

(No Model.)

C. H. GROSSNICKLE.

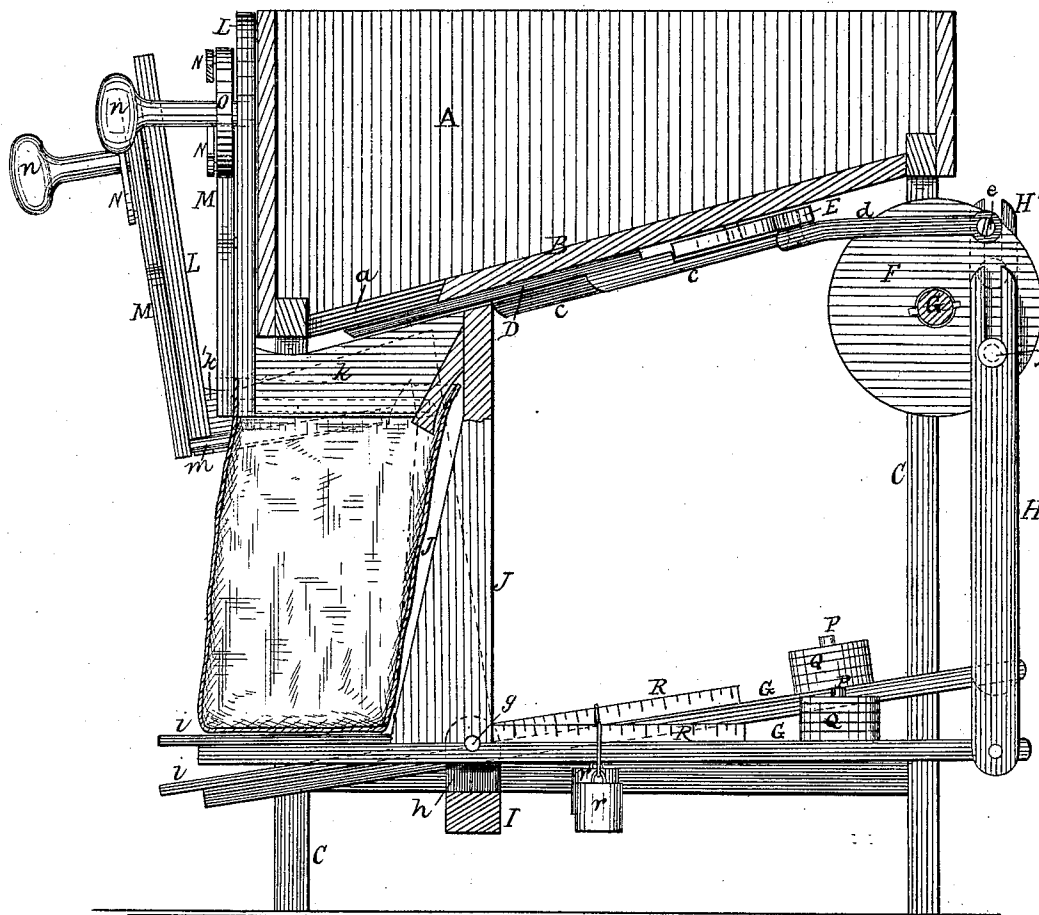
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GRAIN METER.

No. 245,628.

Patented Aug. 16, 1881.

Fig. 1.



WITNESSES:

A. B. Robertson.

Wm. Turner

INVENTOR:

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ATTORNEY.

