No. 664,715. Patented Dec. 25, 1900.

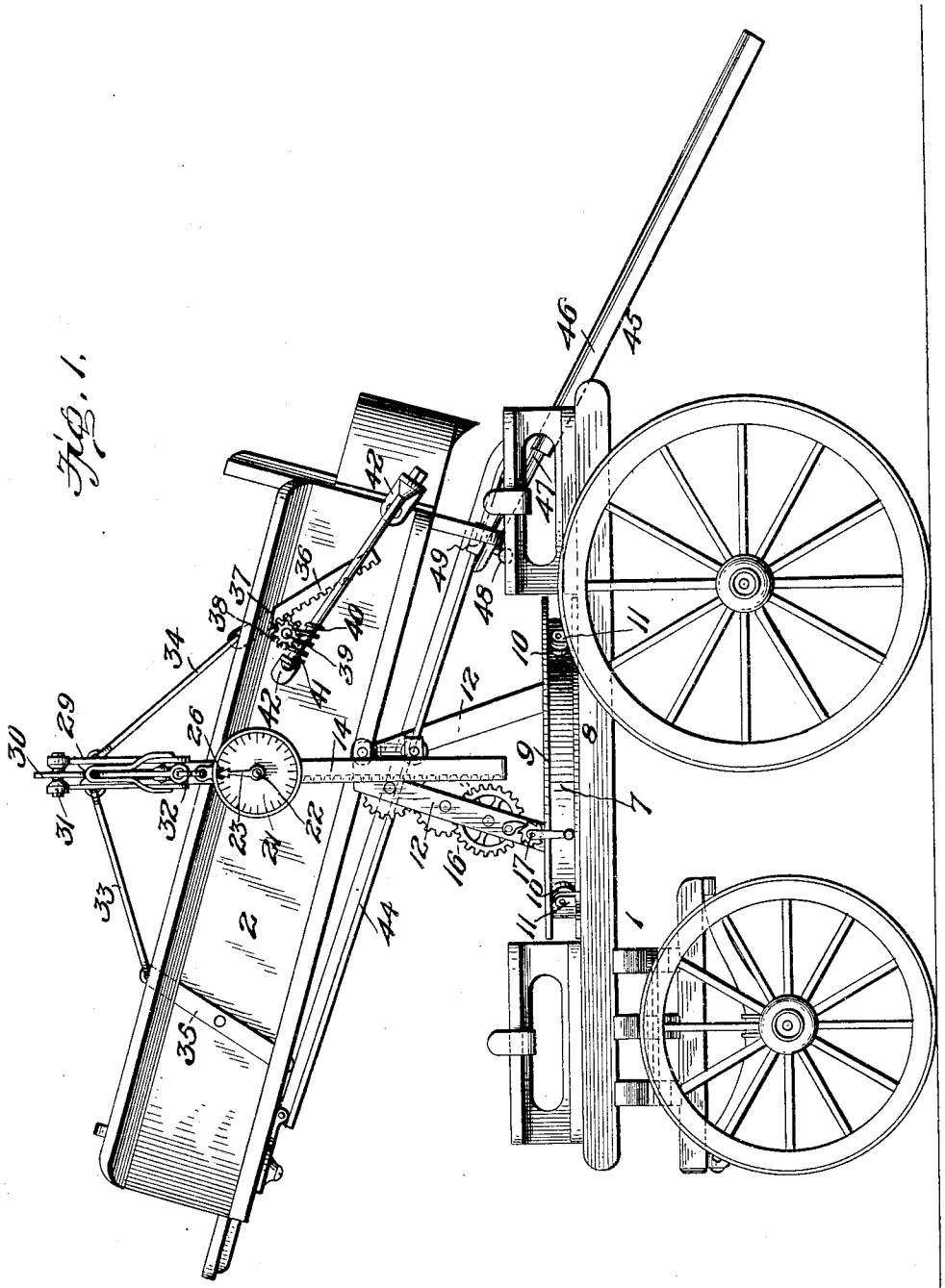
C. BERNHARDT.

WEIGHING CHUTE WAGON.

(Application filed Apr. 26, 1900.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



Witnesses
C. E. Hunt
Kellerson

Inventor
Charles Bernhardt
by A. B. Wilkinson & Co.
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 2.

