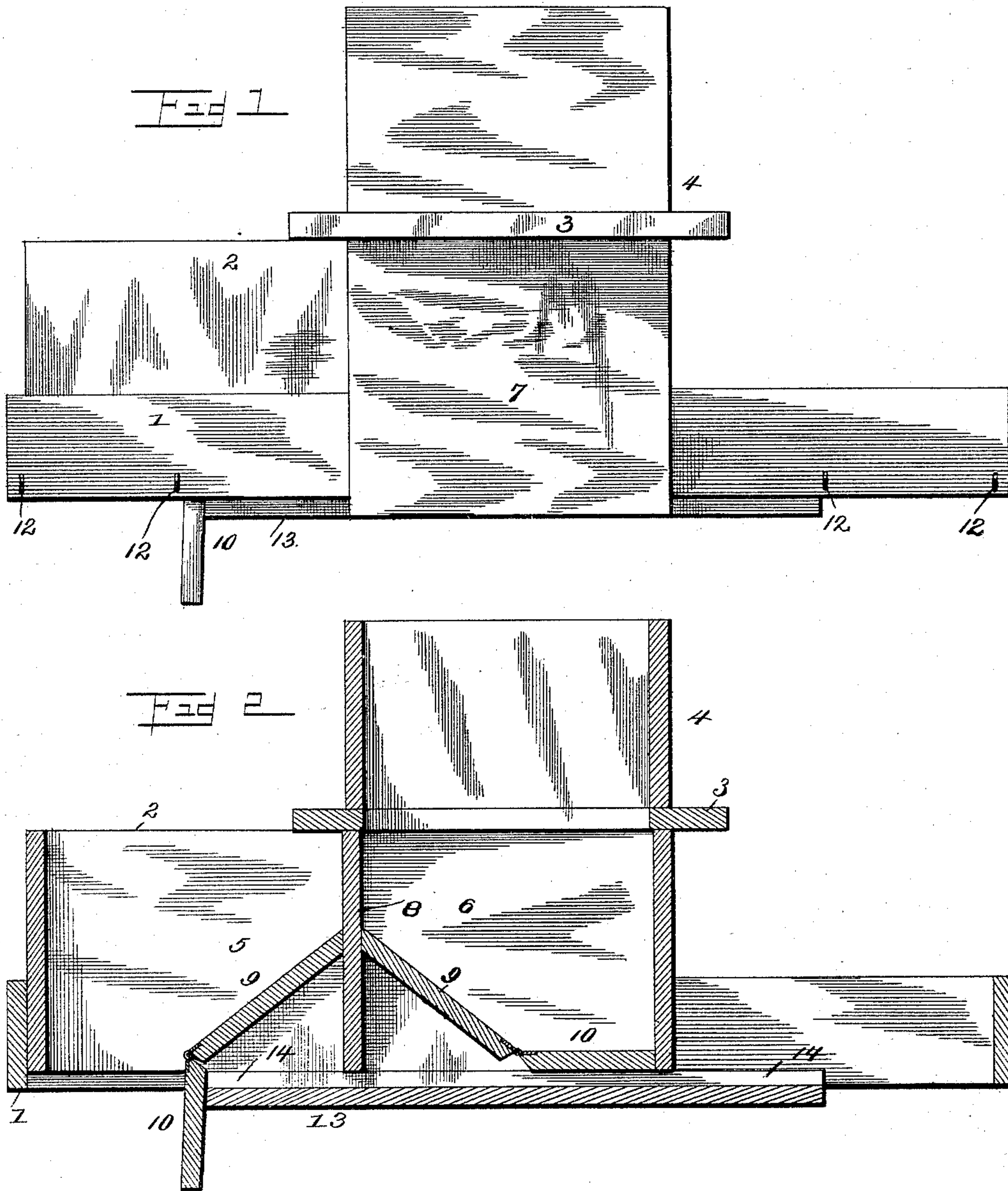


(No Model.)

J. SNORF.  
MEASURING VESSEL.

No. 485,992.

Patented Nov. 8, 1892.



Witnesses

*John D. Davis*  
*Robert Everett*

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# UNITED STATES PATENT OFFICE.

JOHN SNORE, OF FAIRLAND, MICHIGAN.

## MEASURING-VESSEL.

SPECIFICATION forming part of Letters Patent No. 485,992, dated November 8, 1892.

Application filed July 7, 1892. Serial No. 439,300. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN SNORE, a citizen of the United States, residing at Fairland, in the county of Berrien and State of Michigan, have invented new and useful Improvements in Grain-Meters, of which the following is a specification.

This invention relates to that type of grain-meters wherein a reciprocating measuring-box arranged beneath a hopper is provided with hinged bottom doors which open by gravity to deliver the grain in measured quantities into sacks and are closed by attendants operating cords connected with the doors.

The objects of my invention are to improve the prior construction of this class of grain-meters, to dispense with the cords for closing the doors, and to provide novel, simple, efficient, and economical means for automatically closing the doors as the measuring-box is reciprocated to place one of its chambers beneath the supply-hopper and its other chamber over the sack or receptacle into which the grain is to be deposited.

