

2 Sheets—Sheet 1.

No. 518,287.

Patented Apr. 17, 1894.



Inventor

Witnesses

Julius Ulke,
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(No Model.)

2 Sheets—Sheet 2.

J. SUDBROCK, Jr.
ROTATING GRAIN WEIGHER.

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Fig. 5.

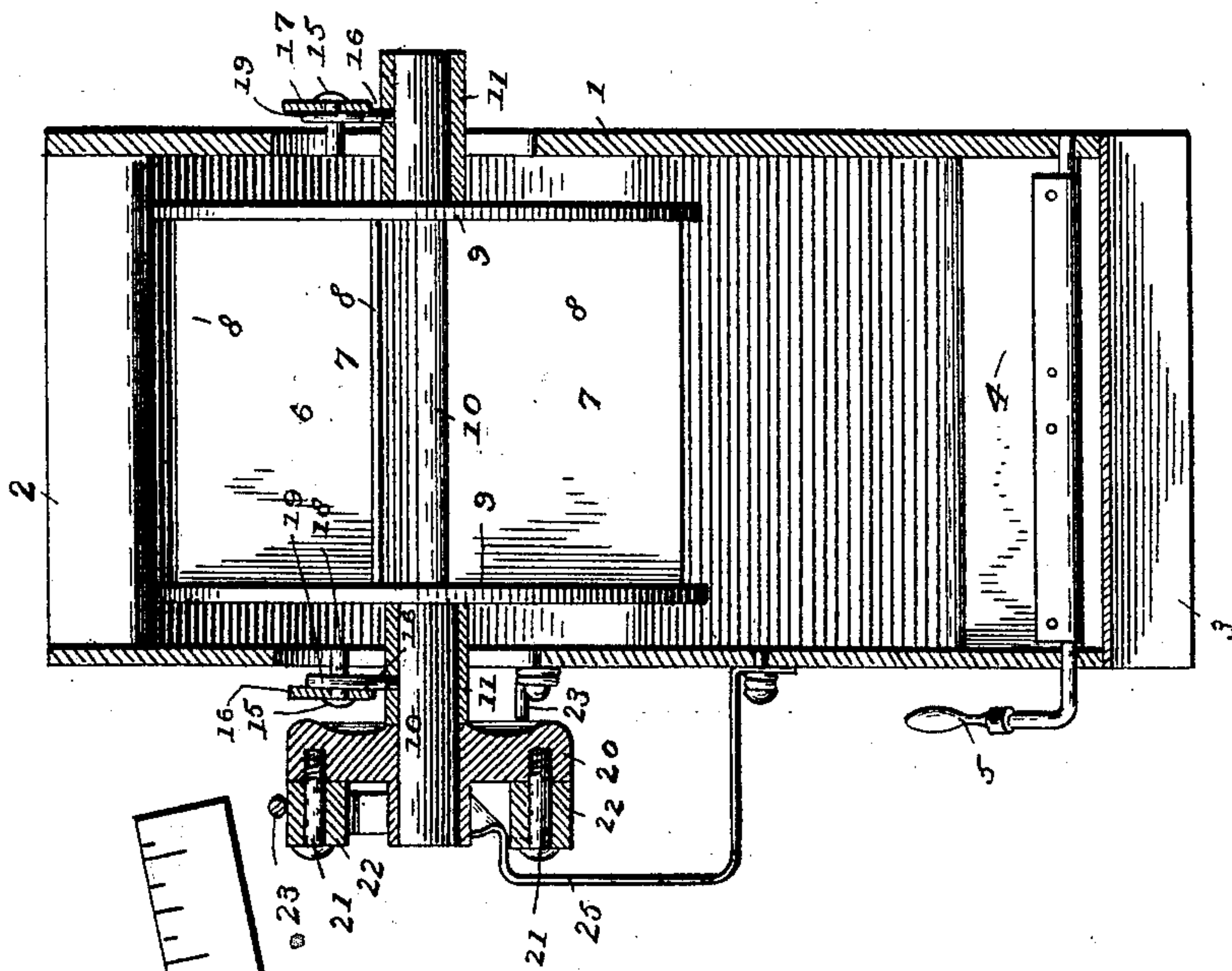
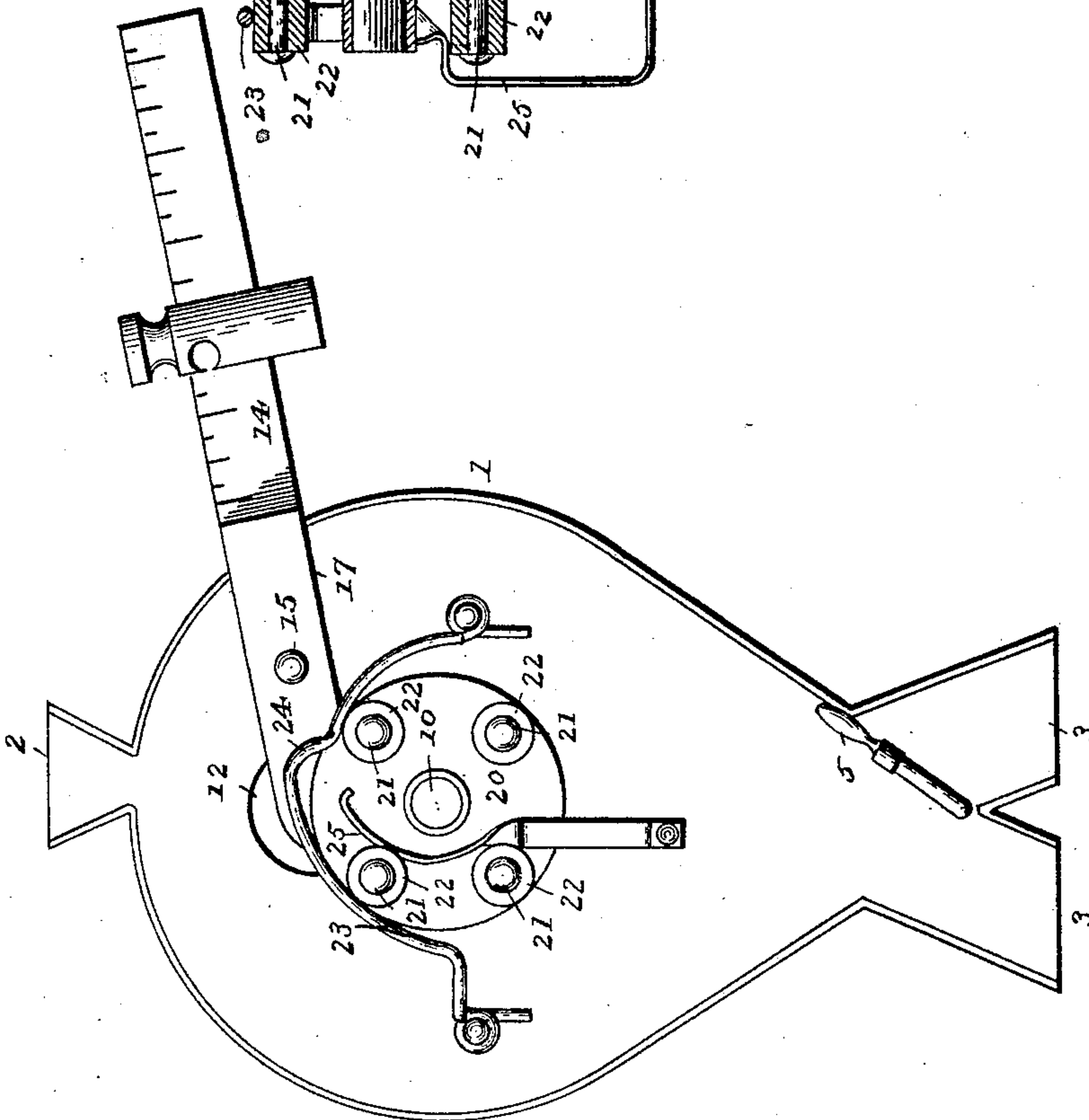