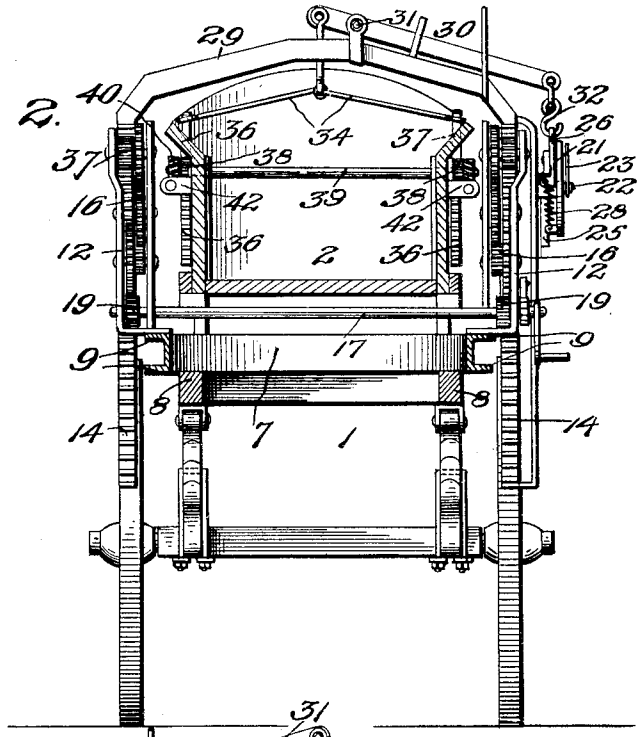
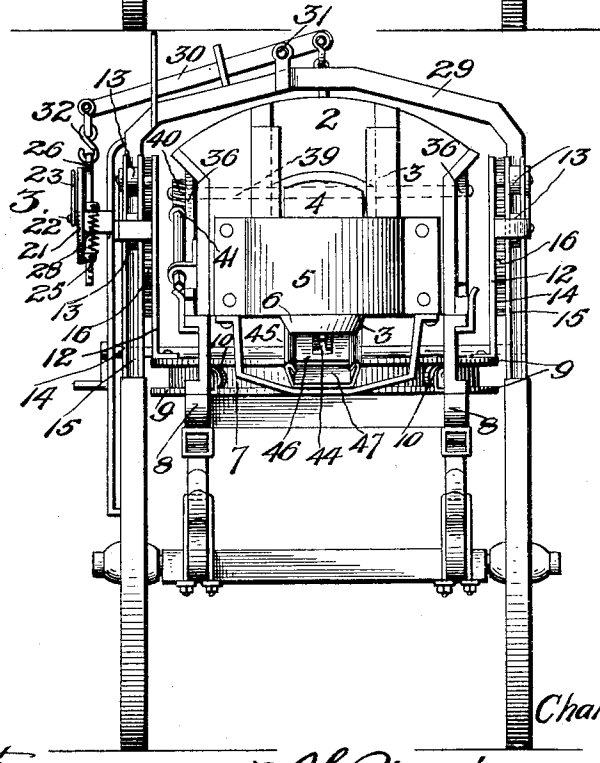


Fig. 3.



Witnesses

E. C. Hyatt

E. Hillsson

Inventor

Charles Bernhardt.

by A. B. Willson & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 4.

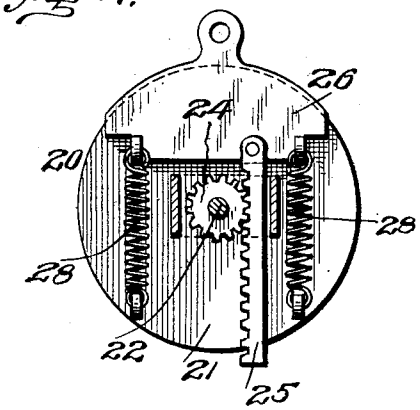


Fig. 5.

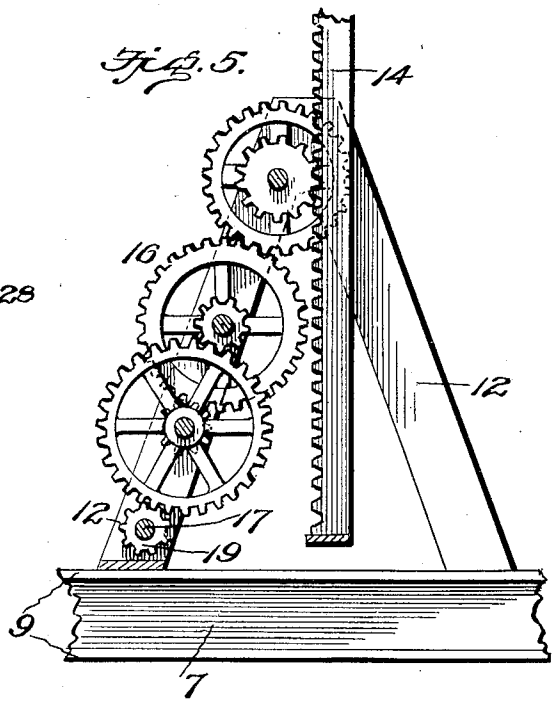


Fig. 6.

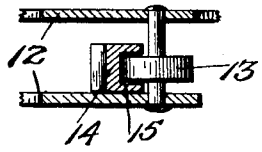
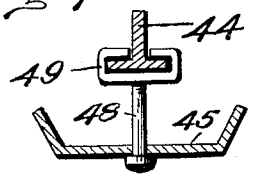


Fig. 7.



Witnesses

E. E. Hunt

E. Allison

Inventor

Charles Bernhardt

by A. B. Wilson & Co

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES BERNHARDT, OF PHILADELPHIA, PENNSYLVANIA.

WEIGHING CHUTE-WAGON.

