

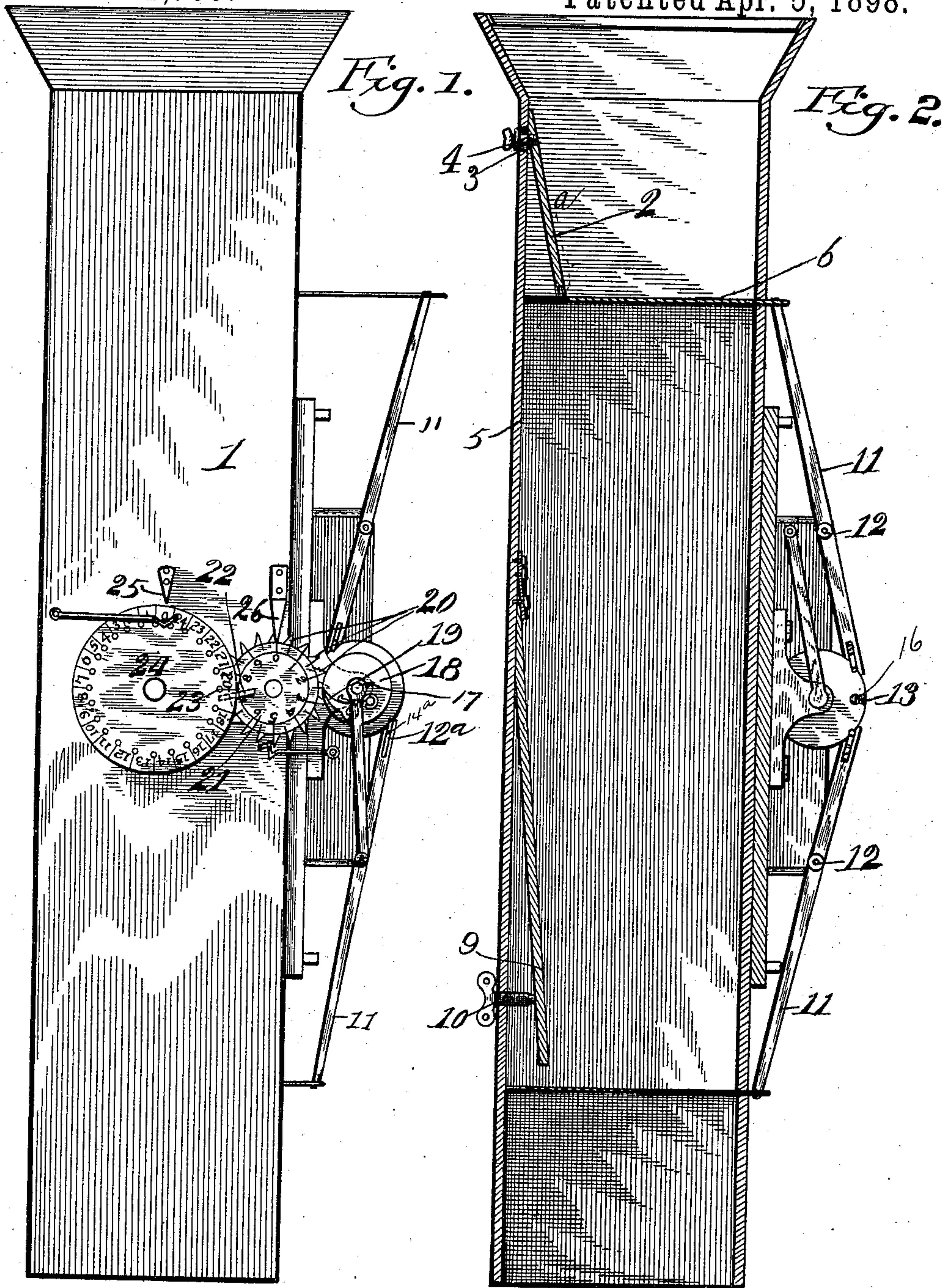
(No Model.)

