

(No Model.)

2 Sheets—Sheet 1.

L. D. GOODPASTURE.

MEASURING DEVICE OR APPARATUS.

No. 261,441.

Patented July 18, 1882.

Fig. 1.

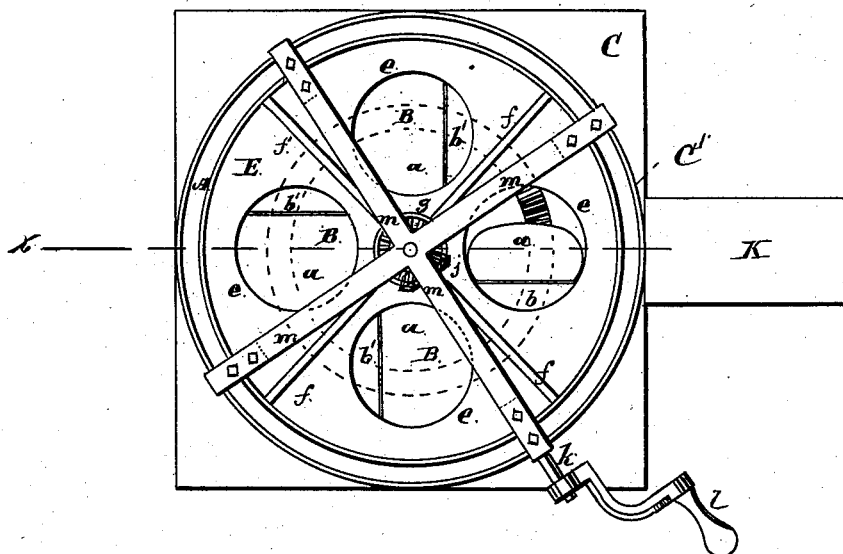
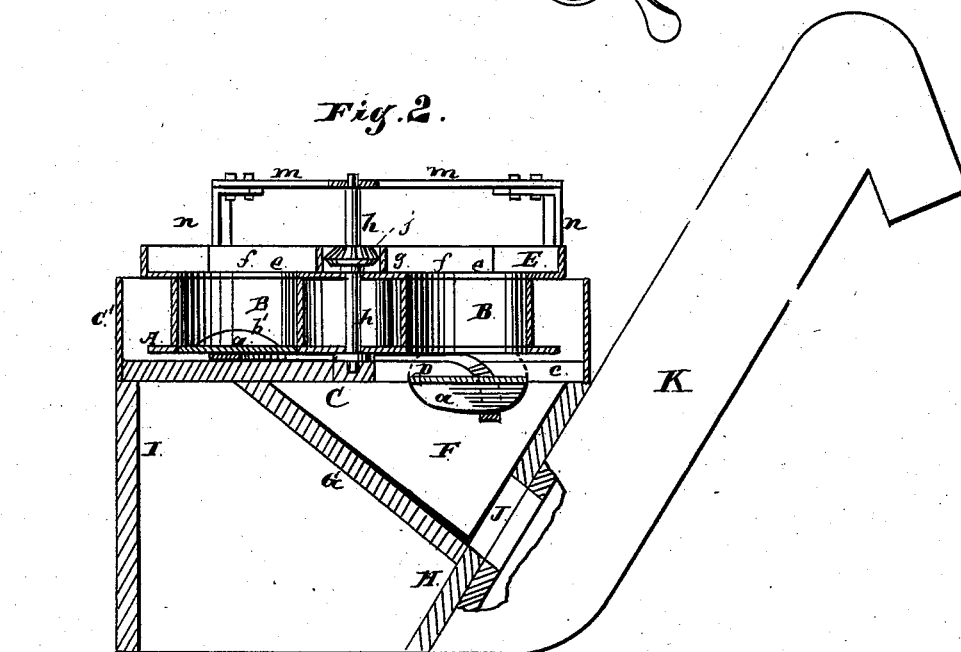


Fig. 2.



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Fig. 3.

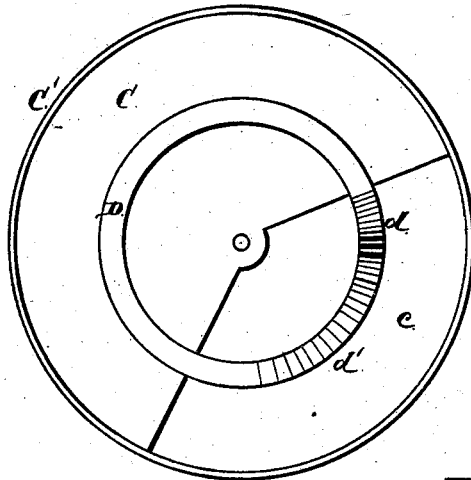


Fig. 7.

