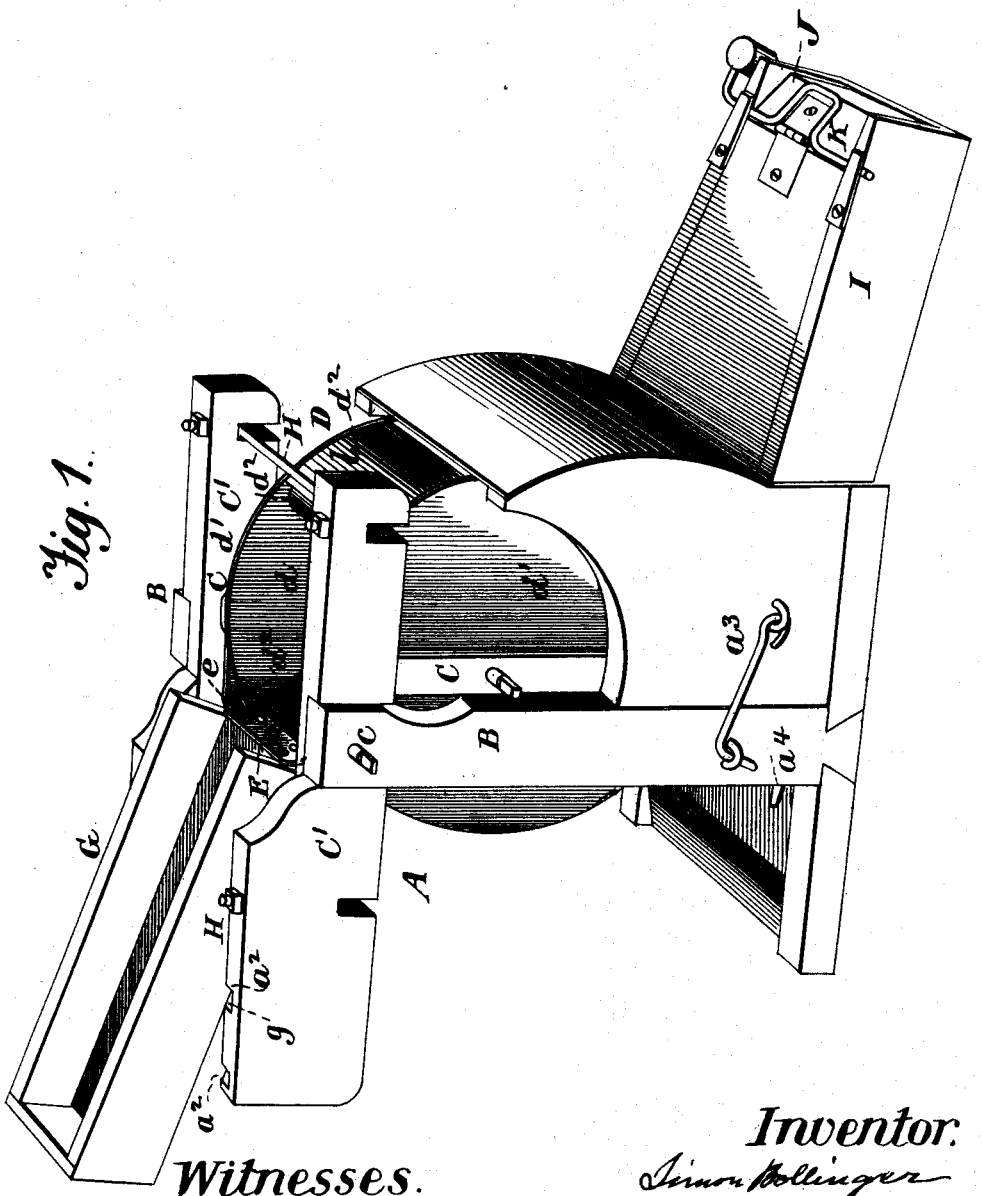
(No Model.) 2 Sheets—Sheet 1.

S. BOLLINGER.

ROTARY GRAIN METER.

No. 419,176. Patented Jan. 14, 1890.

Fig. 1.



Witnesses.
A. Ruppert
W. Burris

Inventor.
Simon Bollinger
Per
Thomas P. Simpson
atty

(No Model.) 2 Sheets—Sheet 2.

S. BOLLINGER.

ROTARY GRAIN METER.

No. 419,176. Patented Jan. 14, 1890.

Fig. 2.

