(No Model.)

M. A. HARMLESS.

GRAIN MEASURE.

No. 441,302. Patented Nov. 25, 1890.

FIG_1_

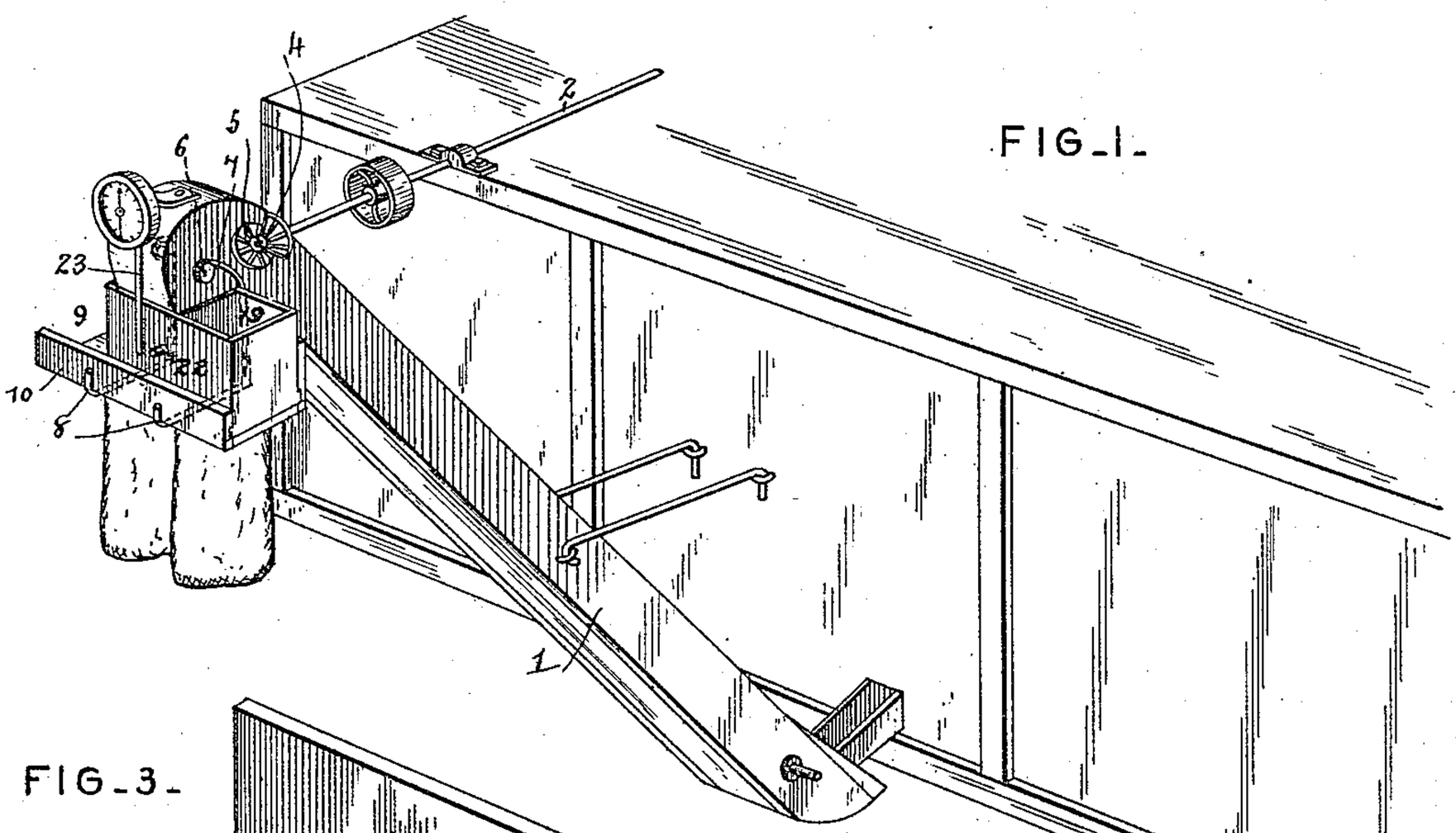


FIG_3_

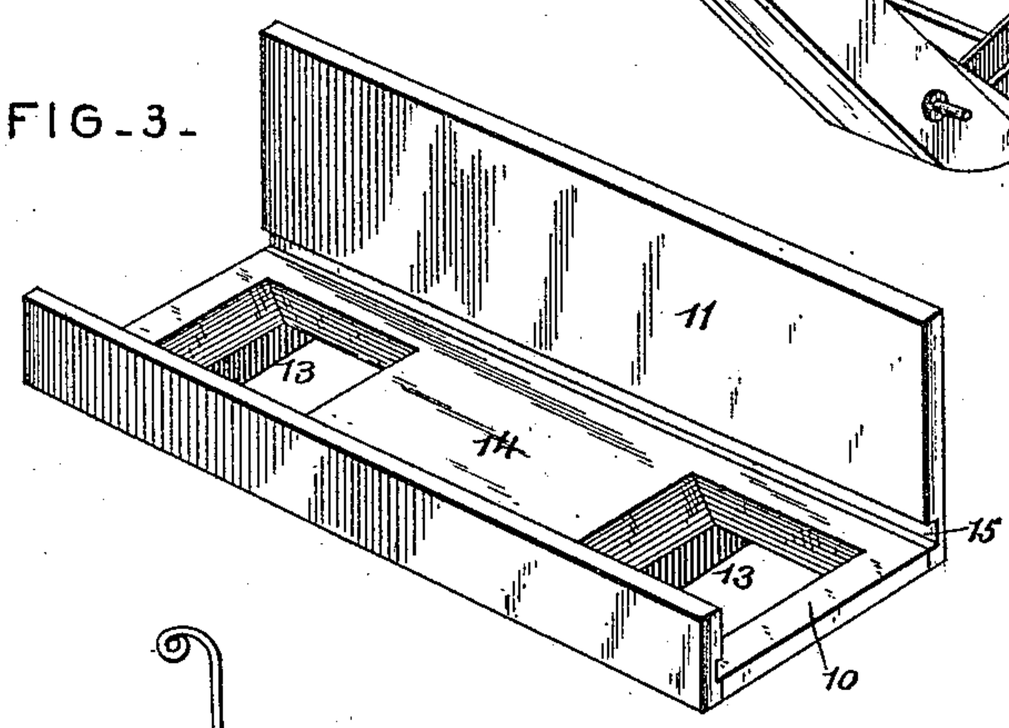


FIG_4_

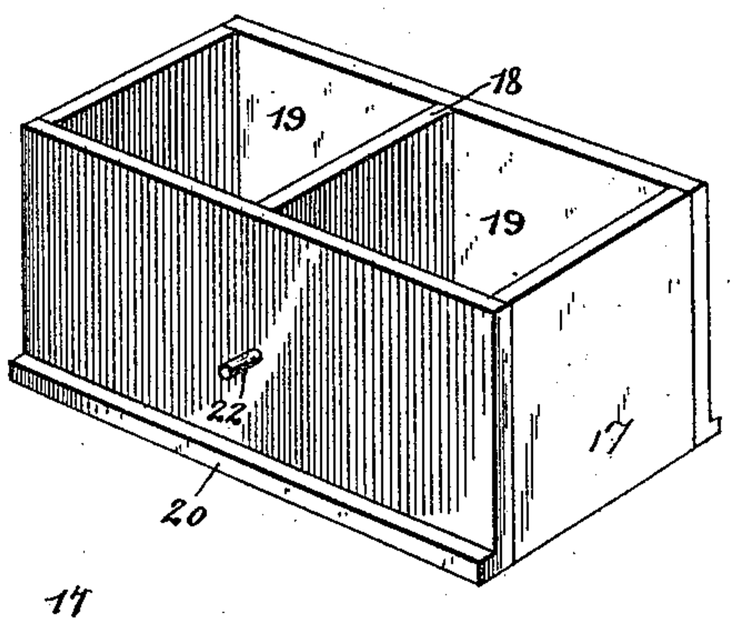


FIG_5_

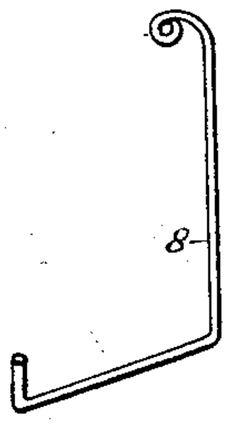
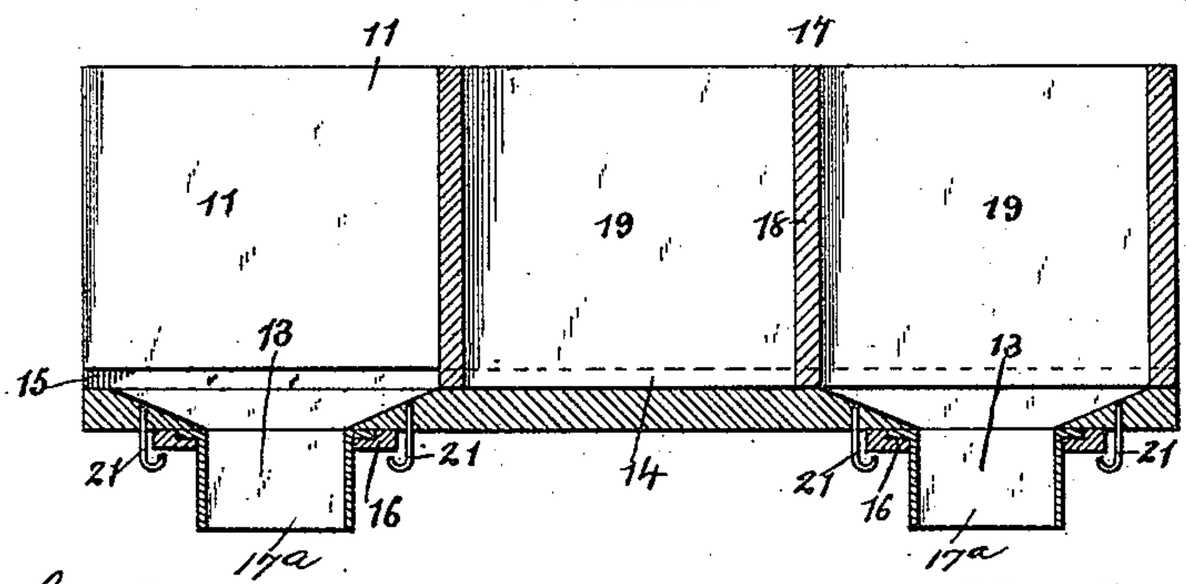


FIG_2_



Witnesses:

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UNITED STATES PATENT OFFICE.

MARSHAL A. HARMLESS, OF SCHELL CITY, MISSOURI.

GRAIN-MEASURE.

SPECIFICATION forming part of Letters Patent No. 441,302, dated November 25, 1890.

Application filed June 16, 1890. Serial No. 355,570. (No model.)

To all whom it may concern:

Be it known that I, MARSHAL A. HARMLESS, a citizen of the United States, residing at Schell City, in the county of Vernon and State of Missouri, have invented a new and useful Grain-Measure, of which the following is a specification.

This invention has relation to a grain-measuring attachment for thrashing-machines; and among the objects in view is to provide a measure that may be continuously performing its function as such during a continuous and uninterrupted discharge of the grain from the thrasher, and, furthermore, to provide means for delivering said grain as measured into bags or wagons placed thereunder.

