(No Model.)

J. B. McCUTCHEON.

GRAIN MEASURING SPOUT.

No. 387,001. Patented July 31, 1888.

Fig. 1.

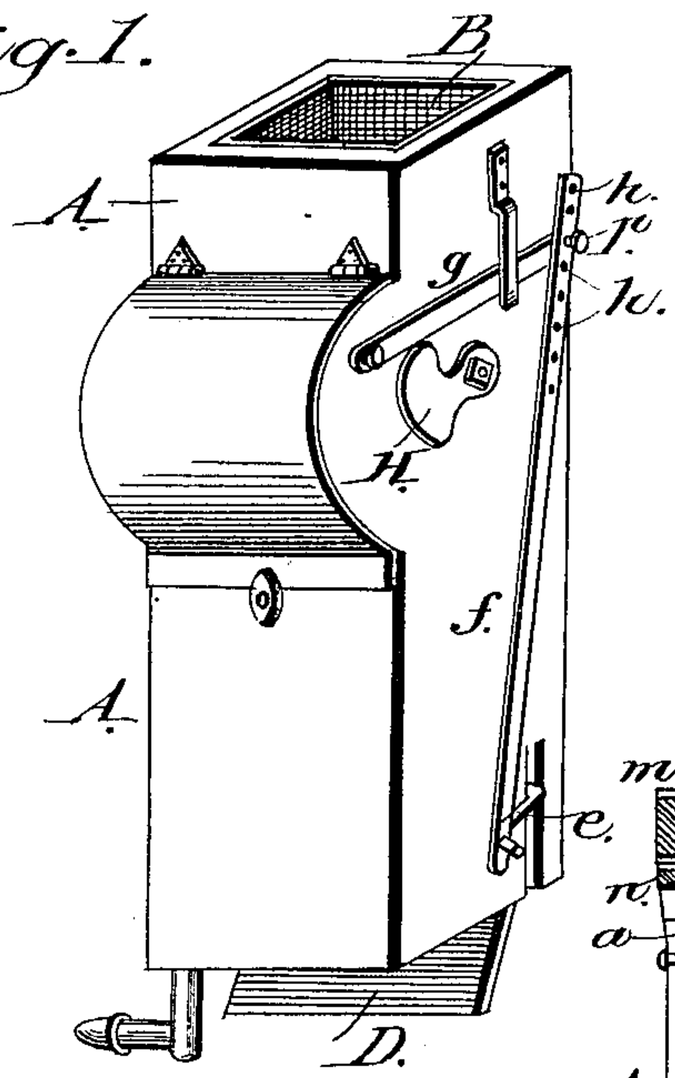


Fig. 2.

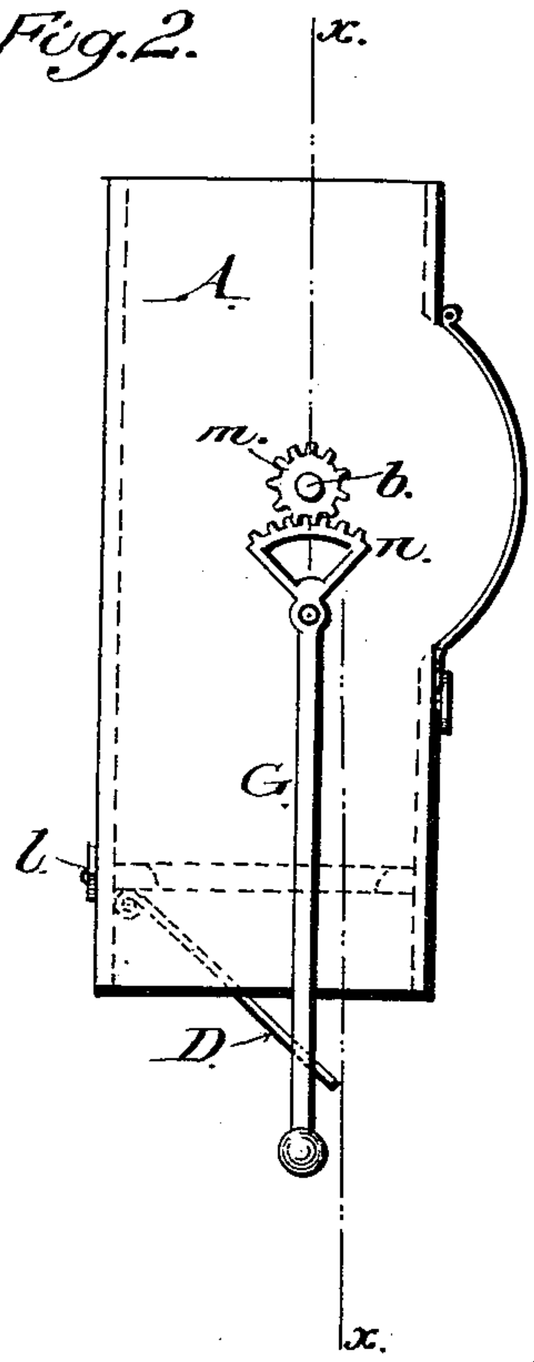


Fig. 3.

