

(No Model.)

2 Sheets—Sheet 1.

E. C. HARNDEN.  
DEVICE FOR MOVING GRAIN.

No. 563,172.

Patented June 30, 1896.

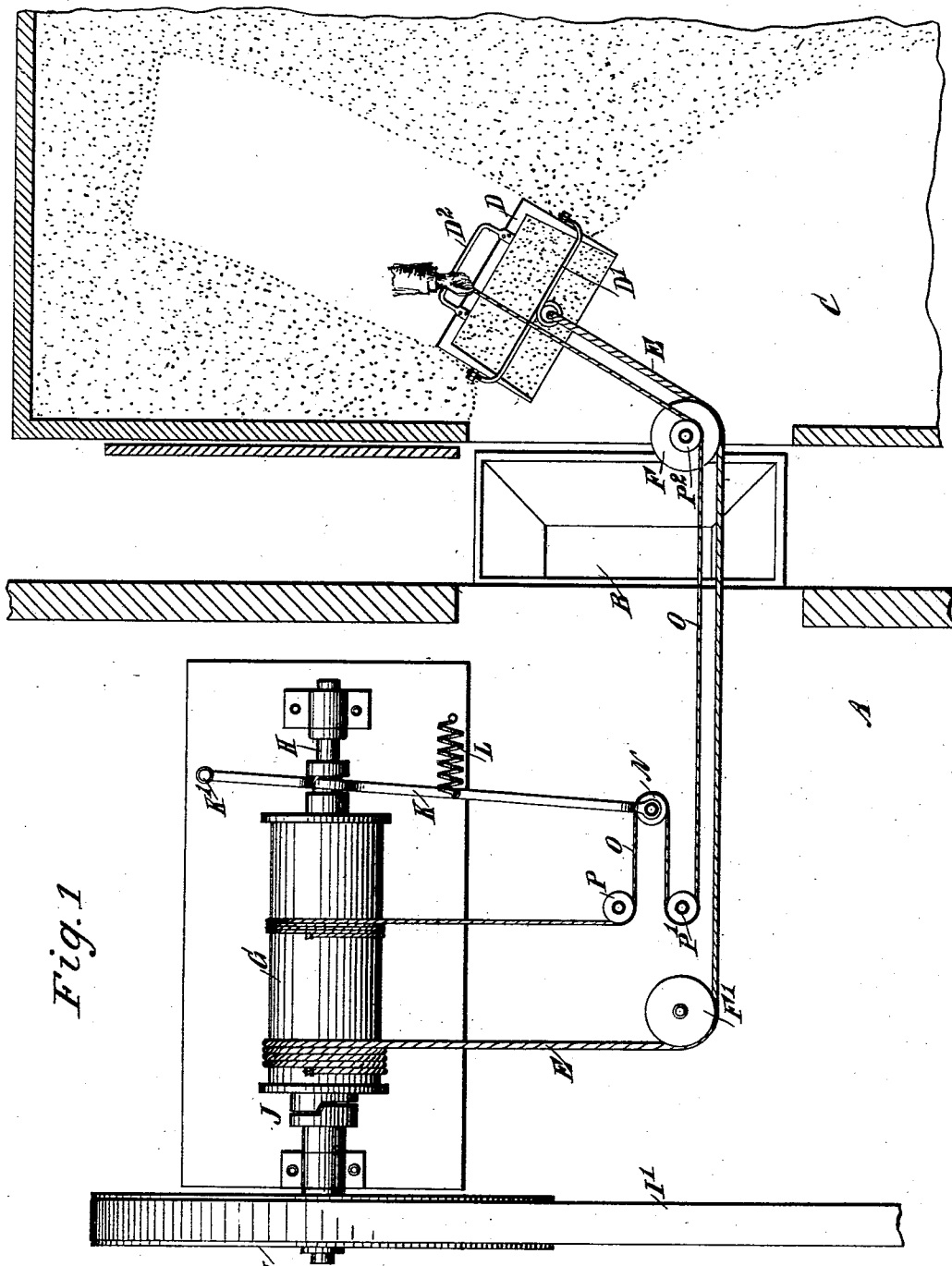


Fig. 1

WITNESSES:

J. B. Walker  
Thos. J. Horst

INVENTOR

E. C. Harnden.

BY

Munn & Co

ATTORNEYS.