SPECIFICATION forming part of Letters Patent No. 664,715, dated December 25, 1900.

Application filed April 26, 1900. Serial No. 14,463. (No model.)

To all whom it may concern:

Be it known that I, CHARLES BERNHARDT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Weighing Chute-Wagons; and I do 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.

The invention relates to weighing chute-wagons.

The object of the invention is to improve the construction shown and described in Letters Patent Nos. 605,535 and 623,976, granted to me by the United States Government, whereby the construction is much simplified and the efficiency increased.

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

In the accompanying drawings, Figure 1 is a side elevation of my improved chute-wagon, showing the body elevated. Fig. 2 is a vertical cross-sectional view. Fig. 3 is a rear end view. Fig. 4 is an elevation of the rear side of the dial. Fig. 5 is an elevation of the supporting-standards, showing a train of gear-wheels connected thereto. Fig. 6 is a transverse sectional view through one of the rack-bars, the standards, and the rollers journaled in the standards and engaging the grooves in the side of the rack-bar. Fig. 7 is a transverse sectional view through one of the chute-sections, the head to which it is pivoted, and the guide-rod upon which the head slides.

In the drawings the same reference characters indicate the same parts of the invention.

1 denotes the running-gear of the wagon, and 2 the body, having its tail-board provided with a discharge-aperture 3, controlled by a sliding gate 4 and communicating with a hopper or deflector 5, having a discharge-aperture 6 in its bottom.

7 denotes a turn-table secured to the reaches or side bars 8 of the running-gear and having laterally-projecting annular flanges 9, between which are arranged antifriction-rollers 10, supported in brackets 11, fixed to the side bars. Arranged upon the diametrically opposite sides and projecting upwardly therefrom are standards 12, the upper ends of which are provided with guides in the form of antifriction-rollers 13.

14 denotes rack-bars having grooves 15, into which the peripheries of the rollers project, and 16 denotes trains of gearing secured to said standards and adapted to actuate the rack-bars. An operating-shaft 17 is journaled in the lower ends of the standards and projects under the wagon-body and is provided at each end with a pinion 19, which meshes with the lowermost gear of each train.

20 denotes a spring-balance scale secured to the upper end of one of the rack-bars and consisting of a dial 21, an indicator-shaft 22, and an indicator-hand 23. To the indicator-shaft is fixed a pinion 24, which is engaged by a rack-bar 25, supported upon a sliding plate 26, said plate being connected to the dial by coil-springs 28, which exert their energy to hold the indicator-hand at the point on the dial marked "0."

29 denotes a truss-frame which is secured to or is formed integral with the upper ends of the rack-bars 14, and 30 denotes a scale-beam pivoted at 31 to the truss-frame. One end of the scale-beam is connected by a link 32 to the spring-controlled sliding plate, and the other end is connected by two sets of links 33 34 to the wagon-body. The set of links 33 are connected to brackets 35, fixed to the wagon-body, while the set of links 34 are connected to rack-bars 36, which project through apertures 37 in the sides of the wagon-body and engage pinions 38, fixed to a transverse shaft 39. This shaft also has a worm-wheel 40 secured to one of its ends, which is actuated by a worm 41, journaled in brackets 42, secured to the sides of the wagon-body.

44 denotes a T-shaped bar having its forward end pivoted under the wagon-body, at the forward end thereof.

45 denotes a telescoping chute consisting of sections 46 47, one of which is adapted to slide upon the other and one of which is pivoted by a bolt 48 to a sliding head 49, which moves upon and has a sliding engagement with the guide-bar.

The operation is very simple, and it only

requires that the body portion be elevated to bring the weight of its contents upon the scale mechanism. The weight may thus be ascertained.

In discharging the contents the wagon is elevated the desired height, the chute withdrawn from underneath the body, and the gate opened to permit the coal to discharge from the body into the chute, and as the coal is being discharged the body may be inclined so as to empty it of all of its coal by simply turning the worm.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my improved weighing chute-wagon will be readily apparent without requiring an extended explanation. It will be seen that the wagon is simple of construction, that said construction permits of its manufacture at small cost, and that it is exceedingly well adapted for the purpose for which it is designed.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with the running-gear; of standards connected to the running-gear and provided with a train of gearing, an operating-shaft for said gearing, rack-bars mounted to slide in said standards and provided with a truss-frame at their upper ends, weighing mechanism connected to one of said rack-bars, and a scale-beam pivoted to the truss-frame and connected to the wagon-body at one end and to the weighing mechanism at the other end, substantially as and for the purpose set forth.

2. The combination with the running-gear; of standards connected to the running-gear and provided with a train of gearing, an operating-shaft for said gearing, rack-bars mounted to slide in said standards and provided with a truss-frame at their upper ends, weighing mechanism connected to one of said rack-bars, a scale-beam pivoted to the truss-frame and connected to the wagon-body at one end and to the weighing mechanism at the other end, and mechanism for inclining the wagon-body when in its elevated position, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES BERNHARDT.

Witnesses:
OTTO A. SEIDEL,
J. FREDK. BAECHLER.