(No Model.) 2 Sheets—Sheet 1.

A. E. CLAY.

GRAIN METER.

No. 417,543. Patented Dec. 17, 1889.

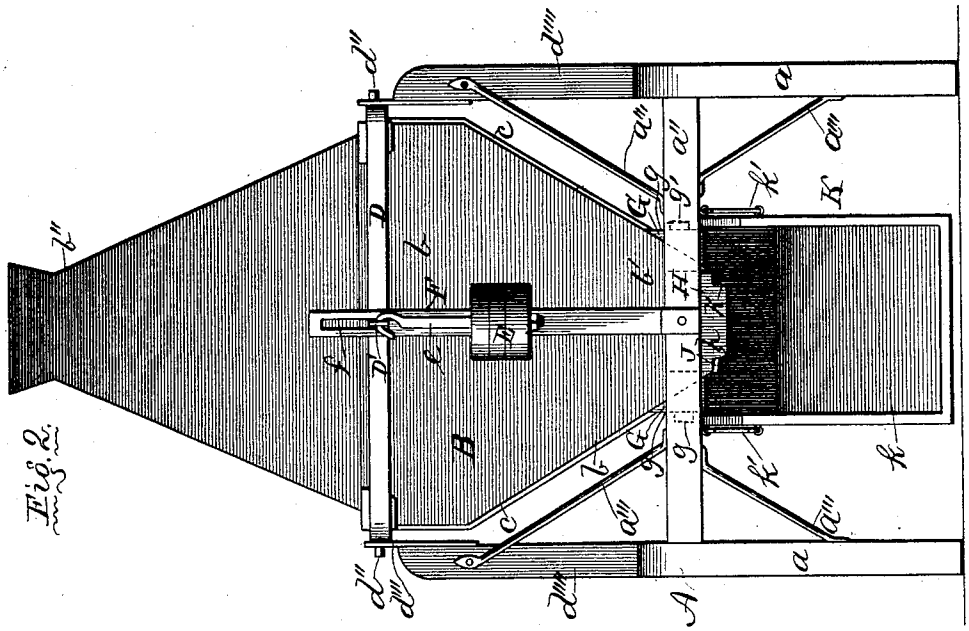

Fig. 2.

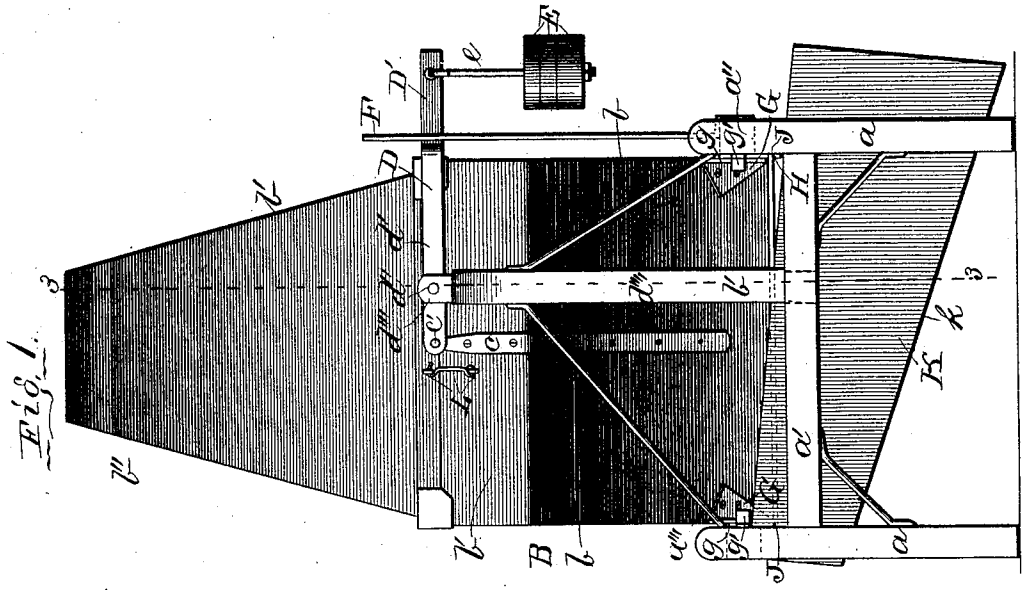

Fig. 1.

Witnesses:
W. Rossiter.
H. M. Richards.

Inventor:
Aaron E. Clay,
By W. B. Richards,
Atty.

(No Model.) 2 Sheets—Sheet 2.

A. E. CLAY.

GRAIN METER.

No. 417,543. Patented Dec. 17, 1889.

