

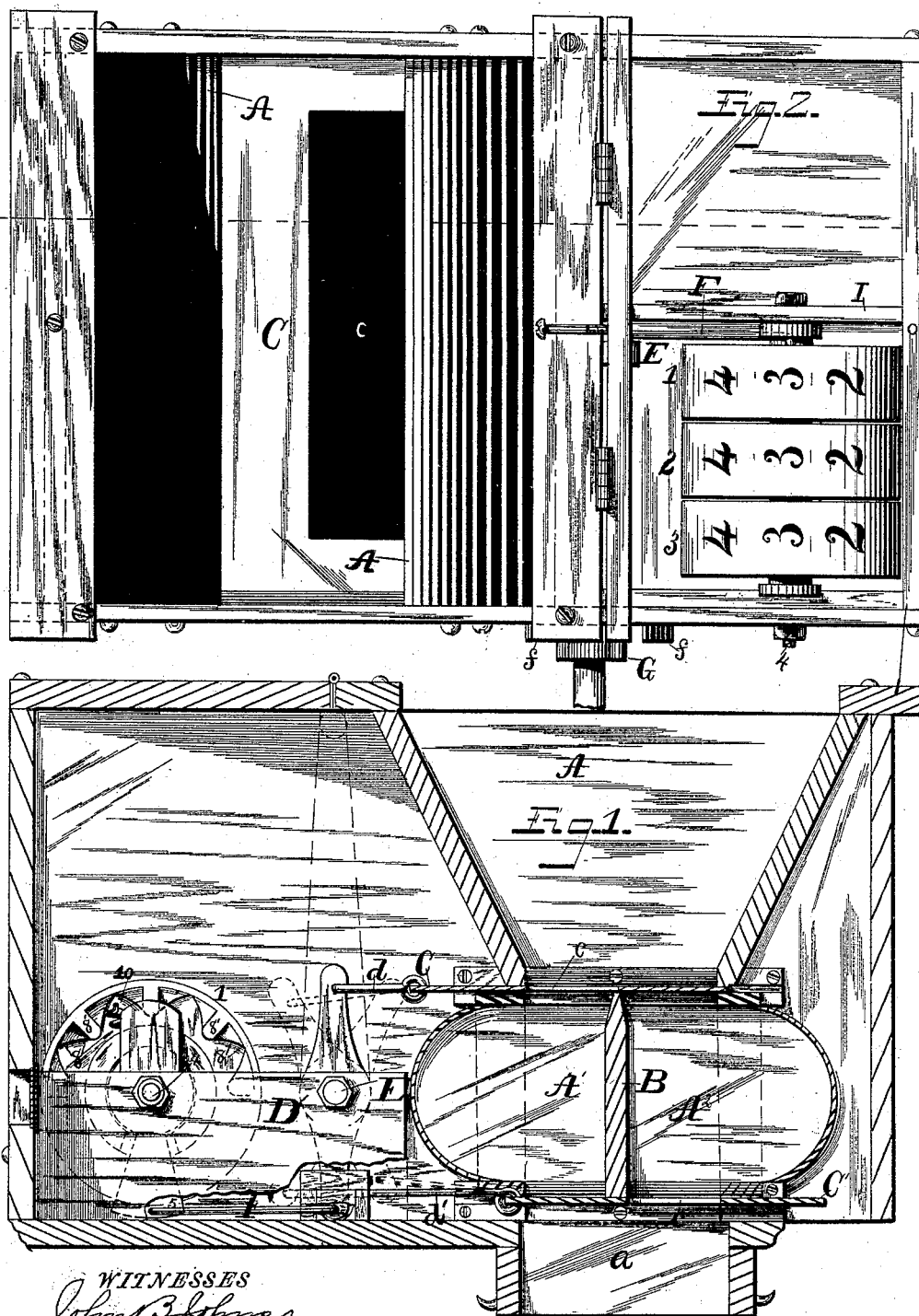
(No Model.)

2 Sheets—Sheet 1.

O. D. McDANIEL.
GRAIN MEASURE AND TALLY.

No. 421,421.

Patented Feb. 18, 1890.



WITNESSES
John B. Johnson
Wm. H. Breckton

Oscar D. McDaniel
By J. W. Tallmadge atty.

