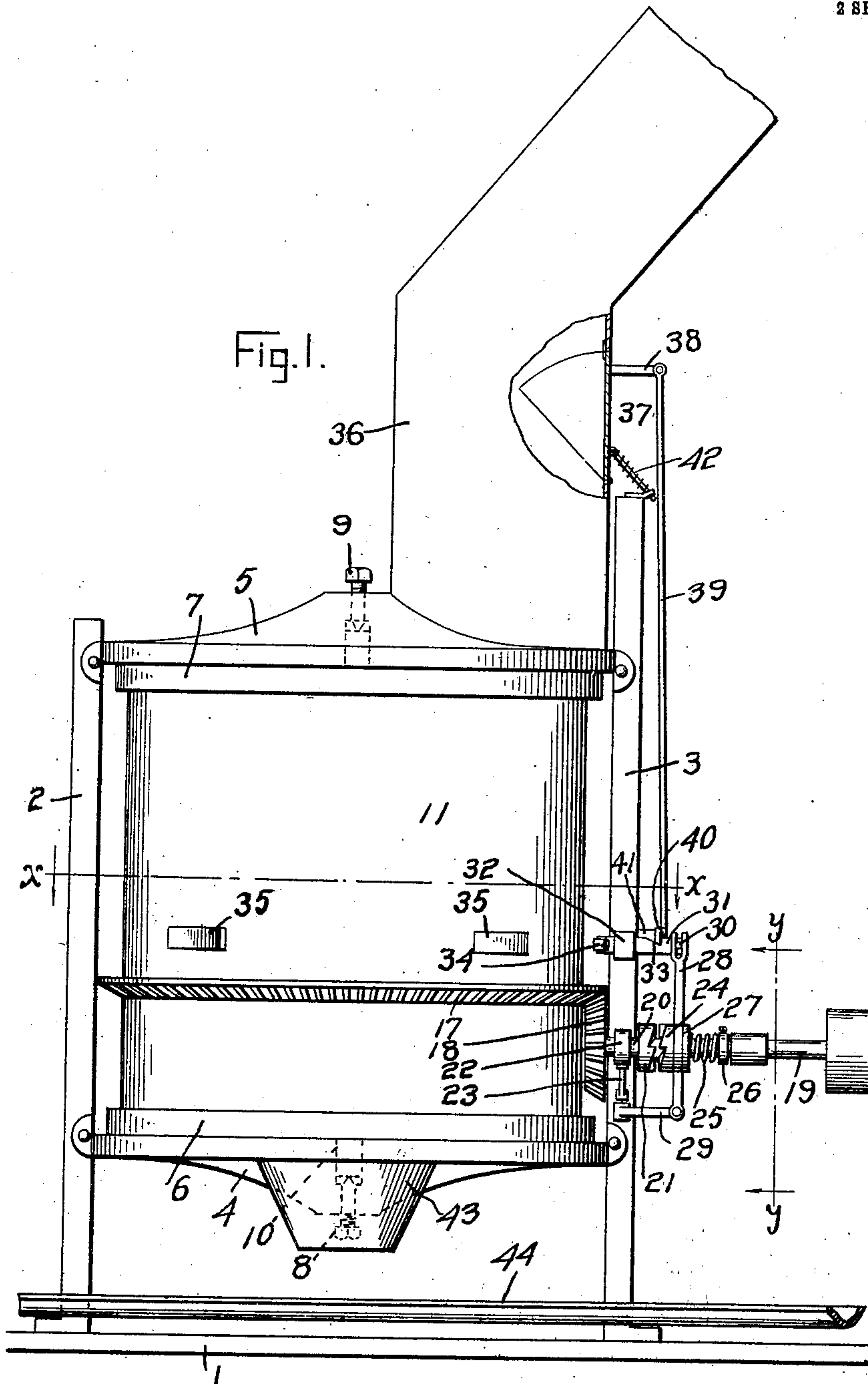


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AUTOMATIC GRAIN MEASURE.
APPLICATION FILED MAR. 16, 1908.

925,390.

Patented June 15, 1909.

2 SHEETS—SHEET 1.



Witnesses
C. H. Reichenbach.
C. H. Griesbauer.

