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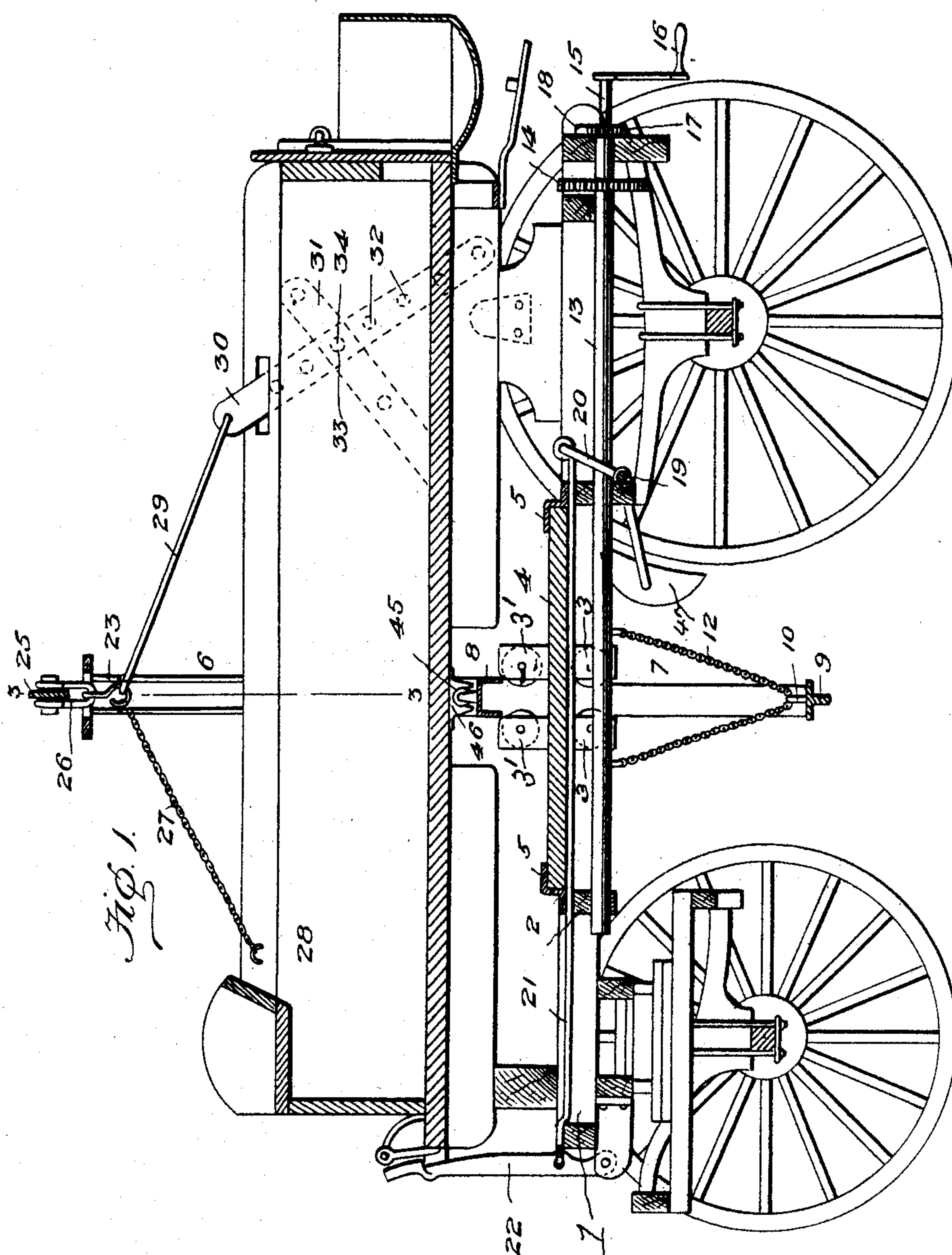
Patented May 2, 1899.

