I. NELSON.

DISPENSING BIN.

APPLICATION FILED NOV. 11, 1915.

1,219,846. Patented Mar. 20, 1917.

Fig. 1.

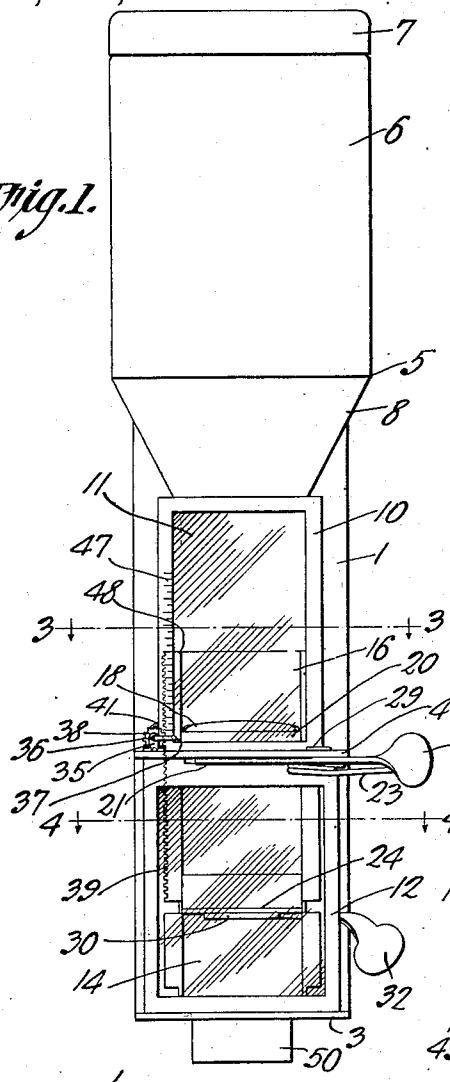


Fig. 2.

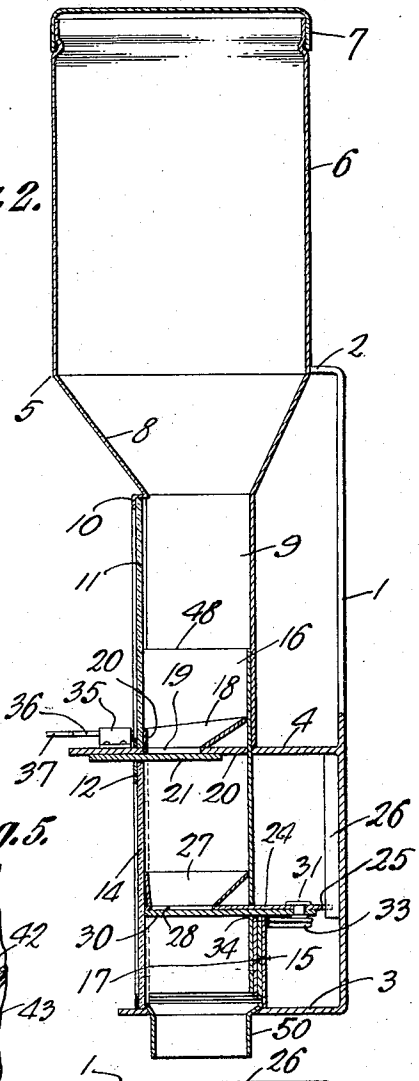


Fig. 5.

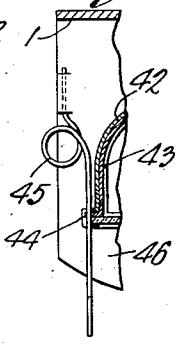


Fig. 3.

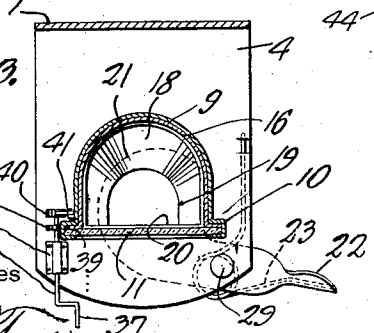
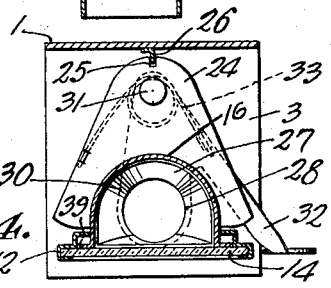


Fig. 4.



