

A. POWELL.
MINE CAR LOADER.

APPLICATION FILED AUG. 17, 1911.

1,017,018.

Patented Feb. 13, 1912.

3 SHEETS—SHEET 1.

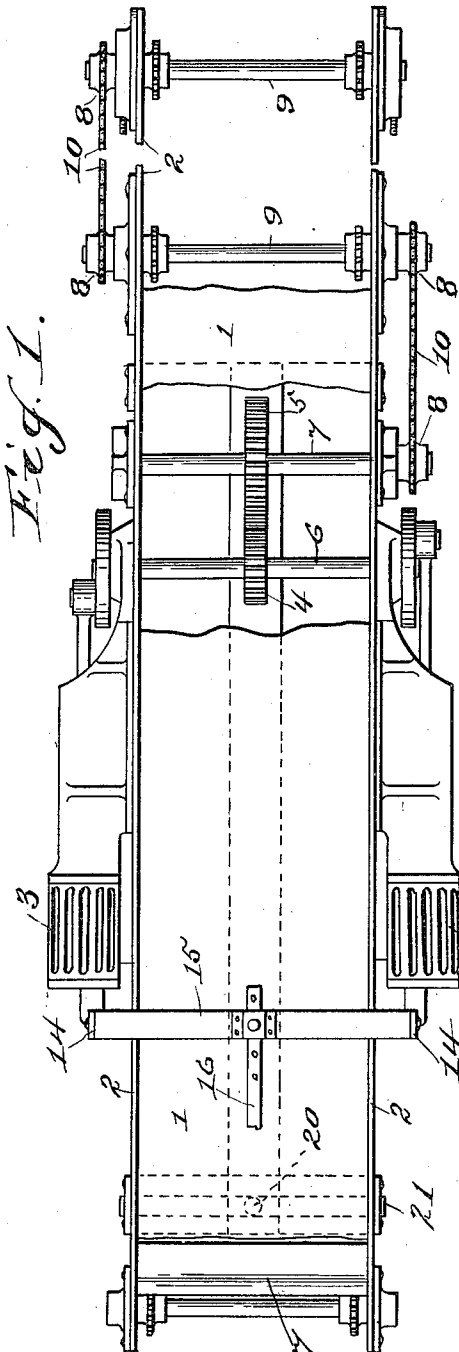


Fig. 5.

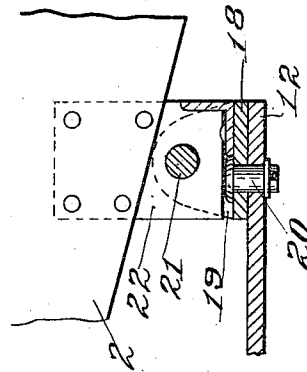
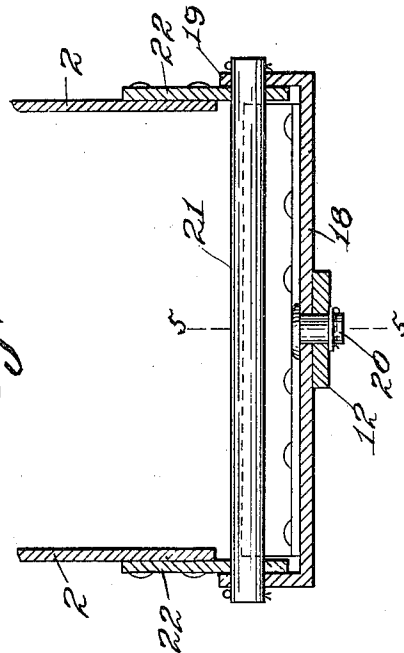


Fig. 4.



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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

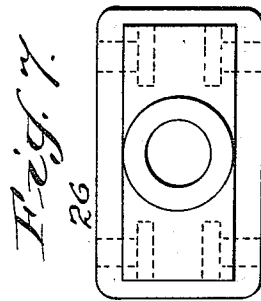


Fig. 6.

