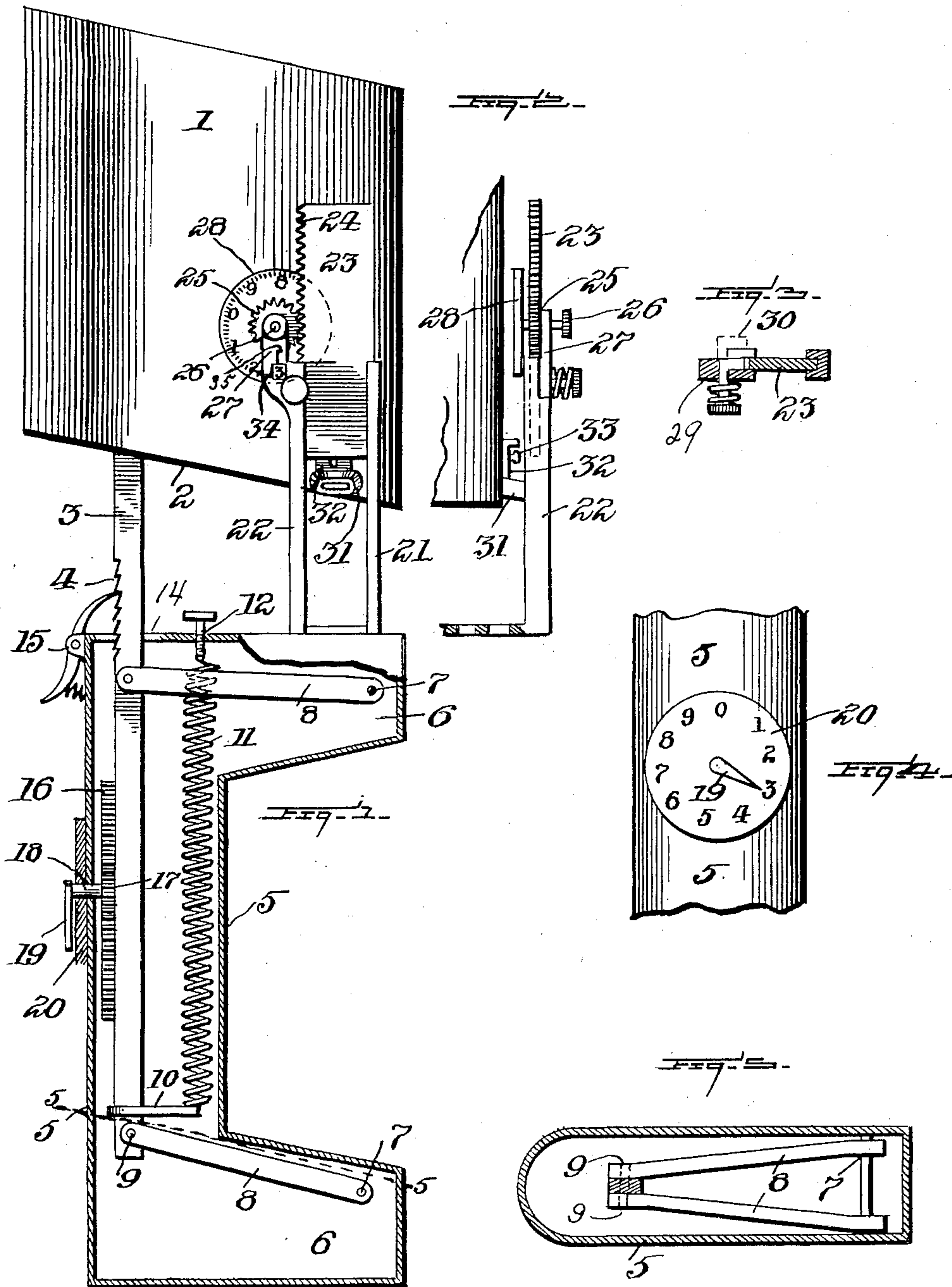


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AUTOMATIC WEIGHING SCOOP.

APPLICATION FILED SEPT. 29, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC WEIGHING-SCOOP.

SPECIFICATION forming part of Letters Patent No. 733,411, dated July 14, 1903.

Application filed September 29, 1902. Serial No. 125,207. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MAXWELL, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Weighing-Scoops, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in automatic weighing-scoops, and has for its object to provide novel means whereby a certain amount of provisions—such as sugar, coffee, rice, or other merchandise—is automatically ejected from the scoop, which amount is in excess of the quantity to be retained by the scoop.

Another object of the present invention is to provide a scoop carrying a discharging mechanism that when adjusted to different points will permit various quantities to be withdrawn from the scoop until the same has been emptied.

My invention further contemplates to provide a scoop having secured thereto the ordinary registering dial and hand for the purpose of weighing meat or other merchandise that cannot be discharged through the chute of the scoop and for a further purpose of determining the accuracy of the discharging mechanism.

A still further object of my invention is to provide a novel form of scoop of the above-described character that will be accurate in its operation, strong, durable, and comparatively simple in its construction; furthermore, one that can be manufactured at a reasonable cost.

With the above and many other objects in view the invention finally consists in the novel construction, combination, and arrangement of parts to be hereinafter more particularly described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of the scoop, showing the handle in vertical section. Fig. 2 is an end elevation of the discharging mechanism.

Fig. 3 is a top plan view of the lock for the discharging mechanism. Fig. 4 is a front view of the registering-dial. Fig. 5 is a longitudinal sectional view taken on the line 5 5 of Fig. 1 of the drawings.