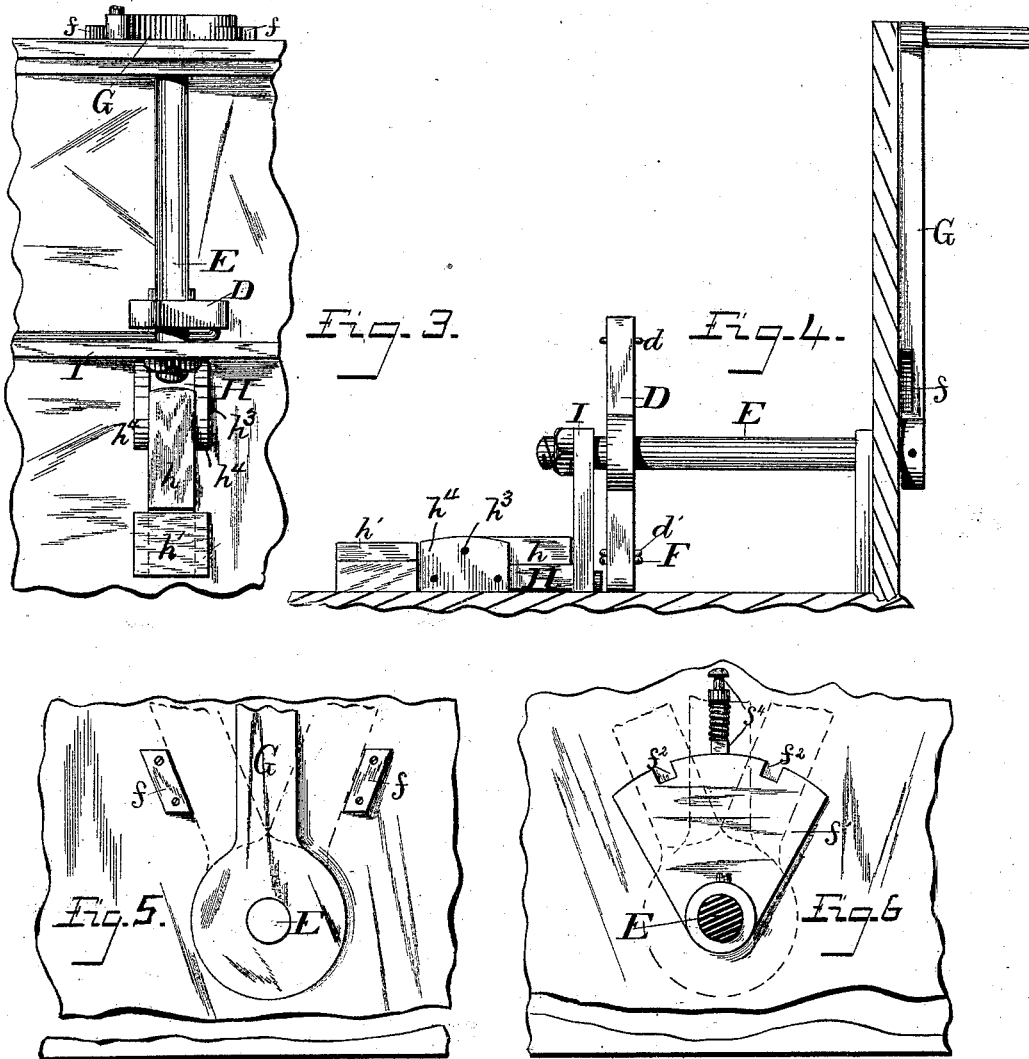
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UNITED STATES PATENT OFFICE.

OSCAR D. McDANIEL, OF RIDGWAY, ILLINOIS.

GRAIN MEASURE AND TALLY.

SPECIFICATION forming part of Letters Patent No. 421,421, dated February 18, 1890.

Application filed June 8, 1889. Serial No. 313,554. (No model.)

To all whom it may concern:

Be it known that I, OSCAR D. McDANIEL, a citizen of the United States, residing at Ridgway, in the county of Gallatin and State of Illinois, have invented certain new and useful Improvements in a Combined Grain Measure and Tally; and I do hereby 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 is an improvement in a combined grain measure and tally; and my said invention consists in certain details of construction and arrangement of the parts composing the same, whereby the grain as it is discharged from a hopper is measured and the amount thereof indicated upon the tally mechanism, as will be hereinafter more fully described and form the subject-matter of the annexed claims.

As this invention relates particularly to the measuring devices and the tally mechanism will form the subject-matter of a separate application for patent, filed June 14, 1889, Serial No. 314,253, said tally mechanism will only be briefly referred to herein.

Referring to the accompanying drawings, forming a part hereof, for a better understanding of the details of construction of a combined grain measure and tally constructed according to my invention, Figure 1 represents a vertical transverse sectional elevation, and Fig. 2 a plan view of the same, the cover of the external casing being removed. Figs. 3 and 4 represent detail views of the lock for the rocking lever that operates the slides to prevent the movement thereof. Figs. 5 and 6 represent two forms of stops to limit the movement of the operating-lever.

Similar letters and figures of reference designate like parts in the several views.

The letter A represents the hopper into which the grain is placed to be measured, and this hopper may be of any desired size and be provided with a close lid or cover. Vertically across the bottom of this hopper is arranged a partition B, which divides the bottom portion of said hopper into two compartments A' and A², each of the same size and a known capacity—for instance, one-half or one bushel. Below these compartments

A' A² is a discharge *a*, which may have provision for the attachment of a sack, so that the grain as measured can be sacked and arranged to slide in suitable guideways at each side of the external casing of the apparatus. At the top and bottom of said compartments A' and A² are slides C and C'. These slides C and C' have openings *c* and *c'* therein, which extend longitudinally across their length, and at one end are connected to rods *d* and *d'*, which rods in turn are attached at the opposite extremities of a rocker-arm D, keyed to a short shaft E, which shaft is journaled in suitable bearings in the frame of the apparatus. At the lower end of this rocker-arm D is attached a rod F, which rod in turn at its opposite end is connected to and operates the tally mechanism, in the manner as will be presently explained.

