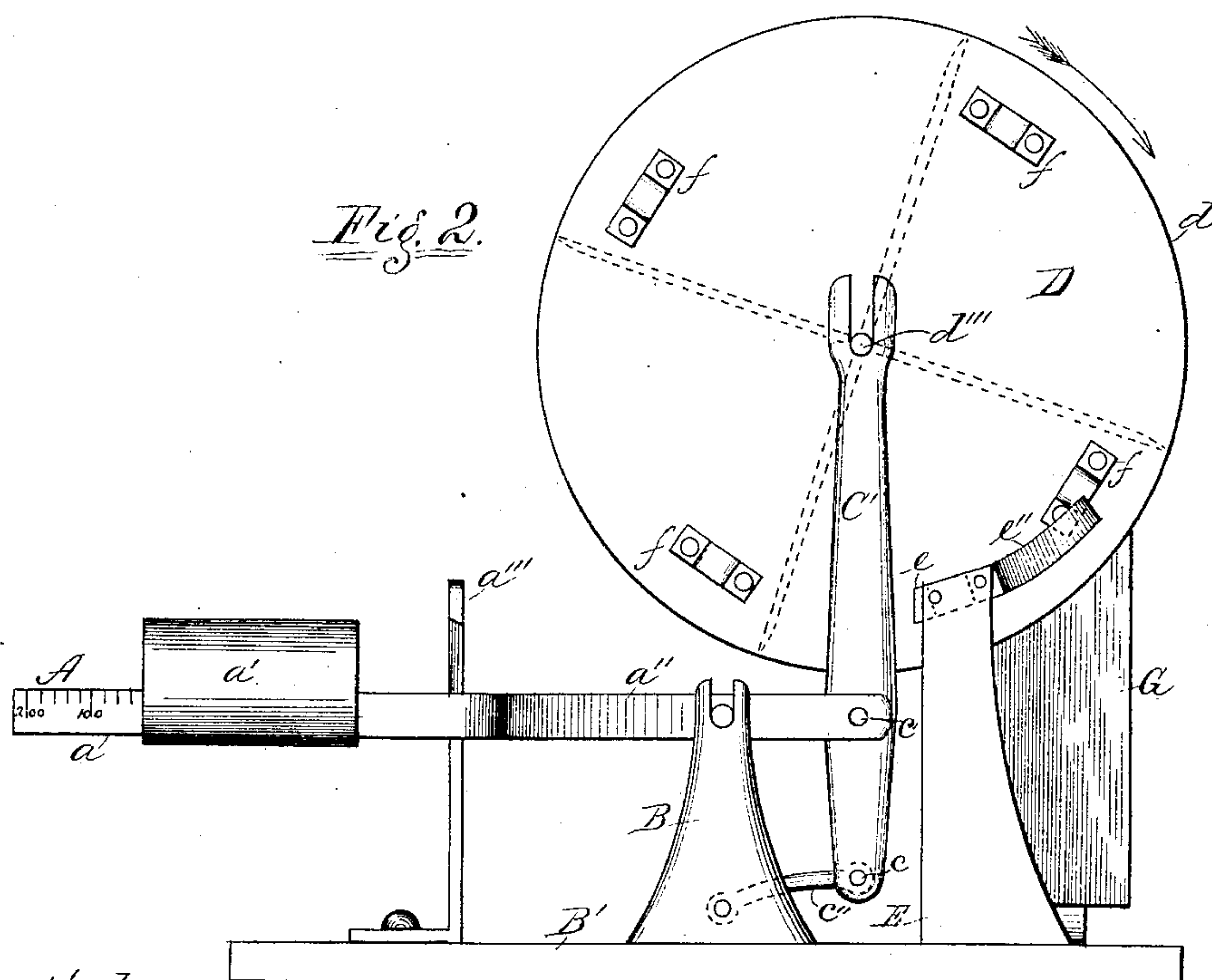
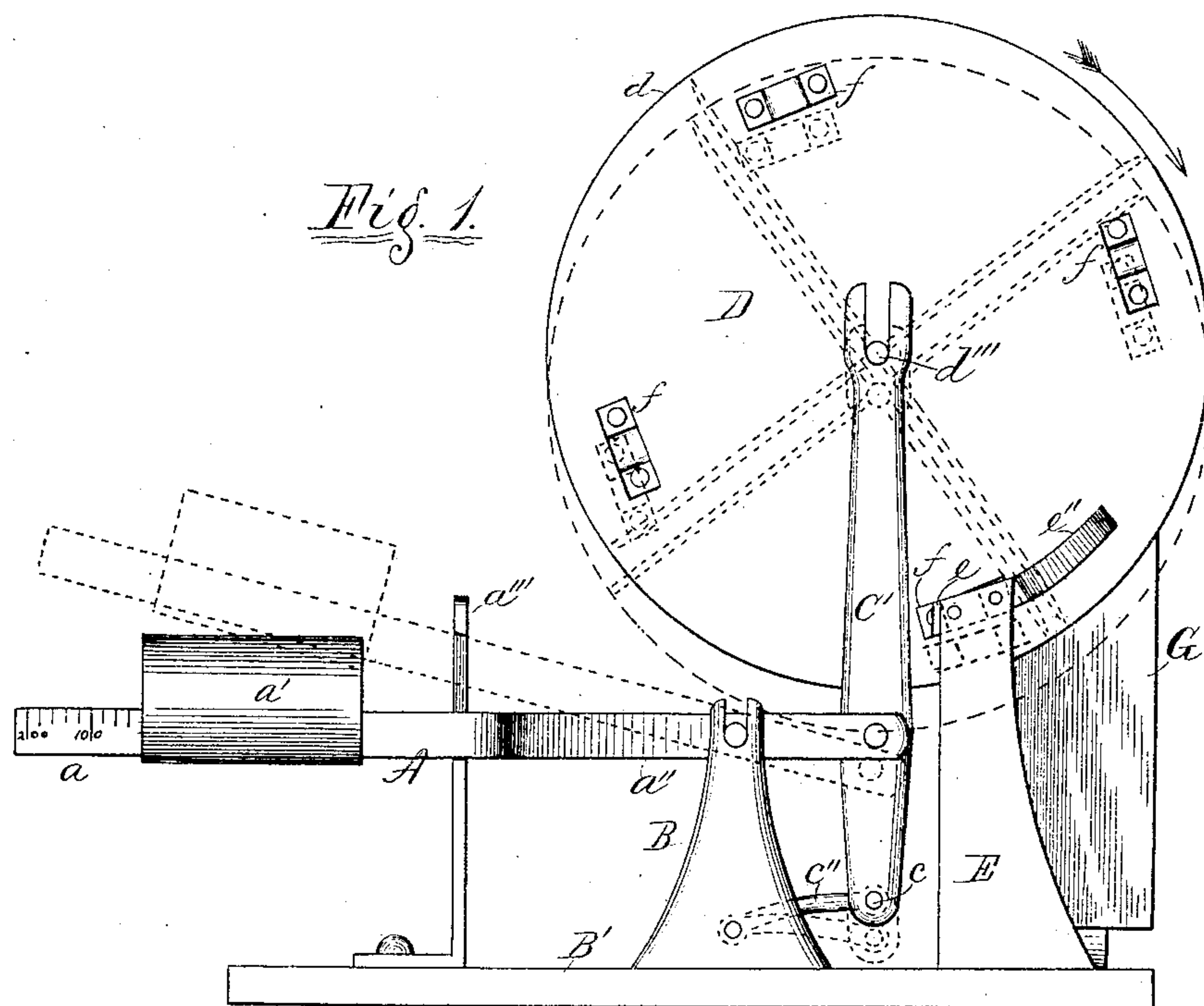


