No. 679,903. Patented Aug. 6, 1901.

P. J. MULLANEY.

EXCAVATOR OR MACHINE FOR UNLOADING CARS.

(Application filed Jan. 6, 1900.)

(No Model.) 4 Sheets—Sheet 1.

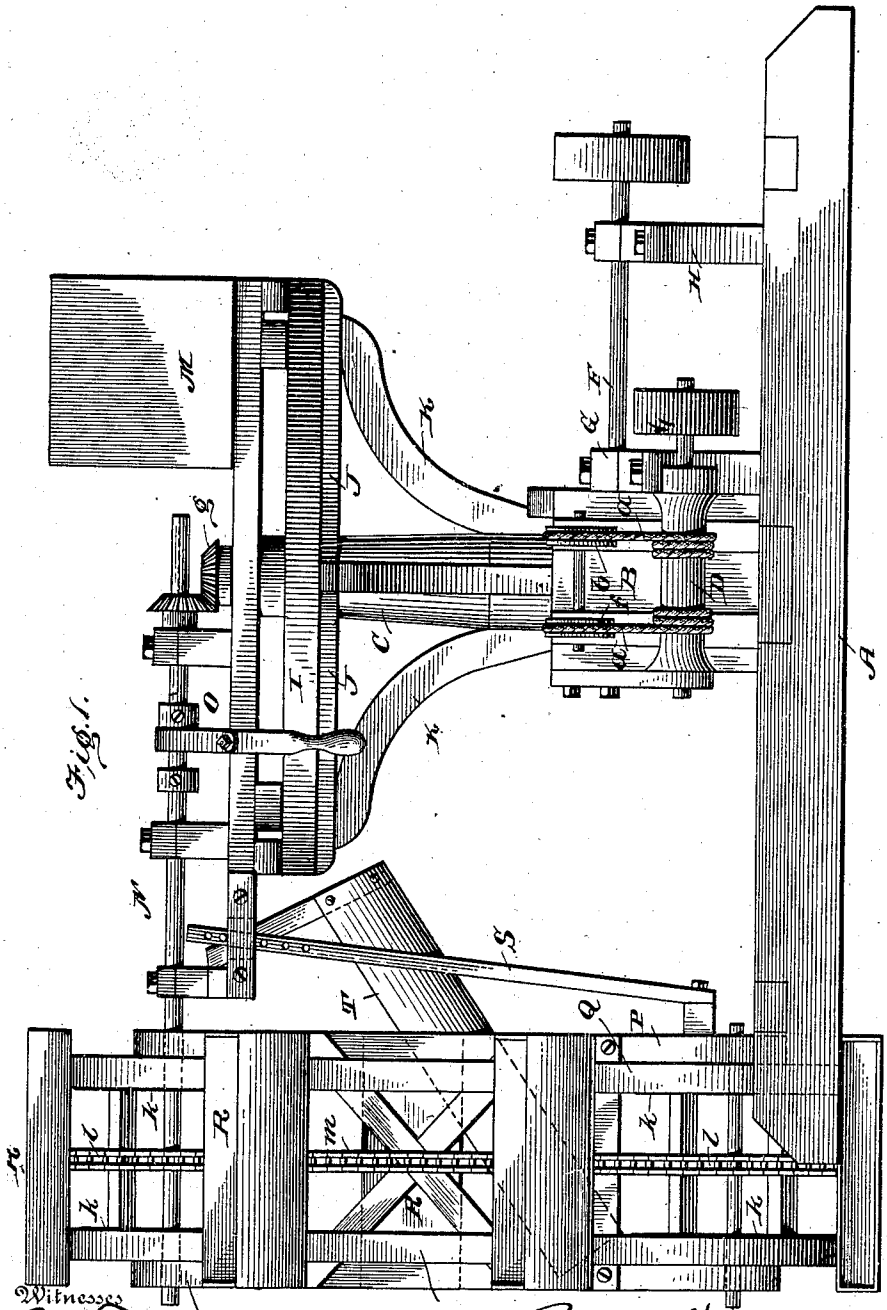


Fig. 1.