C. BERNHARDT.
WEIGHING CHUTE WAGON.

(Application filed Nov. 26, 1897.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses

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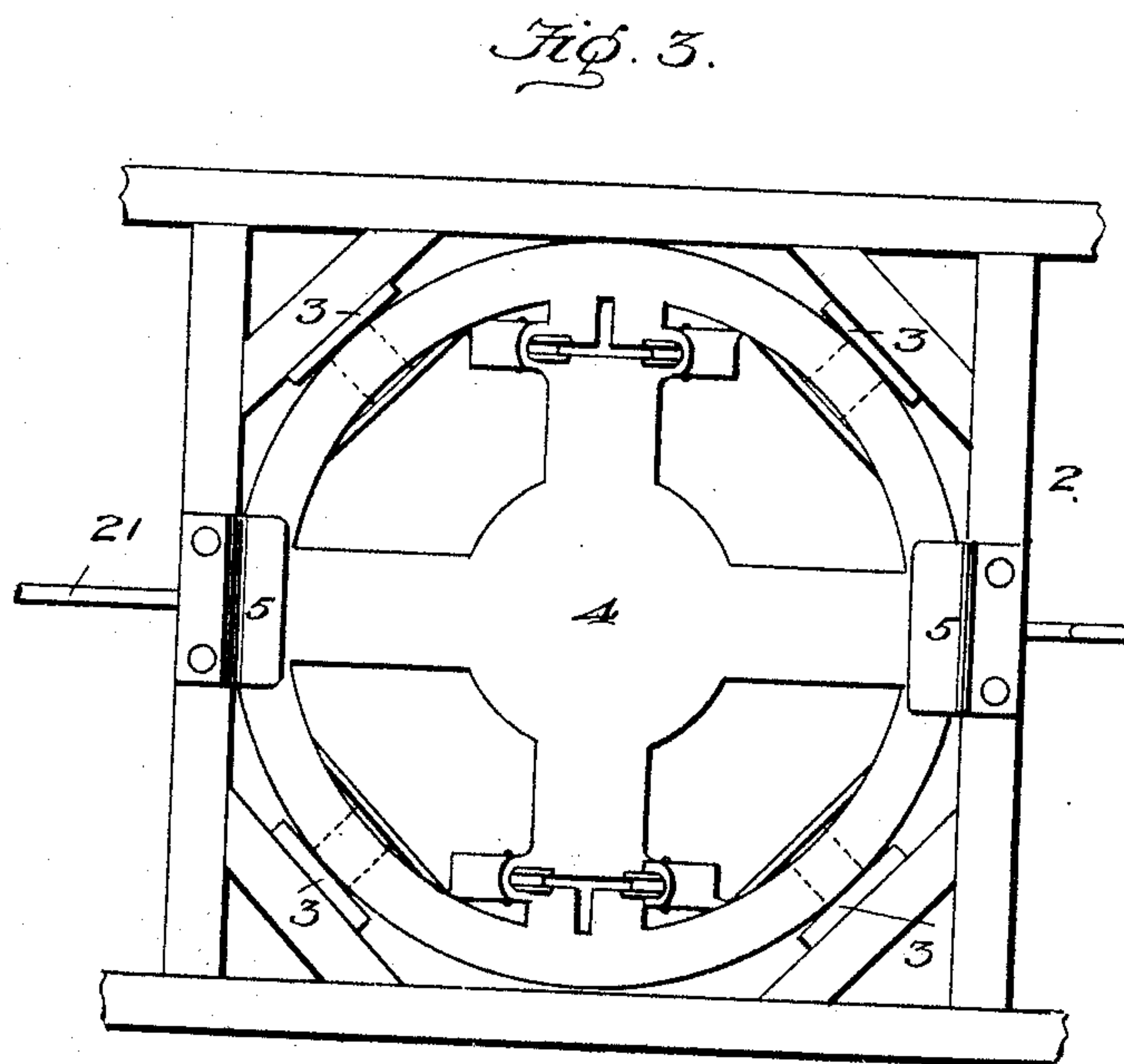
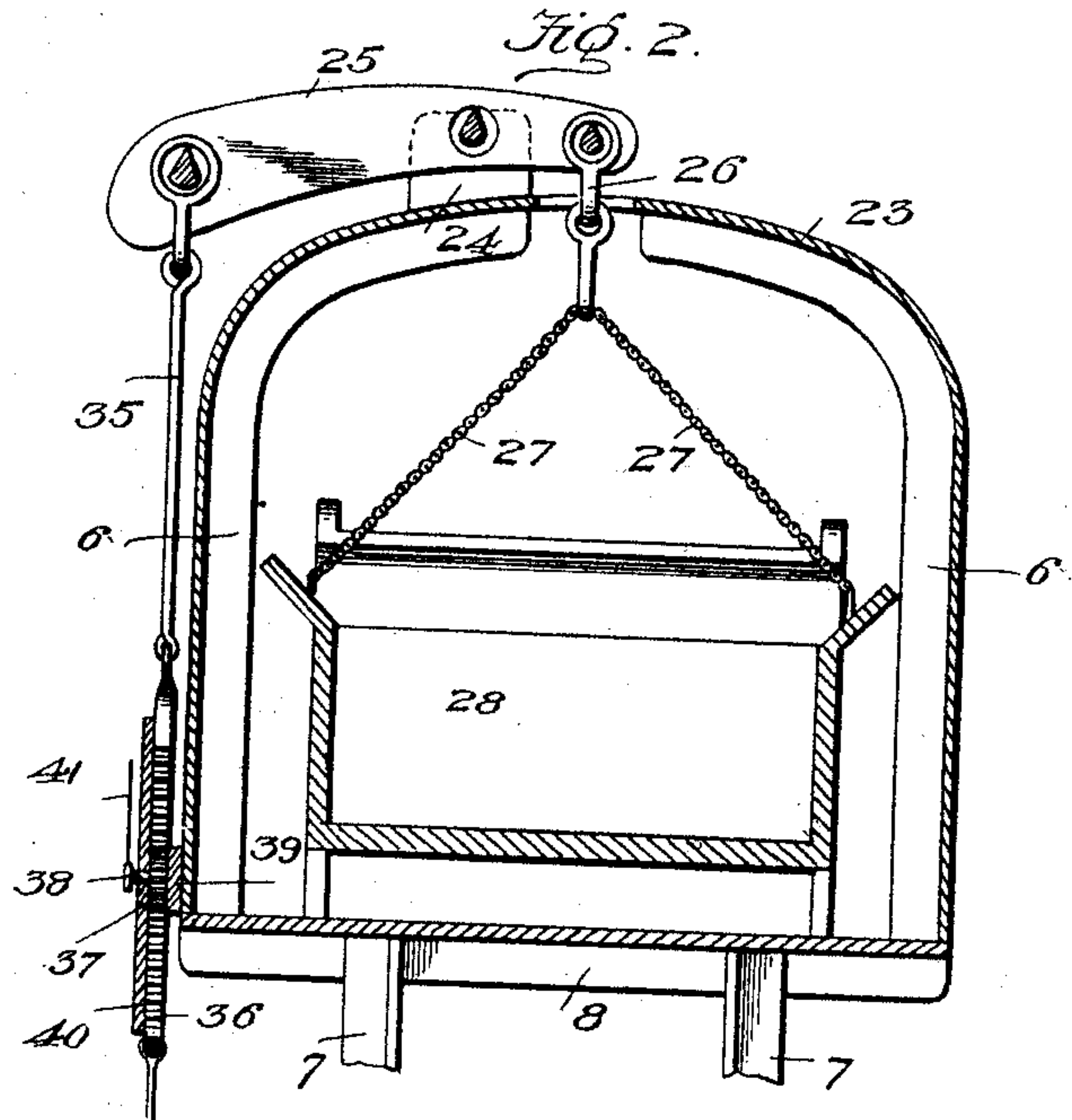
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3 Sheets—Sheet 2.