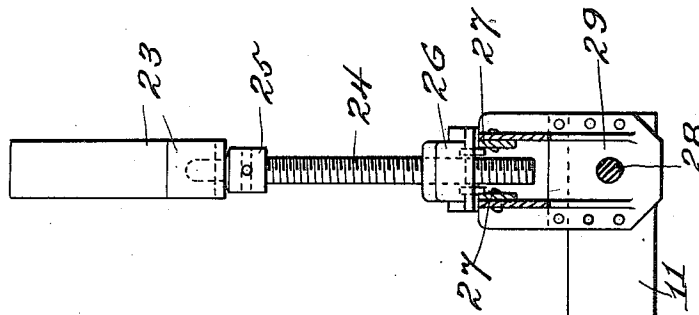
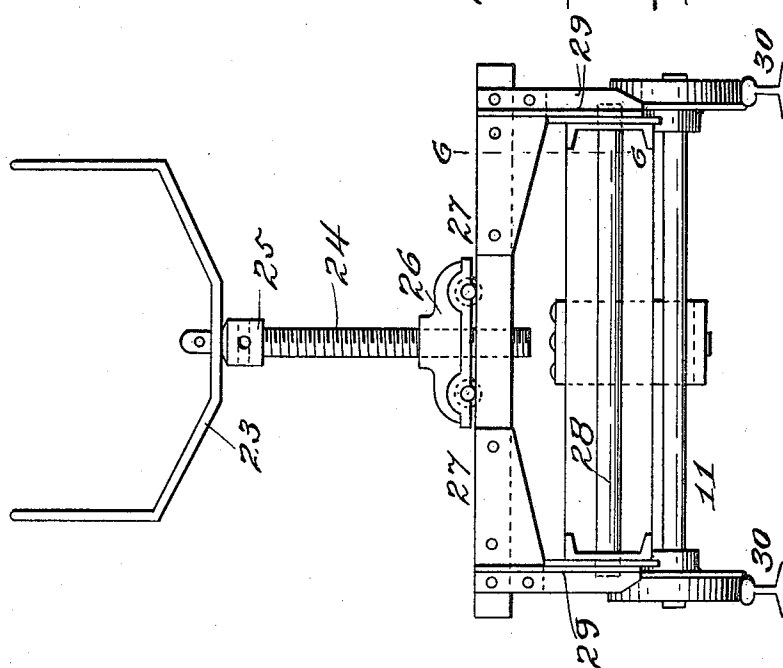


Fig. 3.



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UNITED STATES PATENT OFFICE.

ANDREW POWELL, OF UNIONTOWN, PENNSYLVANIA.

MINE-CAR LOADER.

1,017,018.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed August 17, 1911. Serial No. 644,676.

To all whom it may concern:

Be it known that I, ANDREW POWELL, a citizen of the United States, residing at Uniontown, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Mine-Car Loaders, of which the following is a specification.

This invention relates to conveyer elevators for coal mining machines, and pertains especially to a truck conveyer adapted for use in loading cars from mining machines such as shown in Patent No. 968,881, issued to this applicant August 30, 1910, and to which the present invention is specially adaptable.

The object of the invention is to provide in a conveyer apparatus a novel and peculiar means for mounting and operating a pony truck and its track for swinging the conveyer frame vertically and laterally, and to furnish special connections between the discharge end of the conveyer frame and the conveyer truck for adjusting the conveyer frame.

Various other objects, advantages and improved results are attainable in the practical construction and application of the invention.

The invention consists essentially in mechanism for connecting an elevating conveyer frame with each end of a truck so that one end of the said frame may be swung vertically, and moved laterally with its adjusting mechanism for the purpose of varying the height of the front or discharge end of the conveyer frame, and for the purpose of shifting such frame end laterally in loading mine cars.

In the accompanying drawings forming part of this application:—Figure 1 is a top plan view, partly broken away, of a machine forming the subject matter of this application. Fig. 2 is a side elevation of the machine partly broken away, and showing means for connecting the rear end of the main conveyer of a coal mining apparatus therewith. Fig. 3 is a front end view of the truck showing means mounted thereon for adjusting the conveyer frame. Fig. 4 is a section on the line 4—4 Fig. 2. Fig. 5 is a section on the line 5—5 Fig. 4. Fig. 6 is a section on the line 6—6 Fig. 3. Fig. 7 is a detail top view of the pony truck. Fig. 8 is a detail perspective view, partly broken

away, showing means for connecting the elevating conveyer with a mining machine.

The same reference numerals denote the same parts throughout the several views of the drawings.

