

(No Model.)

C. J. HARTLEY.  
AUTOMATIC GRAIN WEIGHER.

No. 410,243.

Patented Sept. 3, 1889.

Fig. 1.

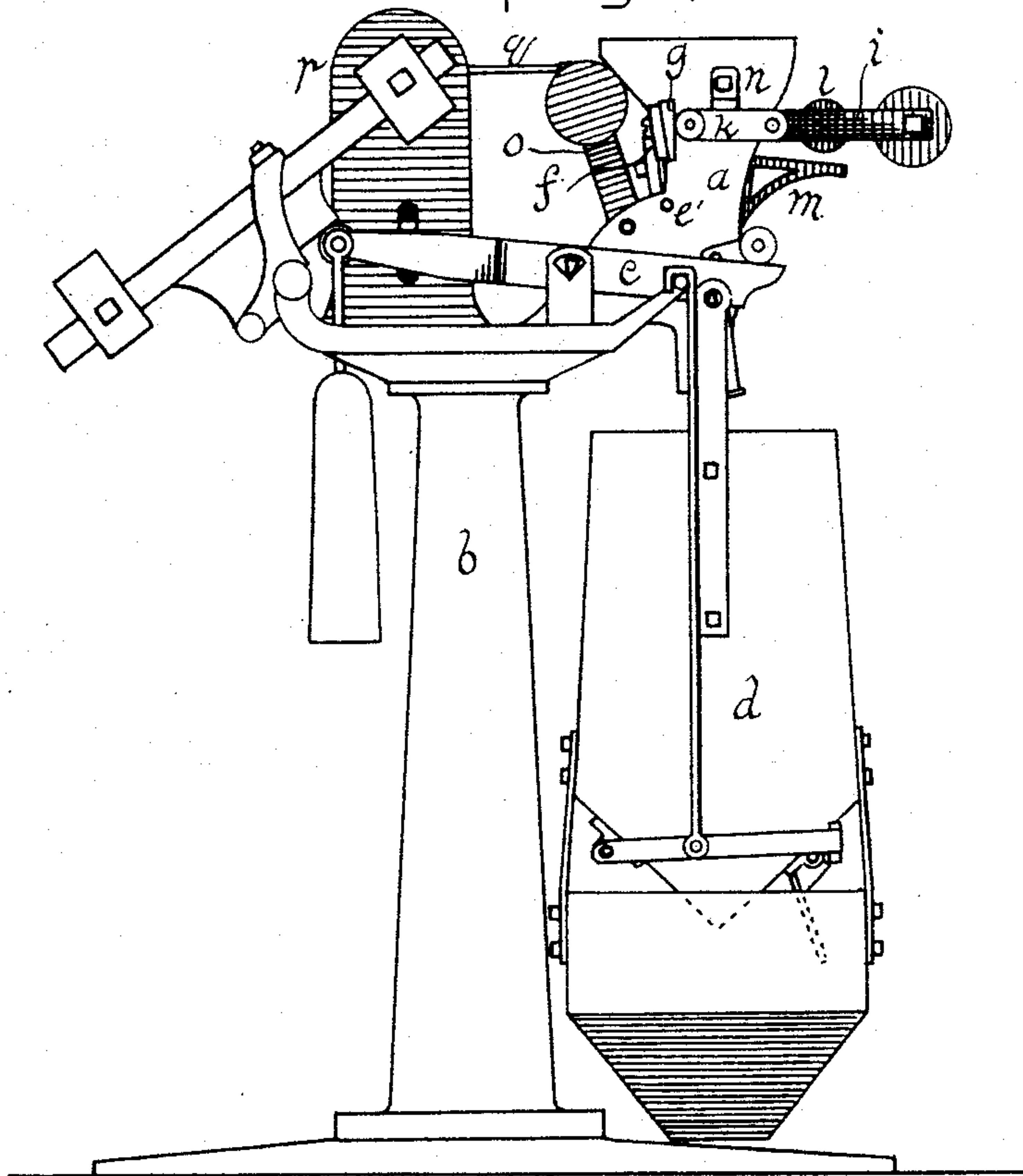
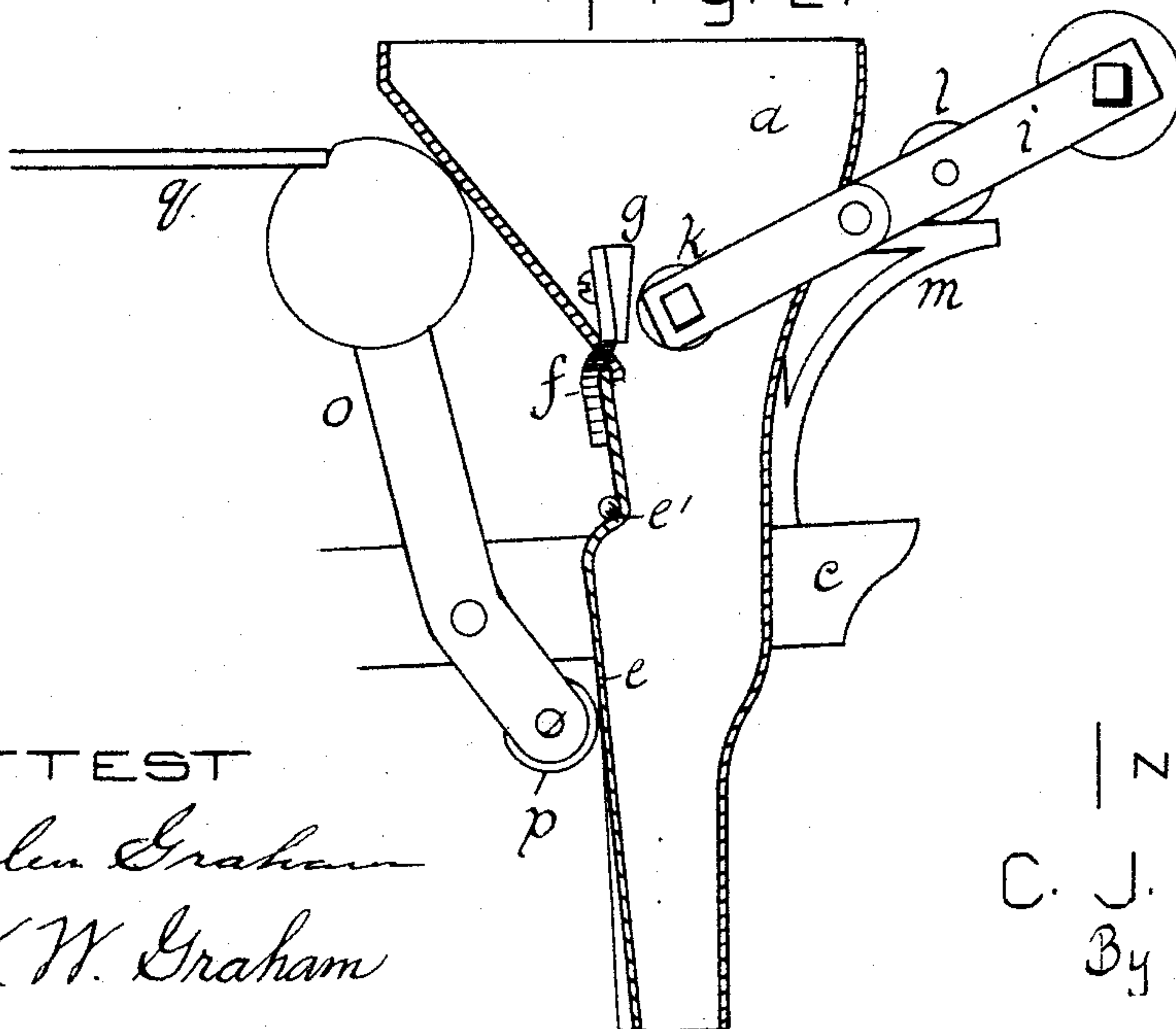