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH SUDBROCK, JR., OF BELLEVILLE, ILLINOIS.

ROTATING GRAIN-WEIGHER.

SPECIFICATION forming part of Letters Patent No. 518,287, dated April 17, 1894.

Application filed June 29, 1893. Serial No. 479,159. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SUDBROCK, Jr., a citizen of the United States, residing at Belleville, in the county of St. Clair and State of Illinois, have invented a new and useful Grain-Weighing Machine, of which the following is a specification.

My invention relates to improvements in automatic grain-weighing machines; and it has for its object to provide a revoluble receiver in combination with suitable stop mechanism which is operated automatically, as said receiver is alternately depressed by the weight of the contained grain and elevated by the counterpoise.

Further objects and advantages of my invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a side view of a grain-weighing mechanism embodying my invention. Fig. 2 is a central vertical section at right angles to the axis of the receiver, and showing the latter in its elevated position as when arranged to receive the grain. Fig. 3 is a similar view, showing the receiver depressed and in the discharging position. Fig. 4 is a side view, showing the position of the trip mechanism as the receiver is discharging its contents. Fig. 5 is a vertical central section taken parallel with the axis of the receiver.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the casing, which is approximately cylindrical in shape, and is provided at its top with a hopper 2, and at its bottom with the downwardly-divergent discharge chutes 3, 3.

