

(No Model.)

J. M. LAMB.

GRAIN MEASURING MACHINE.

No. 379,231.

Patented Mar. 13, 1888.

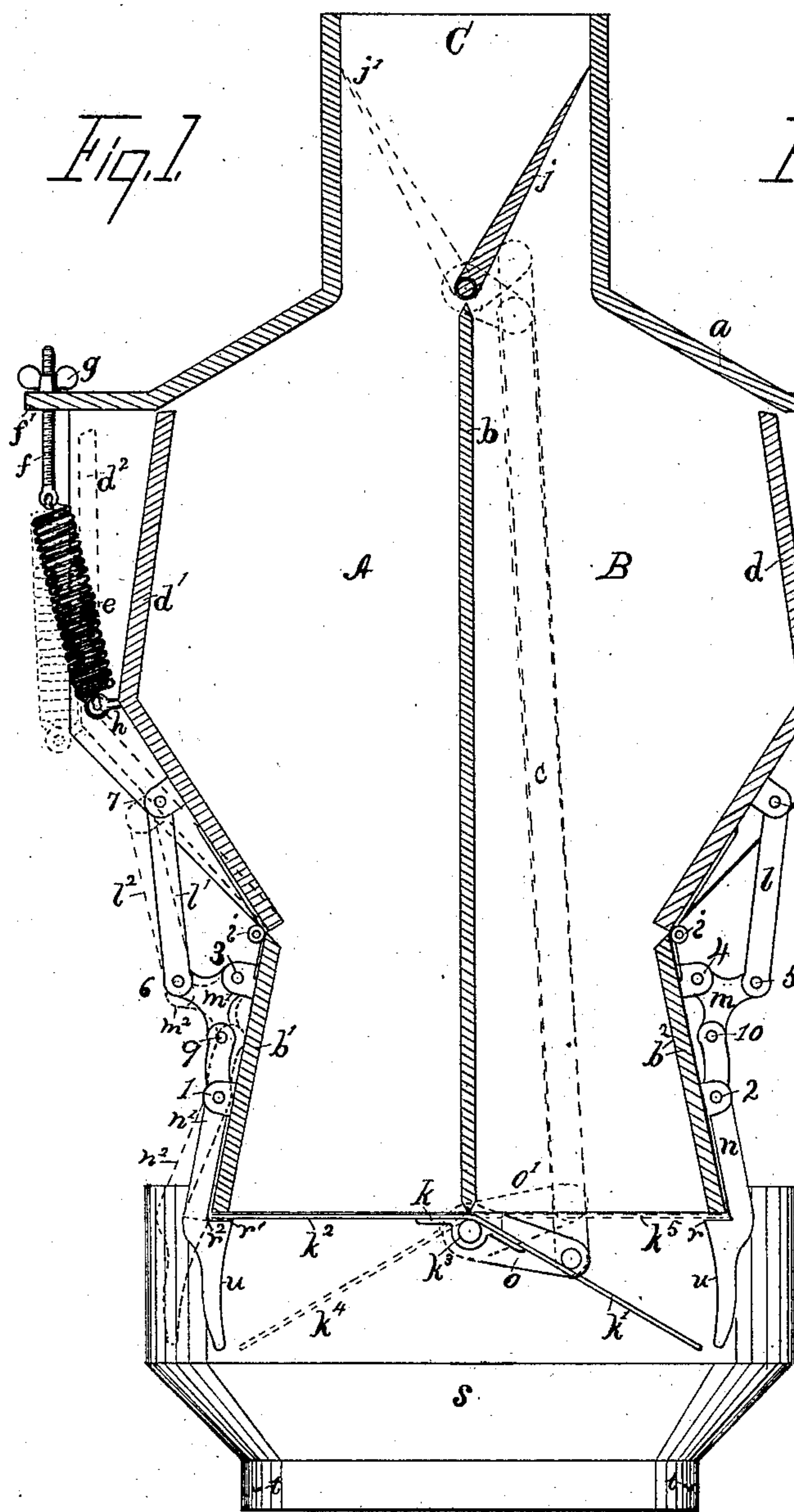
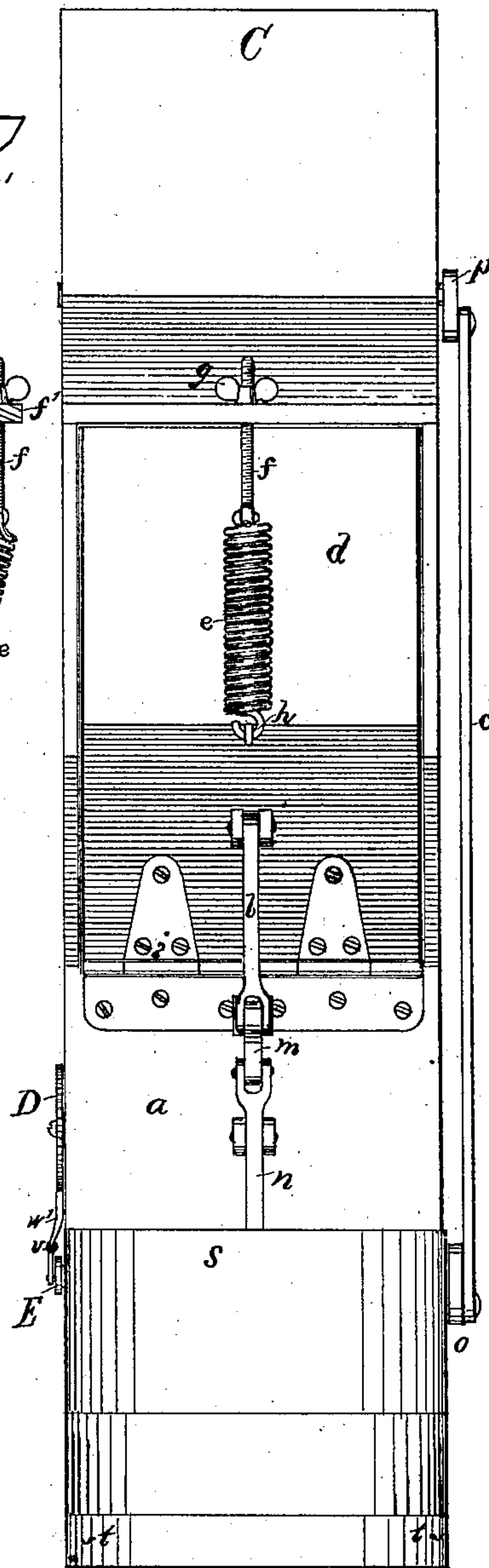


