(No Model.)

J. E. BUSENBARRICK & G. F. MITCHELL.

ROTARY GRAIN MEASURE.

No. 376,367. Patented Jan. 10, 1888.

Fig. 1.

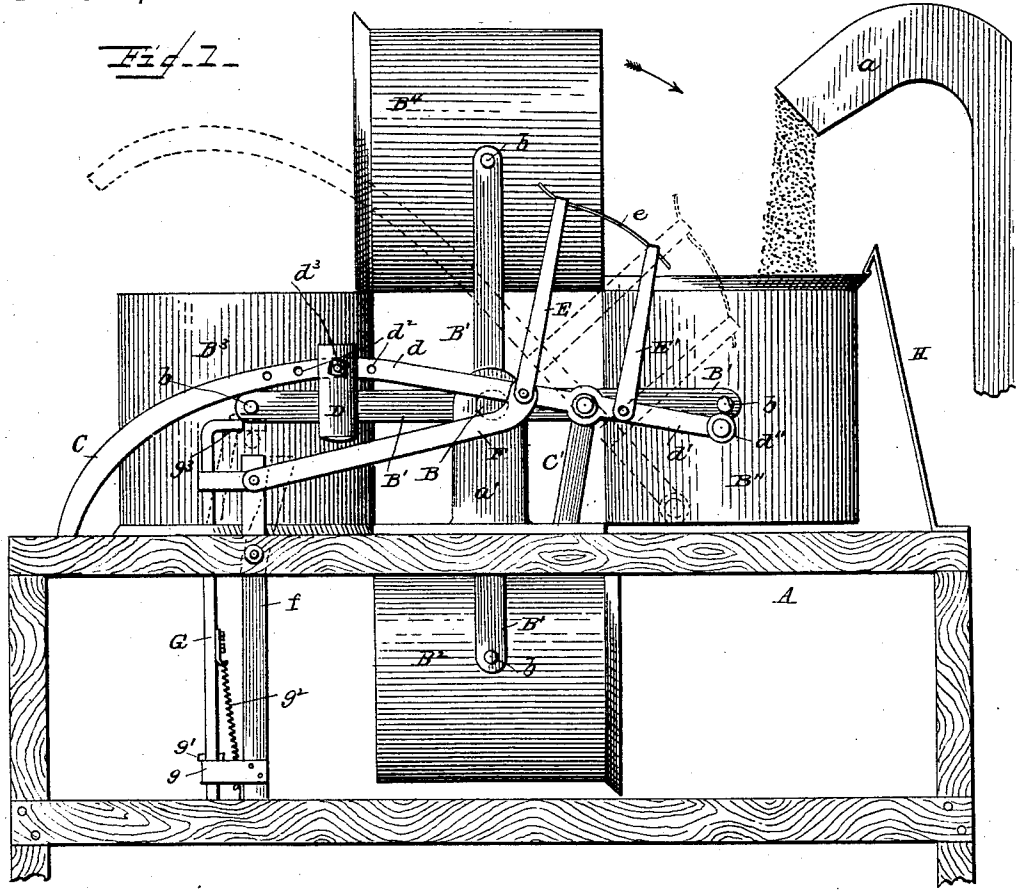


Fig. 2.

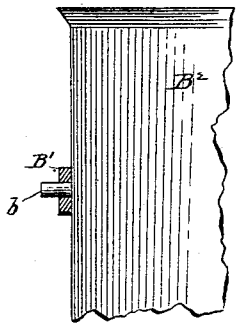
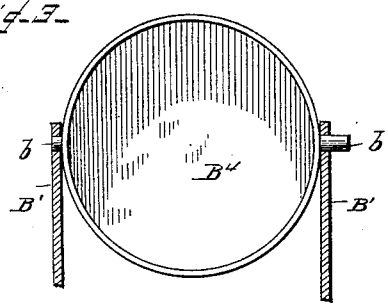


Fig. 3.



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ROTARY GRAIN-MEASURE.

SPECIFICATION forming part of Letters Patent No. 376,367, dated January 10, 1888.

Application filed August 27, 1887. Serial No. 248,070. (No model.)

To all whom it may concern:

Be it known that we, JAMES E. BUSENBARRICK and GEORGE F. MITCHELL, citizens of the United States of America, residing at Robinson, in the county of Brown and State of Kansas, have invented certain new and useful Improvements in Rotary Grain-Measures, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to certain new and useful improvements in rotary grain-measures, the same having reference more particularly to that class of measures employed in connection with thrashing-machines, whereby the grain is conveyed from the mouth of the thrasher during the thrashing operation.

The object of the invention is to provide simple and efficient means for securing to a common shaft preferably four grain measures or vessels, the same being arranged to operate automatically at the moment each measure or vessel is filled; and a further object is to provide means whereby the device is capable of being employed in measuring any kind of grain.

The invention therefore consists in the detail construction, combination, and arrangement of the parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of our invention, and Figs. 2 and 3 are detail views thereof.

Referring to the drawings, A represents an ordinary supporting-frame, preferably of the construction shown, the same, in practice, being mounted upon or in close connection to a thrashing-machine (not shown) at a point near the delivery-spout *a*, as shown. At about the center of this frame are secured, upon the upper surface thereof, two short posts, *a'*, designed to support at their upper ends the end of a horizontal shaft or beam, B.