2 Sheets—Sheet 1.

S. STEWART & J. F. SWISHER.
GRAIN MEASURER AND REGISTER.

No. 601,739.

Patented Apr. 5, 1898.



Witnesses:

A. R. Appleman
H. Joseph Doyle

Inventors

Scott Stewart
J. F. Swisher
By H. Appleman Atty.

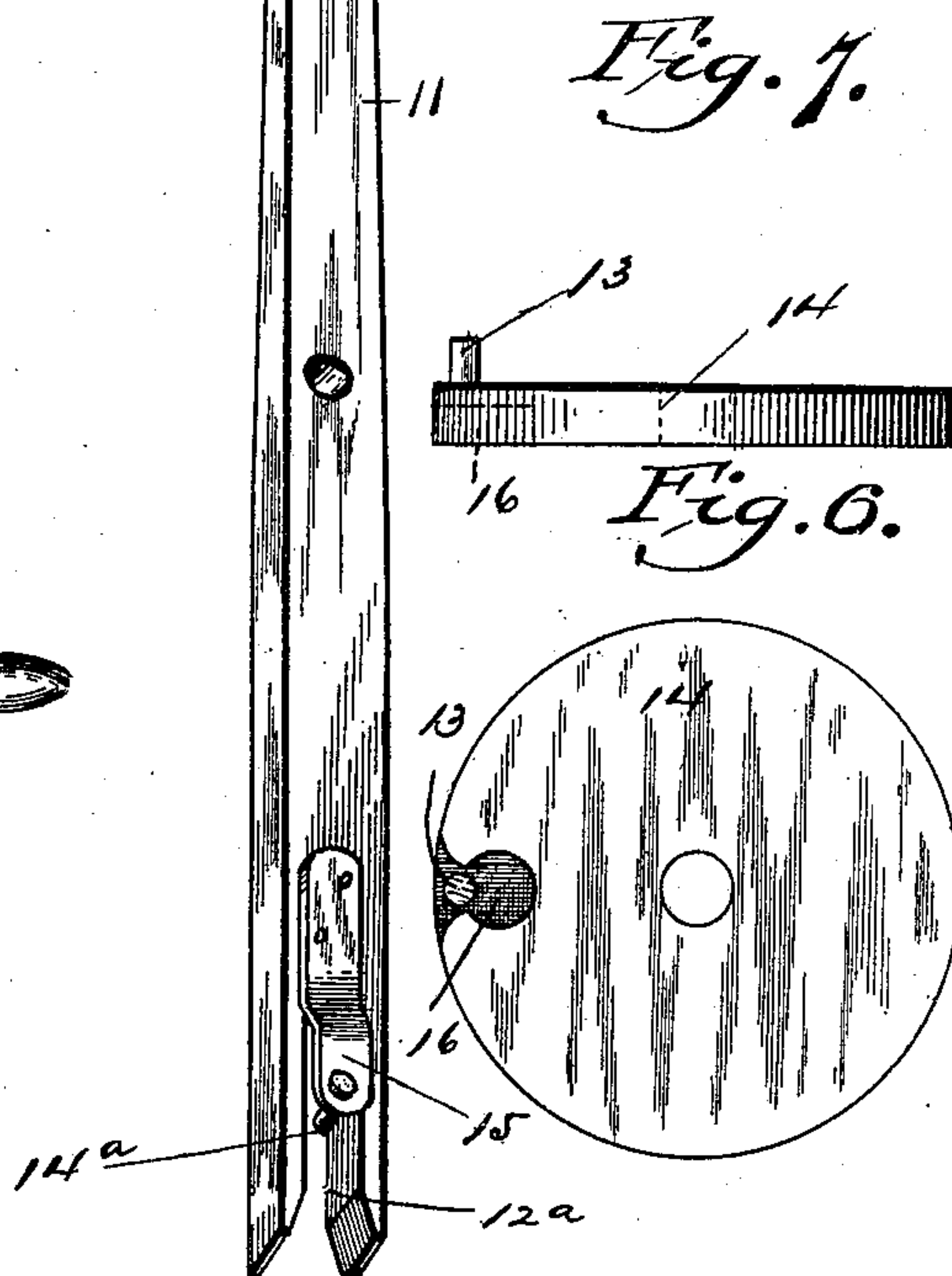