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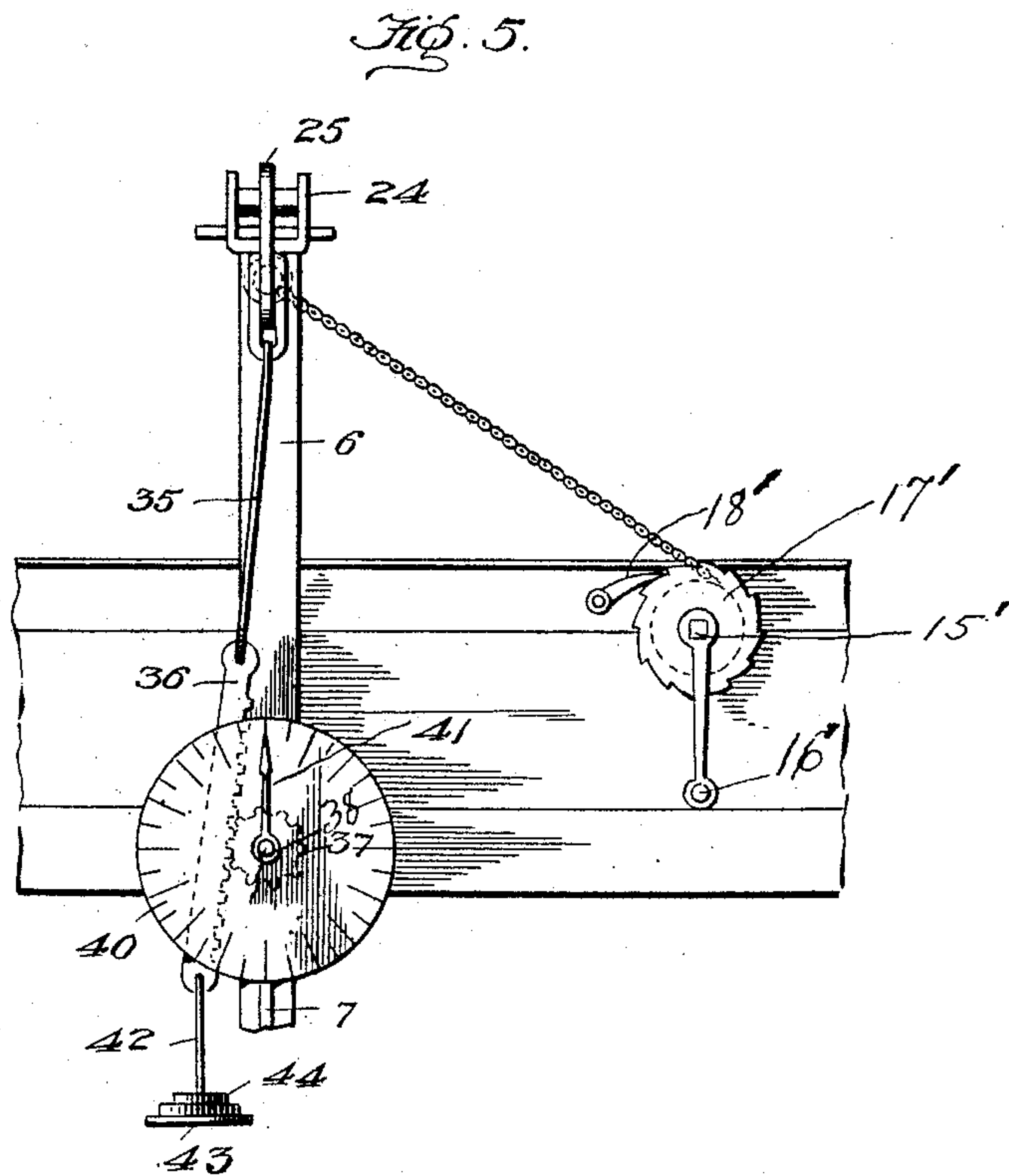