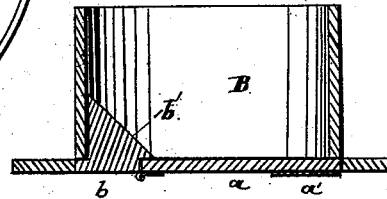


Fig. 4.

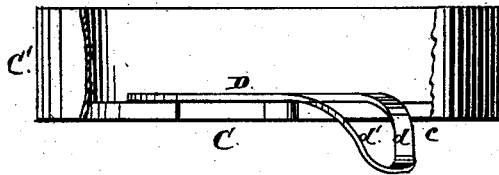


Fig. 8.

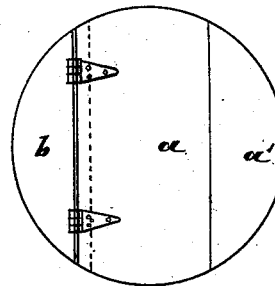


Fig. 5.

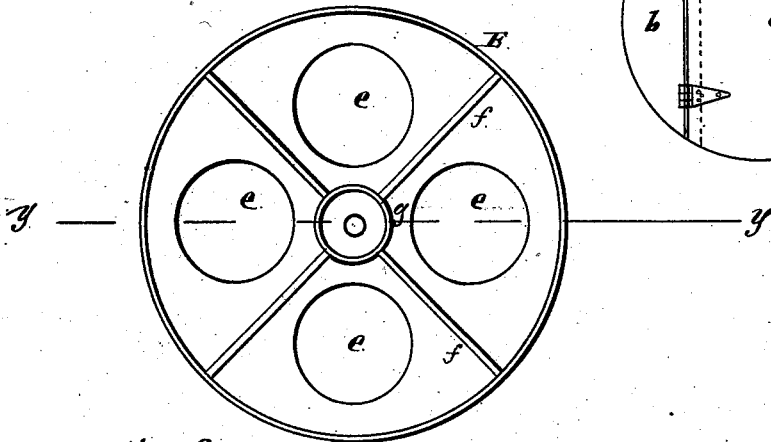
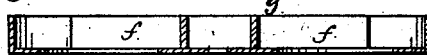


Fig. 6.



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UNITED STATES PATENT OFFICE.

LEVI DODDS GOODPASTURE, OF WELDON, ASSIGNOR TO HIMSELF AND
LLOYD G. SPENCER, OF CHICAGO, ILLINOIS.

MEASURING DEVICE OR APPARATUS.

SPECIFICATION forming part of Letters Patent No. 261,441, dated July 18, 1882.

Application filed November 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, LEVI DODDS GOODPASTURE, residing at Weldon, in the county of De Witt and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Measuring Devices or Apparatuses, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view. Fig. 2 is a central vertical section on line *x x* of Fig. 1; Fig. 3, a top or plan view of the supporting and discharging platform; Fig. 4, a side elevation of the supporting-platform with the side partly broken away to show the discharging device; Fig. 5, a top or plan view of the cover or receptacle to prevent wastage; Fig. 6, a vertical section on line *y y* of Fig. 5; Fig. 7, a vertical section through one of the measuring-receptacles; Fig. 8, an under side or bottom view of one of the measuring-receptacles.

The object of this invention is to construct an apparatus to be used with a thrashing-machine or other mechanism or device for the purpose of measuring grain or other articles in specific quantities.

My invention consists essentially in the combination of a plate or bottom and a circular track attached thereto and provided with a curved depression, as described, with a rotary plate carrying a series of measures or receptacles provided with hinged bottoms, which are gradually allowed to open and close by the curved depression in the said track.

My invention also embraces other features, all of which are hereinafter fully described in detail, and set forth in the claims.

In the drawings, A represents the plate or disk carrying the receptacles or measures; B, the receptacles or measures; C C', the support or receptacle for the plate A and measures B; D, the guideway or track for operating the bottoms of the receptacles or measures; E, the cover or receptacle for preventing wastage in filling the receptacles or measures; F, the bin or receptacle into which the contents of the measures are discharged; G, an inclined partition or division-board forming one side of the bin or receptacle F; H I, the sides of the bin or receptacle; J, the opening leading from the receptacle F to the elevator-spout; K, the ele-

vator-spout; *a*, the hinged or drop portion of the bottoms of the receptacles or measures; *a'*, the guard-plates on the portions *a* of the bottom of the receptacles or measures B for preventing wear; *b*, the stationary or fixed portion of the bottom of B; *b'*, inclines within the receptacles or measures B for insuring the discharge of the contents; *c*, the opening in the bottom C over the receptacle F; *d d'*, the bent or curved portion in the guideway or track D, forming the depression; *e*, the openings in the bottom of the cover or receptacle E; *f*, the division-plates or partition of the cover or receptacle E; *g*, the guard or partition at the center of E; *h*, the shaft of the plate or disk A; *i j*, the beveled-gear wheels; *k*, the shaft or rod for wheel *j*; *l*, the crank or handle for revolving the shaft or rod *k*; *m*, the braces or strengthening-bars; *n*, the uprights or standards.

