

F. G. CHESMAN.

Grain Meter.

No. 105,427.

Patented July 19, 1870.

Fig. 1

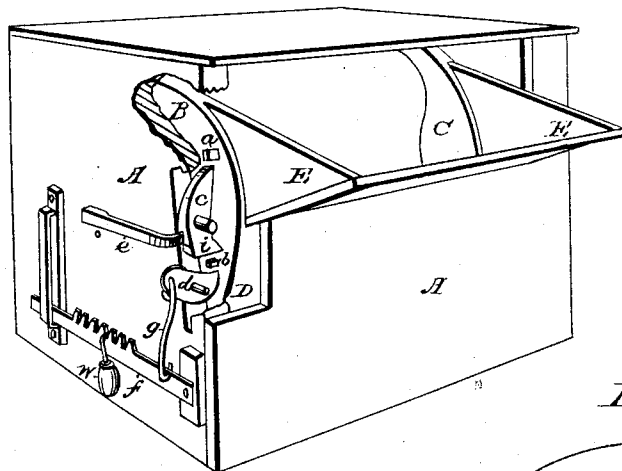


Fig. 2

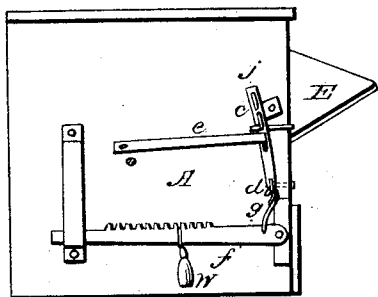


Fig. 3

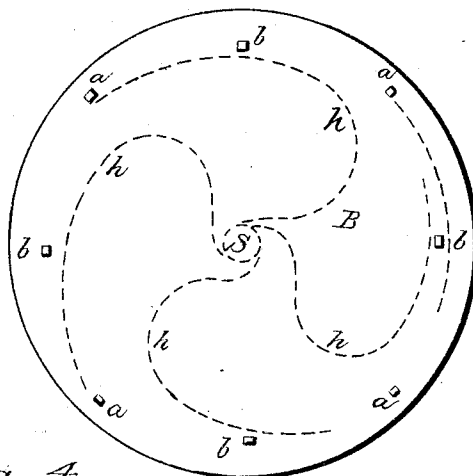
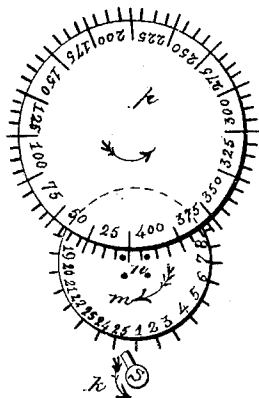


Fig. 4



Witnesses

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FRANCIS G. CHESMAN, OF LEMONT, ILLINOIS.

IMPROVEMENT IN GRAIN-METERS.

Specification forming part of Letters Patent No. 105,127, dated July 19, 1870.

To all whom it may concern:

Be it known that I, FRANCIS G. CHESMAN, of the town of Lemont, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Grain-Measures, of which the following is a full description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective with a small portion of the outer casing removed. Fig. 2 is a side elevation; Fig. 3, an end view of the grain-receiver. Fig. 4 shows the registering devices.

My invention is primarily designed to be used in connection with thrashing-machines for the purpose of measuring and registering the thrashed grain, though the same can be used in other places.

My device operates automatically. The grain is weighed in a series of buckets located around and attached to a rotating shaft. The several buckets are consecutively filled, each bucket, when the proper quantity has passed into it, emptying itself, and at the same time causing the next bucket to come at once into the proper position to receive the grain, the rotating shaft at the same time, in connection with attached devices, registering the quantity.

An essential feature of my invention consists in a device for arresting the movement of the buckets at the proper moment.