Witnesses

J. P. Tunes

R. L. Parker.

Ira Nelson Inventor

by C. A. Snow & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C

UNITED STATES PATENT OFFICE.

IRA NELSON, OF NORTH ESCANABA, MICHIGAN.

DISPENSING-BIN.

1,219,846. Specification of Letters Patent. Patented Mar. 20, 1917.

Application filed November 11, 1915. Serial No. 60,928.

To all whom it may concern:

Be it known that I, IRA NELSON, a citizen of the United States, residing at North Escanaba, in the county of Delta and State of Michigan, have invented a new and useful Dispensing-Bin, of which the following is a specification.

The device forming the subject matter of this application is a dispensing bin adapted to be used in a small size for handling kitchen commodities, such as rice, salt and the like, and to be used in a larger size upon grain elevators and elsewhere.

The invention aims to provide novel means whereby portions of the structure may be spaced apart, thus to effect a measuring of the quantity dispensed.

Another object of the invention is to provide novel means for operating and controlling the gates and other movable parts of the structure.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawing:—

Figure 1 is a front elevation;

Fig. 2 is a longitudinal section;

Fig. 3 is a cross section on the line 3—3 of Fig. 1;

Fig. 4 is a cross section on the line 4—4 of Fig. 1;

Fig. 5 is a fragmental cross section illustrating a modified form of the invention.

The device forming the subject matter of this application preferably but not necessarily is fashioned from metal throughout and embodies a supporting structure including a back plate 1 provided with an upper arm 2, a lower arm or platform 3, and an intermediate arm or platform 4. The invention comprises a vertical receptacle denoted generally by the numeral 5 and including a body 6 provided with a movable lid 7, a tapered bottom 8 and a neck 9. Adjacent the point of juncture between the bottom 8 and the body 6, the receptacle 5 is secured to the arm 2, the lower end of the neck 9 being secured to the intermediate arm or platform 4. In cross section, the neck 9 is of trough-shape and open at the front, the front of the neck, however, being closed by a plate 11 which may be glass, the plate 11 being held in a frame 10 extended between the bottom 8 of the receptacle 5 and the intermediate platform 4. Extended between the lower platform 3 and the intermediate platform 4 is a frame 12 which may carry a plate 14 of glass. Depending from the platform 3 is a discharge spout 50 fixed to and upstanding from the platform 3 is a collar 15 of trough-shape and open at the front, the collar lying to the rear of the plate 14.

Mounted to slide inside of the neck 9 of the receptacle 5 is a movable section 16 which is trough-shaped in cross section. Two telescoping members 17, which are trough-shaped in cross section, are disposed between the lower end of the section 16 and the collar 15. The telescoping members 17 are held frictionally between the lower end of the section 16 and the collar 15. When the movable section 16 is raised, the telescoping members 17 bridge the space between the lower end of the movable section 16 and the upper end of the collar 15. In general, however, the construction which is located adjacent the lower end of the movable section 16 may be varied without jeopardizing the utility of some features of the invention.

Mounted within the contour of the movable section 16 is a tapered bottom 18 provided with an opening 19, the bottom 18 being supported on a cross wall 20, the cross wall 20 and the bottom 18 preferably being secured at their forward edges to the frame 10 which constitutes a part of the neck 9 of the receptacle 5. The bottom 18, therefore, is fixed against vertical movement, but the section 16 may slide vertically around the bottom. The opening 19 in the bottom 18

