S. THERRIEN.

MEASURING DEVICE.

APPLICATION FILED JAN. 22, 1909.

955,719. **Patented Apr. 19, 1910.**

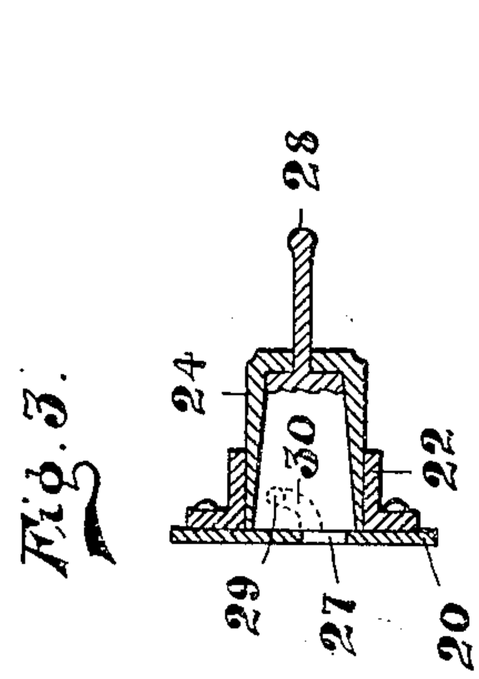

Fig. 3.

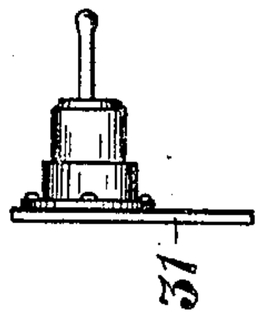

Fig. 4.

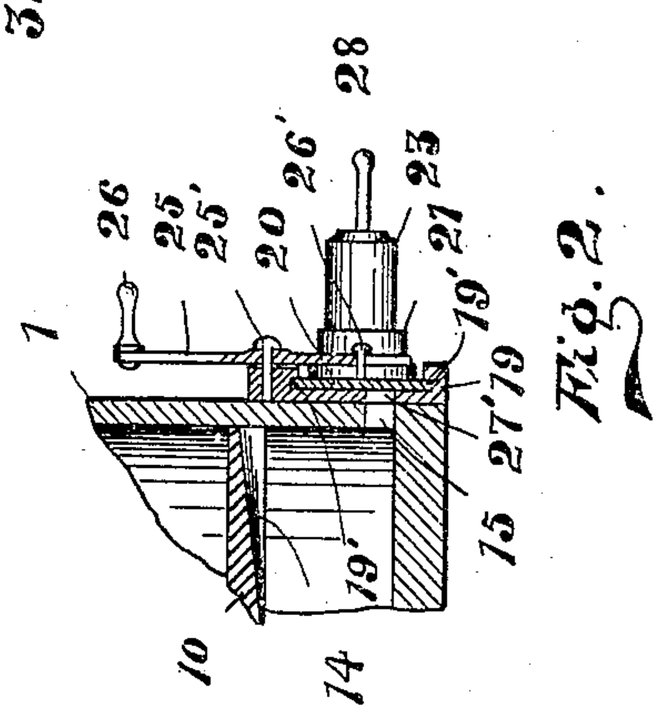

Fig. 2.

Fig. 1.

WITNESSES:

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MEASURING DEVICE.

955,719. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed January 22, 1909. Serial No. 473,661.

To all whom it may concern:

Be it known that I, SAMUEL THERRIEN, a subject of the King of England, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Measuring Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in measuring devices.

The object of my invention is to provide a measuring device for measuring plastic material such as butter and the like, from a receptacle, and at the same time molding the material in a regular form of different weights.

Another object of my invention is to provide a device of this character, which is more simple, cheap, and effective, and one that will remove as nearly as possible all the material within the receptacle without special adjustment.

In the accompanying drawings, Figure 1, is a front elevation of my improved device. Fig. 2, is an enlarged, vertical, sectional view taken between the two molds. Fig. 3, is a vertical cross-sectional view of one of the molds, and Fig. 4, is a modified form of the application of the molds.