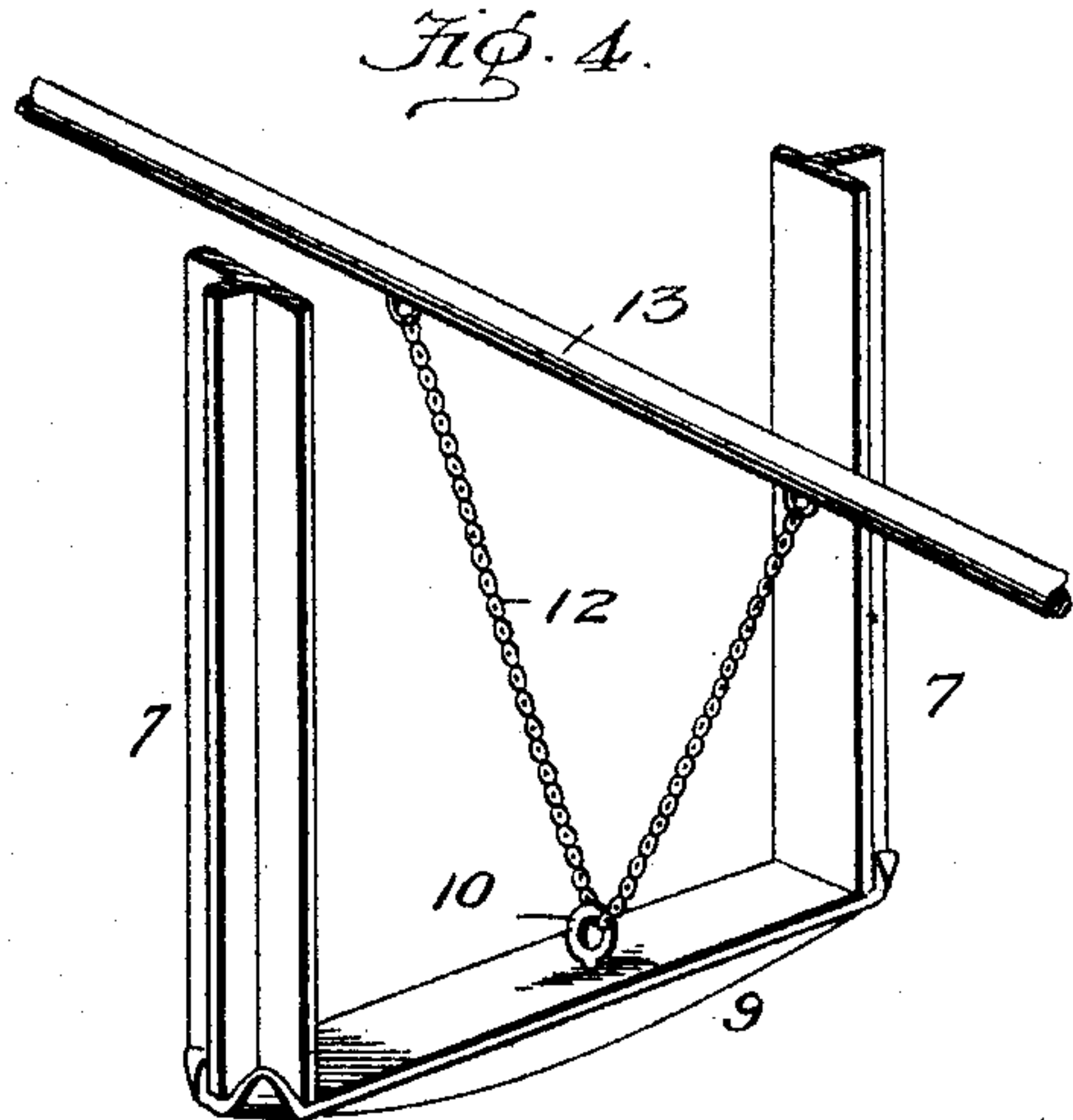
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