is controlled by a horizontally moving gate 21 provided with a handle 22, the gate being pivoted as shown at 29 to the forwardly extended portion of the intermediate arm or platform 4. The gate 21 is swung forwardly to an open position, a spring 23 coöperating with the handle 22 of the gate and with the platform 4 to swing the gate 21 rearwardly into a closed position with respect to the opening 19 in the bottom 18. Carried by the movable section 16 intermediate its upper and lower ends and relatively near to its lower end is a transverse platform 24 having in its rear edge a notch 25 which fits over an upright track 26 secured to the back plate 1 and located between the intermediate arm 4 and the lower arm or platform 3. The parts 24—25 are carried by the movable section 16 as it is adjusted vertically. Carried by the platform 24 and movable vertically with the section 16 is a tapered bottom 27 having an opening 28 controlled by a horizontally swinging gate 30 provided with a handle 32 and pivoted as shown at 31 to the platform 24 behind the movable section 16. The gate 30 is swung rearwardly and laterally into an open position and is held in a closed position by means of a spring 33 operatively connected with the gate and the rear portion of the platform 24, the rear part of the movable section 16 being provided with a transverse slot 34 through which the gate 30 operates.

A means is provided for moving the section 16 vertically, and for holding it in adjusted positions. With this end in view, a bearing 35 is mounted on the intermediate arm or platform 4 and in the bearing is journaled for rotation a shaft 36 provided at its outer end with an operating crank 37. Intermediate its ends, the shaft 36 carries a pinion 38 meshing into a rack 39 formed on one edge of the movable section 16. At its inner end, the shaft 36 carries a ratchet wheel 40 adapted to be engaged by a pawl 41 which is pivoted to the neck 9. The upper edge of the movable section 16 is denoted by the reference character 48 and one edge of the frame 10 may be graduated as shown at 47 to coöperate with the edge 48 in a manner which will be set forth hereinafter.

In practical operation, rotation is imparted to the shaft 36 by means of the crank 37, the pinion 38 meshing into the rack 39 and moving the section 16 vertically. When the section 16 is moved vertically, the space between the gate 21 and the gate 30 is adjusted, thus to determine the amount of material which is to be delivered. By noting the position of the upper edge 48 of the section 16 with respect to the graduations 47, the distance between the gates, and consequently, the amount of material to be delivered, may be read off. Although the neck 9 ordinarily is filled wholly or in part by the material to be dispensed, the top of the edge 48 is visible through the plate 11, to permit an observation of the relative positions of the parts 48 and 47. However, if desired, the graduations 47 may be differently located—or the operator may judge by experience, the distance between the gates 30 and 21, and consequently, the amount of material to be dispensed.

After the amount of material to be dispensed has been determined, the upper gate 21 is swung to an open position, whereby the space between the gates 21 and 30 will be filled, after which, the upper gate is permitted to swing to a closed position, thus preventing more material from moving downwardly. The lower gate 30 then is opened, and the material flows out by way of the telescoping member 17, the collar 15 and the spout 50.

Should the amount of material resting on the lower gate 30 be of considerable weight, then the downward movement of the movable section 16 may be prevented by engaging the pawl 41 with the ratchet wheel 40, thus preventing a rotation of the shaft 36 by the action of the rack 39 on the pinion 38.

The rack and pinion mechanism 39—38 may be dispensed with if desired, such a construction being shown in Fig. 5. In Fig. 5, the numeral 42 indicates a neck, corresponding to the part 9, and the numeral 43 representing the movable section, corresponding to the part 16. On one edge of the section 43 is formed a rack 44, adapted to be engaged by a spring latch 45 mounted on a platform or arm 46, corresponding to the part 4. The spring latch 45 coacts with the rack 44 to prevent a vertical movement of the section 16, but, unlike the rack 39 and the pinion 38, does not constitute a means whereby a vertical movement may be imparted to the movable section 43.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a receptacle comprising a trough-shaped neck open at the front; a pair of vertically spaced plates assembled with the receptacle and constituting a closure for the front of the neck; a gate constituting a closure for the neck and mounted to move between the plates; a trough-shaped section vertically movable behind the plates and with respect to the neck; and a gate constituting a closure for the lower end of the section.

2. In a device of the class described, a supporting structure; a receptacle carried by the supporting structure; a gate controlling the lower end of the receptacle; a track carried by the supporting structure; a movable

section slidable with respect to the receptacle; a platform carried by the movable section and provided with means for engaging the track, the platform being provided with an opening; and a gate carried by the platform and controlling the opening.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

IRA NELSON.

Witnesses:
GEORGE W. WRIGHT,
JOSEPH SHEEHAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."