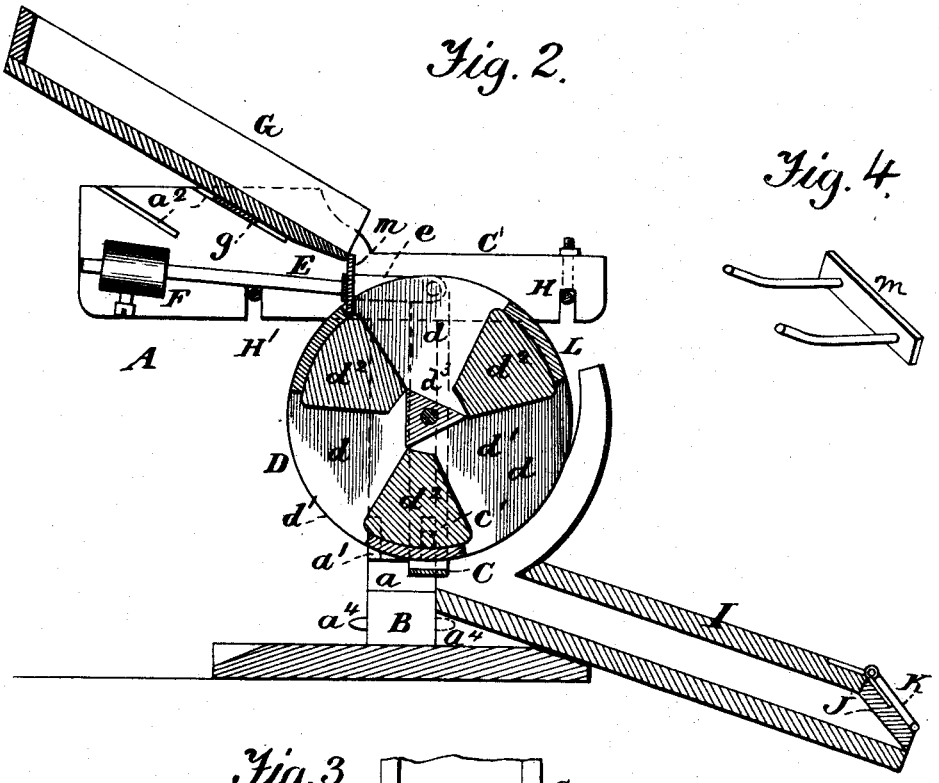
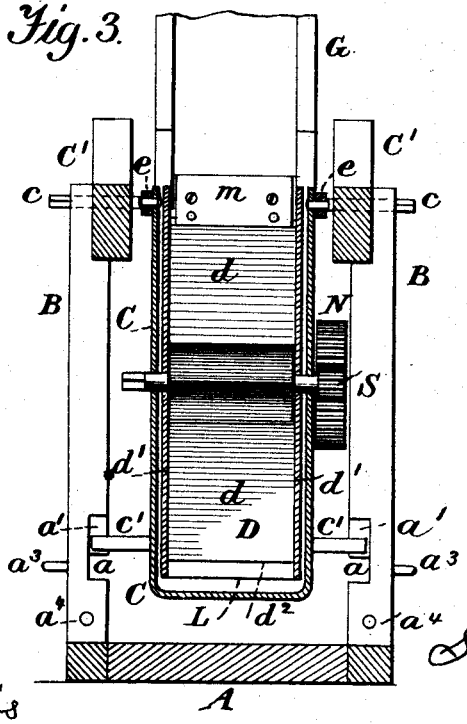


Fig. 4.

Fig. 3.



Witnesses.
A. Ruppert.
W. V. Burris

Inventor:
Simon Bollinger
Per
Thomas P. Simpson
Atty

UNITED STATES PATENT OFFICE.

SIMON BOLLINGER, OF SOUTH WHITLEY, INDIANA.

ROTARY GRAIN-METER.

SPECIFICATION forming part of Letters Patent No. 419,176, dated January 14, 1890.

Application filed May 23, 1889. Serial No. 311,827. (No model.)

To all whom it may concern:

Be it known that I, SIMON BOLLINGER, a citizen of the United States, residing at South Whitley, in the county of Whitley and State of Indiana, have invented certain new and useful Improvements in Rotary Grain-Balances; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The special object of the invention is to produce a device which will measure, tally, and sack grain as fast as it comes from the separator of a thrashing-machine.

Figure 1 of the drawings is a perspective view; Fig. 2, a longitudinal vertical section, and Fig. 3 a transverse vertical section. Fig. 4 is a perspective view of a cut-off which may be used.

