

E. NEWMAN.

AUTOMATIC DUMPING AND MEASURING MECHANISM.

APPLICATION FILED SEPT. 15, 1910. RENEWED SEPT. 25, 1911.

1,007,597.

Patented Oct. 31, 1911.

2 SHEETS—SHEET 1.

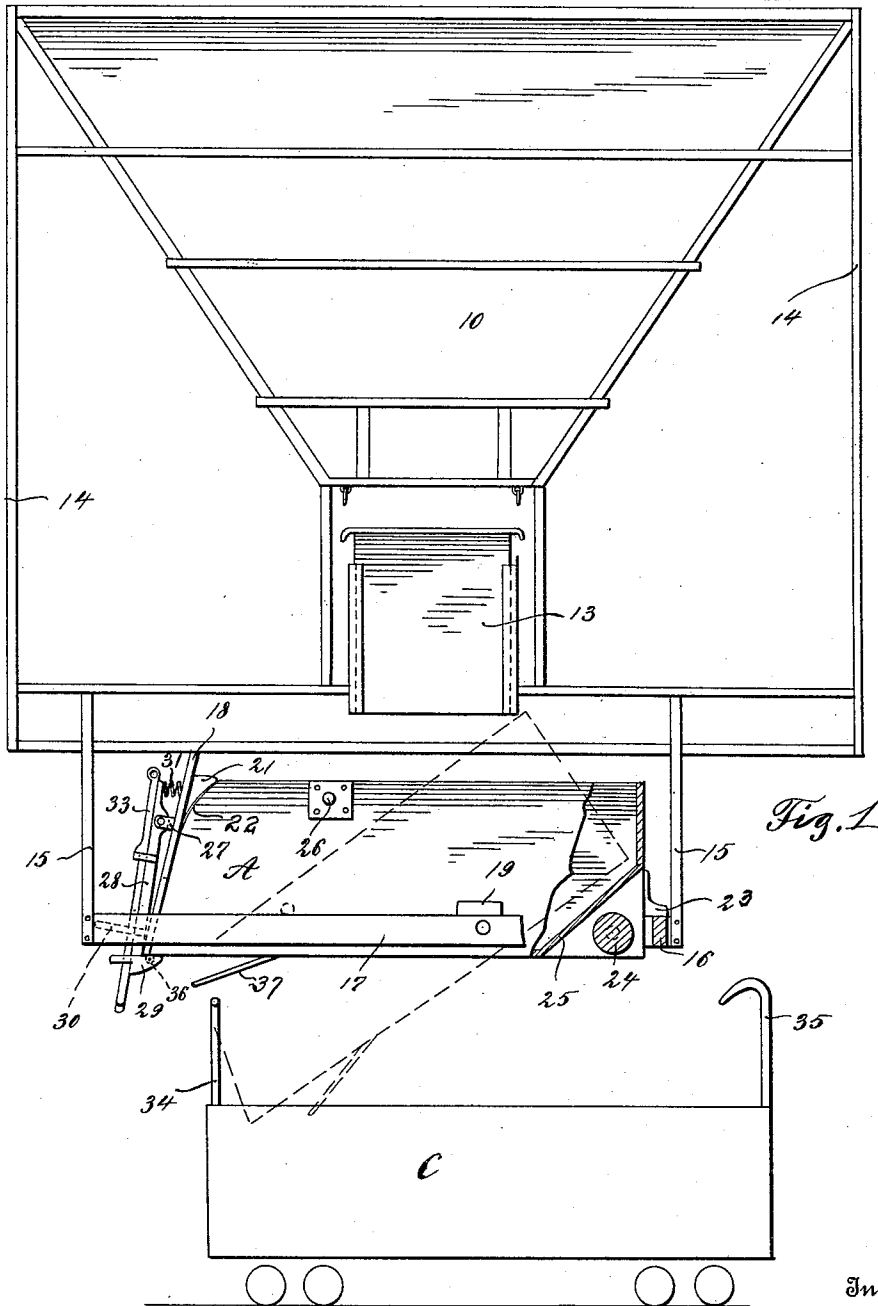


Fig. 1

Witnesses

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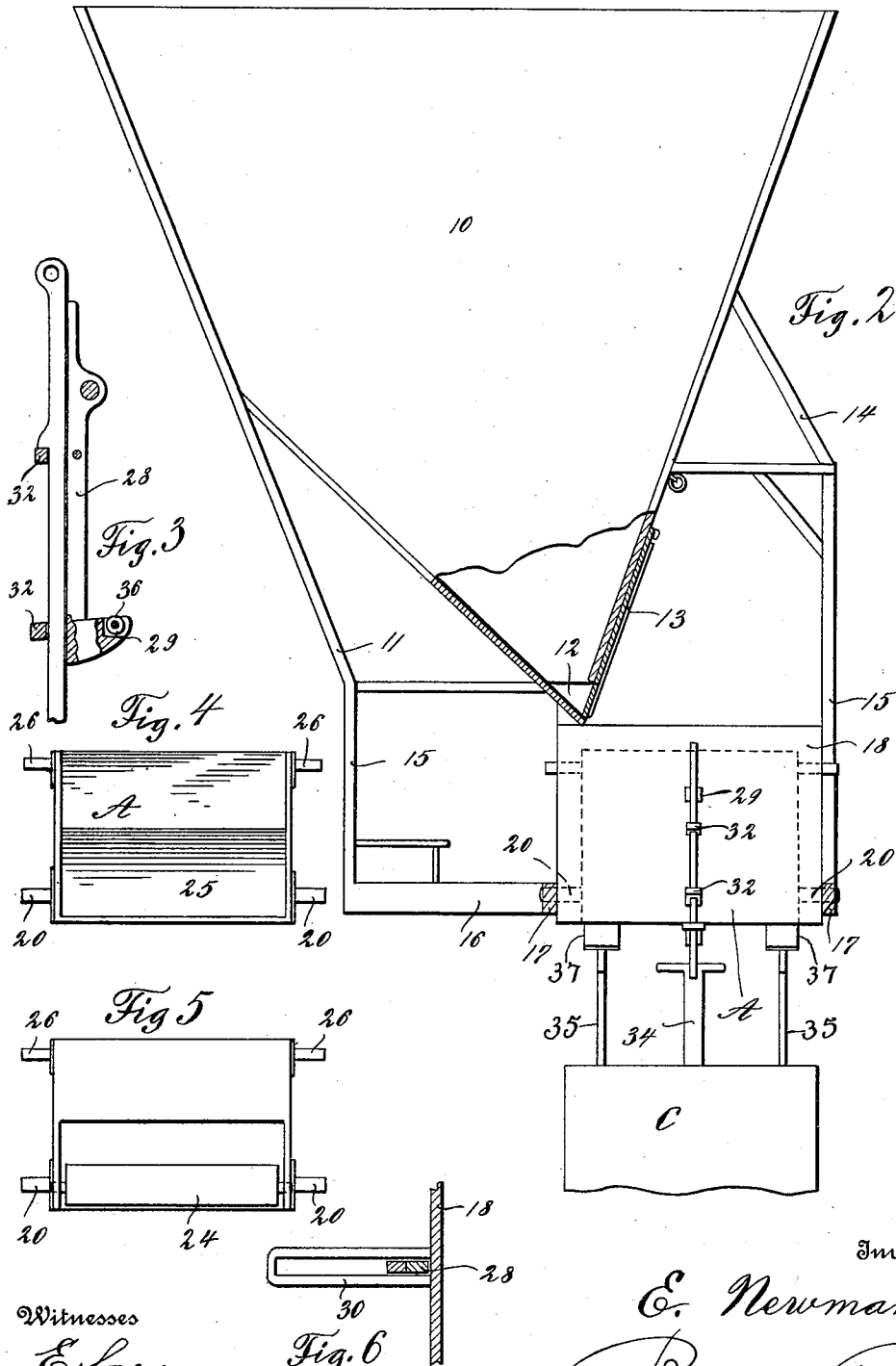
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UNITED STATES PATENT OFFICE.

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REISSUED

AUTOMATIC DUMPING AND MEASURING MECHANISM.

1,007,597.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERICK NEWMAN, citizen of the United States of America, residing at Ashland, in the county of Ashland and State of Wisconsin, have invented certain new and useful Improvements in Automatic Dumping and Measuring Mechanism, of which the following is a specification.

