(No Model.)

S. J. LINDER.

ELEVATING DEVICE.

No. 370,796. Patented Oct. 4, 1887.

Fig. 1.

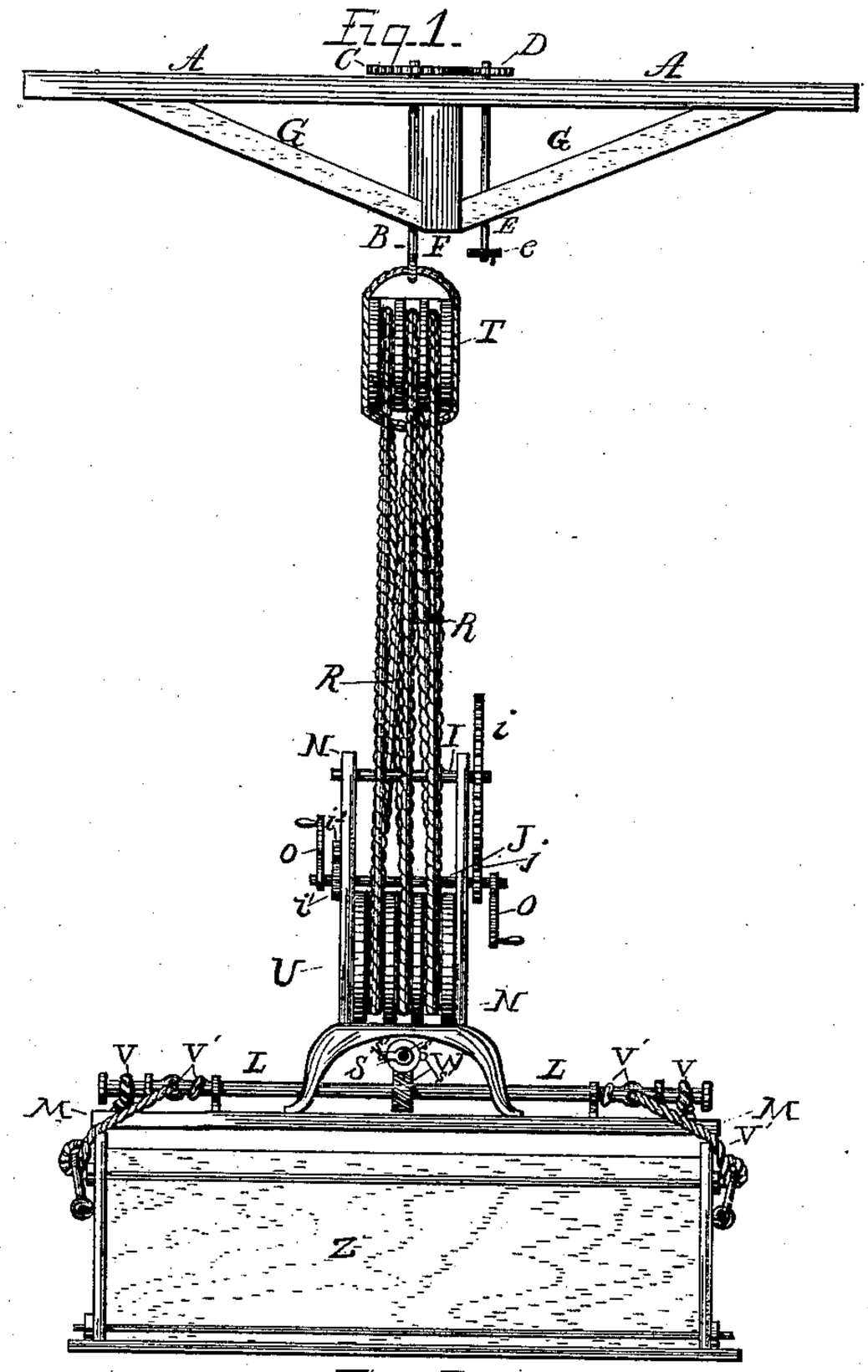
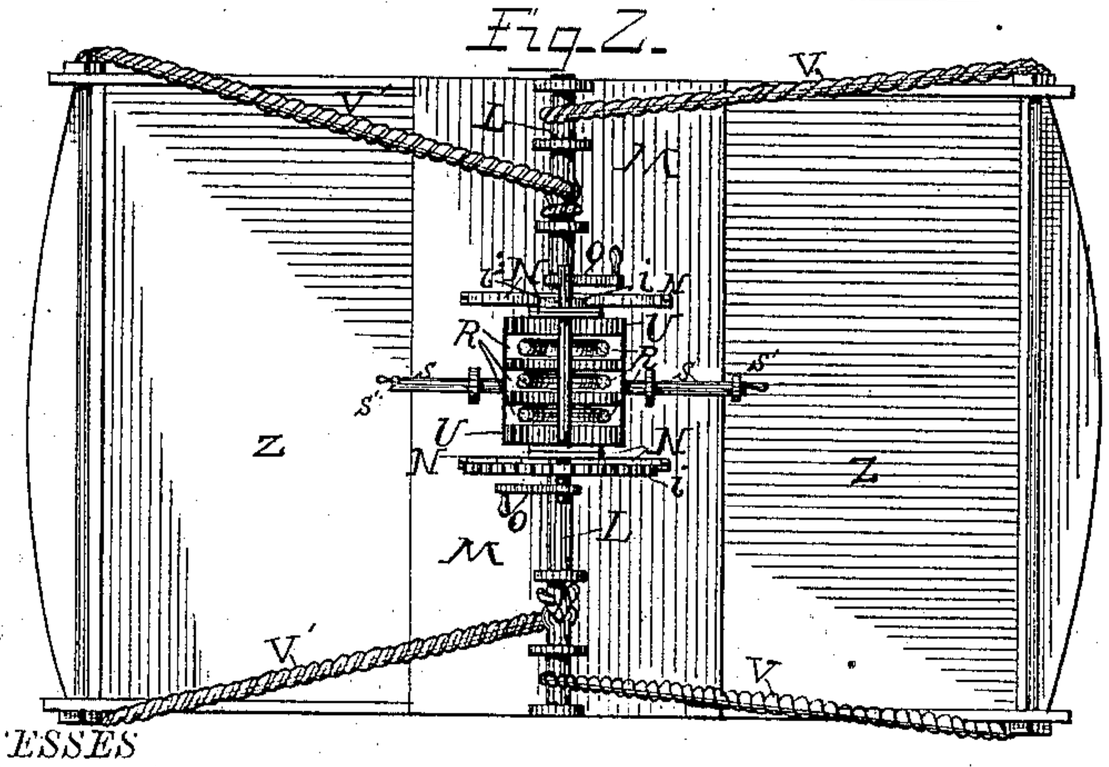