CHARLES BERNHARDT, OF PHILADELPHIA, PENNSYLVANIA.

WEIGHING CHUTE-WAGON.

SPECIFICATION forming part of Letters Patent No. 623,976, dated May 2, 1899.

Application filed November 26, 1897. Serial No. 659,842. (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 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.

My invention relates to self-weighing chute-wagons for the automatic delivery of merchandise, such as coal and the like; and the present invention is designed as an improvement on that class of chute-wagons for which an application for Letters Patent of the United States, Serial No. 651,827, was filed by me on or about the 16th day of September, 1897.

The object of the present invention is to improve and simplify the construction and increase the efficiency of the device without increasing the cost of production.

To these ends the invention consists in the construction, combination, and arrangement of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of my invention as set forth in the claims at the end of this specification.

The same reference characters indicate the same parts of the invention as illustrated in the several views of the drawings.

Figure 1 is a longitudinal section of my improved chute-wagon with the shafts or tongue removed. Fig. 2 is a transverse section on the line 3 3 of Fig. 1. Fig. 3 is a plan view of the turn-table. Fig. 4 is a detail view of the lower end of the body-elevating mechanism, and Fig. 5 is a detail view showing a modified form of the tilting mechanism.

1 represents the running-gear, which may be of any approved form, and it is provided with the usual carrying-wheels, as shown.

2 2 denote a rectangular frame formed centrally in the running-gear platform, and in it is journaled a series of flanged friction-roll-

ers 3 3, arranged in the same horizontal plane to support the turn-table 4, which is held in place thereon by the guide-brackets 5 5, fixed to the frame 2 2, so as to permit the turn-table to rotate horizontally within the guide-brackets in either direction.

6 6 represent vertical supports arranged parallel with each other and on opposite sides of the turn-table, and each support is provided with a pair of grooved guide-rollers 3' 3', arranged in the same vertical plane to receive the opposite flanges of the parallel T-shaped standards 7 7, depending from the cross-bar 8. The lower ends of these T-shaped standards are seated in the outer ends of a shoe 9, which is provided with a central eyebolt 10, through which a chain 12 passes, the free ends of said chain being fixed to the horizontal longitudinal shaft 13, journaled in the running-gear. The rear end of this shaft is provided with a gear-wheel 14, which is connected by suitable gearing with the crank-shaft 15, which is provided with the handle 16 and a ratchet-wheel 17, which engages a gravity-pawl 18.

19 represents the brake-shaft, journaled in the rear end of the running-gear, and it is provided with the usual brake-shoes 47, as shown. The central portion of this brake-shaft is formed with an integral double crank-arm 20, which straddles the elevating-shaft 13, and from the upper end of said crank-arm a brake-rod 21 extends to the brake-lever 22, fulcrumed in the forward end of the running-gear and within convenient reach of the foot of the driver.

23 represents an arched yoke arising vertically from the cross-bar 8, and the crown of the arch is formed with a bracket 24, in which is fulcrumed a scale-beam 25, the shorter arm of which carries a link 26, from which depend two chains 27 27, the lower ends of which are fixed to the forward end of the wagon-body 28 to support this end, and also two rods 29, which diverge rearwardly and are connected to two plates 30, which extend through guide-brackets 31 31, fixed to the outsides of the wagon-body near its rear end. Each plate 30 is provided with a series of orifices 32 and each bracket 31 with a single aligned orifice 33.

34 denotes a removable pin which is adapted to be inserted in the orifice in said bracket and the corresponding orifice in the plate and

extend into an alined orifice in the side of the body to secure the plate in said bracket and support the rear end of the body.

