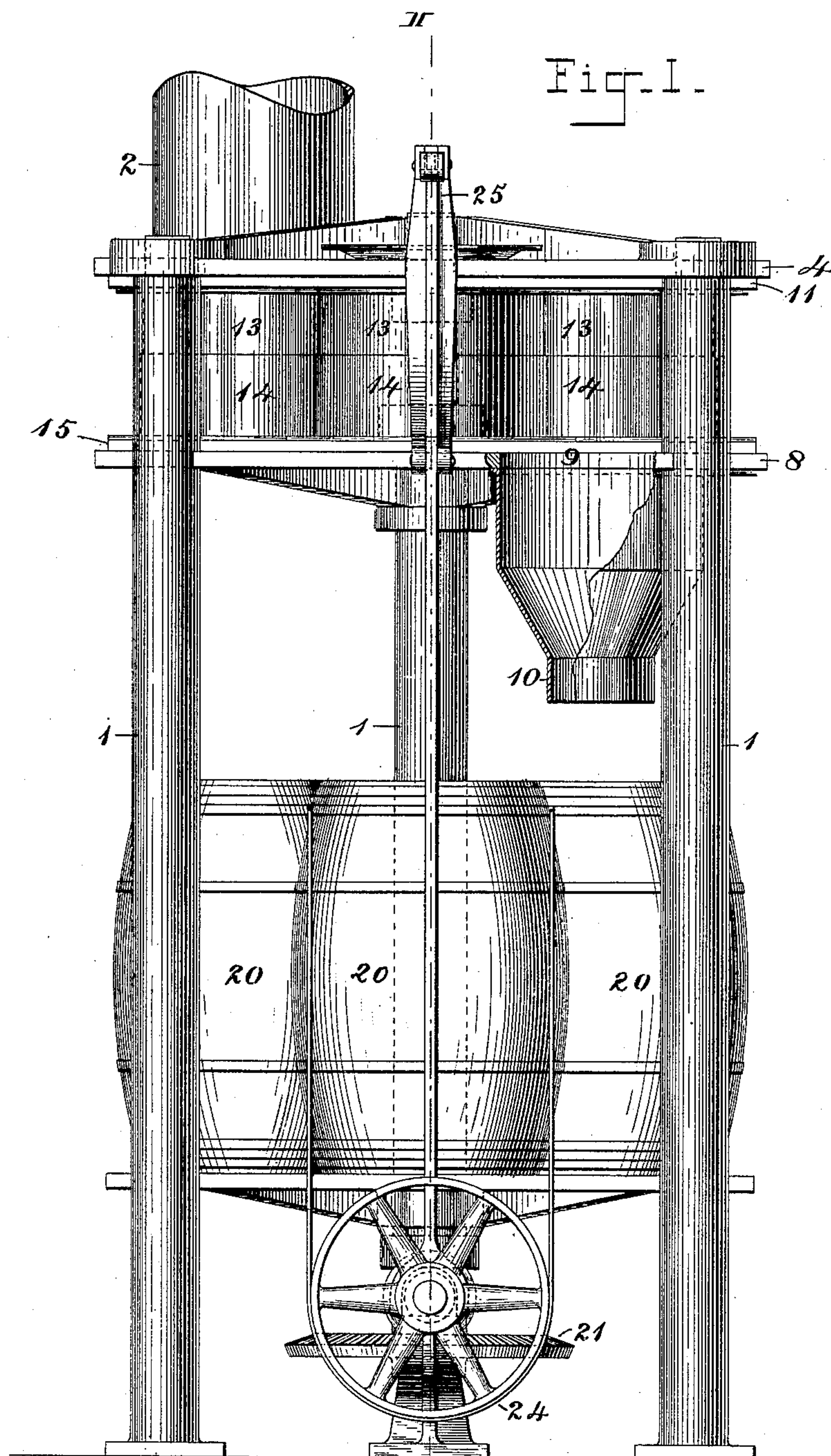


3 Sheets—Sheet 1.

No. 437,093.

Patented Sept. 23, 1890.



Inventor.

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Mazie V. F. Bidgood;

Michael Cashin
By Knight Bros.
Attyd.

(No Model.)

