchet-wheel P, the lever 11 on the frame A, B, C against which the support is adapted to strike in the raising movement thereof, flexible connection between the lever 11 and pawl O for the purposes explained, the friction-drum Q secured to the said shaft I, the friction-band R and lever U for holding said drum, ratchet-wheel T also on the shaft I and the pawl S on the drum for engaging the ratchet all for the purposes set forth.

3. In a grain-dump of the character described, the frame A, B, C arranged substantially as described and for the purposes explained, the beams D D forming supports for the vehicle, the rock-shaft E at the rear end of the said frame and beams D D for forming a pivot for such beams, the upright posts K K on the beams, the latches L hinged thereto to

occupy a vertical position by gravity the same adapted to be carried to a horizontal position by the wheel-hubs of the vehicle in passing upon the beams D D and then to assume the
5 vertical position behind said hubs to prevent the vehicle from moving rearward when raised at its forward end by the upward movement of the beams in an upward movement thereof, the shaft I at the top of the frame A, B, C,
10 means adapted to be wound thereon by the revolution of such shaft such means attached to the forward ends of the beams, and means for imparting movement to the shaft to wind such means thereon to raise the said beams
15 substantially as described.

4. In a grain-dump, a support for the wagon, the same adapted for a rising-and-falling movement at one end, means for raising and lowering it for dumping the wagon carried there-
20 on and automatic locking devices for preventing movement of the wagon during the dumping operation which consists of stationary supports rigidly mounted on the wagon-support to move therewith and a hinged member on
25 said supports and normally occupying a vertical position and adapted to be thrown to a horizontal position by contact of the front wheel-hubs therewith above the points of piv-
30 otal support said hubs passing over the member in moving the wagon upon the support, said member returning automatically by grav-

ity to an upright position after the hubs have passed over to form a lock to bar backward movement of the wagon when raised to the dumping position substantially as set forth. 35

5. In a grain-dump a tilting platform D for supporting and carrying the wagon to be dumped, means thereon for locking the wagon, a shaft I journaled above the platform and constituting a winding-drum, cables H at- 40
tached thereto and to the forward ends of the platform D to raise the latter by the revolution of the said shaft I, a pawl and ratchet O and P respectively for imparting motion to the shaft, a reciprocating lever M to which 45
the pawl is attached for turning said shaft, a lever 11 pivoted in the path of the platform D for contact of the latter thereagainst in its upward movement, a connection 12 between the said lever and the pawl O for disengaging 50
the pawl from the ratchet to interrupt the raising of the platform and means for sustaining the platform in its raised position until released at the will of the operator to lower the wagon substantially as described. 55

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

JOSEPH E. CAMP.

Witnesses:

FRANK HUNGERFORD,
L. M. THURLOW.