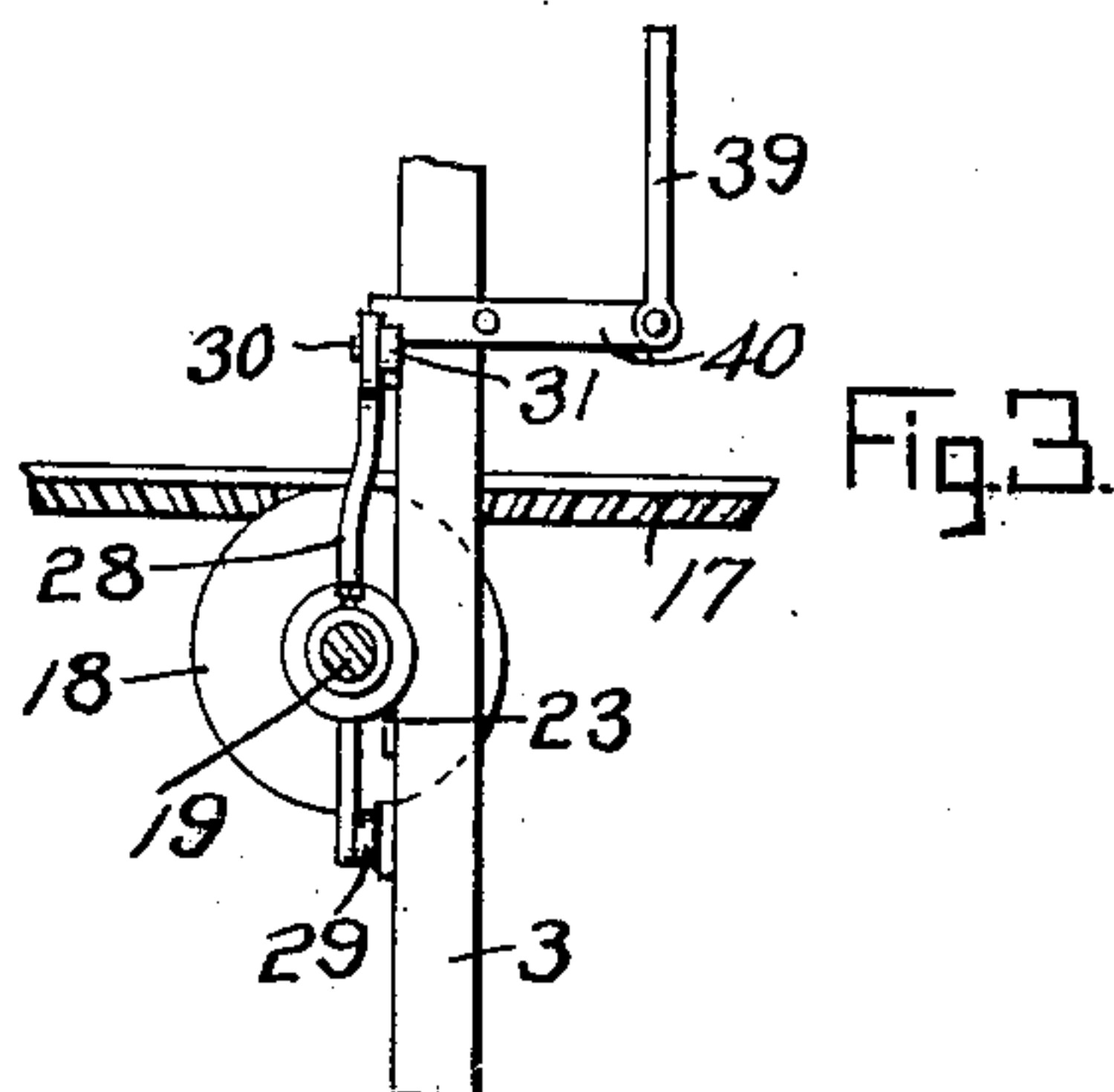
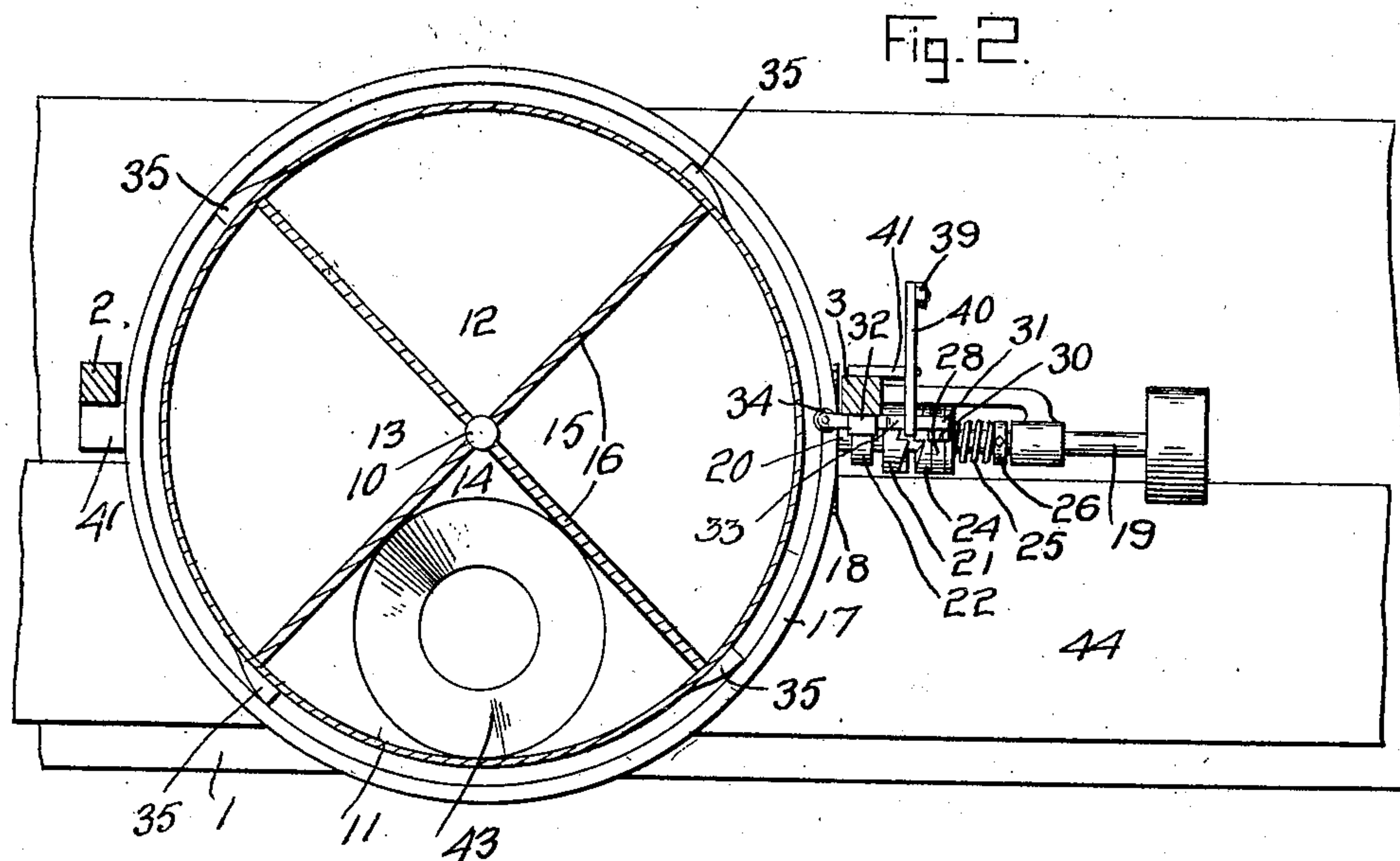
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UNITED STATES PATENT OFFICE.