Referring now to the drawings, 1 represents a hollow open top cylindrical receptacle which is adapted to receive the material to be vended, and is formed at its lower end with the heavy horizontally-extending flange 2 forming a base. Mounted upon said flange is an upwardly-extending yoke 3 extending over the open end of the receptacle. The said yoke above the center of the receptacle is provided with a hub portion 4. A second yoke 5 is mounted upon the upper horizontal portion of the yoke 3 and is provided with a hub portion 6 directly over the hub portion 4 of the yoke 3.

Extending vertically through the hub portion 4 and 6 is a hollow screw-threaded piston rod 7, but said rod does not have a threaded connection with the hub portion. Mounted upon said piston rod between the hub portions 4 and 6, and having a screw-threaded connection with the piston rod, is a beveled gear wheel 8 whereby the rotation of said gear causes the piston rod 7 to move vertically as well understood. The piston rod 7 being hollow, as before described, a second piston rod 9 is vertically mounted therein. Carried by the lower end of said piston rod 9 is a piston 10 which is of a diameter to snugly fit the receptacle 1, and by means of which the butter is compressed within the receptacle when the piston rod 7 is forced down by the revolving of the gear 8. The lower end of the piston rod 7 has secured thereto a plurality of metal spring plates 11, the same being bent radially and having their free ends bearing against the upper side of the piston to which they are adjustably fastened by staples 12. The ends of the spring plates are rolled as indicated at 13 to prevent them from passing through the staples, and thus preventing the piston rod 9 from passing from within the piston rod 7. Thus it will be seen that the piston 10 is raised, and lowered by the rod 7, but is flexibly attached thereto in such a manner that as the rod 7 is lowered and the piston 10 impinges against the material within the receptacle, the springs 11 will take up some of the pressure of the piston rod 9 being forced up within the rod 7 resulting in giving the piston an elastic pressure upon the material within the receptacle. This arrangement also provides means whereby a number of molds may be removed from the receptacle at a single operation of the gear 8, and making it unnecessary to gage the exact operation of the piston in relation to the quantity of material removed at a time. The under side of the piston 10 is formed with a radially-flaring concave recess 14 which is so positioned as to come directly in line with the outlet opening 15 in the receptacle, so that when the piston 10 is in its lowest extremity it will not shut off the said outlet opening, but have a tendency to force all the material from the receptacle through the opening.

The yoke 5 is provided with a horizontal hub 5′ in which is mounted a shaft 17 carrying at its inner end a beveled gear 16 meshing with the bevel gear 8, and whereby the piston rod 7 is rotated. The outer end of the shaft 17 is provided with a crank 18 by means of which the shaft is rotated, but it is understood that any form of power could be applied. The receptacle at its lower end on the outside wall adjacent the flange 2 is provided with a plate 19 having the grooves 19′ in which is slidably mounted the vertical plate 20 carrying the thimbles 21 and 22 which in turn carry the molds 23 and 24

hereinafter more fully described. The plate 20 is slidably mounted in the plate or guide 19 and in order to provide operating means therefor I provide the lever 25. Said lever is intermediately pivoted at 25 to the plate 19. The upper end of the lever is provided with a handle 26, while the lower end is bifurcated and adapted to straddle the pin 26′ carried by the plate 20. By this arrangement it will be seen that the plate can be readily moved back and forth by means of the lever, and yet allowing it to be entirely removed from the plate 19 without any special adjustment of the lever 25. The plate 20 has two openings 27, one opposite each thimble 21 and 22, and the plate 19 has an opening 27′ therein registering with the opening 15 in the wall of the receptacle. When the lever is in a vertical position the plate 20 is in a position so that the opening 27′ is closed, and by moving the plate to either side the opening is brought in communication with either mold 23 and 24, and the contents of the receptacle. While I have shown these molds of the same size, it will be understood that they may be of different sizes to measure different quantities. The molds are made in the usual form with the plunger 28 for removing the print after the mold is filled and removed from the receptacle. The molds enter the thimbles 21 and 22 and preferably are held therein by means of pins 29. These pins are carried by the inside of the thimbles and enter the inclined or bayonet slots 30 in the outer wall of the mold, whereby the molds may be readily removed or inserted and at the same time firmly held in place.