The plate or disk A may be made of wood, metal, or other suitable material, and may be of the form shown or other form adapted to receive and support the receptacles and measures B, and its dimensions may be varied to suit the number and size of the receptacles or measures. As shown, it is of a circular form, and of a sufficient diameter to receive and support four receptacles or measures.

The receptacles or measures B may be made of sheet metal or other material of the shape shown or other shape adapted to measure given quantities, either pecks, half-bushels, bushels, or other measure. These receptacles are to be attached or secured to the plate A in any suitable manner, and may be located and arranged on the plate in relation to each other as shown, or in some other manner to have the rotation of the plate bring them successively into position to be filled and discharged. Each receptacle B is located over and around an opening in the plate or disk A, and this opening or the bottom of the receptacle or measure is closed by a cover or bottom, the main portion *a* of which is hinged or otherwise attached so as to swing or drop down, and the other portion, *b*, of which is stationary, and the interior of each receptacle has located therein, in line with the part D of the bottom, an incline, *b'*, leading from the side of the receptacle or measure to the hinge or joint

of the flap or drop portion *a* to the part *b*, which incline may be formed with the part *b* or may be an independent piece suitably secured in position, and is for the purpose, namely, of furnishing a guide or surface by which the contents of the receptacles or measures will be discharged when the flaps or bottoms *a* are dropped. As shown, each flap or bottom *a* is provided with a guard or protection plate, *a'*, to prevent wear by contact with the guideway or track D.

The plate A, with the receptacles or measures B, is located on or supported by a shaft, *h*, which shaft has its bearing at its lower end in the plate or support C, around the periphery of which is a casing or band, C', of sheet metal or other suitable material, these parts C C' forming a support and receptacle in which are located the plate A and receptacle or measure B. The plate or bottom C may be made of wood or other material, and is provided with a suitable opening located over the bin or receptacle F, through which opening the contents of each measure will be discharged into the bin or receptacle.

The track or guideway D is circular in form, and of such diameter as to be in line or nearly in line with the centers of the receptacles or measures B. This track or guideway is curved or bent downward at *d d'*, as shown in Figs. 3 and 4, so as to form a depressed portion to allow the cover or flap *a* to drop, and also to raise or close this cover or flap, and the track or guideway is attached to the plate or bottom in any suitable manner, and in such position as to bring the depressed portion formed by the curved or bent portions *d d'* at the center, or nearly so, of the opening *e*, which communicates with the bin or receptacle F.

The receptacle or cover E may be made of sheet metal or other suitable material, formed into shape to have a circular bottom, around the periphery of which is a rim or wall forming the sides, the diameter of this receptacle being somewhat greater than the diameter of the circle in which the outer edge of the receptacles or measures revolve. The bottom of this receptacle is provided with openings *e*, which coincide with and fit over the receptacles or measures B, so as to allow the grain or other material being measured to pass freely into each receptacle or measure, and each opening *e* is located in a compartment formed by division-plates or partitions *f*, running from the rim or wall of the receptacle E to the rim or wall *g* at the center of the receptacle.

The bin or receptacle F may be of the form shown, or of any other form adapted to receive the discharge from the receptacle or measure B. As shown, one of its walls or sides is formed by the board or piece H and another by the inclined partition or board G, extending from the board or piece H to the bottom or support C, and the remaining walls are formed by partitions or boards extending from the bottom or support C to the partition or board G and

piece or board H, so as to form a bin or receptacle having inclined walls or sides leading to a common center, which center is the opening or discharge J, which opening, as shown, leads into an elevating-spout, K, of any of the usual and ordinary forms of construction; or this opening may lead or be arranged so as to discharge the contents of the bin wherever desired.

As shown, the apparatus is mounted or supported on a base or support formed of boards or side pieces, H I, within which is located the bin or receptacle F; but it may be supported on legs or other devices, or in any other suitable manner.

The shaft *h*, as shown, is stepped at its lower end into the bottom or support C, and extends up through the plate A and receptacle E to some distance above the receptacle, and its upper end is supported and has its bearing in the brace-bars or cross-pieces *m*, the ends of which are secured to standards or uprights *n*, secured to the bottom or support C outside of the circumference of the rim or wall, the bars or cross-pieces *m* standing cornerwise or diagonal in relation to the support or bottom C.