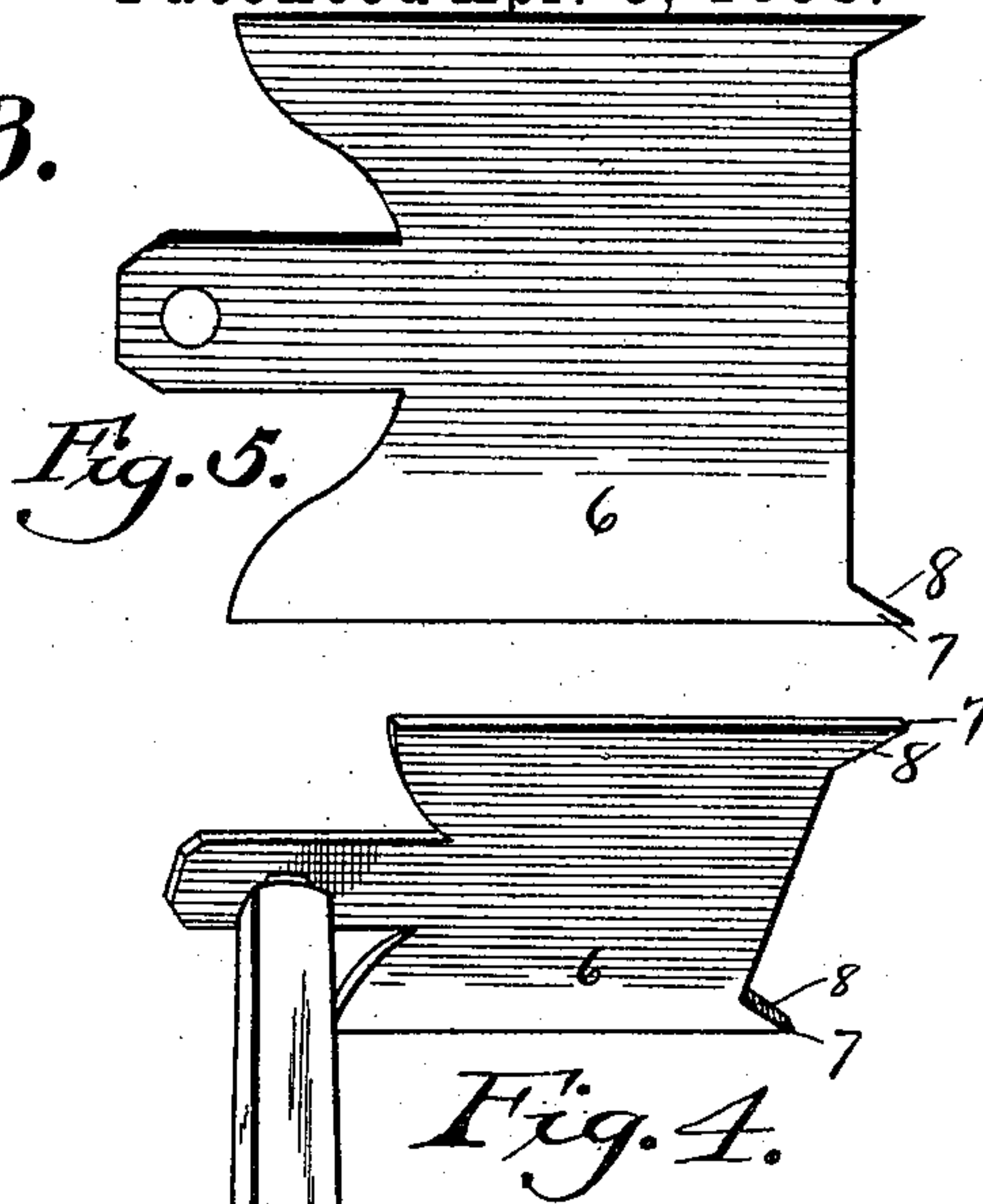
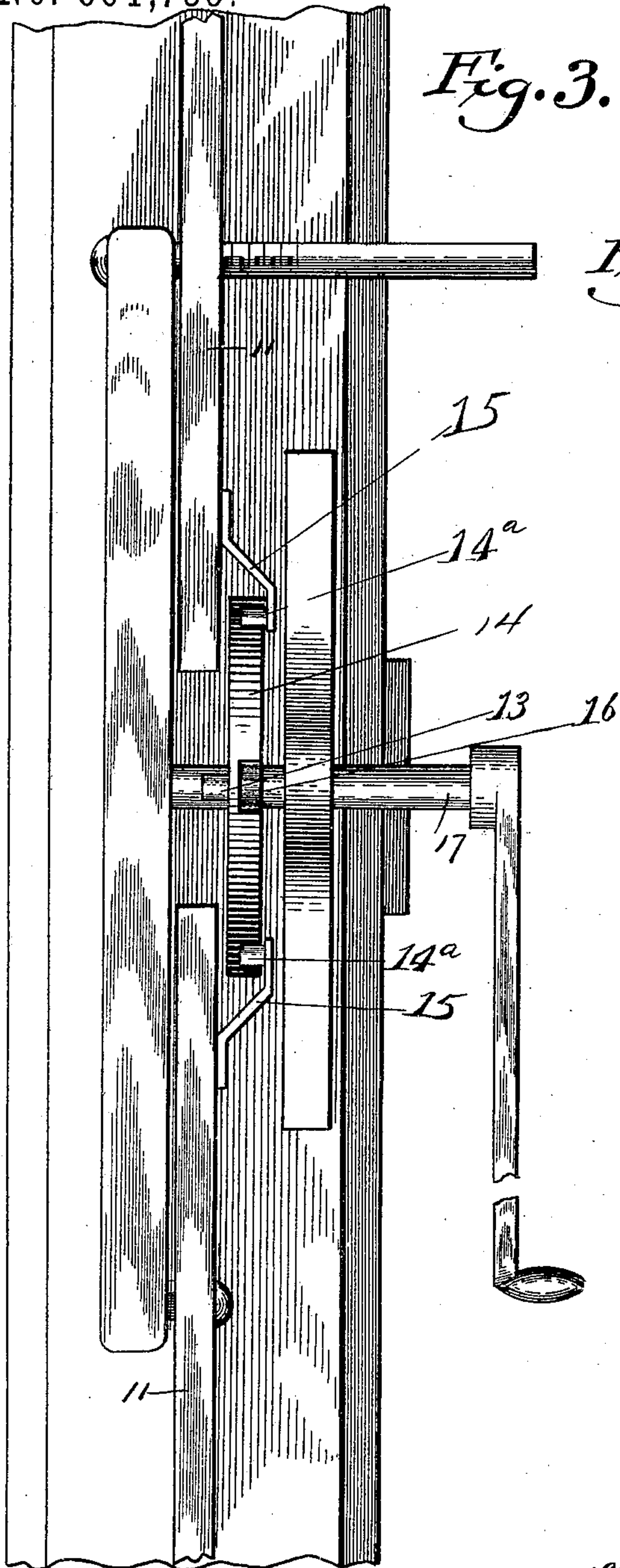
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2 Sheets—Sheet 2.