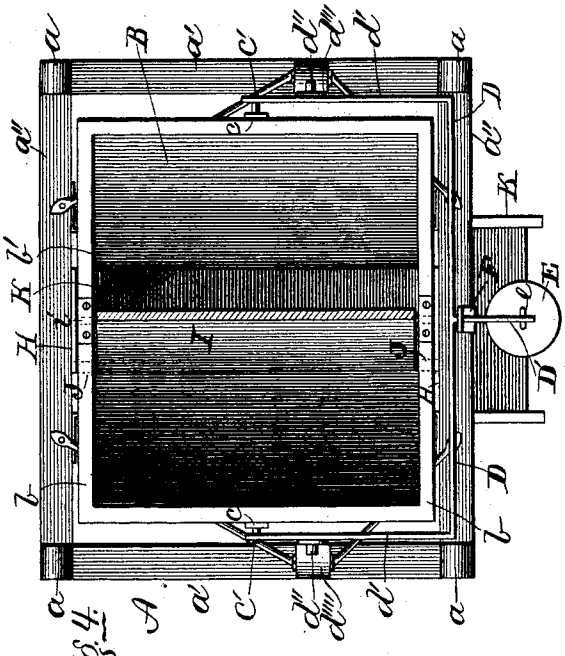

Fig. 4.

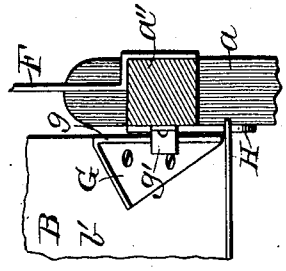

Fig. 5.

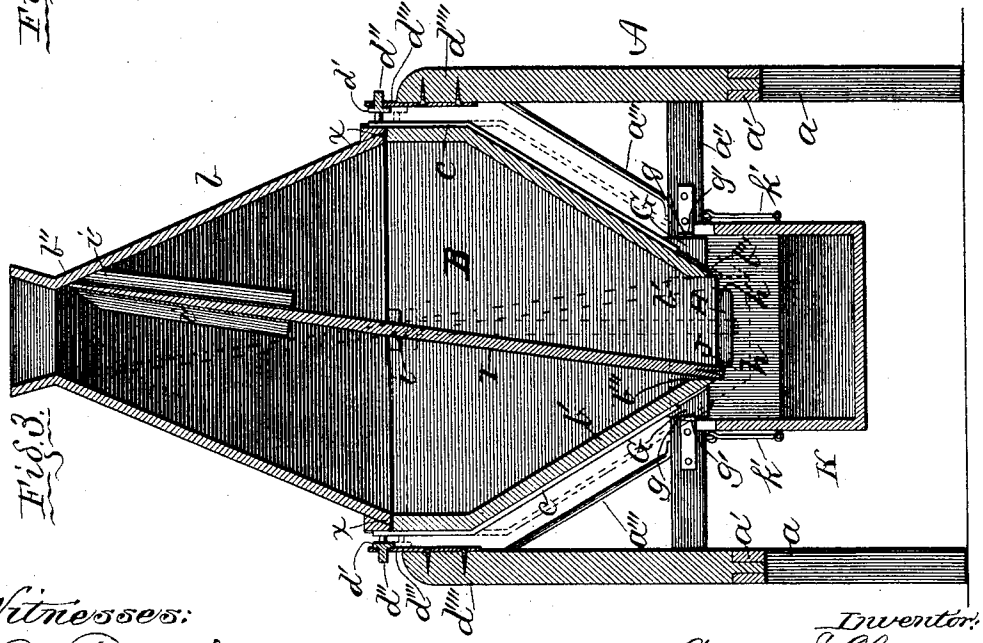

Fig. 3.

Witnesses:
H. Rossiter,
H. M. Richards.

Inventor:
Anson E. Clay,
By V. B. Richards,
Atty.

UNITED STATES PATENT OFFICE.

ANSON E. CLAY, OF NEWBURG, IOWA.

GRAIN-METER.

SPECIFICATION forming part of Letters Patent No. 417,543, dated December 17, 1889.

Application filed June 5, 1889. Serial No. 313,163. (No model.)

To all whom it may concern:

Be it known that I, ANSON E. CLAY, a citizen of the United States, residing at Newburg, in the county of Jasper and State of Iowa, have invented certain new and useful Improvements in Grain-Meters, of which the following is a specification.

This invention relates to grain-meters of that class in which the grain is received from a thrashing-machine or other continuous delivery in a vertically-reciprocating box or receiver, in which it is automatically weighed and discharged in given quantities, as desired, and from opposite sides alternately of a swinging partition in said receiver; and the invention consists in constructions and combinations hereinafter described and claimed.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation; Fig. 2, an end elevation; Fig. 3, a sectional elevation in the line 3 3 in Fig. 1. Fig. 4 is a top plan showing the receiver with its upper part removed, and showing the swinging partition or division board in section; Fig. 5, an enlarged detail of parts hereinafter described.