To accomplish these objects my invention consists, essentially, in the combination of a rectangular frame having at each end a discharge-opening and comprising vertical side walls, a top wall supported by the upper ends of said side walls, and a bottom wall provided with door-closing abutments, a rectilinearly-reciprocating grain-box set within the rectangular frame between the parallel side walls thereof and provided at its opposite ends with pivoted swinging doors, which are alternately raised and closed by the door-closing abutments as the grain-box is reciprocated in a right line between the parallel side walls of the rectangular frame.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of a grain-meter constructed in accordance with my invention, and Fig. 2 is a longitudinal central sectional view of the same.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a rectangular frame, in which a grain-measuring box 2 is adapted to reciprocate in a horizontal plane directly

beneath a top wall 3, which supports a hopper 4, through which the grain is alternately delivered into the box-chambers 5 and 6 as the box is reciprocated. The hopper may be of any construction suitable for the conditions required and the rectangular supporting-frame is provided with vertical side walls 7, on which the top wall 3 is supported in such manner that as the measuring-box is reciprocated the top wall levels or strikes the grain. The measuring-box is rectangular in form, and a central vertical partition 8 separates the chambers 5 and 6 one from the other. At opposite sides of the partition are located bottom walls 9, rigidly fixed to the box-walls and inclining in opposite directions from the partition for the purpose of facilitating the discharge of the grain from the measuring-box. To the lower edge of each inclined wall is hinged or pivoted a bottom door 10, adapted to close the space between the inclined wall and the end wall of the box.

The rectangular frame is provided at each end with a discharge-opening through which the grain can pass from the measuring-box into a sack or other receptacle. In practice the ends of the rectangular frame are provided with suitable hooks 12 or other devices for suspending the sacks or bags.

In practice the measuring-box is moved horizontally so that one of its measuring-chambers is located directly beneath the supply-hopper and its other measuring-chamber is over the sack or bag to deliver the grain thereinto. These bottom doors require to be alternately raised and closed, so that one box-chamber can be filled with grain while the other is discharging its contents. In prior apparatus of the character described the hinged bottom doors are raised to their closed position through the medium of cords which connect at one end with the doors and are provided with handles at their other ends to be grasped and pulled by attendants. This construction is objectionable in that it requires constant attention on the part of the attendants to alternately close the doors at the proper time. To avoid this, I provide a stationary abutment which automatically raises and closes the doors when the box is reciprocated, thereby dispensing with the cords and avoiding the necessity of watchfulness and work on the



part of the attendants for this purpose. As here illustrated this door-closing abutment comprises a horizontal bottom wall 13, secured to the lower side of the rectangular supporting-frame 1 and having side cleats or bars 14, on which the measuring-box is adapted to slide in a horizontal plane. The cleats or bars 14 are so placed that when the measuring-box is reciprocated they strike the bottom doors and raise the same to their closed positions. I do not, however, limit myself to this particular construction of stationary door-closing abutment.

In the practical operation of the grain-meter the box is moved by an attendant to place one of the measuring-chambers directly beneath the supply-hopper, and in this position the hinged bottom door of the other measuring-chamber will be unsupported and consequently drop open by gravity to discharge the contents into a sack, bag, or other receptacle, after which the box is moved to bring the last-mentioned measuring-chamber beneath the supply-hopper, which obviously places the hinged door of the other measuring-chamber in position to open by gravity and discharge the grain into a sack, bag, or other receptacle.

The apparatus may be provided with any suitable tallying or registering mechanism for registering the movements of the box and thereby indicating the quantity of grain passing through the meter; but as this is well known and constitutes no part of my invention I do not deem it necessary to illustrate or describe the same.

Having thus described my invention, what I claim is—

1. The combination of a rectangular frame having at each end a discharge-opening and comprising vertical side walls 7, a top wall 3, supported by the upper ends of said side walls, and a bottom wall 13, provided with door-closing abutments, a rectilinearly-reciprocating grain-box 2, set within the rectangular frame between the parallel side walls thereof

and provided at its opposite ends with pivoted swinging doors 10, which are alternately raised and closed by the door-closing abutments as the grain-box is reciprocated in a right line between the parallel side walls of the rectangular frame, substantially as described.

2. The combination of a rectangular frame 1, having a discharge-opening at each end and provided with vertical parallel side walls 7, a horizontal plate 3, supported by the upper ends of the side walls, a hopper 4 above the horizontal plate, a door-closing abutment located at the under side of the rectangular frame, and a rectilinearly-reciprocating grain-box 2, set within the rectangular frame between the parallel side walls thereof and provided with reversely-inclined bottom walls, to the lower edges of which are pivoted opening and closing doors 10, which are alternately raised and closed by the door-closing abutments as the grain-box is reciprocated rectilinearly between the side walls of the rectangular frame, substantially as described.

3. The combination of a rectangular frame 1, having at each end a discharge-opening and provided at its bottom with a horizontal wall 13, having side cleats or bars 14, a rectilinearly-reciprocating grain-box 2, supported by the side cleats or bars and comprising a partition 8 and reversely-inclined bottom walls 9, to the lower edges of which are pivoted opening and closing doors 10, which are alternately raised and closed by the ends of the cleats or bars as the box is reciprocated rectilinearly on said cleats or bars, a hopper 4, located above the grain-box, and a leveling-plate 3, interposed between the hopper and the grain-box, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

JOHN SNORF. [L. S.]

Witnesses:

JAMES M. BABCOCK,  
GEORGE H. MURDOCH.