Fig. 2.



ATTEST  
Helen Graham  
W. W. Graham

INVENTOR  
C. J. HARTLEY  
By L. P. Graham  
Atty.

# UNITED STATES PATENT OFFICE.

CHARLES J. HARTLEY, OF DECATUR, ILLINOIS, ASSIGNOR OF TWO-THIRDS  
TO JOHN K. WARREN AND BRADFORD K. DURFEE, OF SAME PLACE.

## AUTOMATIC GRAIN-WEIGHER.

SPECIFICATION forming part of Letters Patent No. 410,243, dated September 3, 1889.

Application filed May 17, 1889. Serial No. 311,107. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. HARTLEY, of the city of Decatur, county of Macon, and State of Illinois, have invented certain new and useful Improvements in Automatic Grain-Weighers, of which the following is a specification.

This invention relates to automatic weighers for grain and other analogous commodities. It is designed to provide means for diminishing the flow into the weighing-receptacle during the weighing process, and to entirely and automatically stop the flow when required; and it consists in the details of construction and combinations of parts hereinafter set forth and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side elevation of a weigher embodying my invention; and Fig. 2 is an enlarged view of the essential features without bearings or supports, but in proper relative positions, the hopper and closing-valve being shown in vertical section.

The hopper *a* is supported from standard *b*. The beam *c* pivots on bearings supported by the standard, and is bifurcated to embrace the hopper. The weighing-receptacle *d* depends from the scale-beam under the hopper. The hopper has the valve *e*, which forms one of its sides, and is pivotally swung at *e'*. An arm *f* projects from the upper portion of the valve both laterally and upwardly, and it carries an adjustable wedge *g*. Lever *i* is pivoted to the hopper. It carries rollers *k* and *l*, the one adapted to the wedge and the other to the scale-beam or an upward extension *m* thereof, and it is weighted at its outer end. A stop *n* on the hopper limits the downward swing of the outer end of the lever. The weighted arm *o* is pivoted to the rear of the hopper in unstable equilibrium. It carries in its lower end roller *p*, which is adapted to the valve, and it is held normally in its shown position by trip-bar *q*. The trip-bar engages a suitable catch in the upper end of the weighted arm, and it is carried and actuated by a register, (shown at *r*,) that may be set to act on the trip-bar after any desired number of operations of the weigher. As shown in Fig. 1 the receptacle is discharging and the lever

*i* is bearing against the wedge and holding the lower end of the valve more or less nearly against the opposite side of the hopper, thus restricting the flow which is designed ordinarily to be entirely stopped by other means at this particular juncture. As shown in Fig. 2 the scale-beam has raised the lever or the outer end thereof in such manner that the roller is clear of the wedge, and the valve is swung open to permit the free passage of grain. These are extreme positions, in neither of which the function of the valve is fairly exemplified; but let it be supposed that the receptacle has been nearly filled to the discharging-point and has descended to an intermediate position and paused. Then it will be seen that the valve will have been partly closed and that the complement of grain must be supplied to the receptacle in a small stream, the extent of which may be minutely adjusted by shifting the position of the wedge on its arm. Ordinarily the weighted arm *o* has no effect on the operation of the valve; but when the trip-bar is thrown by the register mechanism the weighted end will descend by force of gravity and force the valve completely closed, thus stopping the operation of the machine.

The weighing-receptacle, with its adjuncts, (shown in Fig. 1 of the drawings,) forms no part of this present invention otherwise than above set forth, and the hopper, with its peculiar features, is adapted for use in conjunction with all automatic weighers, the beams of which make a temporary stop to enable the completing weight to be slowly added.

The construction of the register is not essential so long as the automatic releasing peculiarity is present, and this has no place in my present invention except in the general manner hereinbefore specified. The incline *g* is preferably secured to arm *f* by means of a set-bolt passed through a slot in the arm and screwed into the wedge; but other means for providing for the necessary adjustment are readily apparent.

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

1. In weighers, in combination, the beam supporting the weighing-receptacle, the hopper having the swinging side, the arm on the



swinging side carrying the adjustable incline, and the weighted lever resting ordinarily on the beam and acting intermittently on the incline, as set forth.

- 5 2. In weighers, in combination, the hopper having the swinging side, the weighted arm having the extension adapted to the lower end of the swinging side, and the trip-bar to hold

the weight in unstable equilibrium, as and for the purpose set forth. 10

In testimony whereof I sign my name in the presence of two subscribing witnesses.

CHARLES J. HARTLEY.

Attest:

GILES R. WARREN,  
WALTER C. KEELER.