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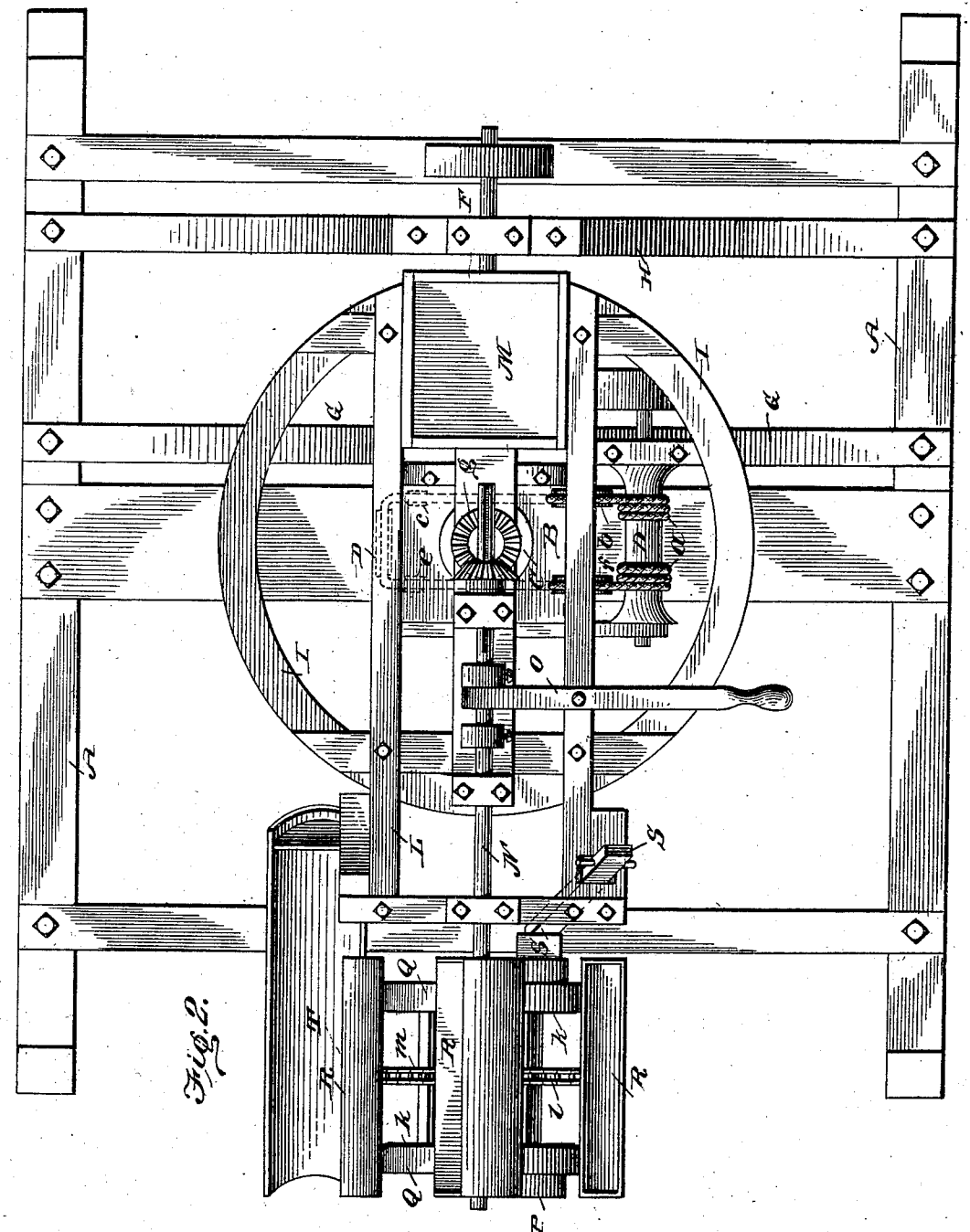


Fig. 2.

