

(No Model.)

2 Sheets—Sheet 1.

W. H. ENOS.
ELEVATOR AND DUMP.

No. 465,171.

Patented Dec. 15, 1891.

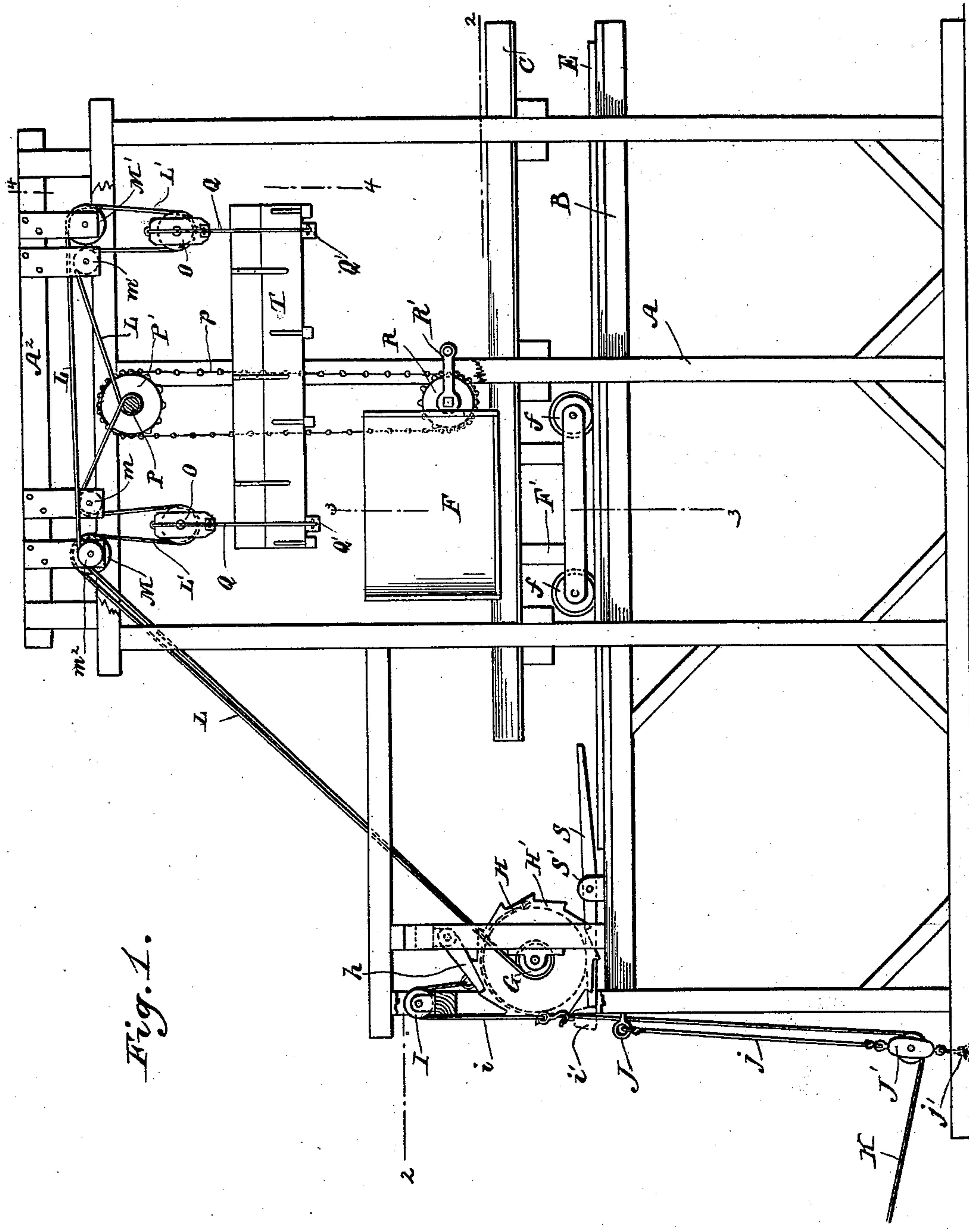


Fig. 1.

WITNESSES:
John H. Deemer
C. Sedgwick

INVENTOR:
W. H. Enos
BY *Munn & Co.*
ATTORNEYS

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Fig. 2.