With the above objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a grain-elevator and a measure, the latter constructed in accordance with my invention, the tubing located at the rear end of a thrashing-machine and the elevator being operated thereby. Fig. 2 is a transverse section of the measure. Fig. 3 is a detail in perspective of the measure-supporting and seed-delivery board. Fig. 4 is a detail in perspective of the measure. Fig. 5 is a detail view of one of the L-shaped hangers.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the elevator, which is of the usual construction and whose endless belt and buckets are operated by the tumbling shaft 2 of the thrasher, having a pinion 4, which engages and drives the pinion 5 of the elevator. The upper end of the elevator is provided at opposite sides with a pair of lugs 6, over which are introduced the eyes 7 of a pair of L-shaped hangers or supporting-brackets 8.

9 designates the delivery-board, which consists of a bottom 10 and front and rear side pieces 11. The delivery-board is mounted upon the supporting-brackets under the upper end of the elevator, and is provided near its opposite ends with openings 13 for the delivery of seed, said openings having their surrounding edges inclined or beveled, as shown. The openings 13 are arranged at some distance apart, the distance being sufficient to leave an intermediate space 14 imperforate, said space being equal to and preferably slightly larger than the openings. The opposite sides 11, near their lower edges or flush with the upper surface of the bottom 10, are provided with opposite grooves or ways 15. Secured to the under side of the bottom board at the opposite sides of each of the openings are pairs of opposite guide-strips 16, and in each pair is mounted a rectangular frame 17^a, the upper side edges of which are outwardly flanged to take into and ride in the guides 16.

17 designates the oblong measure, which is subdivided by a transverse partition 18 into two measuring-compartments 19 of equal capacity. Said compartments may be of any capacity desired, as will be apparent. The outer and lower edges of the measure are provided with opposite guiding-ribs 20, adapted to take and slide within the grooves or ways 15 of the seed-board.

The parts being mounted in position, the operation will at once be obvious, but may be briefly stated as follows: The space 14 of the seed-board is directly under the upper end of the elevator, and said space is covered by that one of the compartments 19 not opposite an opening 13. When a measure becomes filled, the same is slid over opposite one of the openings 13, which brings the second measure in position to be filled, which is accomplished while the first measure is being emptied, and after the second measure has become filled the measure is slid to the opposite side of the feed-board, so that said second measure may deliver to the opposite opening 13, and while this is being accomplished the first measure is being filled, and so on, the measure being oscillated back and forth between the opening and alternately filling and delivering. Hooks 21 may be provided upon the bottom 10, and to the same attached the bags, which may be removed as fast as filled. A pin 22 may project from one side of the measure 17 and be adapted to come into contact with a pivoted rod 23, the upper end of which connects with a tally mechanism or recorder, whereby the number of oscillations made by the box may be obtained and taken note of.

From the above construction it will be ap-

parent that I have provided a very simple and convenient grain-measuring attachment for thrashing-machines, which attachment is positive and accurate, irrespective of whether or not the grain is damp and of greater or less specific gravity in consequence thereof, thus avoiding a material objection to the ordinary grain-weighing machine, which is only governed by the weight of the grain irrespective of the moisture contained therein.

Having thus described my invention and its operation, what I claim is—

1. The combination, with the seed-board having openings and a central space equal in area to one of said openings, and a measuring-box subdivided into chambers, of a recorder located above the box, an arm depending therefrom, and a stud projecting from the box and adapted to operate the arm, substantially as specified.

2. The combination of the seed-board having opposite ways and openings located near the ends of the board and forming an intermediate space equal to one of the openings, a divided measuring-box mounted for reciprocation in the ways, short transverse ways located upon the under side of the seed-board, and delivery-frames having spouts and opposite ribs mounted removably in said transverse ways, substantially as specified.

3. The combination, with the opposite studs and the depending L-shaped brackets provided at their upper ends with eyes engaging the studs, of the seed-board supported by the brackets and provided with opposite grooves and openings and a central imperforate space occurring under the mouth of the elevator, and the measuring-box provided with opposite ribs taking into said grooves and subdivided to form opposite measuring-chambers of equal capacity, substantially as specified.

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

MARSHAL A. HARMLESS.

Witnesses:

W. A. MASON,

C. H. MILES.