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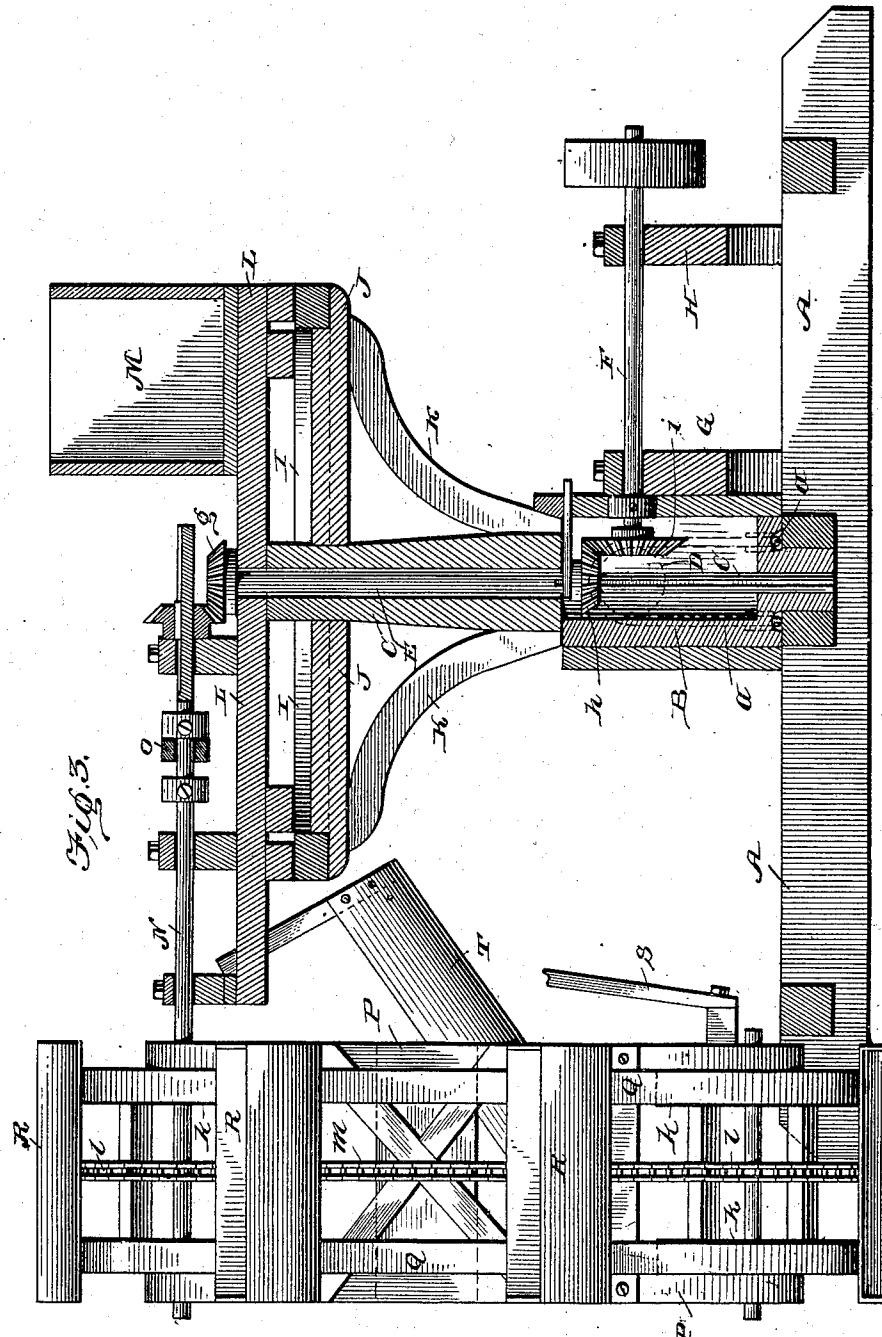


Fig. 5.