In Fig. 4, I have shown a modified form of mold and plate combination, it being a single mold mounted near one end of the plate 31, and this may be applied to the receptacle either vertically or horizontally, as in the case of two molds on the plate. If applied vertically a number may be used about the base of the receptacle, thus providing means for producing individual prints as for table use.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. A device of the character described, comprising a receptacle having an opening therein, a slide carried by the receptacle and having a series of openings, adapted to register one at a time with the opening in the receptacle, and a mold removably secured to the plate opposite each opening, whereby the slide cuts off the supply for all the molds or one mold can be filled while the other is removed.

2. A device of the character described comprising a receptacle having an opening therein, a plate slidably carried by the receptacle, a lever intermediately-pivoted to the receptacle, and having a bifurcated lower end, a pin carried by the plate and entering the bifurcated end of the lever, said plate having openings adapted to register with the openings in the receptacle, and molds carried by said plate.

3. A device of the character described comprising a receptacle having an opening therein, a plate slidably carried by the receptacle and having openings adapted to register with the opening in the receptacle, molds carried by the plate and registering with the openings therein, and means whereby said plate may be moved in either direction or entirely removed.

4. A device of the character described comprising a receptacle having an opening therein, a guide-way carried by the receptacle and opposite the opening and having an opening communicating with the receptacle opening, a plate slidable in the guide-way and having openings adapted to communicate with the opening in the guide-way, thimbles carried by the plate and surrounding the openings, molds removably secured in said thimbles, a lever pivoted to the receptacle and having a bifurcated lower end, a pin carried by the plate and entering the bifurcated end of the lever, whereby the plate may be moved in either direction or removed, and a plunger for forcing the contents of the receptacle from the opening.

5. A device of the character described comprising a receptacle having a broad base, a yoke supported thereby and extending over the receptacle, a vertical movable hollow piston rod, means for moving said rod, a second piston rod vertically movable within the first rod, a piston carried by the second piston rod within the receptacle, a spring member secured to the lower end of the hollow piston and extending downwardly, staples carried by the piston and through which said spring member passes, and the ends of the members rolled to prevent them from passing inwardly through the staples and said piston having a flaring concave recess in its lower face for forcing the contents through the opening in the receptacle.

6. A device of the character described, comprising a receptacle, a piston rod, a piston within the receptacle, spring plates secured to the piston-rod and having their lower ends turned outwardly and enlarged, staples straddling said plates and loosely securing them to the piston and molds in communication with the lower end of the receptacle.

7. A device of the character described, comprising a receptacle having a discharge opening in one side just above the bottom, molds secured to the receptacle opposite said opening, a piston within the receptacle and having a radially flaring concave recess in

its lower face opposite the opening, means for operating said piston, whereby the piston may be forced downwardly and cause the entire contents of the receptacle to be forced out of the opening therein.

8. A device of the character described, comprising a receptacle, molds in communication with the receptacle, a hollow piston rod, means for vertically moving said piston rod, a piston within the receptacle, a rod rigidly secured to the upper end of the piston, and extending within the hollow piston rod, and flexible plates secured to the piston rod and having their lower ends, slidably connected to the piston.

9. A device of the character described, comprising a receptacle, molds in communication therewith, a piston within the receptacle, a hollow piston rod, a rod secured to the upper end of the piston and extending into the hollow piston rod and vertically movable therein, and flexible plates connecting the piston and piston rod.

10. A device of the character described, comprising a receptacle, molds in communication therewith, a piston within the receptacle, a hollow piston rod, a rod secured to the upper end of the piston and extending into the hollow piston rod and vertically movable therein, flexible plates secured to the piston-rod and extending downwardly and outwardly and resting upon the piston and loops carried by the piston and through which the flexible plates pass.

11. A device of the character described, comprising a receptacle having an opening therein, a guide-way above and below the opening, a plate sliding in said guide-way, a lever intermediately pivoted to the receptacle, and having a bifurcated lower end, a spring carried by the plate and entering said bifurcated end, said plate having openings adapted to register with the openings in the receptacle, and molds removably carried by said plate opposite the openings.

12. A device of the character described, comprising a receptacle having an opening therein, a piston in said receptacle, a plate slidably carried by the receptacle, a lever intermediately pivoted to the receptacle and having a bifurcated lower end, a pin carried by the plate and entering the bifurcated end of the lever, said plate having openings adapted to register one at a time with the openings in the receptacle, and a mold removably carried by the plate opposite each opening.

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

SAMUEL THERRIEN.

Witnesses:
S. Geo. Steven,
Norman E. La Mond.