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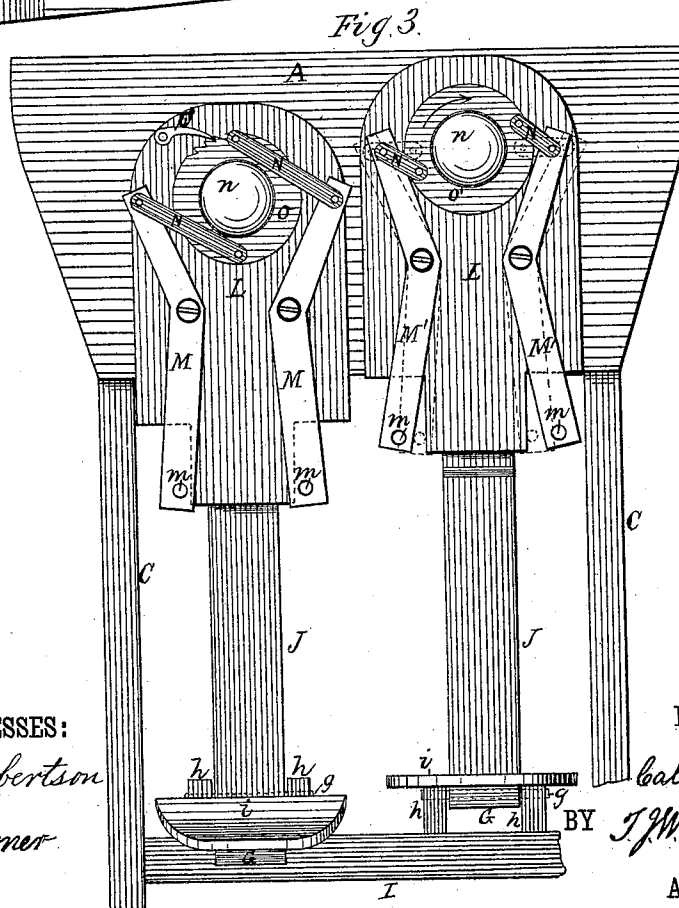
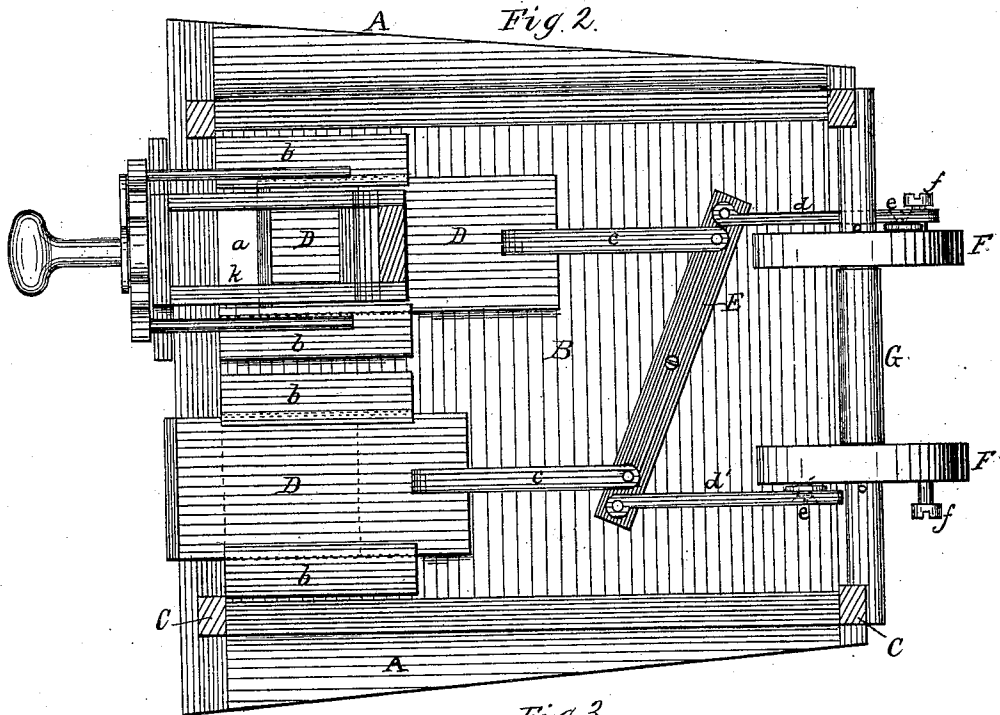
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UNITED STATES PATENT OFFICE.

CALEB H. GROSSNICKLE, OF ELLERTON, MARYLAND.

GRAIN-METER.

SPECIFICATION forming part of Letters Patent No. 245,628, dated August 16, 1881.

Application filed February 2, 1881. (No model.)

To all whom it may concern:

Be it known that I, CALEB H. GROSSNICKLE, a citizen of the United States, residing at Ellerton, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Weighing and Bagging Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to a machine for automatically weighing and bagging grain; and it consists in the peculiar construction and arrangements of parts, as more fully hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 represents a sectional side elevation of the machine; Fig. 2, an inverted plan view, partly in section, with portions removed; and Fig. 3, a front elevation.