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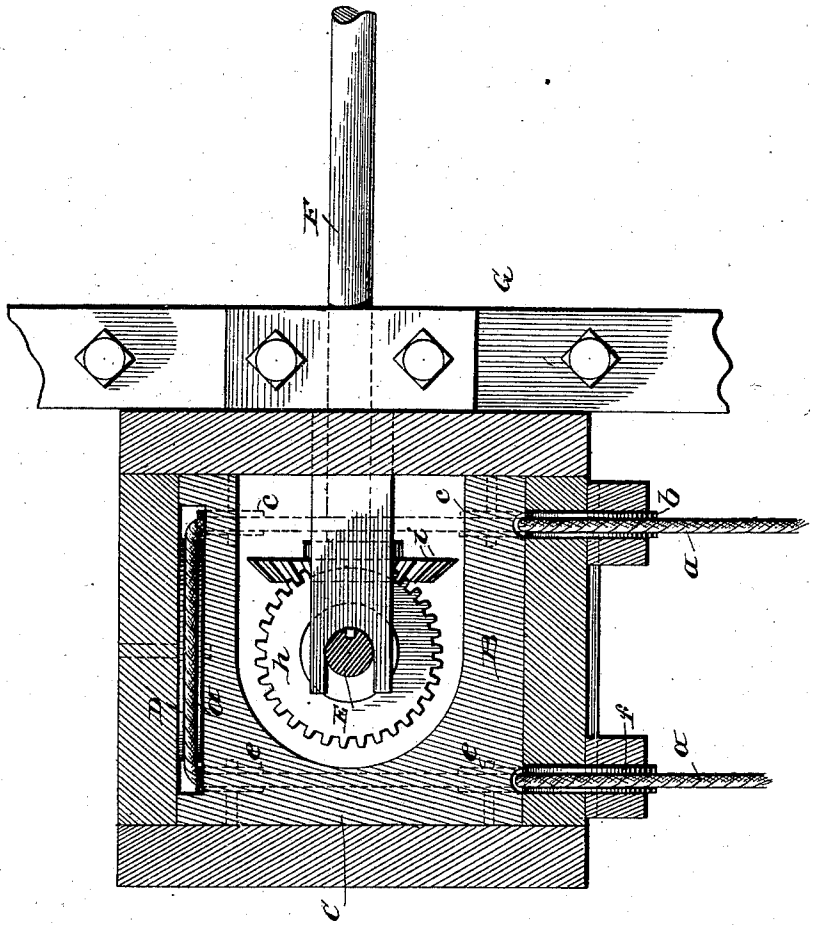


Fig. 4.

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UNITED STATES PATENT OFFICE.

PATRICK J. MULLANEY, OF CHICAGO, ILLINOIS.

EXCAVATOR OR MACHINE FOR UNLOADING CARS.

SPECIFICATION forming part of Letters Patent No. 679,903, dated August 6, 1901.

Application filed January 6, 1900. Serial No. 592. (No model.)

To all whom it may concern:

Be it known that I, PATRICK JOSEPH MULLANEY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Excavators or Machines for Unloading Cars, of which the following is a specification.

This invention relates to excavators, and more particularly to that class of machinery adapted to unload gondola cars.

The objects of the invention are to provide a machine for unloading gondola cars and to simplify the construction of the same by dispensing with useless parts, to reduce friction and vibration to a minimum, and to increase its efficiency.

For the attainment of the several objects my invention consists, in brief, in certain details of construction, arrangement of and combination of parts, all of which will be more fully described hereinafter and the specific points of novelty which will be designated in the appended claims.

Before proceeding further with a detailed description of the several auxiliary features of my invention I desire to here distinctly state and emphasize the fact that although I have shown in the accompanying drawings and described in the following specific description certain component and coöperative parts which I deem sufficiently improved and operative to carry out the fundamental principles herein incorporated, however I do not confine myself to the exact details of construction so illustrated and described, since obvious departures may be made without deviating from the inherent and generic features constituting the gist hereof.

In the drawings forming a part of this specification, Figure 1 is a view in side elevation. Fig. 2 is a top plan view. Fig. 3 is a vertical sectional view. Fig. 4 is a detail view.