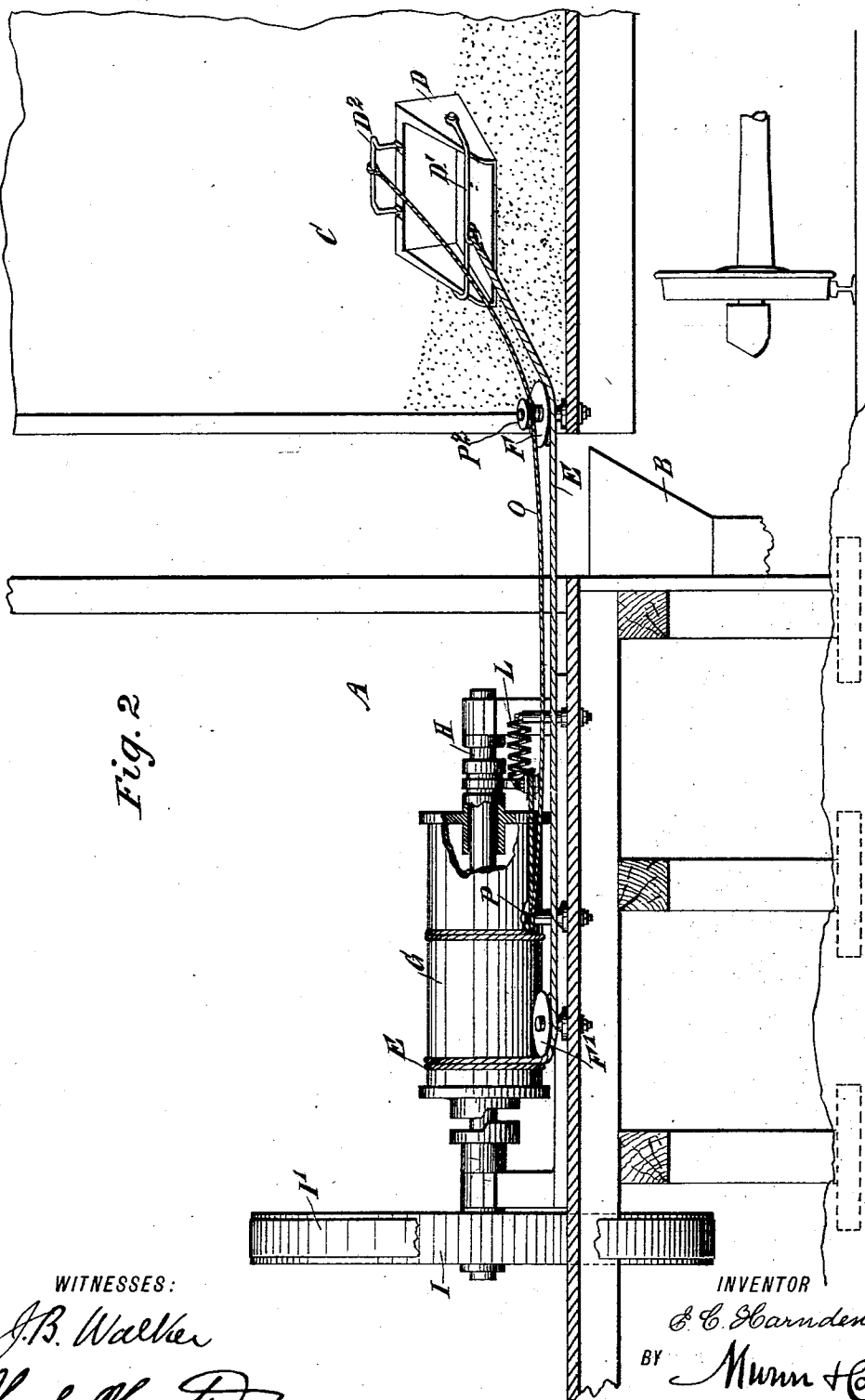
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2 Sheets—Sheet 2.

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WITNESSES:  
*J. B. Walker*  
*Geo. F. Hester, Jr.*

INVENTOR  
*E. C. Harnden*  
BY *Munn & Co*  
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# UNITED STATES PATENT OFFICE.

EDWIN C. HARNDEN, OF CARBONDALE, PENNSYLVANIA.

## DEVICE FOR MOVING GRAIN.

SPECIFICATION forming part of Letters Patent No. 563,172, dated June 30, 1896.

Application filed November 15, 1895. Serial No. 569,076. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN C. HARNDEN, of Carbondale, in the county of Lackawanna and State of Pennsylvania, have invented a new and Improved Device for Moving Grain, &c., of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved device for moving grain from one place to another, the device being very simple and durable in construction, very effective in operation, and more especially designed for unloading grain and other loose material contained in cars.