In the drawings, A represents the main supporting-frame of my machine, between whose vertical standards B B is hung the U-shaped frame C, in which is journaled my measuring-wheel D. The frame C is held near the top by the bolts *c c*, which pass through the standards B B and sides C′ C′ of the main frame A, while near the bottom it is provided with the side studs *c′ c′*, which are carried along the horizontal groove *a* and then into the vertical rabbet *a′*. This groove *a* and rabbet *a′* are the same on both sides, so that the frame C may be used on either side of the machine. The frame C may be changed to either side simply by removing both chutes and turning the balance-bar over from right to left, or the reverse. At the upper ends of the arms of frame C are pivoted the arms *e* of the balance-bar E, which carries an adjustable weight F, which may be set by a screw at any point of its length.

G is the feed-chute, into which the grain flows from the separator and passes down to the measuring-wheel, and which has the side tenons *g g* sliding in the oblique grooves a^2 a^2 of the frame A. The side bars C′ C′ are braced and held apart by the metallic rods H H′, which also form a rest for the balance-bar E.

I is the discharge-chute, which is fastened to frame A by the hooks and eyes a^3 a^3 and projecting studs a^4 a^4, so as to be also transferable from one side of the machine to the other.

J is a top-hinged flap-valve held down over the outlet of chute I by a crank-shaft K, weighted to hold back any desired number of pounds to give time for the removal of a filled bag and the placement of an empty one. A wagon may drive under the outlet of chute I and take on a load of grain immediately therefrom, or the bags may be filled by manipulating them from the ground.

I preferably make my measuring-wheel D of two parallel disks *d′ d′*, nailed or screwed to triangular blocks d^2 d^2 d^2, thus forming the grain-receptacles *d d d*, at whose bottoms is an opening closed by the movable center piece d^3, whose inclined faces may be turned in opposite directions to suit the direction of the wheel and to throw the weight in front of the axis of wheel. In order to reverse the center piece d^3, it is only necessary to pull the wheel and center piece in opposite directions, so as to bring the center of gravity to the opposite side of the axis. On the periphery of the blocks d^2 is fixed the catch L, which strikes the stop M, which I have arranged on the balance-bar E, so as to hold the wheel still until any given number of pounds of grain have passed into one of the receptacles *d*. As soon as this number is exceeded the resistance of the stop is overcome, it is caused to rise, and the wheel revolves one hundred and twenty degrees of a circle, when the catch on the next receptacle strikes the stop and causes the wheel to stand still. The grain is discharged into the chute below and passes down to its outlet, where it is arrested by the flap-valve. The metal cut-off *m* is provided with top and bottom holes when designed to be adjustable; but if not so designed it is made as shown in Fig. 4 of the drawings. When it is desired to measure from the opposite side of the machine, the groove of the feed-chute is changed and the discharge-chute, balance-bar, and the movable center piece in wheel reversed in position.

The advantages of my grain-balance are that it is simple and inexpensive; that the wheel-stop is on the balance-bar to allow for

the lifting movement of the wheel when the grain is being fed to the grain-receptacles in the wheel; that the measuring-wheel may work in either direction; that both the wheel and balance-bar are free from springs, pins, or bolts for stopping and tripping the wheel, and that the hopper while filling stands perfectly straight, the weight being projected beyond the axis of the wheel by the inclined face of the center piece, so as to prevent the scattering of the grain and produce a steady motion in the wheel. The top part of stop M serves as a cut-off to keep the grain back in the feed-chute while the wheel is revolving.

Any suitable tally-wheels may be employed.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In rotary grain-balances, the balance-bar, discharge-chute, measuring-wheel, and the bottom of grain-receptacles in said wheel made reversible, the feed-chute and the wheel-stop being changeable in position, whereby the wheel may measure the grain, no matter in which direction it is turned, as set forth.

2. In rotary grain-balances, the combination, with the two sides d' and the three blocks d^2, of the triangular piece d^3, arranged movably on the shaft of the measuring-wheel and forming a reversible bottom for all the grain-receptacles, as described.

3. In rotary grain-balances, the combination, with the measuring-wheel, bar E, and peripheral catches L on the measuring-wheel, of a wheel-stop M, arranged on the balance-bar E, as and for the purpose described.

4. In rotary grain-balances, the measuring-wheel B, formed of the two paralled disks d' d', blocks d^2 d^2 d^2, and triangular center piece d^3, the center of gravity of which is movable to the opposite sides of the axis of the measuring-wheel, as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

SIMON BOLLINGER.

Witnesses:

WILLIAM HOMER GRAY,

JONATHAN BOLLINGER.