P. MORRISON.

AUTOMATIC WEIGHING SCALE.

No. 311,198.

Patented Jan. 27, 1885.



Witnesses:
G. R. Richards,
Jno. G. Reed.

Inventor:
Prosper Morrison,
By W. B. Richards,
his Atty.

(No Model.)

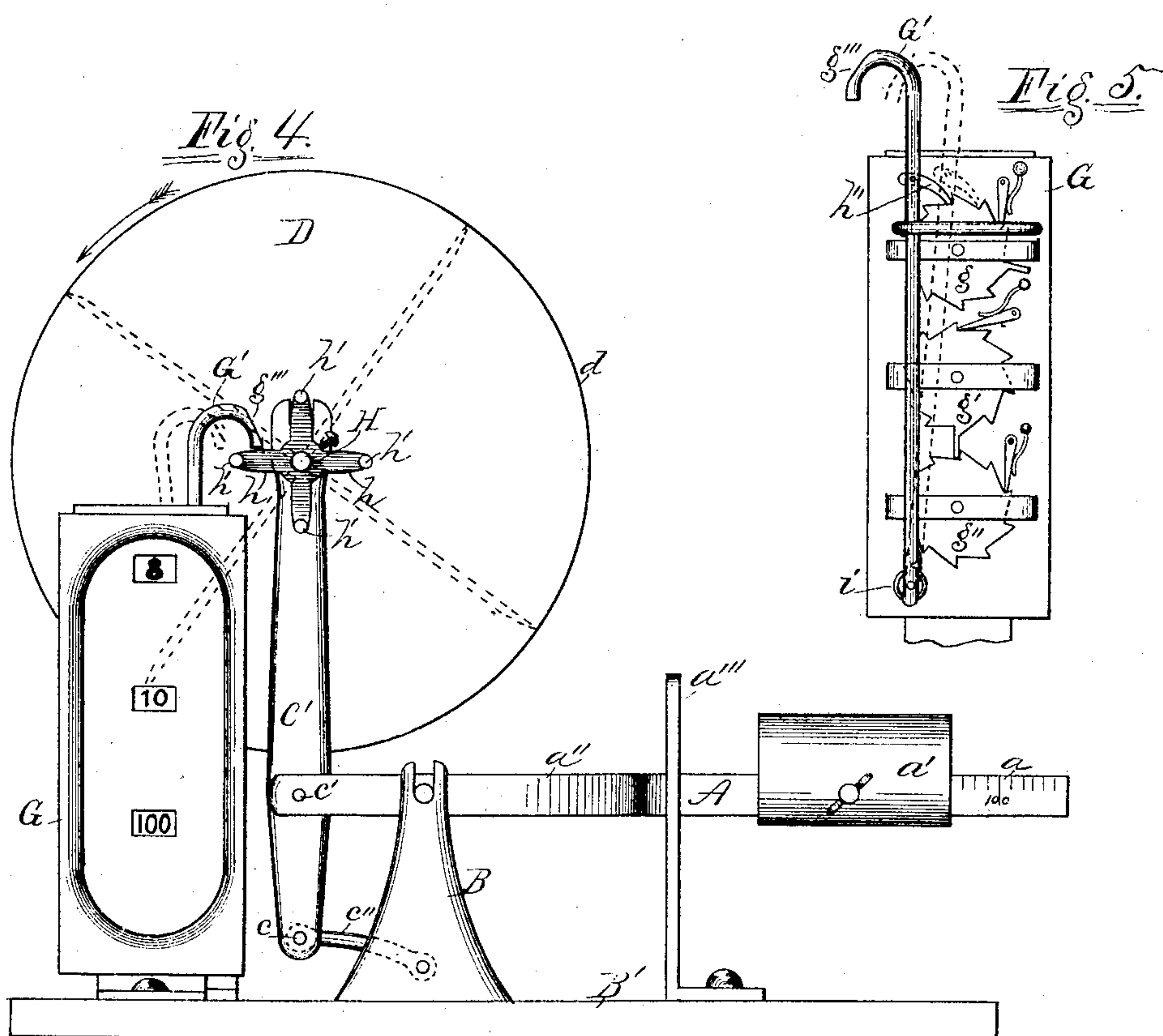
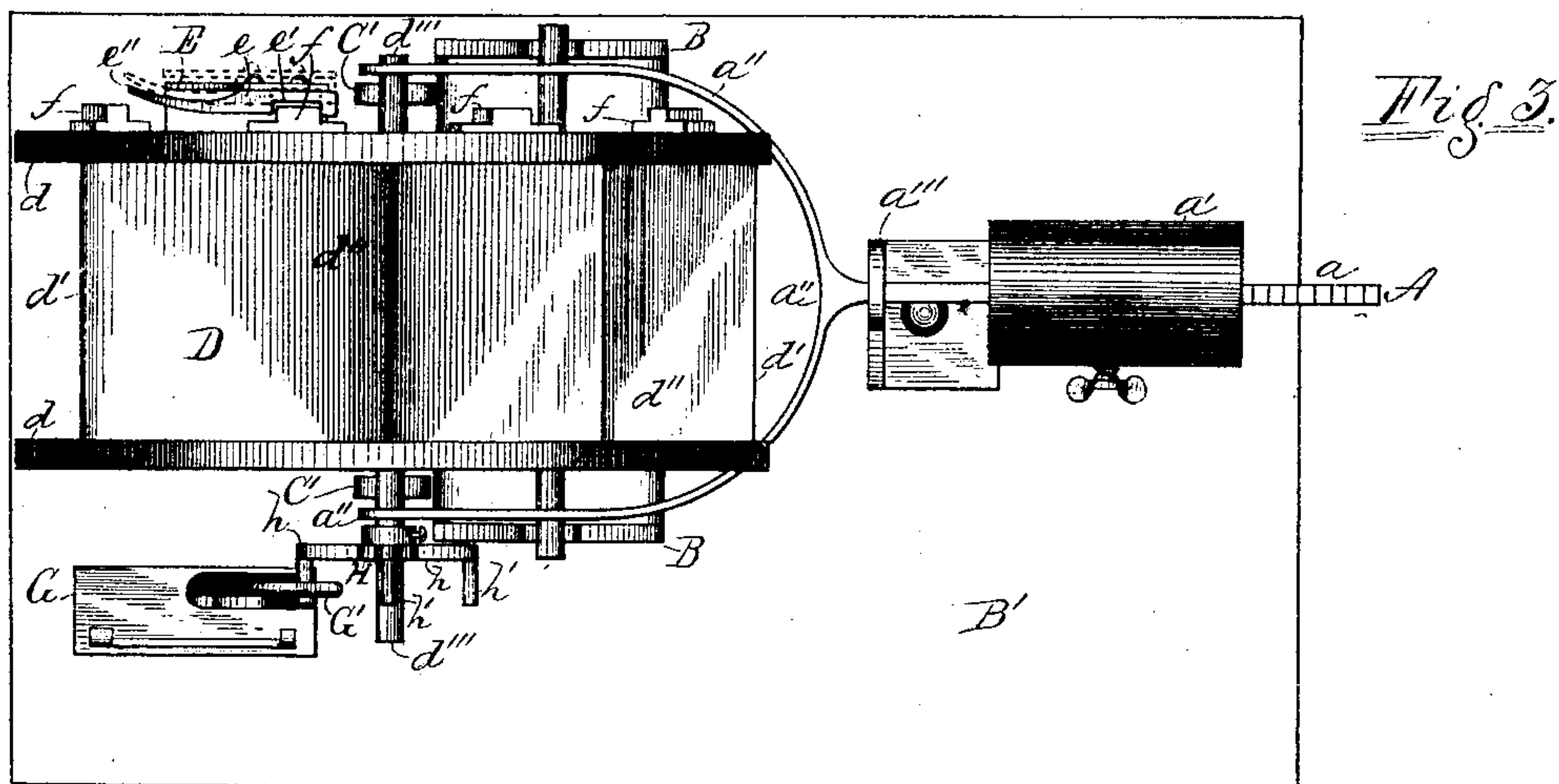
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UNITED STATES PATENT OFFICE.