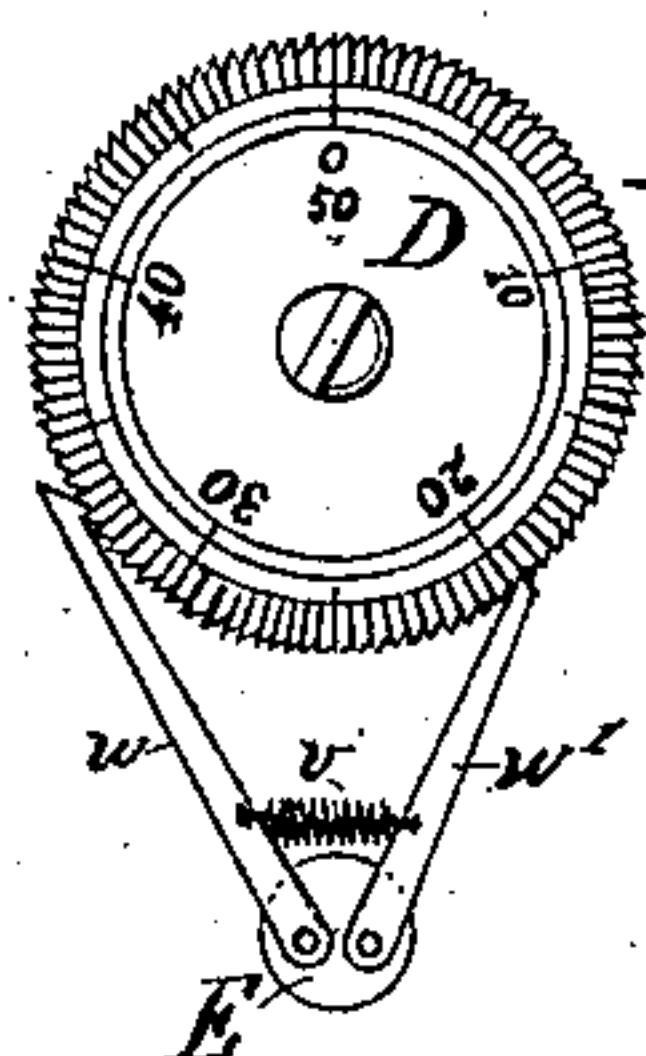
Fig. 2.



Witnesses:

W. F. Browder.

L. W. Johnson.



Inventor:

Jesse M. Lamb.

Attorney:

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UNITED STATES PATENT OFFICE.

JESSE M. LAMB, OF FRANKLIN, INDIANA.

GRAIN-MEASURING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,231, dated March 13, 1888.

Application filed July 28, 1887. Serial No. 245,503. (No model.)

To all whom it may concern:

Be it known that I, JESSE M. LAMB, a citizen of the United States, residing at Franklin, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Grain-Measuring Machines; and I declare hereby that the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains, to make and use the same.

My invention relates to and consists of a device adapted to be attached to elevators, thrashing-machines, &c., where it is desired to measure and register automatically the grain passing through. The objects are to provide a device which shall be efficient, simple in construction, and easy to apply and operate.