The chains 27 are permanently fixed to the forward end of the wagon-body, while the plates 30 are adjustably secured to the rear end of the wagon-body by means of the pins 34. Consequently by drawing the plates out and inserting the pins in the orifices nearer their ends when the body is raised the front will rise first, causing the body to tilt rearward, so as to discharge its contents by gravity.

It will of course be understood that the wagon-body normally rests by gravity on the usual bolsters fixed on the running-gear; but when it is raised therefrom by means of the yoke the load of the body and its contents is borne by the scale-beam and the weight of the load indicated by the hand or pointer on the dial, as will be presently more fully described.

From the outer end of the beam-lever 25 a rod 35 extends to a rack-bar 36, which meshes with a pinion 37, fixed on a shaft 38, journaled in a bracket 39, fixed to the yoke. 40 represents a scale-dial fixed to said bracket 39, and 41 denotes a hand or pointer fixed on said shaft 38, which traverses the scale-dial and indicates the poise or equilibrium of the scale supporting the unloaded wagon.

The lower end of the rack-bar 36 is provided with a rod 42, which is formed at its lower end with a weight-pan 43 to receive a series of removable weights 44 44, part of which are for the purpose of counterbalancing the wagon-body and the remainder added to correspond to the load to be weighed.

The cross-bar 8 is provided with a transverse roller 45, and 46 denotes a shoe or bracket fixed to the bottom of the wagon-body, so as to extend downward on each side of the roller and serve as a guide for the wagon-body when tilted to discharge its contents.

In case it should become necessary to discharge the contents of the chute-wagon in a narrow street or in some cramped place where it would be impracticable to back the wagon against the street-curb the wagon is then run alongside of and parallel with the street-curb and the wagon-body swung around transversely to the line of the street-curb to permit the contents of the wagon to be discharged.

Having thus ascertained the weight of the wagon-body and having adjusted weights on the scale-pan to counterbalance the weight of the wagon-body and cause the hand or pointer 41 to return to zero on said scale-dial, the material to be delivered is placed in the wagon-body, and when said wagon-body containing the material to be weighed is raised

from the bolsters on the running-gear by means of the yoke the hand or pointer will indicate on the scale-dial the weight of the contents of the wagon-body.

The dealer first weighs the empty wagon-box at the yard before putting the coal into it by placing the necessary weights on the scale-plate, and the indicator-finger indicates on the dial what the weight of the empty wagon-box amounts to. He then places in the wagon-box coal to the amount ordered, weighing the whole. When he delivers the coal to the consumer and prior to dumping the coal, he shows by the weights which he carries with the chute-wagon the weight of the wagon-box and its contents. He then dumps the coal at the place of delivery and then and there shows to the receiver the weight of the empty wagon by means of weights on the scale-plate, the weight at the same time being indicated on the scale-dial. He then deducts from the weight first exhibited to the receiver the weight last exhibited to him, and the remainder resulting shows to the consumer or receiver at his house or other place the exact amount of coal that has been delivered to him. This practically amounts to carrying the yard-scales with the chute-wagon.

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

1. The combination with the running-gear platform and the flanged friction-rollers 3 3 journaled therein, of the turn-table 4 mounted thereon and provided with the vertical supports 6 6, guide-rollers journaled therein, the cross-brace 8 formed with the depending standards 7 7, having a vertical movement in said supports, the arched yoke 23 fixed to said brace, the scale-beam 25 fulcrumed therein, the wagon-body 28 supported by said scale-beam, and means for indicating the weight of said body through the medium of said scale-beam, as and for the purpose set forth.

2. A chute delivery-wagon comprising a running-gear, a turn-table journaled in said running-gear, an arched yoke vertically adjustable in said turn-table, a wagon-body supported by said yoke, and means carried by said wagon-body beneath said turn-table for elevating, rotating and tilting said wagon-body, as and for the purpose set forth.

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

CHARLES BERNHARDT.

Witnesses:

BENJ. G. COWL,
A. B. SUTT.