Fig. 2.



WITNESSES

J. B. Johnson

Wm. A. Brereton

INVENTOR

S. Jud Linder

by Henry Wise Garnett

Attorney

UNITED STATES PATENT OFFICE.

S. JUD LINDER, OF LACELLE, IOWA.

ELEVATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 370,796, dated October 4, 1887.

Application filed March 1, 1887. Serial No. 229,280. (No model.)

To all whom it may concern:

Be it known that I, S. JUD LINDER, a citizen of the United States, residing at Lacelle, in the county of Clarke and State of Iowa, have invented certain new and useful Improvements in Elevating or Hoisting Devices; and I do hereby declare the following to be 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.

My invention is an improvement in elevators, particularly that class of devices intended for hoisting and dumping loaded wagon-bodies; and my said invention consists in certain details of construction and arrangement of the parts composing an elevator or wagon-box, hoisting device when constructed according to my invention, as will be hereinafter more fully described, and form the subject-matter of the claims.

The object of this invention is to provide farmers and others with a convenient and simple hoisting device, whereby the wagon-box with its load of grain may be bodily elevated to the top of the crib and its contents discharged therein, thus effecting a great saving of time, as well as labor, in unloading the grain from the wagon and storing it in the granary.

For a better understanding of the details of construction and operation of a wagon-box-hoisting device when constructed according to my invention, reference is had to the accompanying drawings, in which—

Figure 1 represents a view in elevation, and Fig. 2 a plan view thereof, as in position upon a wagon-box preparatory to hoisting the same.

The letter A designates a stout cross-beam, fixed at the top of the crib or granary, upon which the hoisting apparatus is suspended. This beam is strengthened at its center by a king-post, F, and struts G.

C D are gear-wheels upon the top of the beam A, which mesh with each other, and are keyed upon the top ends of short vertically-arranged shafts B and E, respectively, the shaft E bearing at its other end a hand-wheel, *e*, while the lower end of the shaft B is formed into a hook, upon which a treble block, T, is hung, and upon which block the hoisting devices are suspended, which devices consist of the following parts:

Upon a base-board, M, is secured a light but strong frame, N, at the bottom of which is a treble block, U, similar to the one T, and around the sheaves of which blocks passes the hoisting-rope R. Above this block U, in the frame N, are journaled two shafts, I and J, having gear-wheels *i* and *j*, respectively, a ratchet-wheel, *i'*, engaged by a pawl, i^2, on the frame N, and cranks O.