PROSPER MORRISON, OF MAQUON, ILLINOIS.

AUTOMATIC WEIGHING-SCALE.

SPECIFICATION forming part of Letters Patent No. 311,193, dated January 27, 1885.

Application filed April 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, PROSPER MORRISON, a citizen of the United States, residing at Maquon, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Automatic Weighing-Scales; 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, in which—

Figure 1 is a side elevation; Fig. 2, a side elevation; Fig. 3, a top plan; Fig. 4, a side elevation showing the side opposite that shown at Figs. 1 and 2. Fig. 5 is a vertical sectional elevation of the registering device.

This invention relates to automatic grain-weighers; and it consists in combinations and constructions hereinafter described and claimed.

Referring to the drawings by letters, the same letter indicating the same part in the different figures, A is the scale-beam, pivotally suspended in the standards B, which are secured to the base B'. The beam A is provided at its graduated end *a* with a sliding weight, *a'*, while its other end, *a''*, is bifurcated, as shown at Fig. 3.

C is a frame formed of two frame-bars, C', connected at their lower ends by bars *c*. The bars C' are pivoted at *c'*, one to each limb of the end *a''* of the beam A, and are connected each by a link, *c''*, to the adjacent standard, B. The links *c''* retain the frame C, as shown by dotted lines at Fig. 1, in a vertical position as it moves up and down with the oscillation of the scale-beam. The extent of the oscillations of the scale-beam A is limited by the usual guard, *a'''*.

D is the grain-receiver, formed of disks *d*, connected by radial plates or partitions *d'*, which divide it into four separate compartments, *d''*. The number of compartments may, however, be varied, if desired. The receiver D is supported on the frame C by stub-journals *d'''*, which project one from each disk *d*, and rest one in the slotted upper end of each bar C'.

