H. RAY.

GRAIN MEASURING MACHINE.

APPLICATION FILED JUNE 15, 1909.

967,056.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.

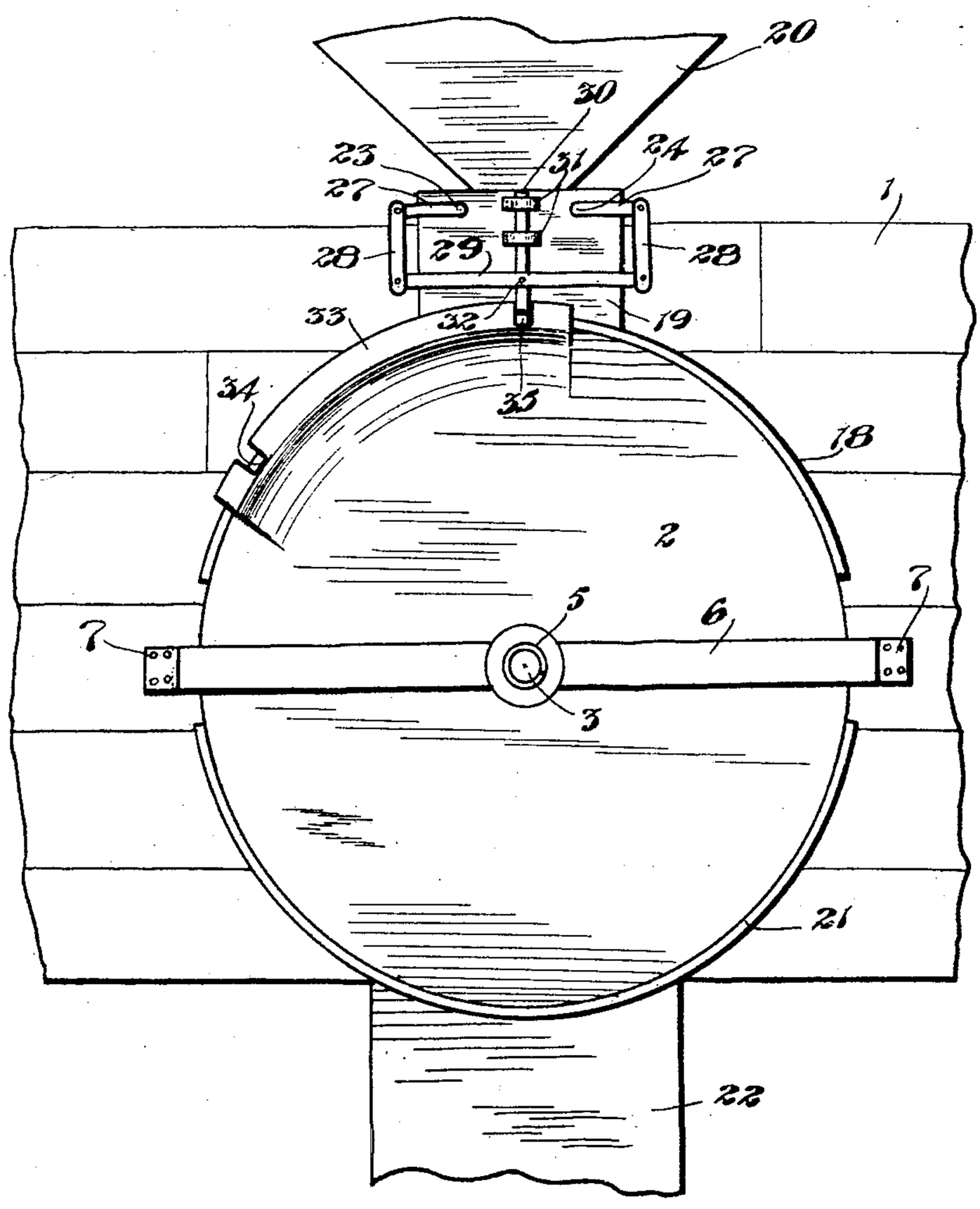

FIG. 1

WITNESSES

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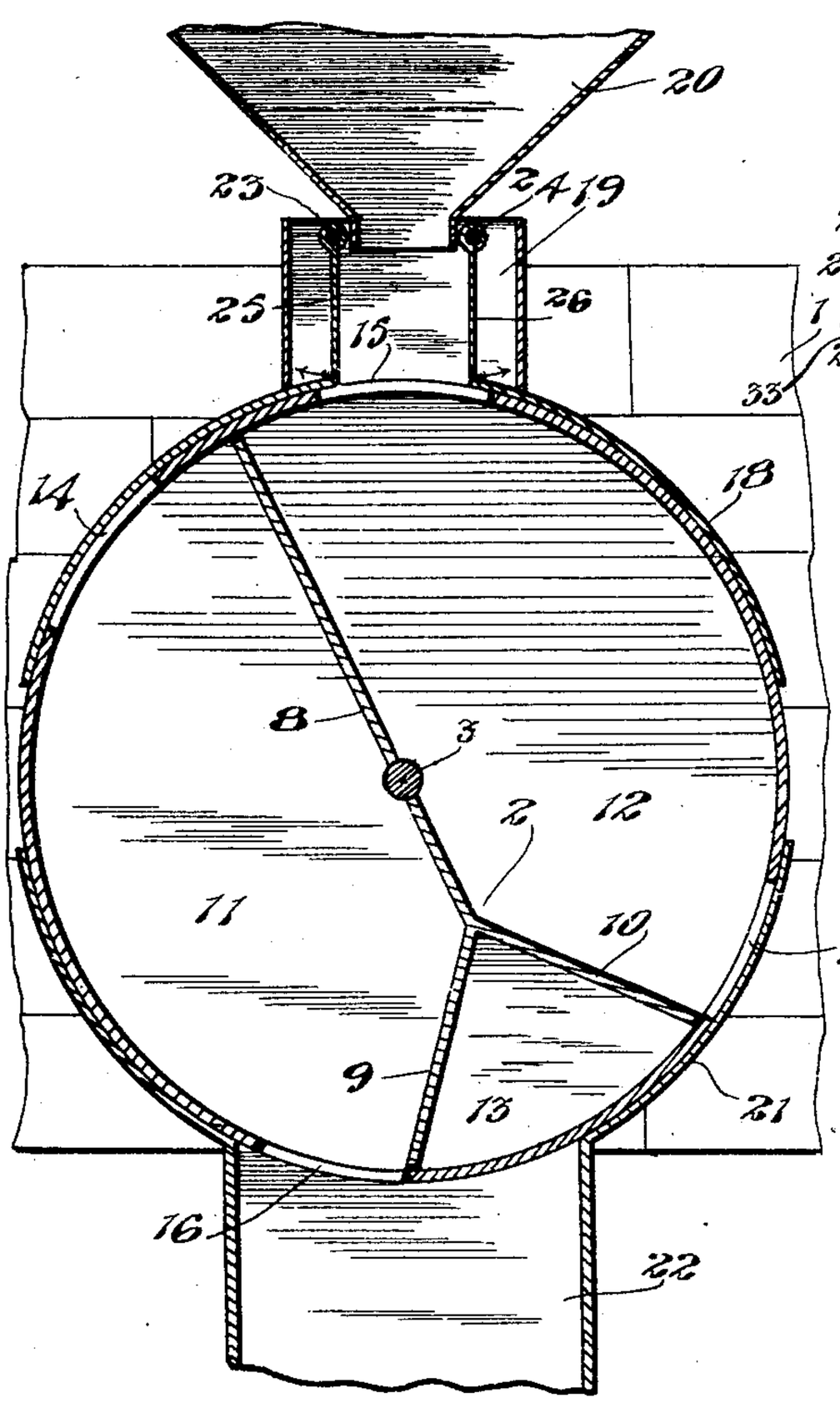