In the drawings, A represents the case within which the grain-receptacles are placed, its size depending upon the quantity of grain to be contained in each receptacle. These receptacles D are in the form of buckets surrounding and fastened to a shaft, *s*, rotating in the case A. The buckets can be more conveniently and securely fastened to this shaft if made square, the journals only being round. B and C are two disks of wood attached to the shaft and forming the ends of the grain-receptacles, any suitable number of which may be used. Four are shown in the drawings. They can be made of sheet metal. Their form is shown by the dotted lines *h* in Fig. 3. The front of each bucket can be strengthened by fastening a piece of wood thereto near the edge. On the outside of the end or head B are two series of square pins, indicated, respectively, by the letters *a* *b*, one series, *a*, being somewhat nearer

the edge of B than the other series, *b*. (See Fig. 3.) These pins are so arranged that as the buckets revolve those marked *a* will, one after the other, strike upon the upper end of *c*, but will not hit the projecting part *i* at the lower end of *c*, while those marked *b* will pass inside of the upper end of *c*, not touching it, but will hit the cam *i* at the lower end of *c*, and will also strike upon the top of *d*. These several parts are so arranged that when one of the pins *a* hits the upper end of *c* the pin *b* next below *a* is just ready to rest upon the top of the inner end of *d*. *c* and *d* are both pivoted in a slot, *j*, or slots in the frame or case A. The outer end of *d* is connected by *g* to the notched scale-beam *f*. A spring, *e*, is so arranged as to operate *c*, throwing the upper end out at the proper moment.

The registering devices seen in Fig. 4 are upon the outside of the case, opposite the end shown in the drawings, *k* being a short finger attached to the shaft *s*, for operating the wheel *m*. The four dots around the letter *n* on wheel *m* represent four pins projecting from *m*, which pins operate the large wheel *p*. The grain is carried into the measure at E by means of a spout or otherwise.

The operation of this device is as follows: The weight upon the scale-beam is adjusted according to the kind of grain to be measured and the quantity which each bucket is to contain before emptying itself. One of the pins *b* resting on the inner end of the lever *d*, the buckets will be ready to receive the grain. When enough grain has passed into the bucket or receptacle to counterbalance the weight *w*, the weight upon the inner end of the lever *d* will depress it, and the filled receptacle will pass down, emptying its contents into any suitable vessel beneath the case A, at the same time rotating the shaft *s* and bringing the next receptacle in proper position to receive the grain. At this point my device for stopping the motion of the shaft and receptacles operates, the momentum of which receptacles is likely to bring the next pin *b* upon the lever *d* with such force as to carry the next receptacle too far, operating the registering device when no grain has been measured. This is prevented as follows: The pin *b*, descending, passes along the cam *i* of the catch *c*, throwing the

upper end inward, so that the pin *a* strikes upon its top, which receives the blow which otherwise would come upon *d* by the contact of *b*; but when *a* strikes upon the top of *c*, stopping the movement of the receptacles, *b* has passed the cam *i* and is just ready to rest upon *d*. At the same time, *a* coming in contact with *c* with considerable force, there will be a recoil sufficient to raise *a* from *c*, when the pressure of the spring *e* upon the lower end of *c* will throw the upper end out from beneath *a*, and the point *i* will be thrown in just above *b*, preventing further recoil, leaving the receptacle in proper position to receive the grain, repeating the described operation.

The grain may flow continuously, and, if necessary, allowance can be made for the grain which will fall into the vessel unmeasured, by adjusting the weight with reference thereto, or a cut-off may be provided.

As the registering devices are shown, the wheel *m* is carried forward one notch for each revolution of the shaft *s*, and the wheel *p* is carried forward four notches for each revolution of *m*. This arrangement may be varied at pleasure when the machine is constructed.

The lever *c* may be operated in various ways. It could be changed in form and the lower outer corner could be weighted, which would answer the same purpose as the spring.

What I claim as new is—

The combination and arrangement of the levers *c*, *d*, and *f* and spring *e* with the pins or stops *ab* and cylinder *CB*, provided with buckets *D*, substantially as and for the purposes specified.

FRANCIS G. CHESMAN.

Witnesses:

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O. W. BOND.