This invention relates to automatic dumping and measuring receptacles, being designed to construct a device of this nature which will receive the material to be measured and transferred, from a hopper and will automatically empty the same into a car or similar vehicle as the latter passes under the mechanism.

It also contemplates the provision of a means whereby cars may be passed under said measuring and dumping mechanism without in any way operating the same.

With the above and other objects in view, this invention consists in the construction, combination and arrangement of parts all as hereinafter described claimed and illustrated in the accompanying drawings, wherein:

Figure 1 is a front elevation partly in section, illustrating the coöperation of the automatic dumping and measuring receptacle forming the subject-matter of the present invention, with the hopper and receiving vehicle; Fig. 2 is a side elevation, parts thereof being broken away, likewise illustrating the aforesaid coöperation; Fig. 3 is a side elevation, partly in section of the tripping mechanism; Fig. 4 is a front elevation of the dumping receptacle; Fig. 5 is a rear elevation thereof; Fig. 6 is a top plan view, partly in section, of the keeper co-operating with the tripping mechanism.

The mechanism forming the subject-matter of the present invention comprises a hopper having a gate valve in one side thereof, which is located directly over the frame. A tilting measuring and dumping receptacle is pivotally mounted in said frame, and is adapted to receive the contents of the hopper through said sliding gate. The rear extremity of this receptacle is provided with a weight adapted to retain the same in a normally horizontal position while the forward extremity is open and rests against a stationary wall, which is part of the frame, when the receptacle is in its horizontal position. A catch and trip are pivotally mounted to the exterior of said wall and are adapted to retain the receptacle in its nor-

mal position until said trip is operated by the passage of a car, thus permitting the receptacle to tilt and the open end thereof co-operate with the car to the extent of emptying the contents thereof into said car.

Reference being had to the accompanying drawings, 10 indicates a hopper carried by the frame 11, said hopper having in one side thereof the opening 12 which is provided with the closure or sliding gate 13. A frame 14 is suspended on the side of the hopper carrying the gate 13 and carries the downwardly extending supports 15 of the secondary frame, said secondary frame having the transverse horizontal bars 16 interposed therebetween and the longitudinal bars 17. A plate or wall 18 is interposed between the longitudinal bars 17 and forms a closure for the front end of the dumping box or receptacle as hereinafter more fully described.

The longitudinal bars 17 are provided adjacent to the rear supports 15 with the bearings 19 in which the tilting receptacle A is mounted through the instrumentality of the stub shafts 20. The forward extremity of the receptacle is open and bears against the plate 18, said plate having on the rear side thereof the concave projections 21 which bear against the curved edges 22 of the forward extremities of the sides of the receptacle A, thus closing the forward extremity of the receptacle A when the same is in its normal or horizontal position. The rear extremity of the receptacle A is provided with the stop 23 which is adapted to rest on the transverse bars 16, consequently providing a means whereby said receptacle is doubly retained in its horizontal position. In order to aid in swinging the receptacle back to its normal or horizontal position, a weight 24 is mounted transversely adjacent to the rear extremity of said receptacle and is covered by the sloping wall 25 of said receptacle. When the receptacle is tilted the forward extremity thereof swings downwardly, due to the weight of the contents thereof, and in order to prevent the forward extremity from swinging downwardly more than the required distance, projections or pins 26 are mounted adjacent to the forward extremities of the upper edges of the sides thereof, and are adapted to bear against the longitudinal bars 17 when the receptacle A tilts.

A bracket 27 is mounted on the plate 18

and has pivotally connected thereto, the bar 28, which has the inwardly extending catch 29 formed at its lower extremity, said bar operating in the elongated keeper 30 located at the lower side of the plate 18. A spring 31 is interposed between the upper extremity of the bar 28 and plate 18 and normally retains said catch in coöperation with the lower side of the receptacle A, thus positively retaining said receptacle in its horizontal position. The bar 28 is provided with a pair of keepers 32 in which is slidably mounted the trip rod 33, said trip rod extending below the surface of the catch, and is adapted to be operated by the passage of the car as hereinafter more fully described. It will be clearly understood that when the catch is removed from under the receptacle A, the contents thereof will cause the same to tilt until emptied, after which the weight 24, in combination with the mechanism carried by the car will return the receptacle to its normal position, it being retained in this position by the spring actuated catch 29.