4 represents a leaf-valve which is fulcrumed at the intersection of said discharge-chutes and is provided with an exterior operating handle 5, whereby the valve may be moved to close either of the chutes, in which position it lies substantially parallel with the outer wall of the open chute.

6 represents a revoluble receiver, provided with a series of radial compartments 7, which are of equal size and are separated by the radial partitions 8, disposed between the

disks 9. The shaft 10, to which said receiver is fixed, extends laterally beyond the side-walls of the casing and is mounted in vertically-movable sleeve-bearings 11, which are fitted in vertical slots 12, formed in said side-walls or partitions.

14 represents a scale-beam of any approved construction, which is fulcrumed at 15 to the casing and is connected, at its inner end, by means of hangers 16, to the said sleeve-bearings. The inner end of the scale-beam is preferably bifurcated to form parallel arms 17, which extend respectively upon opposite sides of the casing, and the extremities of such arms are provided with pins 18, which fit in eyes 19, at the upper ends of the said hangers.

Fixed to one end of the receiver-shaft is a disk-shaped head 20, provided with laterally-projecting stop pins 21, which are perpendicular to the plane of said head. These pins preferably carry anti-friction rolls 22.

23 represents a curved, preferably semicircular, guide, which is supported by the casing in the plane of the pins 21, and is provided with an offset or shoulder forming a stop 24, which lies in the path of said pins when the receiver is in its elevated position. Arranged to co-operate with said guide is a controlling brake spring 25, which is curved at its upper end to lie substantially parallel with the guide, adjacent to the said stop, whereby as the receiver rotates in discharging a load one of the pins passes between said spring and guide just before reaching the stop, and hence, owing to the pressure of the spring toward the guide, the motion of the receiver is somewhat checked to prevent a severe jar as the pin comes in contact with the stop.

This being the construction of my improved mechanism, the operation thereof is as follows: Referring to Figs. 1 and 2 of the drawings, it will be noted that one of the receiving compartments is directly beneath the hopper in position to receive grain therefrom; that the hopper is arranged slightly to one side of a vertical plane passing through the axis of the receiver, whereby the grain will be deposited mainly upon one side or wall of the receiving compartment; and that the stop pin corresponding with that compartment

which is in operative or receiving position is in engagement with the stop of the guide. When grain sufficient in weight to depress the receiver and counterbalance the counterpoise carried by the scale-beam, has been introduced, the downward movement of the receiver-shaft will disengage the stop pin from the stop, and the preponderance of weight upon one side or wall of the receiving compartment will cause the receiver to rotate in the direction indicated by the arrows.

Figs. 3 and 4 show the parts of the mechanism as seen when passing from one set position to another, or after the receiver has been depressed and the stop pin disengaged from the stop. As the succeeding stop pin rises by the depression of the loaded compartment of the receiver, its movement is partially checked by contact with the spring, in order to prevent jar and enable the parts to co-operate accurately and efficiently.

The operation of the cut off by which the delivery chutes are controlled will be readily understood without further description, the advantage of such twin chutes being that two sacks may be arranged in operative position at once, thus enabling the grain to be received more easily and with less danger of loss.

It will be understood that in practice various changes as to form, proportion, and minor details, dependent upon varying circumstances of use, may be resorted to without departing from the spirit or sacrificing any of the advantages of my invention.

Having described the invention, what is claimed as new is—

1. In a grain-weighing machine, the combination with a casing provided with an inlet

hopper, and suitable discharge chutes, of a scale-beam fulcrumed upon the casing and provided with a counterpoise, a revoluble receiver arranged within the casing and having its shaft mounted in bearings depending from said scale-beam, a disk fixed to the shaft of the receiver and provided with spaced stop-pins corresponding in number with the compartments of the receiver, a curved guide provided with a stop-shoulder to engage one of said stop-pins when the receiver is elevated by the counterpoise, and a brake-spring corresponding in curvature with said guide, terminating adjacent to the stop-shoulder, and spaced at such an interval from the guide as to engage a stop-pin as it approaches the stop-shoulder and check the movement of the receiver by frictional contact with said pin, substantially as specified.

2. In a grain-weighing machine, the combination with a casing provided with a hopper and discharge chutes, a scale-beam provided with a counterpoise, a revoluble receiver suspended from one member of the scale-beam, and a disk affixed to the shaft of the receiver and provided with spaced stop-pins corresponding in number with the compartments of the receiver, of a curved guide provided with a stop-shoulder, and a coacting brake-spring arranged to hold a stop-pin in contact with the guide until it reaches said stop-shoulder, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH SUDBROCK, JR.

Witnesses:

GEO. SCHLOSSER,
LOUIS MEYER.