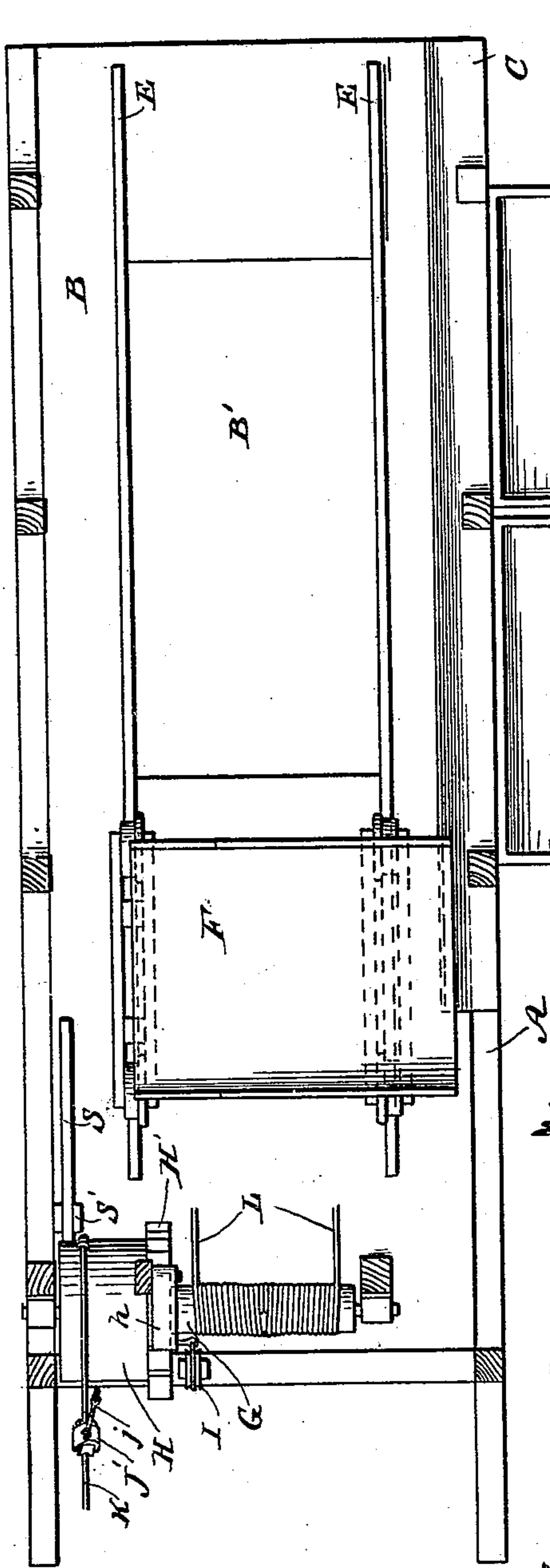


Fig. 3.