C indicates a car or similar vehicle operating under the receptacle A, said car having a bar 34 at its forward extremity which engages the trip rod 33 and causes the same to disengage the catch 29 from the bottom of the receptacle. After the car has passed under said receptacle A, resilient members 35 carried at the rear extremity of said car bear against devices on the bottom of said receptacle and, in combination with the weight 24, cause the receptacle to return to its normal horizontal position.

In order to provide a means whereby the catch 29 may disengage the bottom of the receptacle with comparative ease, the catch has a roller 36 rotatably mounted therein which bears against the body of the forward terminal of said receptacle.

In order that the cars C may be passed under the mechanism heretofore described without in any way operating the same, the trip rod 33, which is slidably mounted on the bar 28, may be raised and retained in this elevated position, thereby permitting the cars to pass under the same without the bar 34 coming in contact with said trip rod and removing the catch 28 from the bottom of the car.

Two spring members 37 are carried on the under side of the receptacle A adjacent to the forward terminal thereof, and insure the positive return of said receptacle to a horizontal position when the members 35 carried by the car C contact therewith, said spring members 37 being of such a construction that the members 35 will be in contact therewith until the latter pass thereunder.

Having thus fully described the invention, what is claimed as new is:

1. In combination, a supporting frame, a

receptacle mounted thereon for gravitating dumping movement, and means for normally holding said receptacle elevated comprising a catch adapted to engage an end of the receptacle, and a tripping rod mounted on the catch and movable into positions in which it projects into or out of the path of movement of the actuating means for said catch.

2. The combination with a frame, of a receptacle pivotally mounted on a horizontal axis on said frame having its forward extremity open, means carried by said frame coöperating with the open extremity of said receptacle adapted to close the same when said receptacle is in a horizontal position, and an automatically operated catch carried by said last named means whereby said receptacle may be retained in a horizontal position.

3. The combination with a frame, of a receptacle pivotally mounted on a horizontal axis on said frame and having its forward extremity open, a stationary plate carried by said frame coöperating with the forward extremity of said receptacle to form a closure therefor when the same is in a horizontal position, and means carried by said plate whereby the forward extremity of said receptacle may be retained in an elevated position.

4. The combination with a frame, of a receptacle pivotally mounted on a horizontal axis on said frame having its forward extremity open, a stationary plate carried by said frame coöperating with the forward extremity of said receptacle to form a closure therefor when the same is in a horizontal position, and a spring pressed catch carried by said plate arranged to coöperate with the bottom of said receptacle and retain the forward extremity of said receptacle in an elevated position.

5. The combination with a frame, of a receptacle pivotally mounted on a horizontal axis on said frame having its forward extremity open, a stationary plate carried by said frame coöperating with the forward extremity of said receptacle to form a closure therefor when the same is in a horizontal position, a spring pressed catch carried by said plate arranged to coöperate with the bottom of said receptacle and retain the forward extremity of said receptacle in an elevated position, and means whereby said catch may be automatically tripped.

6. The combination with a frame, of a receptacle pivotally mounted on a horizontal axis on said frame having its forward extremity open, a stationary plate carried by said frame coöperating with the forward extremity of said receptacle to form a closure therefor when the same is in a horizontal position, a spring pressed catch carried

by said plate arranged to coöperate with the bottom of said receptacle and retain the forward extremity of said receptacle in an elevated position, and a trip rod slidably
5 carried by said catch adapted to disengage said catch from said receptacle and permit the same to tilt, due to the weight of the contents thereof.

7. The combination with a frame, of a receptacle pivotally mounted thereon for
10 movement about a horizontal axis and having its forward extremity open, a stationary plate carried by said frame arranged to coöperate with the open end of said receptacle, and act as a closure therefor, stops
15 carried by said plate, and means carried by the outer side of said plate for retaining the forward extremity of said receptacle in an elevated position.

20 8. The combination with a frame, of a

receptacle pivotally mounted thereon for movement about a horizontal axis and having its forward extremity open, a stationary plate carried by said frame arranged to coöperate with the open end of said receptacle, 25 and act as a closure therefor, stops carried by said plate, a weight carried by the rear extremity of said receptacle, and a spring pressed catch carried by the outer side of said plate adapted to coöperate with the 30 bottom of said receptacle, and retain the forward extremity thereof in an elevated position.

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

ERICK NEWMAN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."