The object of the invention consists principally of a revoluble drum, a pulling-rope adapted to wind on the said drum and connected with the scoop, shovel, or like device for moving grain, a clutch mechanism for throwing the drum into and out of gear, and a controlling-rope adapted to wind on the said drum and under the control of the operator said controlling-rope controlling the clutch mechanism.

The invention also consists of certain parts and details, and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

Figure 1 is a plan view of the improvement as applied and with the car and building in section, and Fig. 2 is a sectional side elevation of the same.

The improved device, as illustrated in the drawings, is arranged in a building A, provided on its outside with a receiving-spout B, into which the grain is moved from the interior of the railroad-car C by means of a scoop, shovel, or like device D. On the bail D' of the scoop D is secured one end of a pulling-rope E, passing over the horizontally-disposed pulley F, journaled on a suitable stud held in the car-door opening, as is plainly shown in the drawings, the rope then extending through an opening in the side of the building A, over a pulley F', to finally wind on a drum G, held loosely on a shaft H, jour-

naled in suitable bearings within the building A.

On the shaft H is fastened a pulley I, connected by a belt I' with suitable machinery to impart a rotary motion to the said shaft H. The drum G is adapted to be connected by a beveled jaw-clutch J with the shaft H, so that when the latter is rotated the rotary motion is given to the drum G, and the rope E is then wound up on the said drum by power and a pull is exerted on the scoop D to move the latter to the door-opening of the car, and to permit the operator to empty the contents of the scoop into the spout B.

The clutch mechanism is controlled by a shifting lever K, fulcrumed at its rear end at K' and drawn on by a spring L to normally hold the drum out of engagement with the clutch. On the free end of the shifting lever K is journaled a pulley N, over which passes the controlling-rope O, also passing over a pulley P within the building A to wind on the drum G. The rope after leaving the pulley N passes over a second pulley P' and then extends through the opening in the building A, to pass over a pulley P<sup>2</sup>, held on the stud for the pulley F. The rope then extends into the car C to connect with the handle D<sup>2</sup> of the scoop D and under the control of the operator manipulating the scoop.

Now, it will be seen that when the operator pulls on the controlling-rope O, as shown in Fig. 1, he exerts a pull on the shifting lever K, so that the latter is swung to the left to engage the drum G, by means of the clutch J, with the shaft H to cause the drum G to revolve to wind up the pulling-rope E. As the latter winds up, the scoop D is pulled forward with its load until it passes out at the car-door opening, when the contents of the scoop are dumped into the spout B, as previously explained. When this is done, the operator releases the pull on the rope O, so that the push of the beveled face of the jaw of the clutch and the pull of the spring L return the shifting lever K to its normal position, to throw the drum G out of gear with the shaft H. When the scoop D is emptied, as previously explained, the operator draws the scoop back in the car to again engage it with

the grain to fill the scoop, after which he again pulls on the rope O to throw the drum G in gear with the shaft H. The rope E is now again wound up and the above-described operation is repeated.

It is understood that when the operator moves the empty scoop D back in the car he unwinds both ropes E and O, the drum G then revolving loosely in an opposite direction on the shaft H.

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

1. A device of the class described, comprising a revoluble drum, a pulling-rope adapted to wind on the said drum and connected with a scoop, shovel or like device for moving the grain, a clutch mechanism for throwing the drum into and out of gear, and a controlling-rope adapted to wind on the said drum and under the control of the operator, the said controlling-rope being connected with the clutch mechanism to operate the latter, substantially as shown and described.

2. A device of the class described, comprising a revoluble shaft, a drum mounted loosely thereon, a pulling-rope adapted to wind on the drum and connected at its outer end with a

scoop, shovel or like device for moving the grain, a clutch mechanism for connecting the said drum with the said shaft, a shifting lever connected with the said clutch mechanism, and a controlling-rope connected with the said shifting lever and adapted to wind on the said drum, the rope being under the control of the operator, substantially as shown and described.

3. A device of the class described, comprising a revoluble shaft, a drum mounted loosely thereon, a pulling-rope adapted to wind on the drum and connected at its outer end with a scoop, shovel or like device for moving the grain, a clutch mechanism for connecting the said drum with the said shaft, a shifting lever connected with the said clutch mechanism, a controlling-rope connected with the said shifting lever and adapted to wind on the said drum, the rope being under the control of the operator, and a spring connected with the said shifting lever to return the latter to its normal position when the controlling-rope is released, substantially as shown and described.

EDWIN C. HARNDEN.

Witnesses:

AARON FOWLER,  
CHARLES E. BLAIR.