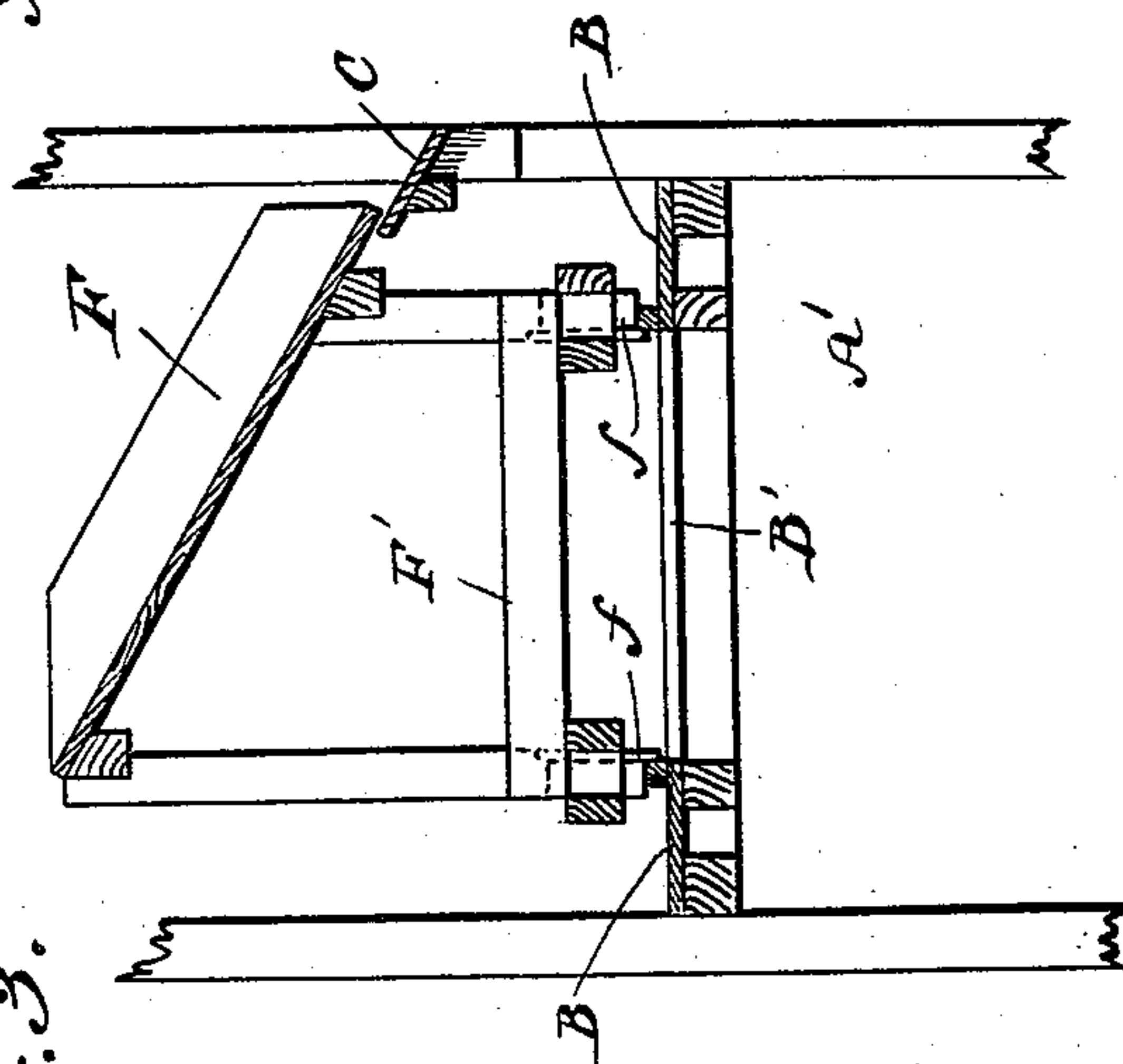
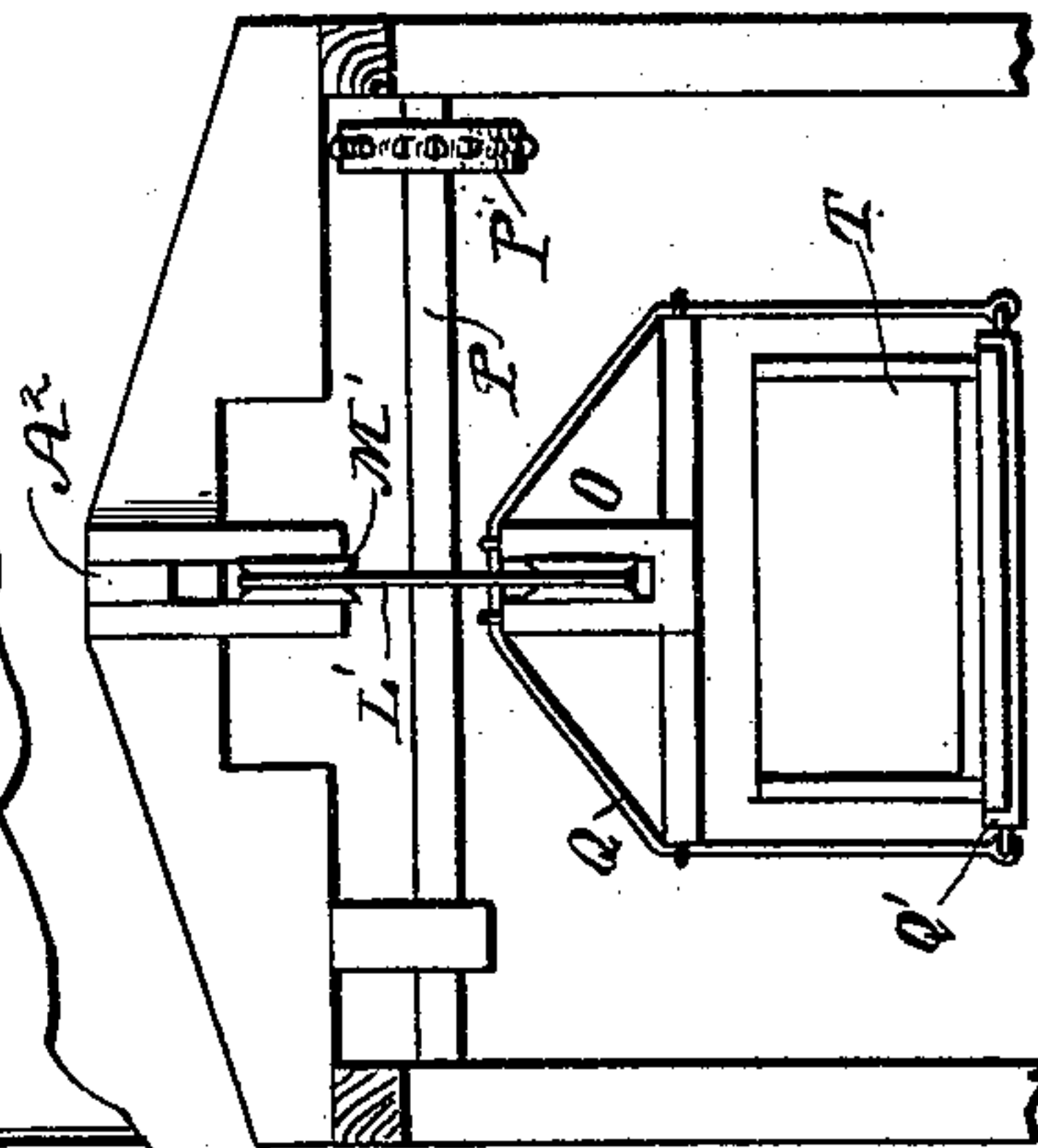