A grain hopper or receptacle, A, having an inclined bottom, B, is supported by the frame C, and has at its lower ends two openings, *a*, which are opened and closed alternately by slides or valves D D, working in guides *b b* on the under side of the bottom. The slides or valves are connected by rigid extensions or pivoted bars *c c*, or in any other convenient manner, to the pivoted lever E, which is connected by pitmen *d d* to the crank-pins *e e* on the outer sides of the wheels F F', loosely mounted on the fixed shaft G. These wheels have crank-pins *f f*, working in slots in the upper ends of the bars H H', whose lower ends are pivoted, respectively, to the scale-beams G G', which are pivoted at *g g* to the lugs *h h* on the cross-bar I of the frame B. The short ends of the scale-beams are provided with platform *i i*, on which the grain-bags rest, and are also provided with vertical posts J J, to the upper ends of which the bag-holding devices are secured.

The bag-holding devices consist of rectangular bag-frames *k k*, fastened at right angles to the posts J J, and provided with extended front pieces, L L', to which are pivoted the levers M M', having at their lower ends bars or rods *m m*, for clamping the bags against the sides of the bag-frames. The levers M M' are

connected by links N N to the disks O O', which can be turned by their handles *n n* to open or close the levers. The levers can be locked in position with a pawl, *o*, engaging with teeth on the edge of the disk O; or the links can be so made as to lock the levers by being moved, so as to bring their pivots in a straight line, as shown by dotted lines in Fig. 3.

The scale-beams are provided with pins P for holding weights Q, and also have notched graduated portions R R, for holding the links of the additional weights *r r*.

A cheaper machine on this principle may be constructed that can be used as a single bagging-machine, when desired, by making a machine with a single slide, bag-holder, and beam; but in this case the upper end of bar H should be pivoted to its wheel instead of having the slotted connection, and the wheel might have a direct connection with the slide. A device would have to be added to keep the beam in an elevated position while the filled bag was being removed and an empty one fastened in the bag-holder.

The operation of the invention is as follows: The bag to be filled is placed on the platform *i*, and its upper end is clamped against the outer sides of the bag-frame *k* by the bars *m m* on the levers M M', which are moved into the position shown in dotted lines in Fig. 3 by moving the disk O' and its handle in the direction indicated by the arrow. The bag remains at rest on its platform until it has received sufficient grain from the hopper to overbalance the weights, when it will fall and cause the long end of the scale-beam G to rise, thereby elevating the bar H' and turning the wheel F'. This wheel, in turning, closes the valve D' and opens the valve D through the agency of the pivoted lever E, which at the same time turns the wheel F' in the opposite direction of the wheel F. While the bag on the bag-frame *k* is filling with grain the full bag on frame *k* is removed and an empty bag substituted. As soon as the full bag is removed the slotted upper end of the bar H allows the weights to move the beam and its attachments into the proper position for repeating the operation above described.

I do not intend to limit the use of my machine to bagging grain, as the bag-holding devices may be omitted where it is intended to

use the machine to weigh grain to be stored in bulk.

What I claim as new is—

1. In a grain weighing and bagging machine, the independent scale-beams $G\ G'$, the hopper A , having two openings, $a\ a$, and slides or valves D , in combination with slotted connections between the scale-beams and the slide-operating devices, whereby the scale-beams are permitted to move independently of the slide, substantially as and for the purpose described.

2. A grain-weighing machine consisting of a hopper, A , having an opening, a , slide D , wheel F , and a connection between the slide and wheel, in combination with the bar H and scale-beam G , substantially as described.

3. In combination with the hopper A of a grain bagging and weighing machine having two openings, $a\ a$, each closed by a slide or valve, D , the pivoted lever E , pitman d , and wheel F , whereby the valves are moved in opposite directions simultaneously, substantially as described.

4. The grain-hopper A , having two openings, $a\ a$, slides $D\ D$, and lever E , in combination with the pitmen $d\ d'$, wheels $F\ F'$, bars $H\ H'$, and scale-beams $G\ G'$, substantially as described.

5. The combination of the bag-holding devices and scale-beams $G\ G'$ with the bars $H\ H'$, wheels $F\ F'$, pivoted lever E , slides D , and hopper A , substantially as described.

6. The scale-beam G , having a post, J , in combination with the bag-frame k and bag-fastening bars $m\ m$, levers $M\ M$, and a locking device, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

CALEB H. GROSSNICKLE.

Witnesses:

GEO. F. GRAHAM,
T. J. W. ROBERTSON.