S. STEWART & J. F. SWISHER.
GRAIN MEASURER AND REGISTER.

No. 601,739.

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Witnesses:
A. R. Appelman
H. Joseph Doyle

Inventors
Scott Stewart.
John F. Swisher.
By J. Appelman Atty.

UNITED STATES PATENT OFFICE.

SCOTT STEWART AND JOHN F. SWISHER, OF RIVESVILLE, WEST VIRGINIA.

GRAIN MEASURER AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 601,739, dated April 5, 1898.

Application filed May 20, 1897. Serial No. 637,477. (No model.)

To all whom it may concern:

Be it known that we, SCOTT STEWART and JOHN F. SWISHER, citizens of the United States of America, residing at Rivesville, in the county of Marion and State of West Virginia, have invented certain new and useful Improvements in Grain Measurers and Registers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in grain-measurers, and also to novel means for registering the amount of grain which has passed through the measure.

The object of the invention is to produce a device of this character which is designed for use on threshing-machines, but can be used with equal efficiency for domestic or merchandising purposes, the mechanism employed being the same, with the single exception that the proportions may be varied to accomplish the result desired.

A further object of the invention is to produce the registering mechanism having connection with the measuring apparatus, that both may be operated simultaneously with a certain movement of a crank or lever.

A further object is to provide in the measuring apparatus means whereby the slides or cut-off blades are so arranged with relation to the sides of the chute or box that the grain will not obstruct or hinder the free movement of said blades, this construction being especially desirable when green oats or other grain are being measured.

A further object of the invention is to provide means whereby but one of the slides or cut-off blades is operated at a time, thus insuring the closing of one before the opening of the other, and in this connection we have also provided means whereby but one lever can be operated, and the other will be held locked in its elevated position during the time the other lever is receiving any movement through the operation of the lever or crank and its connection. Means are also provided whereby the slides or cut-off blades are held against manipulation except through the operation of the crank-shaft, thus insuring a correct measurement and guarding against possible fraud. In this invention the action of the slides or cut-off blades is positive with

the movement of the crank or lever, springs being dispensed with for operating the parts.

A further object of the invention is the production of mechanism which will accomplish the results mentioned in a satisfactory manner, we further contemplating the making of such mechanism of few parts that will prove comparatively inexpensive to manufacture and at the same time prove strong and durable.

With the foregoing and other objects in view the invention consists in the novel details of construction, as well as in the arrangement and combination of parts, to be hereinafter more fully set forth and specifically claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, wherein like characters of reference denote corresponding parts in the several views, in which—

Figure 1 is a side view of a chute with the measuring and registering apparatus attached. Fig. 2 is a longitudinal sectional view of the parts. Fig. 3 is a plan view of the chute. Fig. 4 is a perspective view of one of the levers with the slide or cut-off blade connected thereto. Fig. 5 is a face view of the slide or cut-off blade. Fig. 6 is a face view of the wheel for operating the arms, and Fig. 7 is a side view thereof.

In the drawings, 1 denotes the chute; 2, a regulating-strip adjustably secured to the chute by the slot 3 and bolt connection 4, that the distance may be regulated between the slide and the end of the strip to accommodate the grain in its various conditions, said strip being arranged at an angle with relation to the wall of the chute, to which it is secured. The purpose of the strip and its inclined position is to form a space next to the wall of the chute, and by reason of the inclination of the strip the grain in its descent would be directed in the course indicated by the dotted line *a*, forming a vacuum back of the strip, so that there will be no obstruction to the grain, which may be conveyed by the slide or cut-off blade, it being well known that when wet oats and other grain are operated upon the cut-off blade does not readily pass through. By this arrangement there is sufficient space into which the grain may be carried, as stated.

The blades (designated by the numeral 6) have projecting points 7 at each side, with inclined inner edges 8, the object being to direct the grain toward the center, where the blade may act in cutting off the flow.