Referring by letters to the drawings, A represents the base of the machine, which is adapted to be secured to a car-floor, the car being propelled in a similar manner to those on which steam-shovels are mounted. At the center of the base is a square hollow mast B, which receives and supports the shaft C, the shaft being raised or lowered therein by a windlass D, which has a rope *a* secured thereto. This rope is passed over a pulley *b*, secured in the side of the mast, thence down under the shaft over the pulleys *c c*, thence up over a pulley D, secured to the opposite and inner side of the mast, thence down under the shaft and over the pulleys *e e*, thence up and over the pulley *f*, which is similar to the pulley *b*, and is again secured to the windlass, the mast and shaft being provided with oppositely-disposed grooves, in which the rope travels.

The shaft C is hollow, and revolubly mounted therein is a shaft E, which is provided at its upper end with a bevel-gear G. The lower end of the shaft C is rectangular in cross-section (see Fig. 4) and is hollowed out to receive a bevel-gear *h*, feathered upon the shaft E. A longitudinally-extending slot is formed at the lower end of the shaft C and communicates with the interior of said shaft. Into this slot projects a horizontal shaft F, journaled upon braces G and H and provided at its inner end with a bevel-gear *i*, adapted to mesh with and drive the gear *h*, before referred to. The shaft F is adapted to be driven by a pulley and belt or in any other desired manner.

The squared lower end of the shaft C is slidably mounted within the mast, and said shaft C supports a circular platform I, which is braced thereto by horizontal braces J and curved braces K. This platform is adapted to support a frame L, which is so constructed as to revolve thereon. Mounted upon one end of the frame L is a suitable ballast M, while upon the other is a horizontal shaft N, journaled in suitable bearings and provided with a beveled gear mounted thereon in a groove, so as to permit of the lateral movement of the shaft when thrown to or from the machine by the lever O. This gear engages the gear *g*, thus driving the shaft N, which is adapted to support and operate the conveyer.

The conveyer consists of a swinging frame P, having oppositely-disposed pulleys *k* mounted in each end thereof. Intermediate the pulleys are sprocket-wheels *l*, connected by a sprocket-chain *m*, the upper sprocket-wheel being keyed to the shaft N, thus driving the pulleys, upon which are mounted the belts Q, which have a series of buckets R secured thereto. The conveyer is adapted to

swing up and is secured in the desired position by the arm S, which is connected to the lower portion of the frame P and is adjustably secured to the frame L.

Secured to the side of the frame L is a trough T, adapted to carry the material elevated by the conveyer. It is supported by suitable braces and is so arranged as to receive the coal or other material direct from the buckets.

Having thus described the various features of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for unloading gondola cars, in combination with a base, a hollow mast having a shaft adjustably mounted therein, said shaft supporting a circular platform, of the conveyer mounted on the said platform and mechanism for operating the same, substantially as shown and described.

2. In a machine for unloading gondola cars, a base having a hollow mast, a hollow shaft adjustably mounted in said mast, said hollow shaft having a shaft journaled in the center thereof the said shaft having a gear keyed at its top, and another mounted in a groove near the base, of a horizontal shaft having a gear adapted to engage the gear mounted in the groove and to drive the vertical shaft, of a circular platform supported by the hollow shaft, of a frame pivotally mounted on the said platform, of a horizontal shaft mounted on the said frame having a gear mounted in a groove therein adapted to engage the gear on the end of the vertical shaft and to be driven by the same, the shaft on the frame supporting the conveyer, substantially as shown and described.

3. In a machine for unloading gondola cars, a base supporting a hollow mast, of a hollow shaft adjustably mounted in the said mast the said hollow shaft supporting a circular platform, the said platform carrying a frame which revolves freely thereon, a shaft journaled upon said frame adapted to support a swinging frame having oppositely-disposed sprocket-wheels and pulleys connected by sprocket-chains and belts carrying a series of buckets, of the said sprocket-wheels and pulleys operated by the shaft supporting the same, of a lever for throwing the conveyer to and from the machine, of an upright and horizontal shaft connected by gear-wheels, of the upright shaft connected to the shaft upon the frame, substantially as shown and for the purpose set forth.

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