The operating parts of the meter are carried in a frame A, formed of vertical posts a, connected by transverse posts a' a'', and strengthened by braces a'''. The grain-receiver B is formed of two sides b, vertical and parallel at their lower parts, and inclined toward each other at their upper parts, and its other two sides tapered toward its lower end b' and toward its upper end b'', where said sides are flared outwardly, as shown. The receiver B has a strap c at each of its sides, from each of which projects a stud or pivot-bolt c'. The pivots c' are journaled one in each end of a bail D, each arm or member d of which bail carries a pivot-bolt d''. These bolts d'' are journaled one in each of the metal plates d''', which extend upwardly and form part of standards d'''', that project upwardly from the bars a'. The bail D has an arm D′ extending outwardly, with a depending hook e, on which weights E may be placed, as desired. Thus the receiver B is suspended by the pivots c' from one end of the bail D, which bail is in turn pivotally suspended on the bolts d'' and provided at its other end with the weights E. The arm D′ passes through a slot f (see Fig. 2) in a standard F, which projects upwardly from a frame-bar a'', the ends of which slot limit the extent of the upward and downward swing of the ends of the bail, and thereby limit the upward and downward movement of the grain-receiver B.

Angle-plates G have vertical faces g, which slide against angle-plates g', fixed to the frame-bars a'', (see Figs. 2, 3, and 5,) to prevent any lateral movement of the receiver B with reference to detent-plates H, one of which is fixed to and projects below each frame-bar a''. The corners h h' of these detent-plates H are preferably rounded off, as shown at Figs. 2 and 3, and constitute the detents proper.

The partition-board I extends across the interior of the receiver B from one of its vertical sides b to the other, and is suspended from said sides b by pivot-bolts i in such manner that it can swing on the pivots i to bring its lower end in close contact with either of two opposite sides b''' of the open lower end of the receiver. The lower end of the partition-board I extends slightly below the lower end of the receiver B and carries a plate one end J of which projects from each edge of the board I such distance that each may engage with the adjacent detent h or h', as hereinafter described. The upper end of the board I is covered with tin or sheet-iron, which is turned outwardly to form flanges i' at the sides of said board.

The trough K, with an inclined discharging-bottom k, is suspended from the frame A beneath the open lower end of the receiver B by hooks k', and may be hung as shown or in an opposite direction thereto by the same hooks, in order to receive the measured grain from the receiver B and to discharge it into any desired receptacle.

In use the apparatus is located so as to receive the grain at its upper end from a thrasher or any other source with a continuous supply; and to illustrate its operation I will suppose the partition-board I to be standing, as shown by full lines at Fig. 3, with the lugs J at its lower end engaged with the detents h to hold it in said position, and that weights E are placed on the beam D to balance the weight of the receiver B, and also balance such weight or quantity of grain as

it is desired to measure in each charge of said receiver. When such quantity has entered the receiver, it will overbalance the weights E and the receiver will drop to the position shown by dotted lines at same figure. This dropping or lowering of the receiver will carry the lugs J below the plate H, and thus release said lugs from the detents, and the weight of the grain on the lower end of the partition I will then swing it over into the position shown by dotted lines at same figure and allow the grain to escape, and as the grain escapes, its weight being diminished, the weights E will again raise the receiver to its highest position and thereby bring the lugs J into engagement with the detents h', while the partition is still held in its last-described position by the escaping grain. The same operation is then repeated by the partition I being swung in the opposite direction to that last described.

The apparatus may be located to discharge the grain from the spout K into any suitable receiver, and a registering apparatus of any preferred kind may be attached to any desired moving part of the apparatus to register the number of discharges of grain from the receiver B.

The upper part of the receiver B is formed separately from its lower part on the line x x, (see Fig. 3,) and the two parts are held together by hooks and eyes L. (See Fig. 1.) The hooks L may be disengaged and the upper part of the receiver removed for access to its interior to remove or repair the partition I, or for any other purpose.

I claim as new and desire to secure by Letters Patent—

1. In a grain-meter, the combination of the frame having the angle-plate g' and plate H, provided with detents h and h', the bail D, pivotally supported by the frame and having the weights E, the receiver B, suspended on the bail D and having the angle-plate G g, and the partition-board I, extending slightly below the end of the receiver and having a plate with projecting end J, substantially as described.

2. In a grain-meter, the combination of the frame having the angle-plate g' and plate H, provided with detents h and h', the bail D, pivotally supported by the frame and having the weights E, the receiver B, suspended on the bail D and having the angle-plate G g, the partition-board I, extending slightly below the end of the receiver and having a plate with projecting ends J, and a trough K, suspended from the frame and hanging below the bottom of the receiver, substantially as described.

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

ANSON E. CLAY.

Witnesses:
WM. MEANOR,
J. T. CESSNA.