Beneath the frame N, and upon the base-board M, is journaled a longitudinally-extending shaft, L, carrying at each extremity two short ropes, V V', with hooks or catches at their free ends, and at the center a worm-wheel, W, which meshes with an endless screw, S, on the transversely-placed shaft *s*, (having a hand-crank, *s'*,) also journaled to the base-board M, or the bottom of frame N. One end of the rope R is secured to the block T, and then, after being passed around the several sheaves of both the blocks T and U, its other end is fastened to the shaft I at the top of the frame N. If, therefore, this shaft I be turned by operating the hand-cranks O, which causes the shaft J to turn, and with it the small gear-wheel *j*, whose engagement with the larger gear-wheel *i* upon said shaft I causes said large gear-wheel *i* and its shaft I to turn, the rope R is wound upon said shaft I, and the entire hoisting device, with its load, elevated toward the block T.

Referring again to the shaft L upon the base-board M and the short ropes V V', one of these ropes, V, at each end of the shaft L, is made loose—that is, it will not be affected by the movement of said shaft—while the other rope, V', is fixed to said shaft, so that upon its revolution said ropes V'—one at each end of the shaft L—will be wound upon said shaft for the purposes, as will presently appear.

The operation is as follows: The beam A, with its suspended block T, having been securely fixed in proper position at the top of the crib or granary, and the hoisting device with its block U suspended upon the block T by the rope R, the wagon to be dumped, with its body loaded with grain or other material, is now driven beneath the said hoisting device and the four short ropes V V' hooked to the head and tail of said body Z, the fixed ropes V' going to the head and the loose ropes V to the foot. The operator now grasps the hand-

cranks O and turns the shaft J, and through the intervention of the gears *j* and *i* causes the shaft I to turn, and thereby wind the rope R upon the same, causing the elevation of the wagon-body Z, together with its load and the operator, to the proper height. When this is accomplished, the pawl i^2, engaging the ratchet-wheel *i* on the shaft J, prevents the unwinding of the rope R, and holds the part securely in its elevated position. To bring the tail of the wagon-body around in proper position opposite the door or opening in the crib is now the next step, and to accomplish which the hand-wheel *e* is turned by the operator, who, of course, is standing within the wagon-body Z, which causes the gear-wheel D to turn, and with it the wheel C and the block T, thus bringing the wagon-body around in any desired position. Now, to dump the load is the next step in the operation, to accomplish which the head of the wagon-body must be elevated, and to accomplish which the crank *s'* is turned, which causes the screw S to revolve, and with it the worm W and its shaft L. The two head ropes V', as before stated, being fixed to said shaft L, they are consequently wound thereon, and thus the head of the wagon-body is elevated, so that upon the removal of the tail-gate the contents of said body will be discharged into the crib or other receptacle. The wagon-body is now permitted to assume the horizontal position by turning the crank *s'*, so as to unwind the ropes V' from the shaft L, after which it is lowered upon the wagon by releasing the pawl i^2 and turning the cranks O backward, so as to unwind the rope R from the shaft I.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States, is as follows, viz:

1. In a hoisting device, the frame N, shafts I J, journaled therein, cranks O, gear-wheels *i j*, with pawl and ratchet i' i^2, and block N, substantially as described, for the purposes specified.

2. In a hoisting device, the combination, with the block T and its connections, substantially such as described, for turning said block, of the hoisting mechanism composed of the frame N, shafts I J, gear-wheels *i j*, pawl and ratchet i' i^2, cranks O, block U, and rope R, substantially as described, for the purposes specified.

3. In a hoisting device, the base-board M, shaft L, crank-shaft *s s'*, with the worms S and W, cords V V, loose upon the shaft L, and cords V' V', fixed upon said shaft, substantially as described, for the purposes specified.

4. The combination, in a device for hoisting and dumping wagon-bodies, with suitable elevating mechanism, substantially such as described, of a block arranged at the top of the crib, adapted to be turned so as to bring the tail end of the wagon-body around into proper position, and means, substantially such as described, for tilting the head of the wagon-body to dump the same.

S. JUD LINDER.

In presence of—
W. K. MARDIS,
J. M. LINDER.