In the drawings the scoop is indicated by the reference-numeral 1, this scoop being provided with an inclined bottom 2, to which is rigidly secured a rod 3, having formed therein near its upper end a series of teeth 4. This rod extends into a casing 5, which forms a handle for the scoop, the casing being provided with extensions 6 6, in which are arranged shafts 7 7, to which are pivotally secured levers 8 8, which extend at a slight angle to one another and are pivotally secured at their other end at 9 9 to the rod 3. To the lower end of the rod 3 is also rigidly secured an arm 10, which is connected to a counterpoising-spring 11, secured to an adjusting-screw 12, extending through the upper portion of the casing. A slot 14 is also formed in the upper end of the casing, through which extends the rod 3. A spring-pressed pawl 15 is also pivotally secured to the casing and is adapted to engage the teeth 4 and serves to retain the scoop in an elevated position. The rod 3 also carries a cog-rack 16, which meshes with a pinion 17, secured to a shaft 18, carrying an indicator 19 of a dial 20, attached to the exterior of the casing.

The discharging mechanism comprises a standard 21, secured to the upper end of the casing. This standard carries guides 22, in which is slidably secured a shutter 23. This shutter also has formed on one of its sides a cog-rack 24, which meshes with a pinion 25, secured upon a shaft 26, mounted in a bracket 27, attached to one of the guides 22. Upon the said shaft 26 is also fixed a dial 28, having numerals arranged thereon. The shutter 23 is locked by means of a spring-pressed latch-bolt 29, carrying a lug 30, which normally engages in one of the teeth of the cog-rack 24. Upon the side of the scoop, near the bottom thereof, is attached a chute 31, having arranged therein a slide 32 to regulate the discharge of the chute. This slide may be retained normally in position by any suitable means, such as a screw 33. An opening 34 is formed in the bracket 27, which opening will permit one of the numerals on the dial 28

to be displayed therethrough, and a mark 35 is also arranged on the bracket in close proximity to the opening 34, which mark must register with a like mark upon the dial to indicate the exact position of adjustment to obtain a certain weight. It will be understood that similar marks will be arranged upon the dial intermediate the numerals to indicate ounces or fractions of a pound.

The operation of my improved scoop is as follows: The dial 28 is adjusted to the position that will indicate the amount that is to be retained in the scoop, and for the purpose of illustration we will assume that the capacity of the scoop is ten pounds, as indicated by the dial 28, and that three pounds are to be retained in the scoop and seven pounds ejected therefrom. To accomplish this, it is necessary to place the dial in position, as shown in Fig. 1 of the drawings. In order to accomplish this operation, the spring-pressed latch-bolt is operated, thereby releasing the cog-rack 24 from engagement with the spring-pressed latch-bolt and permitting the adjustment of the cog-wheel 25, which carries with it upon a common shaft the dial 28. The spring-pressed latch-bolt is then released when the proper adjustment has been obtained, thereby locking the shutter 23 in a certain elevated position, which will serve to automatically close the mouth of the chute 31 at a predetermined point as the scoop gradually ascends to its position. The amount that is to be retained in the scoop as soon as the mouth of the chute has been closed will be the amount indicated upon the dial through the opening 34. When the scoop is operated, the spring-pressed locking-pawl 15 is released, and the merchandise—such as coffee, sugar, rice, or the like—placed in the scoop, thereby depressing the same and operating the indicator 19 of the dial 20 by means of the pinions 17, meshing with the cog-rack 16, carried by the rod 3.

It will be noted that the levers 8 8 will serve as guides and the spring 11 may be adjusted to any tension by means of the screw 12. Attention is also directed to the fact that by reason of the levers 8 8 the rod 3, together with the scoop 1, will have a slight lateral movement in its upward and downward course of travel by reason of the levers 8 operating upon the shaft and describing a tangent; but the chute being placed upon the side of the scoop will move vertically in the same relation to the slide 23, the latter being somewhat wider than the mouth of the chute to permit this slight movement.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In an automatic weighing device, a casing forming a handle therefor, a rod arranged therein, a counterpoising means for the rod, guides carried by said casing, a shutter carried in said guides, means to lock the said shutter, a scoop secured to the outer end of said rod, and a chute therein, said chute being adapted to be closed by said shutter.

2. In an automatic weighing device, the combination of a casing forming a handle therefor, a rod secured therein, a weighing-scoop connected to said rod, a counterpoising means for the rod, said scoop having a discharge-chute, means for closing said chute at a predetermined point, comprising a slide, an adjustable shutter, guides for the same, and an indicating device, substantially as described.

3. In an automatic weighing device, the combination of a scoop, a casing forming a handle therefor, a rod connecting the same and operating an indicating mechanism within said casing, a spring connected to said rod, a discharge-chute for said scoop, guides for said shutter secured to the casing, said guides supporting an indicating device, and locking means for said shutter, substantially as described.

4. In an automatic weighing-scoop, the combination of a scoop having an inclined bottom, a rod secured to said scoop, a casing forming a handle partially inclosing the said rod, a spring connected to said rod, a discharge mechanism secured to said scoop, and means to regulate and lock the said discharge mechanism, substantially as described.

5. In an automatic weighing-scoop, the combination of a scoop with an inclined bottom, a rod secured to said scoop having notches formed therein, a casing forming a handle into which said rod extends, a spring-pressed pawl to engage said notches pivotally connected to said casing, a dial and indicator operatively connected to said rod, a spring connected to said rod, guides carried by said casing, a shutter secured in said guides, means to regulate and lock the said shutter, a chute secured to said scoop, means to regulate the discharge of said chute, and means to close the mouth of said chute when a certain quantity has been withdrawn from the scoop, substantially as described.

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

WILLIAM MAXWELL.

Witnesses:

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