Fig. 4.



WITNESSES:
John H. Damer
C. Sedgwick

INVENTOR:
W. H. Enos
BY *Munn & Co*
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM H. ENOS, OF CHEBANSE, ILLINOIS.

ELEVATOR AND DUMP.

SPECIFICATION forming part of Letters Patent No. 465,171, dated December 15, 1891.

Application filed January 2, 1891. Serial No. 376,445. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ENOS, of Chebanse, in the county of Iroquois and State of Illinois, have invented a new and Improved Elevator and Dump, of which the following is a full, clear, and exact description.

My invention relates to improvements in elevators and dumps, and especially to that class of elevators and dumps which are used for unloading grain from farm-wagons, although the apparatus may be used for other purposes. The farm-wagons in common use are made of substantially the same size and are usually provided with swinging or lifting end-boards, and these wagons are used for delivering grain.

The object of my invention is to provide an elevator and dump, by means of which the wagon-body may be raised from the running-gear and the grain contained therein quickly dumped in suitable bins, the apparatus being arranged to quickly return the wagon-body to place.

As stated above, the invention is intended for use chiefly in handling grain and in connection with an elevator-building; but the invention may be used for dumping coal or other articles, and instead of locating it in a building it may be supported in a suitable frame-work.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, of the invention. Fig. 2 is a sectional plan on the line 2 2 of Fig. 1. Fig. 3 is a broken vertical section on the line 3 3 of Fig. 1, showing the construction of the delivery-chute and the manner in which it is mounted; and Fig. 4 is a section on line 4 4 of Fig. 1.

A is the frame-work of the elevator, and as ordinarily used it is inclosed in a building, and the frame-work has a driveway A' through it longitudinally, above which is a floor B, having an opening B' centrally therein, which opening is large enough to permit

the passage through it of any ordinary-sized wagon-box. Above the floor B are inclined shelves C, which are arranged to deliver into bins D. In the drawings, the bins and shelf are shown on one side of the floor, but they may be arranged on both sides and at the ends of the frame-work, if desired.

Extending longitudinally along the floor B is a track E, on which is mounted the inclined chute F, said chute being supported on a frame-work F', which has wheels *f* at the bottom, which run on the track E, and the frame-work F' is of such a height that the lower portions of the chute F will be a little above the inclined shelf C, so that when grain is delivered upon the chute it will pass from it over the shelf C and into the bins D.

At one end of the floor B is pivoted horizontally a windlass G, which has at one end a drum H, with a ratchet-wheel H' affixed thereto. The drum H is made considerably larger than the windlass G, so that the drum may have sufficient leverage to easily turn the windlass. A dog or pawl *h* is pivoted above the ratchet-wheel H' and is normally held against the same by its weight, although a spring-pressed pawl may be used, if desired, and the pawl is provided with a cord *i*, which extends over a pulley I and terminates in a weight *i'*, which weight serves to hold the pawl away from the ratchet-wheel, but when the pawl is to engage the wheel the weight is raised and placed upon or hooked to an adjacent beam. The pawl thus normally prevents the drum and windlass from turning backward. The eye J is secured in the end of the frame-work A, and a pulley-block J' is supported from the eye by a rope *j*, the block being secured to the floor, as shown at *j'*. A rope K is fixed to the drum H and is wound thereon, the free end of the rope extending downward through the pulley-block J', so that when power is applied to the rope the drum H and windlass G will be turned. It is not essential, however, that the drum be turned in this way, as it is obvious that any suitable power may be used for turning the drum and the windlass. The windlass G has the ends of the rope L centrally secured thereon, and the rope is wound upon the windlass and extends upward above the floor B and hoistway