E is a standard projecting upward from the

base B' to a point a short distance above the lower part of the receiver D and a short distance from one of the disks *d*. A catch, *e*, is secured to or formed on the upper end of the spring-standard E, which has a notch, *e'*, near one end, and its other end extended and turned outwardly to form a cam, *e''*. (See Fig. 3.) Lugs *f* are attached to the disk *d*, which is adjacent to the catch *e*—one lug *f* to each compartment *d''*. As the receiver D is rotated in the direction of the arrows shown at Figs. 1 and 2, one of the lugs *f* will come in contact with the cam *e''*, and thereby press the catch *e* outward, and thus hold it until the lug *f* is brought opposite the notch *e'*, when the spring-standard will force the catch *e* over, so that the notch *e'* will engage the lug *f*, and thus arrest the rotary motion of the receiver D with one of the compartments *d''* upward and ready to receive grain from any spout or other continuous stream or source of supply, as shown at Fig. 1. As shown at Fig. 1, the lugs *f* are arranged or located on the receiver, so that when one is engaged with the catch *e*, the upper compartment *d''* which is receiving grain, will be held in a position with over one half of said compartment to the rear or right hand of the journals *d'''*.

In operation, the weight *a'* is first adjusted on the scale-beam, so that when the uppermost compartment *d''* has received a desired quantity of any kind of grain—say, what will weigh one bushel—the weight of the grain will overbalance the weight *a'* and tip the scale-beam, and thus lower the receiver D, and thereby release the lug *f* from the notch *e'*, as shown by dotted lines at same figure. The overhanging weight of the uppermost compartment *d''* will then rotate the receiver D in the direction shown by the arrows, and thus discharge the grain from the compartment *d''* into any suitable receiver, and as the grain is discharged the lessened weight thereof in the receiver will allow the weight *a'* to descend and again raise the receiver to the position shown by full lines, and so that the next succeeding lug *f* will come in contact with the cam *e''*, press the catch *e* backward, engage with the notch *e'*, and thereby also arrest the motion of the receiver until the compartment *d''* now uppermost has received the given quantity of grain which will tip the

scale-beam and repeat the operation already described, and which operation will be repeated when each uppermost compartment d'' receives, in its turn, the quantity of grain necessary to tip the scale-beam.

Figs. 1 and 3 show a lug f engaged with the notch e , while Fig. 2 shows a lug f as it comes in contact with the cam e'' to press the catch e outwardly.

10 G is a case containing an ordinary apparatus for registering the number of times the compartments of the grain-receiver are discharged. The case G contains ratchet-wheels g g' g'' , provided, respectively, with numbers, including the units, the tens, and the hundreds. The ratchets g g' g'' are rotated in an ordinary manner, as shown at Fig. 5, and expose the numbers registered in an ordinary manner, as shown at Fig. 4. The arm G' , which carries the pawl h' , by which the unit's ratchet g is operated, is extended upward through the case G, and curved at its upper end to form a cam, g''' .

25 H is a head fixed to one of the journals d''' , and provided with radial arms h , the outer end of each of which carries a tappet, h' . As the receiver D is rotated, the tappets h' are in succession brought into contact with the cam g''' , and thereby force the arm G' backward, as shown by dotted lines at Fig. 4, and operate the ratchet g . When the tappet h' passes the cam g''' and releases the arm G' , it (the arm G') will be swung back again to its normal position by a spiral spring, i . As there is a tappet h' to each compartment d'' , the arm G' will be actuated and register the discharge of each compartment.

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

1. In combination with the pivoted scale-beam, the frame pivoted vertically to and extending above and below said scale-beam, and having link c'' below the fulcrum and attached to the stationary part of the device, a rotary receiver journaled in said frame above the fulcrum, and a stopping device, substantially as described.

2. In combination, the scale-beam, the rotary grain-receiver, having compartments d'' and lugs f , and the spring-plate E, having a catch, e , with notch e' , and cam e'' , substantially as and for the purpose specified.

3. In combination, the scale-beam, the frame C, the links c'' , the receiver D, having lugs f , and the spring-plate E, having a catch, e , with notch e' , and cam e'' , adapted to operate substantially as and for the purpose specified.

4. In combination, the scale-beam, the rotary receiver suspended thereon by frame C, the links c'' , the receiver D, having lugs f , the spring-catch e , the registering apparatus, and the arms h , having tappets h' , adapted to operate the register by acting on the arm G' , substantially as and for the purpose specified.

5. In a weighing-scale, the combination of a rotary receiver having the tappet h' on one of its journals, and a registering device having the curved arm G' in contact with and operated by said tappets, substantially as described.

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

PROSPER MORRISON.

Witnesses:

CHARLES F. MAPLE,
SAMUEL W. LOVE.