At the lower end of the chute we provide an inclined partition 9, hinged to the wall of the chute. The degree of inclination of this partition is adjusted by means of the set-screw 10, by which it is supported. The object of this partition is to vary the capacity of the measuring-section of the chute to compensate for shrinkage or wear in material.

The slides or cut-off blades are operated by levers 11, pivoted at 12, said levers having in their ends slots or recesses 12^a, which receive a stud 13, attached to the wheel 14. A recess 16 is cut into the wheel on one side, and a stud 13 projects from the opposite side, the end of the stud lying in the body of the wheel. (Shown in Figs. 2 and 6.) This stud as the wheel is rotated enters the slot 12^a and, riding against the lever, communicates the initial movement. As the lever is depressed by the stud 14^a of the bracket 15, attached to the lever, is caused to pass into the recess 16, and a farther rotation of the wheel causes a depression of the slotted end of the lever, and the slide or cut-off blade attached to the opposite end is withdrawn from the mouth of the chute. During this operation the stud 14^a of the opposite lever 11 is riding on the periphery of the wheel, thus locking the lever and preventing accidental movement of its cut-off blade. On a reverse movement of the wheel almost a quarter of a revolution is consumed in returning the lever to its initial position when the stud 14^a is released from its engagement, and as the wheel is farther rotated the slot and stud of the opposite lever are engaged, resulting in the actuation of said lever, as described in connection with the first mentioned. Thus by alternate opposite rotations of the wheel the slides or cut-off plates are oppositely manipulated to open and close the chute, filling as the top one is opened, then closed, and after being closed the lower one is opened to allow the escape of the grain. The slides are so positioned with relation to the walls that a predetermined amount—say a bushel—is measured at each opening and closing, as here shown, it being supposed that the capacity of the chute between the slides would be one-half a bushel.

As before stated, we have provided a registering device which is designed to operate in conjunction with the mechanism by which the slides are actuated, and in accomplishing this result we have mounted on the shaft 17 a disk 18, having a spring-pressed pawl 19, which is adapted to engage the peripheral teeth 20 of the indicating-disk 21, said disk having on its face numerals from "0" to "9,"

and as the shaft is turned to open the lower slide the disk 18 will be turned and the pawl 19 will throw the disk 21 the distance of one tooth, which corresponds to the numerals and the intermediate dots on its face, and said numerals will indicate the number of bushels that have been allowed to escape from the opening of the lower slide or cut-off plate, and the dots between the bushels indicating the half-bushels.

The disk 21 is further provided with an arm 22, which engages pins 23, protruding from the face of the indicating-disk 24, the last-named disk being so arranged that it will be actuated the distance of one tooth on each complete revolution of the disk 21. Thus when the disk 21 has turned to indicate the discharge of nine and one-half bushels a further rotation thereof will turn the disk 24 the distance of one tooth, bringing the numeral "1" thereof under the indicator 25 and the character "0" of the disk 21 under the indicator 26, thus showing a discharge of ten bushels.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a measuring device, a chute, slides for alternately controlling the chute, and means whereby one slide is locked in position before the other slide receives any movement, substantially as described.

2. In a measuring device, a chute, slides for alternately controlling the passage therethrough, levers connected to the slides, a wheel having recesses to receive studs connected to the levers, and means for locking one lever against action while the other is receiving any movement, substantially as described.

3. In a device of the character described, a receptacle, slides controlling the passage therethrough, levers attached to the slides at one end and having slots in the opposite end, a stud arranged at the end of each lever with the slot, a wheel having a peripheral recess, and means for depressing the stud of the lever into the recess, substantially as and for the purpose described.

4. In a device of the character described, a receptacle, slides for controlling the passage therethrough, levers attached to the slides at one end and having slots in the opposite ends, a bracket having a stud, on the end of each lever with the slot, a wheel having a peripheral recess and a stud projecting from the side of the wheel, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

SCOTT STEWART.
JOHN F. SWISHER.

Witnesses:

L. C. POWELL,
J. HARRY MEREDITH.