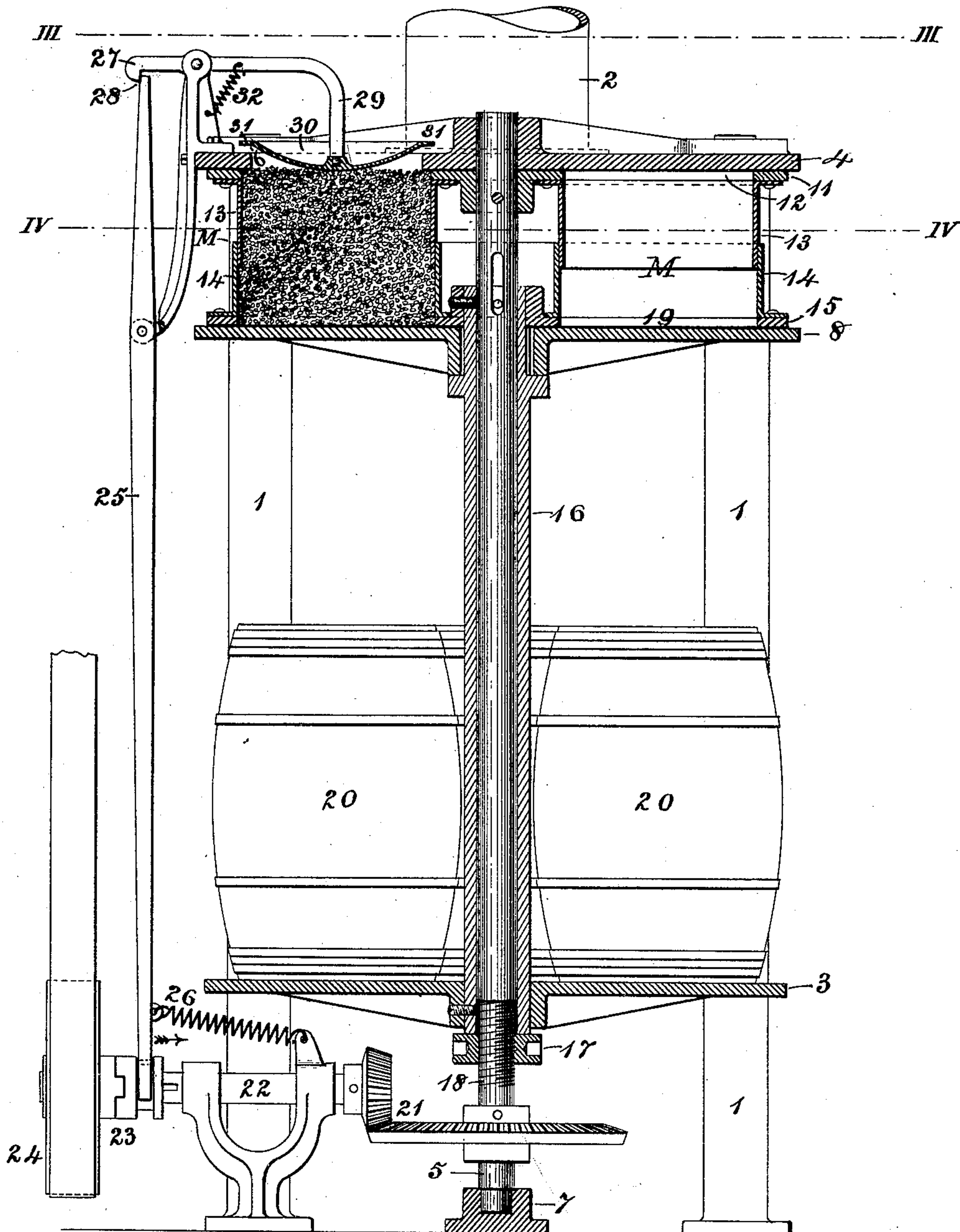
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M. CASHIN.
GRAIN MEASURING DEVICE.

No. 437,093.

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Fig. II.



Witnesses.

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(No Model.)

3 Sheets—Sheet 3.

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Fig. III.

