

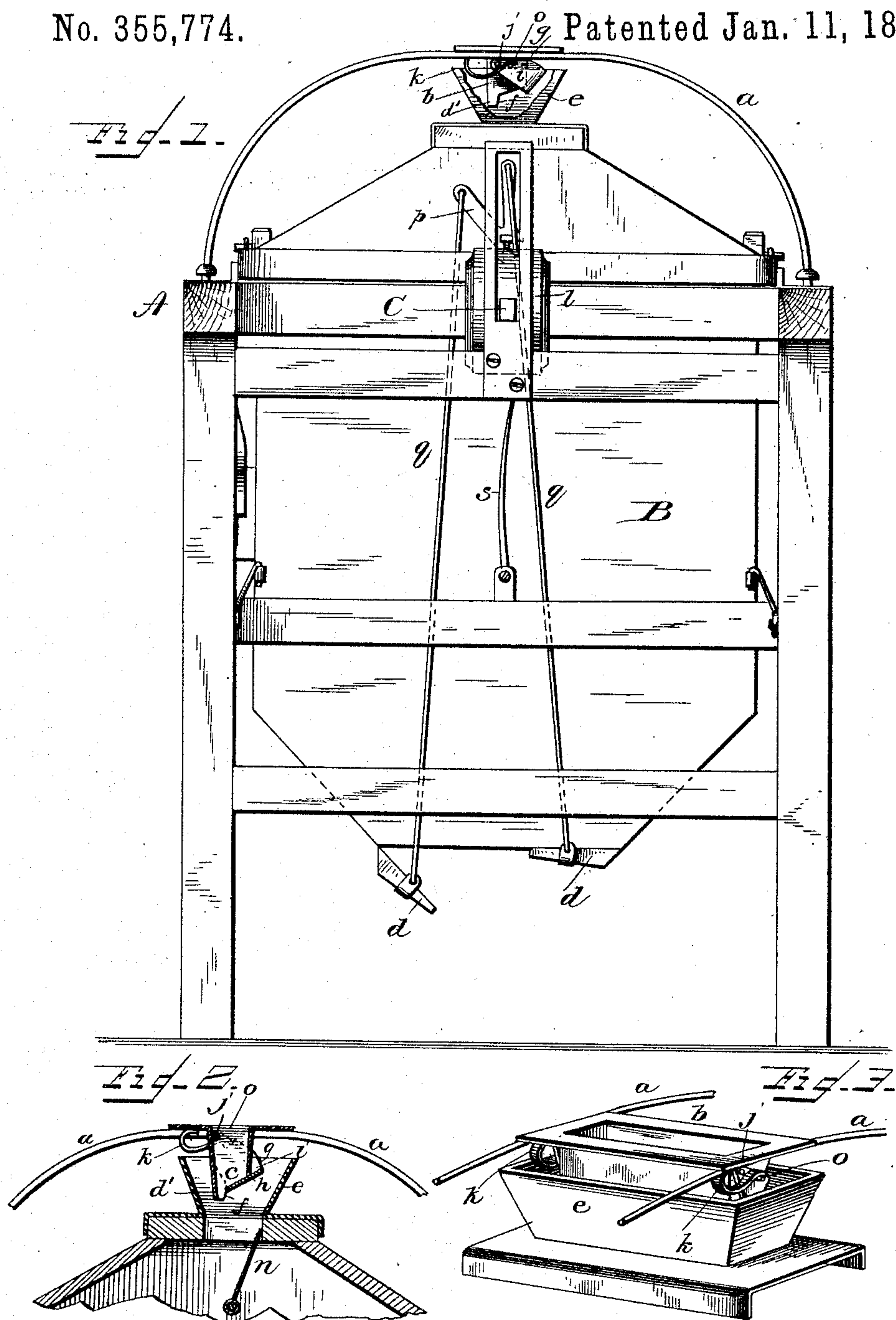
(No Model.)

G. MARSH.

AUTOMATIC CUT-OFF FOR GRAIN METERS.

No. 355,774.

J. G. Patented Jan. 11, 1887.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE MARSH, OF MARSHALL, MICHIGAN.

AUTOMATIC CUT-OFF FOR GRAIN-METERS.

SPECIFICATION forming part of Letters Patent No. 355,774, dated January 11, 1887.