JONATHAN H. ROYER, OF WICHITA, KANSAS.

AUTOMATIC GRAIN-MEASURE.

No. 925,390.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed March 16, 1908. Serial No. 421,404.

To all whom it may concern:

Be it known that I, JONATHAN H. ROYER, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Automatic Grain-Measures; 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 automatic measuring machines, and particularly to that type of machines used for measuring small grain, such as wheat, oats, corn, etc.

The object of the invention is to provide a cheap and efficient device of this character by which grain from a thresher or other device may be measured and delivered to a conveyer or a receptacle.

A further object of the invention is the provision of means for operating the device at a time only when the measure is filled to its maximum capacity, thus insuring a full measure.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the drawings: Figure 1 is a front elevation with parts in section, Fig. 2 is a horizontal section on the line $x-x$ of Fig. 1, and Fig. 3 is a detail sectional view on the line $y-y$ of Fig. 1.

Referring more especially to the drawings, 1 represents the base or support, projecting vertically from which are the standards 2 and 3, upon which are mounted the supporting brackets 4 and 5. The supporting brackets are bridged between the standards 2 and 3 and carry the bottom and top pieces 6 and 7, arranged upon the brackets with suitable openings therein to be hereinafter described.

Mounted upon pin adjustable bearings 8 and 9 carried by the brackets 4 and 5 respectively is a vertical central shaft 10, which has secured to it the measuring drum 11, in this instance divided into four compartments 12, 13, 14 and 15, each separated from the other by partitions, 16. Surrounding the drum is a bevel gear 17, adapted to mesh with a bevel pinion 18, adapted to be driven by a power shaft 19. The pin-

ion 18 is mounted on a short shaft 20, which has one member 21 of a clutch connection on the opposite end thereof. This shaft is supported in a suitable bearing piece 22, held by a bracket 23 carried upon the standard 3. The opposite clutch member 24 of the connection is keyed upon the shaft 19 for sliding movement thereon, and is normally held forced forward so as to engage the clutch member 21 by a spiral spring 25 held between the clutch member 24 and a suitable collar 26 upon the shaft.

In order to operate the clutch member 24 and throw it out of action with its coöperative member I form an annular groove 27, in the member 24 and surround it by a lever 28, which is pivotally connected to a bracket 29, carried upon the standard 3. The opposite end of the lever 28 has a slotted connection with a stud 30 carried upon a reciprocating rod 31 sliding in a bearing 32, and having intermediate its ends a suitable notch 33 to be hereinafter described. The inner end of the sliding rod 31 is provided with a friction roller 34, adapted to engage the cams 35, carried upon the drum 11 so as to reciprocate the lever and move the clutch member 24 out of engagement with its component member 21.

Extending upwardly from the opening in the top plate 7 of the drum is a grain chute 36, which is provided on one side with a hinged door 37, to which is connected a lever 38, having depending therefrom an operating rod 39, connected at its lower end to a lever 40, pivoted upon a bracket 41, carried by the standard 3, and having its outer end positioned so as to engage the notch 33 of the rod 31 to hold the clutch member 24 in operative position. A pair of shields is connected to the sides of the door 37 and move therewith so as to prevent any loss of grain when the door is thrown outward in open position.

The door 37 is thrown to normal position as shown in Fig. 1 by a spring pressed rod 42 carried upon the upper end of the standard 3 and adapted to engage the outer side of the door. The opening in the bottom plate 6 communicates with a funnel-shaped discharge spout 43, which discharges the grain or other materials onto the conveyer 44 running thereunder. This conveyer is shown as a simple traveling belt, but any preferred type may be used.

The operation is as follows: When the grain fills one of the receptacles, for instance

15, it gradually fills the chute 36 until it reaches a point where its weight presses the door 37 outwardly. When this occurs the rod 39 is depressed, thus raising the lever 40 from its clutch engagement 33 with the lever 31, thus allowing the clutch 24, which is keyed to the shaft 19 to become engaged with its component clutch member 21 upon the shaft 20 to drive the pinion 18. The drum is thus rotated until one of the cams 35 becomes in engagement with the friction roller 34 and throws the clutch 24 out of engagement again. This stops the rotation of the drum and allows the wheat in the compartment to pass through the funnel 43 to the conveyer, and a new compartment 12 is presented to the chute 36. The wheat in the chute, which is up as far as the door now falls to the bottom piece 6 and partially fills the compartment. In so doing it releases the door 37, and allows the lever 40 to engage the catch and lock the clutch in inoperative position. When the wheat again fills up to the door it is operated as before and the drum rotated to dump the grain and present a new compartment to the chute.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

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 as defined in the appended claims.

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

1. In a device of the class described, a receptacle having a plurality of measuring compartments, a chute for delivering material thereto, means for rotating said receptacle, a door controlled by the weight of grain in the chute, and connections between the door and rotating means for controlling the latter.

2. In a device of the class described, the combination with a receptacle having a plurality of measuring compartments, means for rotating said receptacle, a grain chute arranged to deliver material to said receptacle, means for controlling the rotating means, means carried by the receptacle for operating the controlling means, a door controlled by the weight of the grain in the chute, and connections between the door and controlling means for locking and releasing said controlling means.

3. In a device of the class described, the combination with a receptacle having a plurality of measuring compartments, means for rotating said receptacle, a clutch connection for governing said rotating means, means controlling the clutch, means carried by the receptacle for operating said clutch through the controlling means to stop the rotation of the receptacle, a chute for delivering material to the receptacle, a door controlled by the weight of grain in the chute, and connections between the door and controlling means for locking and unlocking the latter.

4. In a device of the class described, the combination with a receptacle having a plurality of measuring compartments, means for rotating said receptacle, a clutch connection for governing said rotating means, means controlling the clutch, means carried by the receptacle for operating said clutch through the controlling means to stop the rotation of the receptacle, a chute for delivering the material to the receptacle, a door controlled by the weight of grain in the chute, and connections between the door and controlling means for locking and unlocking the latter.

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

JONATHAN H. ROYER.

Witnesses:

JAMES M. BRIDENSTINE,
JOHN M. HARRIS.