In the drawings, Figure 1 is a vertical section near the center of my device. Fig. 2 is an edge view of the complete machine. Fig. 3 is an enlarged detached view of the registering device.

a represents the body or casing of the measuring device, to which are attached the different operating parts. Said casing is made of any suitable material.

b is a central wall dividing the inclosed space into two separate chambers, A and B. The walls of these chambers, opposite this central division, *b*, on either side, are formed at the lower part of the chamber by *b'* and *b''*, respectively, which are fixed parts of the casing, and above these parts these walls are formed by the angular pressure-plates *d* and *d'*, respectively, which are preferably of the shape shown, and hinged to the casing at *i*, and are held in an upright position by springs *e*, which are secured to said plates at *h* at the lower ends and at their upper ends to screws *f*, which pass through projections *f'*, and are provided with thumb-nut *g*, by which they are held and the tension of spring regulated to the proper strain required. At 7 and 8 are secured movably to these pressure-plates the upper ends of each of levers *l* and *l'*, which are jointed at their lower ends to levers *m* and *m'*, respectively, as seen at 5 and 6, which latter levers resemble a bell-crank in general shape, having one arm each movably secured to casing at 3 and 4, respectively. At 9 and 10 the remaining arm of either of these levers is loosely jointed to

keepers *n* and *n'*, respectively, which are jointed to casing at 1 and 2, respectively. At *r* and *r'* these keepers are supplied with shoulders, each of which is adapted to catch under the outer end of the respective wing of tilting plate *k*, which forms the bottom alternately of the chambers A and B. *k* is jointed at *k''*, at either side, to casing *a*, and has secured to its axis, on outside of casing, crank *o* at one side and disk E at the other. From crank *o* proceeds upwardly connecting-rod *c* to crank *p*, which is secured to the axis of cut-off valve *j*, by which the latter is operated. Near its center, on disk E, are attached movably pawls *w* and *w'*, so formed as to coact with graduated disk or dial D, and so located as to act alternately, *w'* being pointed, and *w* provided with a tooth of such shape as to register with the teeth on dial, so that at each motion of disk E in either direction the dial is turned one tooth forward.

To the bottom of casing is attached hopper *s*, provided at its lower end with hooks *t t t t*, or any suitable means, for holding sacks when it is desired to sack the grain as it passes through the machine.

The operation of the device is as follows: The grain is conducted into the upwardly-projecting neck C of casing *a*, which former forms the chamber embracing the cut-off valve *j*, and falls into the chamber A upon the bottom, which is formed by wing *k''* of plate *k*, filling this chamber gradually until it is filled as high as, or nearly, the point *d'*, when the pressure of the grain against and upon the inner side of pressure-plate *d'* gradually overcomes the initial tension of spring *e*, attached to said plate, forcing it outwardly and elongating said spring until all the moving parts connected with the plate as well as itself are in the respective positions shown by broken lines *d''*, *l''*, *m''*, and *n''*, the projection *r'* having also moved to position shown at *r''*. Thus all support is withdrawn from outer end of wing *k''*, and the weight of grain in this chamber directly drives said wing rapidly down, while at the same time the opposite wing *k'* is thrown against concave side *u* of *n*, forcing its way up till it strikes against the lower edge of chamber B, when it is caught and held by keeper *n*, its shoulder *r* being pressed under said wing instantly it has reached

its highest point, through the action of spring *e*. At the same time the plate *k* is actuated the cut-off valve *j* is also thrown to the opposite position. (Shown by broken lines *j'*.) Thus it
 5 will be seen that the flowing grain will be conducted to the chamber B and operating the same on this side, while as the grain flows from the chamber A the moving parts from pressure-plate *d'* to keeper *n'* are brought back
 10 to their normal position by the action of spring *e*. At the same time that the tilting plate moves, the disk E moving therewith, the dial D is also moved one tooth, and the pawls *w* and *w'* being held firmly against the teeth of
 15 dial by spring *v*, it is impossible for the tilting plate to change position without it being registered by the movement of the dial. Thus it will be seen that the operation of the machine is entirely automatic, thereby saving the
 20 labor of one or more hands when the grain in transit is to be sacked, as is nearly always the case in thrashing. Again, very often disputes arise regarding the amount of grain thrashed, which would always be averted by the em-
 25 ployment of an automatic measuring and registering machine, since the same may be so shielded and incased as to preclude all probability of being tampered with.

It is evident that numerous slight changes

might be resorted to in the construction, form, 30 and arrangement of the different relative parts of my invention without departing from the spirit and scope of the same; hence I desire it to be understood that I feel myself at liberty
 35 to make any such changes as I may desire that shall fall fairly within the limits of such scope.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic grain measuring and reg- 40 istering machine, the combination of a spring, *e*, and pressure-plate *d*, with levers *l m*, and keeper *n* and tilting plate *k*, all adapted to operate substantially as and for the purposes set forth.

2. In an automatic grain measuring and reg- 45 istering machine, casing *a*, cut-off valve *j*, rod *c*, tilting plate *k*, pressure-plate *d*, spring *e*, adjusting-screws *f*, levers *l* and *m*, keeper *n*, dial D, pawls *w* and *w'*, spring *v*, and disk E, all com- 50 bined substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, this 23d day of July, 1887, in the presence of witnesses.

JESSE M. LAMB.

Witnesses:

J. L. CLAPPER,

JOHN M. MORRIS.