In carrying out my invention, I employ an endless elevating conveyer 1 within the conveyer frame 2, a driving engine having cylinders 3 secured to the sides of the conveyer frame 2, gears 4 and 5 mounted on shafts 6 and 7, respectively, shafts 9, sprocket wheels 8 and sprocket chains 10 for operating the conveyer. I also employ a truck 11 upon which the conveyer frame 2 is mounted. An extension 12, projects rearwardly and downwardly from the rear end of the truck 11, and forms a support for the lower end of the conveyer frame 2, and also permits said frame to be connected with a mining machine conveyer (not shown) so that the conveyers may overlap. The means for connecting the conveyers together consists of a pair of uprights 14, attached to the rear end of the truck, a cross-bar connecting the uprights, and a connecting bar 16, adjustable at one end on the cross-bar, and having the other end attached to the mining machine conveyer. A fender 17 is pivoted to the sides of the conveyer frame 2 so as to ride on the conveyer 1, and thereby prevent backward movement of the coal on or from the conveyer 1. The connecting bar 16 may also be employed for attaching this machine to a vehicle or other hauling means for moving the truck 11, on the rails 30.

The means for connecting the rear end of the conveyer frame 2 with the extension 12 of the truck 11, comprises a cross plate 18 having up-turned ends 19, and said plate is swiveled or pivoted to the said extension 12, by means of a king bolt or pivot 20; a shaft 21 is secured in the plate ends 19, and the lower end of the frame 2 is mounted on the shaft 21 by a pair of hangers 22 secured to the sides of the frame. The shaft 21 permits the frame 2 to be swung vertically thereon, and the pivot bolt 20 permits the said frame to be swung laterally on the extension 12.

The inclined upper portion of the frame 2 has a yoke 23 secured thereto and depending therefrom. The depending portion of the yoke is loosely keyed to the upper end of a screw shaft 24, operated by a head 25, for raising and lowering the front or upper

end of the frame 2, and the conveyer 1 to various desired elevations, and especially for placing the said front or discharge end of the frame and the conveyer in position for discharging coal therefrom into mine cars. The screw 24 is mounted on a pony truck 26, having said screw working therethrough for adjusting the conveyer vertically, and the pony truck works on a straight track 27, for moving the conveyer laterally.

While the pony truck is moving laterally on its straight track provision is made for the circular movement of said frame by providing the front end of the truck 11 with a shaft 28, and pivotally mounting the track 27 on the shaft by means of depending track arms 29, which elevate the track across the front end of the truck.

It will be understood that the connection between the yoke 23 and the screw 24, and track 27 and the truck 11, are such as to permit circular movement of the front end of the frame 2, on its pivot 20, during the straight lateral movement of the pony truck on the said track.

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

1. The combination, with a conveyer frame, and a truck having a rear extension projecting downwardly and forming a support for the rear end of said frame, of a cross plate having up-turned ends, a shaft secured in said ends and having the said frame pivotally mounted thereon, and means for pivoting the plate to the said extension.

2. The combination, with a conveyer frame, a truck, and means for connecting the frame with the truck for vertical and lateral movement of the frame, of a pony truck, a straight track pivoted to the said truck for the pony truck, a screw carried by and working in the pony truck, and

means for connecting the frame with the screw.

3. The combination, with a conveyer frame, a truck, and means for connecting the frame with the truck for vertical and lateral movement of the frame, of a pony truck, a screw connected with the frame and working in the pony truck for adjusting the frame vertically, and a pony truck track pivoted to said truck and operated by the lateral movement of the frame.

4. The combination, with a conveyer frame, a truck, and means connecting the frame with the truck for vertical and lateral movement of the frame, of a pony truck, an adjusting screw carried by and working in the pony truck, a yoke secured to and depending from the frame for connecting the frame with the screw, a shaft mounted on the said truck, and a pony truck track pivoted to the shaft and adapted to be operated by the lateral movement of the frame.

5. The combination, with a conveyer frame, and a truck, of a drop projection extending from the rear end of the truck, pivoted connections between the projection and the frame permitting vertical and lateral movement of the frame, an elevated track pivoted to the front end of the truck and operated by the lateral movement of the frame, a pony truck operated on the track by the lateral movement of the frame, a yoke attached to and depending from the frame, above the track, and an adjusting screw having the yoke loosely mounted thereon and working in the pony truck.

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

ANDREW POWELL.

Witnesses:

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J. S. ALTON.