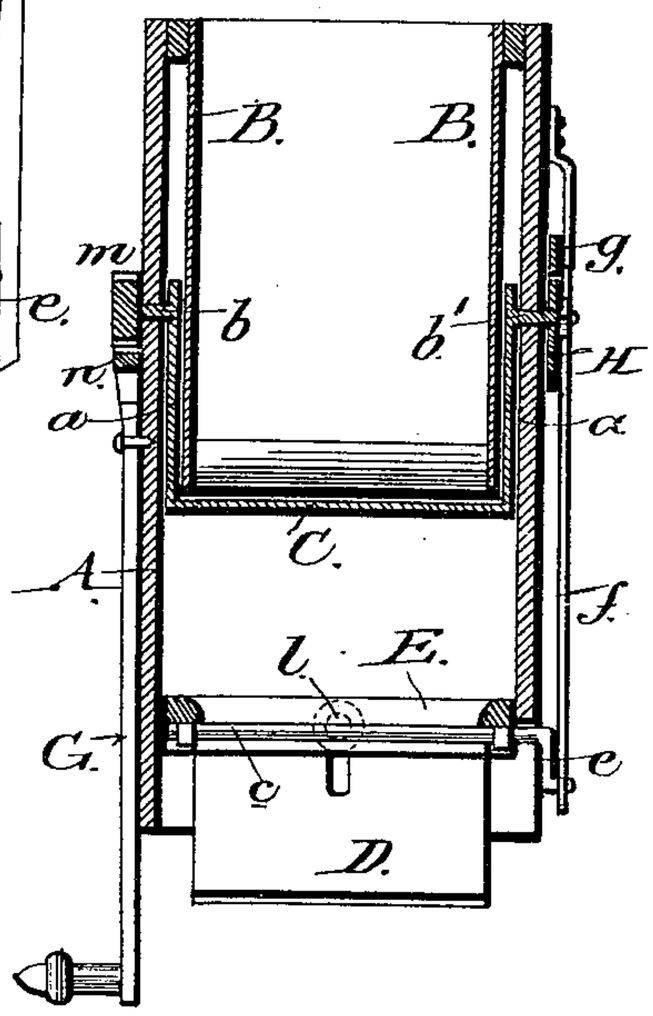
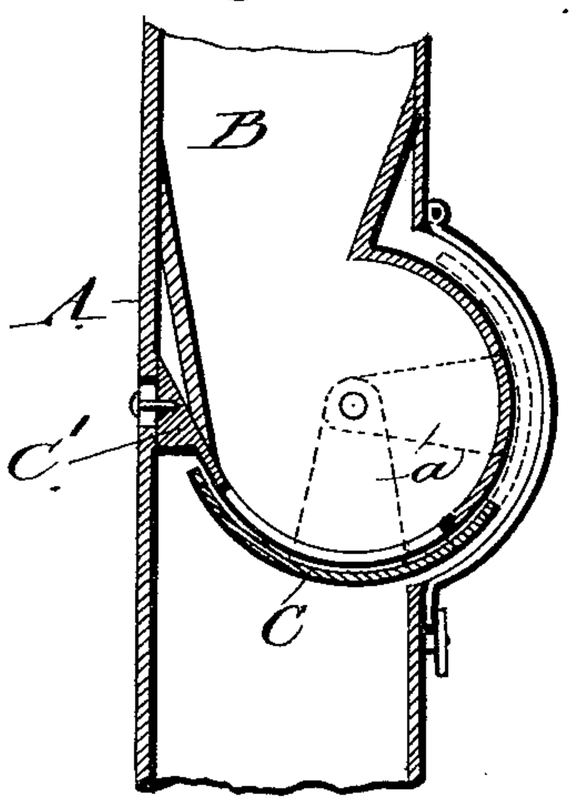


Fig. 4.



WITNESSES,
F. H. Fowler.
W. H. Patterson.