B', the rope being made to pass over pulleys suspended from the frame-work A². One member of the rope passes over a pulley M, and thence is formed into a depending loop 5 L' to support a pulley-block O, and the rope extends thence over a pulley m, is wound around the shaft P, and from thence the rope extends over the pulley m', is formed into another loop L' to receive another pulley-block O, and the rope passes from the latter 10 pulley-block up over a pulley M' and back over a pulley m² to the windlass. It will thus be seen that when the windlass is turned both the loops L' will be simultaneously raised or 15 lowered at the same rate of speed, so that a wagon-body suspended from the loops, as described below, will be held in a perfectly level position. The pulley-blocks O have stirrups Q suspended therefrom, the stirrups being 20 large enough to slip over the ends of a wagon-body, and at the bottom of the stirrups are cross-strips Q', on which the wagon-body may rest and which are held from slipping off the body by the end cleats of the latter. The 25 shaft P is mounted centrally above the hoistway B' and is provided at one end with a sprocket-wheel P', from which extends downward an endless chain p, which connects with another sprocket-wheel R, having a crank R', 30 which may be conveniently operated from the floor B.

A lever S is pivoted on the floor B in lugs S' adjacent to the drum H, and one end of the lever extends beneath the drum, so that 35 a person may step on the opposite end and the pressure of the lever on the drum will prevent the drum from turning too fast, and thus, by means of the lever, the wagon-body may be allowed to drop at any desired rate of 40 speed.

The device is operated as follows: When a wagon-body, as T, is to be emptied, the stirrups Q are placed over the ends and power is applied to the rope K, and the drum H and 45 windlass G are thus turned. When the windlass is revolved, the rope L is wound thereon and the pulley-blocks O and the stirrups Q are raised, thus raising the wagon-body T through the hoistway B', and the chute F is 50 then wheeled into position, so that it will be beneath the end-gate of the wagon. The operator then turns the crank R' and sprocket-wheel R, and this will cause the shaft P to revolve, and the friction of the shaft on the 55 rope L will cause one of the loops L' to be lengthened and the other to be correspondingly shortened, so that the grain will slide quickly from the wagon-body onto the chute and from thence into one of the bins. The

crank R' may then be turned in the opposite 60 direction, thus returning the wagon-body to a level position. The operator then raises the pawl h, places his foot upon the lever S, and the weight of the wagon-body will cause it to drop back to place, the speed being regu- 65 lated by the lever, as above described. As the wagon-body descends it unwinds the rope L from the windlass G and winds the rope K upon the drum H, so that when the wagon-body is returned to its running-gear the de- 70 vice is ready for another operation.

It will be seen that the wagon-body may be made to deliver its load at either end of the hoistway, and this may be regulated by the direction in which the load is driven beneath 75 the hoistway.

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

1. In an elevator and dump, the combination, with the windlass, of two sets of guide-pulleys, a rope having its ends secured to the windlass and its members passed up and over the guide-pulleys, one member of the rope being formed between each set of guide-pulleys 85 with a loop, an independent pulley-block mounted in each loop, and means connected with the member of the rope formed with loops for shortening one loop and correspondingly lengthening the other, substantially as 90 and for the purpose set forth.

2. In an elevator and dump, the combination, with a windlass, of guide-pulleys, a rope having its ends secured to the windlass passed over the guide-pulleys and formed with loops, 95 pulley-blocks mounted in the loops, a shaft between the loops and around which one member of the rope is wound, and means for operating the said shaft, substantially as herein shown and described. 100

3. In an elevator and dump, the combination, with a windlass, of guide-pulleys, a rope having its ends secured to the windlass passed over the guide-pulleys and formed with loops, pulley-blocks mounted in the loops and pro- 105 vided with stirrups adapted to receive a wagon-body, a shaft between the loops and around which one member of the rope is wound, a sprocket-wheel on one end of the shaft, a second shaft below the first-named shaft, 110 a sprocket-wheel on the said shaft, and an endless chain passing around said sprocket-wheels, substantially as described.

WILLIAM H. ENOS.

Witnesses:

J. D. MINER,
R. C. LANE.