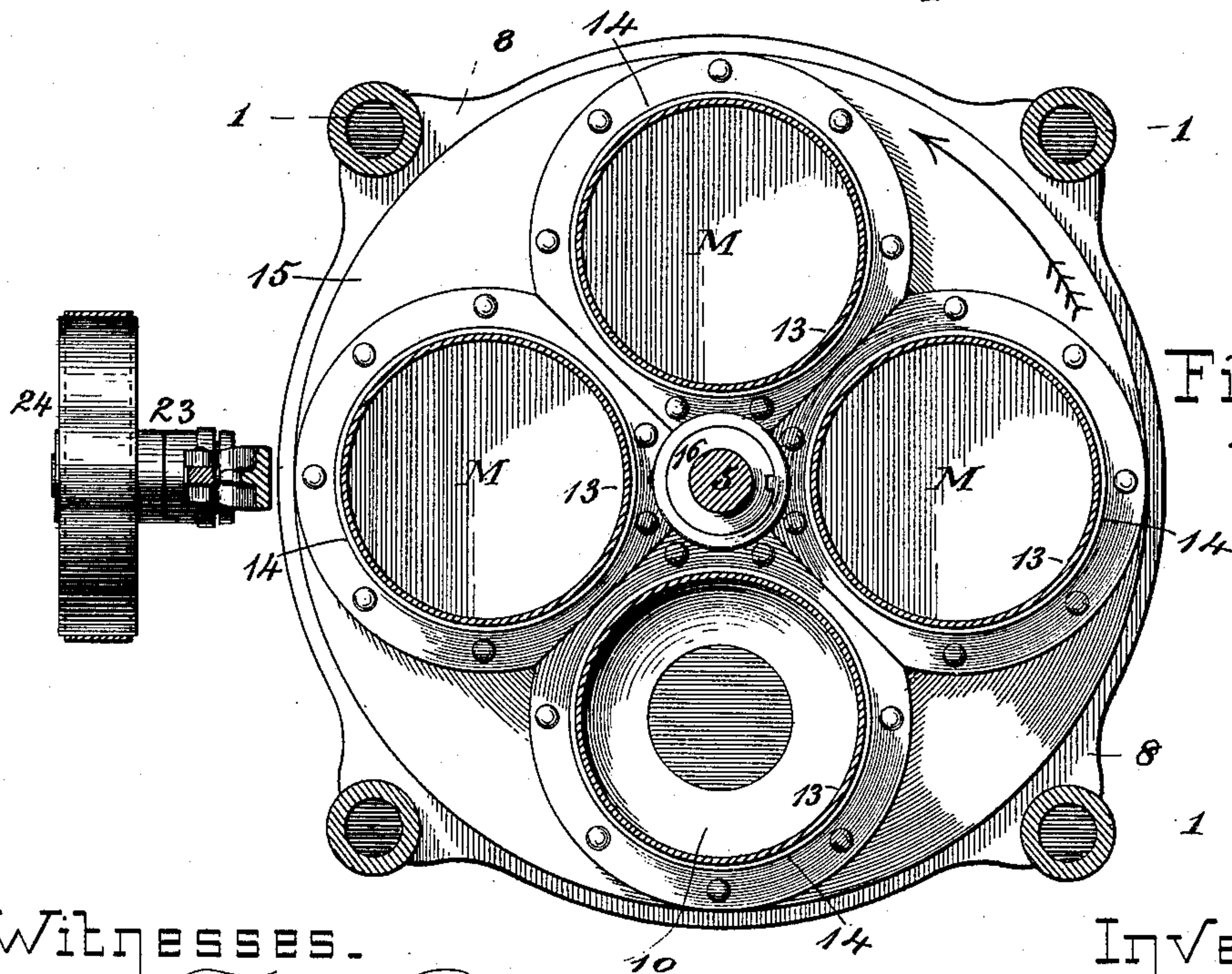
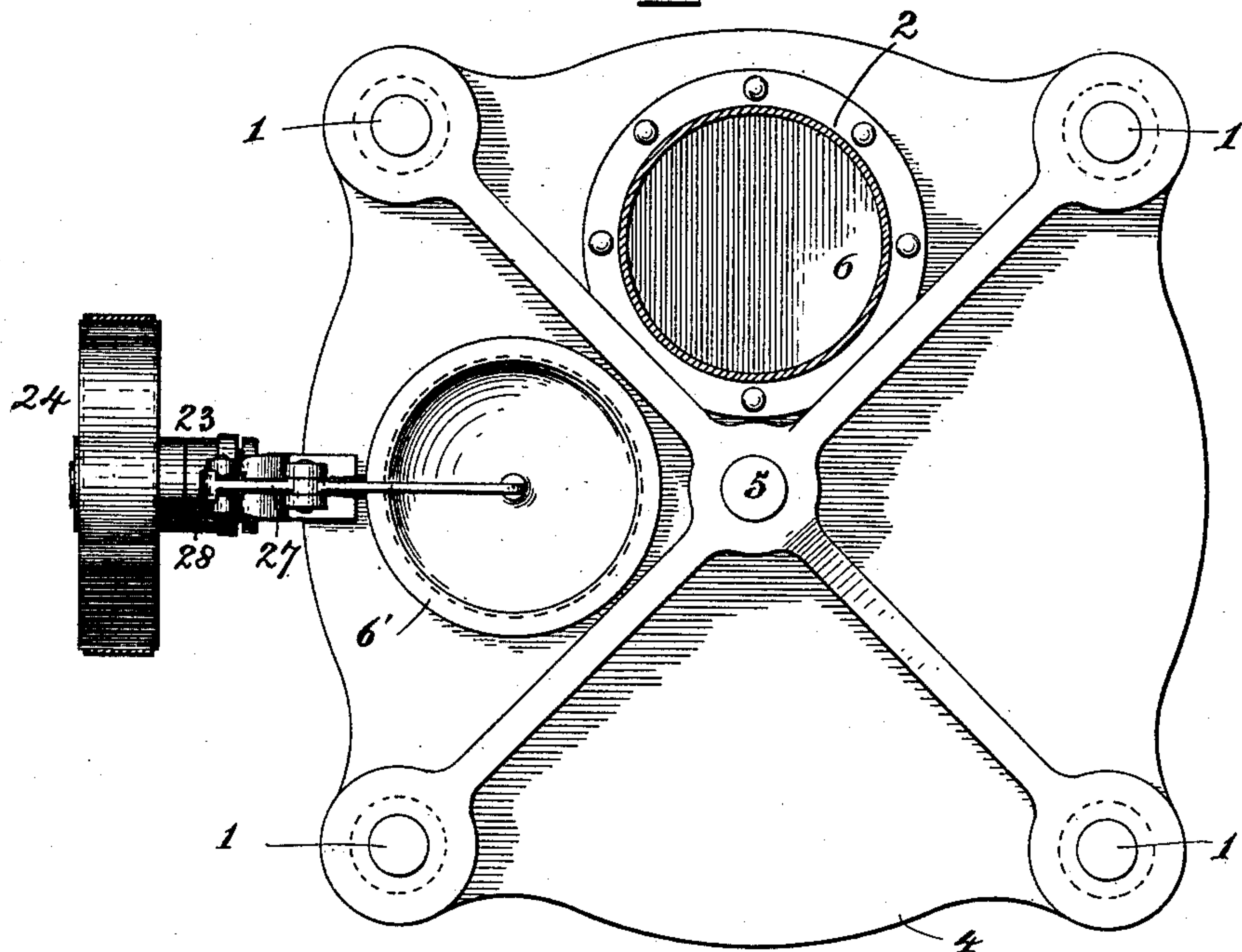