FIG. 3

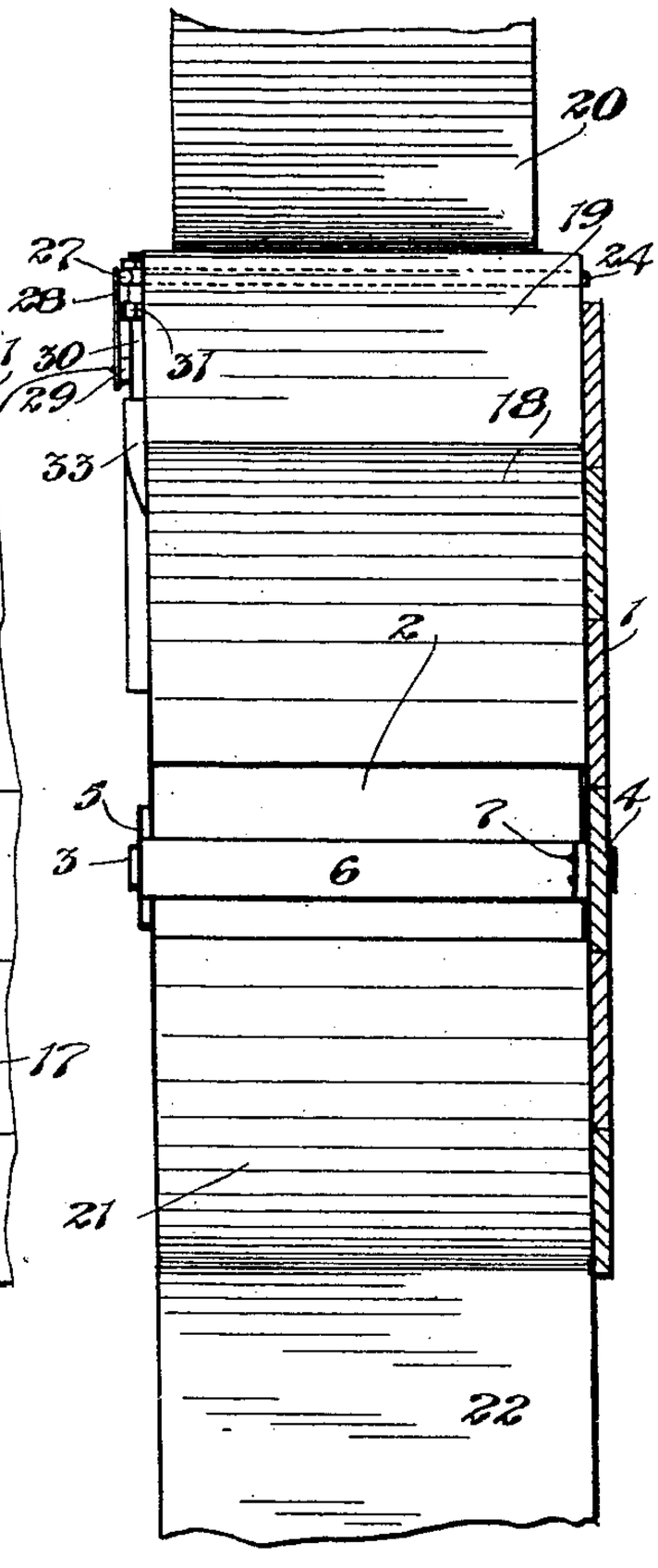

FIG. 2

WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY RAY, OF NEWDALE, MANITOBA, CANADA.

GRAIN-MEASURING MACHINE.

967,056. Specification of Letters Patent. Patented Aug. 9, 1910.

Application filed June 15, 1909. Serial No. 502,385.

To all whom it may concern:

Be it known that I, HENRY RAY, of the village of Newdale, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Grain-Measuring Machines, of which the following is a specification.

My invention relates to grain measuring machines and the object of the invention is to provide a device which will continuously and automatically measure a definite quantity of grain, and which is simple in construction, durable, and efficient.

The invention includes the novel features of construction and arrangement, and combination of parts hereinafter described and particularly set forth in the appended claims.

A grain measuring machine constructed in accordance with my invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a front elevation of the invention. Fig. 2 is a side elevation. Fig. 3 is a vertical sectional view centrally through the machine.

In the drawings like characters of reference indicate corresponding parts in each figure.

1 represents any suitable form of supporting frame.

2 is the drum circular in cross section such drum being mounted on a cross shaft 3 having its one end received within a suitable bearing formed at 4 and its opposite end in a bearing 5 carried by a bar 6 which passes to the sides of the drum and is fastened securely to the frame 1 at 7. The shaft and drum rotate together.