Upon the outer end of the shaft E is a hand-lever G, by which said shaft is operated, and through it and the rocker-arm D and rods *d* and *d'* and F the hopper-slides and tally mechanism receive their motion. This hand-lever G is limited in its movement by stops *f*, arranged at each side thereof upon the external casing of the apparatus; or instead of these stops *f* a segment, as at *f'*, Fig. 6, may be secured to the end of the shaft E, which segment has slots *f*², that are engaged at each stroke of the lever by a bolt *f*⁴, secured to the inner casing above said segment.

H is a lock arranged to engage upon alternate sides of the rocker-arm D to prevent the movement of said arm, and this lock consists of a bolt H, sliding in suitable ways upon the frame of the apparatus and of sufficient length to extend through the partition I and across the path of the lower end of the arm D, so that when said bolt is projected across the path of the arm D said arm D is prevented from moving, because of coming in contact with said bolt. Upon the top of this bolt H is arranged a latch *h*, that swings upon a pintle *h*³, which pintle passes through the rear end of said latch and through pieces *h*⁴, that in turn are secured to the sides of the bolt H at its outer end, as shown in Fig. 4. *h'* is a stop fixed upon the bottom of the apparatus to limit the rearward movement of the bolt H.

When desired to lock the arm D, suppos-

ing the latch *h* to be in the position shown in Fig. 4, said latch is first raised and then swung over rearward. The bolt *H* may then be projected forward to engage the arm *D*, as shown in Fig. 3, when the latch *h* will fall behind the stop *h'* and prevent the withdrawal of the bolt *H*. So, also, when desired to withdraw the bolt *H* from engagement with the arm *D*, the latch *h* is first raised from its engagement with the stop *h'*, as shown in Fig. 3, when the bolt *H* may be slid back. Then by bringing the latch *h* over against the partition *I*, as in Fig. 4, the bolt is held in its unlocked position. This locking device is arranged upon the interior of the apparatus in suitable position to be readily accessible; but any other form of device for locking the rocker-arm *D* may be provided, as will be found most desirable.

Referring now to the tally mechanism, such may consist of one, two, three, or more wheels or disks, as at 1 2 3, arranged upon a central stationary shaft 4. These disks are substantially alike, and upon the front face of the first wheel 1 is a segment 5, that turns freely upon the shaft 4 and extends below the lower periphery of said disk 1, and to which segment the rod *F* is secured. Movement from the rocker-arm *D* is therefore communicated to said segment 5 through the connection of rod *F*, and this segment 5 in turn is connected to and operates the tally mechanism; but, as hereinbefore stated, as the tally mechanism forms the subject-matter of a separate application for patent, it will therefore not be further described in detail herein, but reference is herein made to said application for a full description of these parts.

The operation is as follows: The grain to be measured is placed in the hopper *A*, the upper slide *C* having its opening *c* over the compartment *A'* and the lower slide *C'* having its closed portion at the bottom of said compartment, so that said compartment is

filled from the hopper. Upon the oscillation of the hand-lever *G* the shaft *E* is turned, and through said shaft the rocker-arm *D* is moved, which movement of said rocker-arm, acting upon the rods *d* and *d'*, causes a movement of the slides *C* and *C'*, so that their positions are reversed, the opening *c'* in the lower slide *C'* being brought beneath the compartment *A'* and the opening *c* in the top slide brought over the top of compartment *A'*, and the top of compartment *A'* closed by the closed part of slide *C*. Therefore the grain that was contained in the compartment *A'* is permitted to escape while the other compartment *A²* is filled. It will thus be seen that by this back-and-forth movement of the slides each compartment is alternately filled and emptied, and through the connection of the rod *F* with the rocker-arm *D* and segment 5 the tally mechanism is operated simultaneously therewith and the number of bushels indicated.

Instead of providing the hopper with two slides, but one slide may be used; but the construction shown is preferred.

Having thus described my invention, I claim—

1. The combination, in a combined grain measure and tally, with the hopper *A*, slides *C* *C'*, and connections *d* *d'*, of the rocker-shaft *E*, rocker-arm *D*, hand-lever *G*, rod *F*, and segment 5 of the tally mechanism, all constructed and arranged to operate substantially as and for the purposes described and shown.

2. In combination with the rocker-arm *D*, the bolt *H*, arranged to be projected across the path of said arm, and latch *h*, as described and shown, for the purposes specified.

OSCAR D. McDANIEL.

Witnesses:

R. G. HEMPHILL,
F. M. JACKSON.