Fig. IV.

Witnesses.

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UNITED STATES PATENT OFFICE.

MICHAEL CASHIN, OF NEW YORK, N. Y.

GRAIN-MEASURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 437,093, dated September 23, 1890.

Application filed December 31, 1889. Serial No. 335,499. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL CASHIN, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Device for Measuring Grain, &c., of which the following is a specification.

My invention relates to a device whereby grain or other dry matter in a pulverulent, granular, or fragmentary condition may be automatically conducted in measured volumes to barrels or other suitable receptacles.

The device comprises a stationary charging-spout from a grain magazine or bin, a stationary delivery-spout at a lower level, which conducts the contents of the measure into a barrel or other receptacle upon a platform, and intermediately of these spouts a power-driven turn-table which conveys one or more measures of capacity first under the upper spout from which it is charged with grain, thence under my "governor," hereinafter explained, and finally over the lower spout which conducts the contents into the barrel or other receptacle. Each measure is a hollow cylinder, open both above and below, but adapted to be closed at one or both ends by floors. The upper floor has two openings—one under the upper spout and the other under a governor—whose construction and purpose are hereinafter described. The lower floor has an opening over the discharging-spout. In my preferred construction here shown there are four such measures. Each of said measures is constructed in telescopic form—that is to say, of two cylindrical shells—of which the lower one overlaps, and, with the supporting-floor above referred to, is capable of being elevated or depressed, so as to vary the capacity of the said measure. The function of the governor is to automatically stop the machine whenever the supply of grain left in the reservoir is so nearly exhausted as to be less than sufficient to fill a measure.

Referring to the accompanying drawings, which form a part of this specification, Figure I is a side elevation of the device, a portion of the delivery-spout and the floor from which it depends being broken away. Fig. II is an axial section on the line II II of Fig. I. Fig. III is a horizontal section on the line III III

of Fig. II. Fig. IV is a horizontal section on the line IV IV of Fig. II.