INVENTOR,
John B. McCutcheon,
per A. H. Evans & Co
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN B. McCUTCHEON, OF BATTLE CREEK, MICHIGAN.

GRAIN-MEASURING SPOUT.

SPECIFICATION forming part of Letters Patent No. 387,001, dated July 31, 1888.

Application filed April 2, 1888. Serial No. 269,333. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. McCUTCHEON, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Grain-Measuring Spouts, of which the following is a full and clear description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a perspective view of a section of a grain-measuring spout having my improvements attached. Fig. 2 is an elevation of the opposite side of the spout. Fig. 3 is a sectional view on the line X X of Fig. 2. Fig. 4 is a detailed sectional view, to be referred to.

My invention relates to certain devices applied to grain-measuring spouts for conveying grain from the thrashing-machine to sacks or other receptacles; and my invention consists in the constructions and combinations of devices, which I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A indicates a portion of the spout of a grain-elevator such as is usually carried by a thrashing-machine, and B represents a frame inside of said spout, but of smaller diameter, whereby a space is left between the outer wall or sides of the frame and the inner sides of the spout, the lower face of said frame being curved and open for the passage of the grain, as shown in Fig. 3. A curved valve or cut-off, C, between the frame B and the spout is provided with side arms, *a*, which extend into the spaces between the sides of said frame and spout, and are provided with short shafts *b b'*, which project through the sides of the spout, whereby said valve is suspended.

In the lower part of the spout A a swinging valve, D, is located, said valve being mounted on a shaft, *c*, suitably journaled in an adjustable frame, E, the lower face of which serves as a seat for said valve. The shaft *c*, upon which the valve is mounted, has one end formed with a crank, *e*, which projects through a slot in one side of the spout, as shown in Fig. 1, the said crank end being attached to a rod, *f*, whose upper end is in turn connected with a rod, *g*, pivoted at its opposite end to the spout.

The rod *f* is provided with a series of holes, *h*, and the frame E is engaged by a set-screw, *l*, working in a slot in the back of the spout, whereby the swinging valve with its adjuncts may be raised and lowered to increase or decrease the space between itself and the curved valve or cut-off. By reason of this adjustment the quantity of grain discharged during each movement of the valve or cut-off may be regulated, and, if necessary, the features just named may be used in connection with any well-known form of indicating apparatus (not shown) for recording the amount of grain passing through the spout.

One of the shafts *b*, projecting from the valve or cut-off C, carries on its outer end a pinion, *m*, which is engaged by a toothed segment, *n*, on the upper end of a pivoted lever, G, and the other shaft, *b'*, has secured to its outer end a cam, H, whose curved surface is adapted to engage the under surface of the pivoted rod *g*. It will thus be seen that when the lower valve, D, has been adjusted to its proper position and secured, and the rod *f* adjusted accordingly and secured by its set-screw *p*, and the lever G moved by hand or otherwise, the movement of said lever is communicated through its segment and the pinion *m* to the curved valve or cut-off, whereby the latter alternately closes and uncovers the open bottom of the internal frame, B, the movement of said cut off being limited by an adjustable or other stop, C', as shown in Fig. 4. When the lever is moved in one direction, its valve or cut-off is moved to uncover the open bottom of frame B, and the shaft *h* is also moved to cause the curved surface of its cam H to ride under and lift the rod *g* and its adjuncts, thereby closing the lower valve against its seat during the time the curved valve or cut-off is moving away from or uncovering the grain-passage. When the lever G is moved in the opposite direction, the lower valve begins to open. At the same time the curved upper valve or cut-off moves backward under the open bottom of frame B and cuts off the flow of grain.

Having thus described my invention, what I

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

1. The spout A and its inner frame, B, having a curved open bottom, and a curved cut-off or valve controlling said opening, in combination with a lever for operating the cut-off, a cam carried by said cut-off, a second valve adjustably secured to the spout, and a pivoted adjustable rod between said valve and cut off, whereby the cut-off and lower valve operate in unison, substantially as described.

2. The spout A, the inner frame, B, having an open bottom, the curved valve having side arms provided with short shafts, a pinion on one of said shafts and a cam on the other, a lever having a toothed segment for operating the pinion and valve, a pivoted rod, *g*, actuated by the cam, a second rod, *f*, adjustably attached to the rod *g*, and a valve adjustably attached to the spout, and having a crank-shaft attached to said rod *f*, whereby said valve is operated during the movement of the curved valve, substantially as described.

JOHN B. McCUTCHEON.

Witnesses:
EDWARD L. KEITH,
CHARLIE B. SHORT.