8 is a partition within the drum, such partition being continuous with two further partitions 9 and 10 whereby the interior of the drum is divided into three compartments 11, 12, and 13, the compartments 11 and 12 being of the same size and adapted to receive a definite quantity of grain. In actual practice it is desirable to have this quantity an exact half or quarter bushel as the case may be.

14 and 15 are inlet openings to the compartments 11 and 12, and 16 and 17 are the outlet openings such being located adjacent the partitions 9 and 10, and those 14 and 15 somewhat to the side of the partition 8 at its upper end.

18 is a shell closing over the upper circumferential face of the drum such shell being securely fastened at the rear to the frame 1 in any suitable manner. The shell is provided with an upwardly directed neck or chute 19 into which the grain is directed from the hopper 20, it being of course understood that the hopper forms no part of this invention, but simply appears as a means of feeding grain to the machine. 21 is a second shell inclosing the lower circumferential face of the drum, said shell being secured permanently to the frame 1 at the back and having a chute 22 by which grain is led from the drum when freed from the compartments.

23 and 24 are shafts mounted in the sides of the chute 19 and passing transversely thereacross, such shafts being located somewhat in from the ends of the chute.

25 and 26 are depending plates or wings firmly secured to the shafts and fitting snugly within the neck so as to prevent grain from passing behind them between their ends and the adjoining walls of the neck. The plates are adapted to swing with the shafts. Each shaft is provided with a crank end 27 which is pivotally secured to a link 28, the links being united by a cross bar 29.

30 is a vertically slidable detent held to the chute 17 by straps 31 and secured to the bar 29 by a pin 32. The drum 2 is provided with a flange 33 which passes upwardly above the adjoining edge of the shell 8 and is provided with two recesses 34 and 35 which are adapted to receive the lower end of the detent 30.

In order to better understand my invention I will now describe its operation assuming the grain is allowed to pass continuously from the hopper 20 to the drum through the neck 19 and one or other of the openings 14 and 15.

As soon as the compartment 12 (Fig. 3) is filled with grain the grain commences to bank up within the neck 19 and as soon as this commences the plates 25 and 26 are swung outwardly in the direction of the arrows which motion causes the crank ends 27 to rise. As they rise they carry with them the detent and release it from the recess 35. Immediately this happens the drum is rotated by the weight of the grain within the compartment 12. The drum turns to a position which frees the grain from the compartment through the opening 17 and the chute 22 and at the same time the detent escapes over the flange 33 and enters the other

of the openings 34 thereby locking the drum against further rotation. The compartment 11 then fills, the grain passing inwardly through the opening 14. As soon as it is filled the plates are again actuated and the detent is raised. The drum then returns to the position shown in Fig. 3 and allows the grain to escape through the opening 16. In this way it will be seen that as long as grain be fed to the drum it will automatically rock backwardly and forwardly and receive and discharge a definite quantity according to the dimensions of the compartments. In actual practice it is desirable to have some form of indicator attached to the drum to count the number of discharges so that the total amount of grain passing through the machine can be readily computed.

What I claim as my invention is:

1. In a grain measuring machine, the combination with a rotatably mounted multi-compartment drum having inlet and outlet openings to the compartments and feed and delivery chutes to direct grain to and from the compartments, of opposing depending plates, cross shafts located in the feed chute on which the plates are mounted, a flange carried by the drum and having recesses therein, a vertically slidable detent carried by the chute and adapted to enter the recesses, and means connecting the detent with the shafts aforesaid whereby the detent is raised by the action of the plates, as and for the purpose specified.

2. In a grain measuring machine, the combination with a rotatably mounted multi-compartment drum having inlet and outlet openings to the compartments and feed and delivery chutes to direct grain to and from the compartments, of opposing, depending plates, cross shafts passing transversely across the feed chute on which the plates are mounted, a flange extending from the drum and having recesses therein in definite relation to the compartments, a vertically slidable detent carried by the feed chute, said detent being designed to enter the recesses in the flange, a bar secured pivotally to the detent, and links inter-connecting the ends of the bar with the crank shafts, as and for the purpose specified.

Signed at Newdale, in the Province of Manitoba, this first day of May 1909.

HENRY RAY.

In the presence of—
A. R. FANNING,
H. L. MCGILL.