Application filed April 29, 1886. Serial No. 200,594. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MARSH, a citizen of the United States, residing at Marshall, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Automatic Cut-Offs for Grain-Meters, of which the following is a full, clear, and exact description.

My invention relates to automatic grain-weighing apparatus; and the object of the invention is to regulate the flow of grain into the scale so that the stream will always be the same size at the moment the actual weighing is done, no matter how rapidly or in what volume the grain may be introduced into the bin of the scale.

To this end the invention consists in an automatic cut-off or regulator for the feeding-spout, constructed and arranged substantially as hereinafter particularly set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is an end elevation of grain-weighing apparatus supplied with my invention, the mouth of the bin being broken out, the parts being in position when the bin is not full. Fig. 2 is a vertical section of part of the same, the bin being full; and Fig. 3, a perspective view of the mouth and my attachment. Fig. 4 is a modification.

I have shown my invention applied to a grain-weighing apparatus of substantially the construction shown in the Patent No. 297,614, granted to me and Vindex Arnold the 29th of April, 1884, and have designated corresponding parts herein the same as in that patent, for a full description of which reference is hereby made to said patent; but I do not limit the applicability of this invention to that apparatus.

The parts in Figs. 1 and 2 used in the patented invention referred to are: The two-part bin B, the gates *dd*, mouth, funnel, or hopper *e*, rock-lever *p*, carrying gate *n*, for opening and closing the two compartments of the bin alternately, and through connecting-rods *q q* simultaneously operating the discharge-gates *dd*, the forked-lever C, and weight *l*, and the finger *s*, fixed to the frame A for operating the rock-

lever *p* as the bin descends, to shift it and its attached gate *n* from one side to the other.

Suitably mounted on the frame A of the apparatus, as by bows *a*, is an inlet-spout, *b*, the outlet *c* of which is beveled, and provided with a lip, *d'*, having corners *f* projecting into the spout. I apply my cut-off valve or regulator *g* to this spout, and it consists of the plate *h*, fitted to the beveled outlet of the spout, and having the end pieces, *i i*, by which it is hinged at *j* by one corner to the spout; and I prefer to hold said cut-off in the position shown—that is to say, in its closed position—by means of springs *k* acting upon lugs *oo*, projecting laterally from the sides of the cut-off far enough to be engaged by the sides of the mouth *e* of the bin *b*, the spout projecting into said mouth. Instead of springs *k* for closing the cut-off said cut-off may be acted upon by a weight. The corners *ff* of the lip *d'* limit the closing movement of the cut-off and insure an opening or outlet in the spout at all times corresponding with the capacity of the scales.

Now, it will be remembered that when the bin is empty it is held at its highest elevation by the weight *l*, Fig. 1, and hence the mouth of the bin will bear against the lugs *oo* and force open the cut-off (see Fig. 1) to its full extent, thus leaving a full opening for the entrance of the grain. When the bin is filling, and at the instant the weight is being overcome, the mouth of the bin recedes and leaves the cut-off free to be acted upon by its springs to close (see Fig. 2) and thus contract the volume of incoming grain, and so prevent over-weighting and consequently inaccurate measuring.

To illustrate the application of my invention take an example: If one is weighing a dump a minute and desires to increase to two a minute, the volume of supply must be correspondingly increased. When the bin has filled on one side to a certain extent, the counterpoise will begin to rise and the bin fall; but there is an interval of time between that moment and the time the valve is shifted to the other side. During this interval the grain is running in more rapidly or in greater volume than when weighing at the slower rate, and hence the bin will be overcharged;

but with my invention applied the cut-off comes into action at this time and contracts the volume to such extent as to admit of only the proper quantity entering, and hence the weighing is correct.

In Fig. 4 I have shown adjustable stops f' , to vary the extent of closing of the cut-off.

What I claim is—

In a grain-weighing apparatus, an inlet-spout having a beveled outlet, and a lip and corners for said lip on said outlet, combined with a cut-off pivoted to said spout and co-

operating with the outlet of said spout, springs to hold the cut-off upon the outlet, laterally projecting lugs, and the upper edges of the bin adapted to engage said lugs to hold the cut-off open when the bin is filling, substantially as described.

In testimony whereof I have hereunto set my hand this 27th day of April, A. D. 1886.

GEORGE MARSH.

Witnesses:

H. M. DUNHAM,

F. J. THORP.