From the shaft B project four pairs of arms, B' B', the same being rigidly secured to said shaft, and between their outer projecting ends said arms carry or support measures or vessels B'' B^2 B^3 B^4, as shown.

b b are short studs or projections rigidly secured or projecting from the sides of the measure or vessel, and on these studs or projections are passed and rigidly secured at the outer ends of the arms B' B', one of said studs being projected or extended a short distance beyond the outer surface of each of said arms, as shown.

C is a long bent lever fulcrumed at the point of conjunction of the arms *d d'* thereof on the upper end of an inclined fulcrum-post, C', secured to the top of the frame A. To the outer end of the short arm *d'* of the lever C is secured a small roller or wheel, *d''*, while to about the center of the long arm *d* is secured a weight, D, the same being capable of adjustment at the desired point by means of the series of apertures d^2, through any one of which is passed a nutted bolt, d^3, projected through said weight, as shown.

E E' are two upwardly-projecting arms rigidly secured at their lower ends to the arms *d d'*, respectively, of the lever C, a short distance on either side of the fulcrum of said lever. The upper ends of these arms E E' have secured thereto a curved plate, forming a cam, *e*, as shown.

To the lever C is secured, at the point of connection of the arm E with said lever, one end of an inclined lever, F, connected or jointed near its forward end to the upper end of a second lever, *f*, pivotally secured near its upper end to the side of the frame A, and at its extreme outer end said lever is secured to or caused to encompass a dog, G. This dog G is loosely passed at its lower end through a keeper-plate, *g*, attached to the lower end of the lever *f*, as shown, said dog being held, as against too much movement downward, by means of a pin, *g'*, passed transversely therethrough.

To the dog G is secured one end of a spring, g^2, the other end being secured to the lever *f*, as shown. The upper end of this dog is bent at right angles, forming an arm, g^3.

H is a stiff spring rigidly secured at its lower end to the frame A at one end thereof, the upper end of said spring being bent, as shown.

It will be seen that there is but one measure or vessel in the proper position ready for reception of grain at the same time, and that measure or vessel, which may be of any de-

sired size or capacity—say one-half bushel—is nearest the spout *a* of the thrasher. While this measure or vessel B″ is being filled its stud or projection *b* is resting on the roller *d″* of the lever C, said lever being held in the position shown in full lines by reason of its own weight, together with the weight D, and when the weight of the grain falling into said measure or vessel equals or is sufficient to counterbalance the said lever C and its weight D the same is instantly lowered, and by reason of its pressure on the roller *d″* of the lever C the latter is caused to assume the position shown in dotted lines, Fig. 1, the stud or projection *b* of said measure or vessel being permitted to pass out beyond said roller of the lever, by reason of the length of the arms B′ being so much greater than the short arm of the lever C. Simultaneously with this movement of the measure or vessel just filled the measure or vessel B^2, previously below the frame A, moved in the direction of the arrow, and upon the rising of the long arm *d* of the lever C the same pulled on the lever F, causing the lever *f* and dog G to assume the position shown in dotted lines in Fig. 1. Consequently when the measure or vessel B^2 reached the position parallel with the frame A the further movement thereof was prevented by reason of the stud or projection *b* coming in contact with the arm g^3 of said dog, thus preventing the continued revolution of the measures or vessels by reason of the velocity acquired in the movement described. When the lever C reaches the position shown in dotted lines, Fig. 1, so as to permit the stud *b* of the vessel B″ to swing clear of the roller of said lever, the cam *e* will be in the position also shown in Fig. 1, and upon release of the said stud said cam will begin to resume the position shown in full lines, Fig. 1, the consequence of which will be that immediately upon such movement of the cam the stud or pin *b* of the vessel B^4 will collide with said cam, whereby said measure or vessel is slightly retarded in its movement, so as to prevent its momentum from carrying it beyond the roller *d″*, with which it will come in contact. Immediately upon the completion of this operation, the measure or vessel B″ having reached the lowermost position, the lever C returns to its normal position, withdrawing the arm g^3 of the dog G from contact with the stud or projection *b* of the measure or vessel and the contact of the roller *d″* with the stud or projection of the measure or vessel to be filled, said latter measure or vessel being held as against reverse movement by means of the spring H, the upper end thereof being in contact with the flanged rim of said measure or vessel, as shown.

It is obvious, of course, that the grain, upon falling from the measure or vessel in the descent of the latter, can be caused to enter a conveyer or other suitable device for removing the same.

If desired, any ordinary tallying device can be employed in connection with our invention to record the measuring of the grain, the same being operated in any known manner or by any preferred means.

We claim as our invention—

1. The series of measures or vessels having their arms connected to a common shaft and provided with studs or projections, and the lever having a roller secured at one end, against which bears one of said studs or projections of each measure or vessel, substantially as shown and described.

2. The series of measures or vessels connected to a common shaft and having studs or projections, the lever carrying a roller at one end, and the dog having a bent arm and operated through the agency of said lever, substantially as shown and described.

3. The combination, with the measures or vessels having the studs or projections, and the carrying-arms connected to the common shaft, of the lever, the roller secured at one end thereof, the weight, the jointed lever connected to said former lever, and the dog, substantially as shown and described.

4. The combination, with the series of measures or vessels, of the lever having one end in contact with a stud or projection of one of said measures or vessels, the jointed lever, the dog having a bent arm, and the spring connected to said dog, substantially as shown and described.

5. The combination, with the series of measures or vessels, of the lever having one end in contact with one of said measures or vessels, the jointed lever, the dog, and the cam supported by arms connected to said lever, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES E. BUSENBARRICK.
GEORGE F. MITCHELL.

Witnesses:
V. J. BARGAHISER,
J. W. MARTIN.