1 are posts or columns. 2 is a charging spout or hopper. Firmly fastened to the tops of said columns is a floor 4. Each floor has a central orifice for a shaft 5, of which a part of the floor 4 constitutes the upper journal-bearing. The lower end of said shaft rests and rotates in a step 7, which therefore constitutes said shaft's lower journal-bearing. The floor 4 has two circular orifices 6 6', of which the orifice 6 forms a passage-way from the charging-spout to whichever measure is brought beneath it, and of which the orifice 6' enables the action of the governor, to be presently described.

Secured to the posts 1, but capable of being slid vertically, is an intermediate floor or cross-frame 8, which has a circular orifice 9. Fastened to said cross-frame's underside immediately beneath said orifice is the delivery-spout 10.

Attached to the shaft 5 immediately beneath the floor 4 is a revolving platform 11, having four circular orifices 12. Fastened to said platform immediately beneath the said orifices 12 are four measures M, constructed as follows, to wit: Four short cylinders 13 constitute the upper portions of said measures. Inclosing and overlapping the lower edges of said cylinders are four like cylinders 14, of slightly greater diameter. These cylinders are fastened to and supported by a revolving platform or turn-table 15, which is fastened to a sleeve 16, that is compelled to rotate with, but which is capable of vertical adjustment with respect to, the shaft 5 by turning to right or left of a nut 17 upon screw-threaded portion 18 of said shaft, so as to reduce or enlarge, at discretion, the capacity of said measures. Four orifices 19 in the platform 15, placed at like radial distance and of the same diameter as orifice 9 in the intermediate floor 8, open downward communication from whichever measure is, for the time being, over the orifice 9 and spout 10 into said spout and thence into the barrel or other receptacle 20, which is supported upon a turn-table 3, that constitutes a rigid projection from the sleeve 16. At all other times the intermediate floor 8 serves to close the bottom of said measures, so as to retain their

contents until each measure in succession reaches the said place of delivery.

It will be seen that manipulation of the nut 17 effects the simultaneous vertical adjustment both of the intermediate floor 8 and of the turn-table 15, and consequently of the capacity of all the measures M.

When the machine is in operation, the shaft 5 is rotated, as per arrow, by suitable geared connection 21 with a counter-shaft 22, which has a clutch-connection 23 with a driving-pulley 24 or other source of motion. When the grain-supply has nearly given out, the further rotation of the shaft 5 and of the two measures M is automatically arrested by a governor constructed as follows: 25 is a lever to which a spring 26 imparts a normal tendency in direction of the short arrow, Fig. II—that is to say, so as to disengage the parts of the clutch 23, whose engagement compels co-rotation of said shaft and pulley. 27 is a spring latch or trigger, whose hooked portion 28 acts to retain the lever 25 in the clutching position shown in Fig. II. The downturned heel 29 of this latch terminates in a pan-form disk 30, whose convex surface is presented downward and whose marginal flange 31 extends somewhat over the edges of the orifice 6'.

So long as the imperforate portion of platform 11 is presented to the convex bottom of the disk 30 the latch 27 is retained to the position shown in Fig. II, so as to retain the shaft 22 and pulley 24 in clutch, and the same action takes place even when an orifice of the revolving platform is brought under the said disk, providing the measure happens to be packed full of grain, the body of the grain itself operating to maintain the latch in the position shown in Fig. II; but if the measure be not at that moment charged full of grain

the spring 32 opens the latch 27, and the clutch-lever being thus liberated its spring 26 operates to retract said lever to the unclutching position, so as to stop the machine. The machine will then remain quiescent until re-engagement of the clutch-lever 25 in the latch restores the connection between the driving-pulley and the rotating mechanism, when the work of automatic grain-measuring is resumed.

The machine may be equipped with an automatic counter or register of any familiar or approved form.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a grain-measuring device, the combination of the turn-table 11 upon the shaft 5 and having the pendent cylinders 13, the turn-tables 3 and 15 upon the sleeve 16, which rotate with said shaft and are adjustable vertically thereupon by means of nut 17 upon threaded portions 18 of said shaft, said turn-table 15 having the cylinders 14 inclosing said cylinders 13, the stationary floor 4, and the vertically-adjustable floor 8, said floors and turn-tables having orifices that communicate, respectively, with charging and delivery spouts 2 and 10, as set forth.

2. In a grain-measuring device, the combination, with the revolving and perforated turn-table 11, having the attached measure M, and with driving mechanism having clutch-connection with a fast and loose pulley or driver 24, of the governor consisting of disk 30 upon spring-latch 27 and spring-retracted lever 25, substantially as set forth.

MICHAEL CASHIN.

Witnesses:

JOSEPH CASHIN,
ROBERT HANLON.