On the shaft *h*, above the bottom of the receptacle E and within the opening guarded by the rim or wall *g*, is located a beveled-gear wheel, *i*, which meshes with a corresponding wheel, *j*, located on the shaft or rod *k*, supported, as shown, in suitable bearings on the under side of a brace-bar or cross-piece, *m*, on the end of which shaft or rod *k* is a crank or handle, *l*, by means of which the shaft is rotated, imparting a rotary movement through the wheels *j i* and shaft *h* to the cover or receptacle E and the plate or disk A; but, instead of the crank or handle *l*, some other device or means might be used for rotating the shaft or rod *k*. This rotation of the cover or receptacle E and of the plate or disk A brings each receptacle or measure B successively into position to be filled and discharged, and where four receptacles or measures are provided, as shown, one receptacle will be in position to be discharged, another one will be filled, another one will be in position to be filled, and the remaining one will be emptied, so that the operation of filling and discharging will be a continuous one.

In use the apparatus is located or arranged in proper position for the grain or other material to be discharged from the thrashing-machine or other device or apparatus into each compartment of the receptacle E as it is brought into position by the rotation of the shaft *h* beneath the discharge from the machine or other device. When the receptacle or measure has been filled it is carried around out of the way and the next succeeding receptacle or measure brought into position to be filled, and so on. As the receptacles or measures are carried around by the rotation of the plate A they will each in succession be brought over the

depression in the track D, the one first filled, in the form of construction shown, coming into position over the depression as the third one comes into position to be filled. As the receptacle or measure passes over the depression the edge of the cover or flap *a* will pass down the bent or curved portion *d*, opening the receptacle or measure, and allowing the contents thereof to be discharged into the bin or receptacle F, and as the rotation continues this cover or flap *a* will pass up the bent or curved portion onto the level portion of the track or guideway D, closing the bottom of the receptacle or measure and holding it closed during the further rotation of the receptacle or measure until it again reaches and passes down the bend or curve *d*; and these movements and this operation of opening and closing the flap or cover *a* will occur as each receptacle or measure is brought over the depression in the guideway or track D by the rotation of the plate A.

The stationary portion *b* of the bottom of each receptacle or measure B may be a separate piece from the plate A; or the opening in the plate beneath each receptacle or measure may be so formed as to leave this portion *b* formed by the plate A.

A machine for gathering the toll in grist-mills has heretofore been composed of a rotary cylinder provided with chambers having valves or movable bottoms arranged in relation to a block having oblique vertical walls and a flat top, so that as the cylinder rotates the valves are opened and closed by the said block. Such, however, does not constitute my invention, and is hereby disclaimed. In my construction and combination of parts a circular track or guideway is provided with a uniformly curved or bent depression, so that as the plate carrying the measures or receptacles revolves on its axis the hinged bottoms are supported by the track and retained in a closed position until they successively arrive at the said depression, when they are smoothly and evenly opened and closed one at a time, and are not permitted to suddenly swing or drop open, thereby materially increasing the durability and effective operation of the apparatus.

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

1. In a measuring apparatus, the combination of a plate or bottom and a circular track attached thereto and provided with a curved depression, as described, with a rotary plate carrying a series of measures or receptacles provided with hinged bottoms, which are gradually allowed to open, and are then closed by the curved depression in the said track, substantially as shown and set forth.

2. In a measuring apparatus of the character set forth, a track, D, provided with a depression formed with the two curved or bent parts *d* and *d'*, arranged as described, in combination with a rotary plate carrying a series of attached measures or receptacles provided with hinged or pivoted bottoms, which are gradually allowed to open, and are then closed by the curved or bent portions, in the manner and for the purpose described.

3. The plate or disk A and receptacles or measures B, located thereon, and each having a hinged flap or bottom, *a*, and guideway or track D, having a depression therein, in combination with the receptacle or cover E, having compartments provided with openings *e*, and a suitable mechanism for rotating the plate A, the receptacles or measures B, and receptacle or cover E to bring each measure or receptacle B successively into position to be filled and discharged, substantially as specified.

4. The plate or disk A, receptacles or measures B, each having a hinged flap or bottom, *a*, receptacle or cover E, having compartments, each provided with an opening, *e*, and a suitable mechanism for rotating the plate A, receptacles or measures B, and receptacle or cover E, in combination with a bin or receptacle, F, for receiving and discharging measured quantities into the bin or receptacle F, substantially as specified.

5. The plate or disk A, receptacles or measures B, each having a hinged flap or bottom, *a*, in combination with the plate or support C, having an opening, *e*, track D, having a depressed portion, *d d'*, shaft *h*, gear-wheels *i j*, and shaft or rod *k*, substantially as and for the purposes specified.

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