Jan. 15, 1924. 1,480,883

H. DE OLANETA

DEVICE FOR DISPENSING PASTE OR LIKE MATERIAL

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Fig. 1.

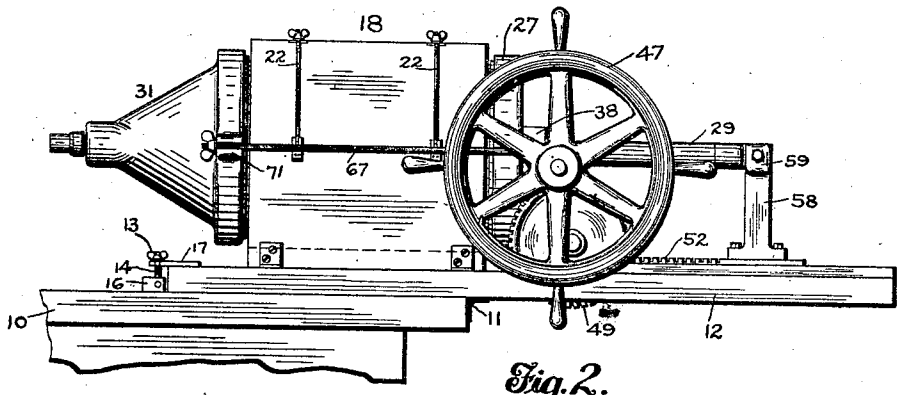


Fig. 2.

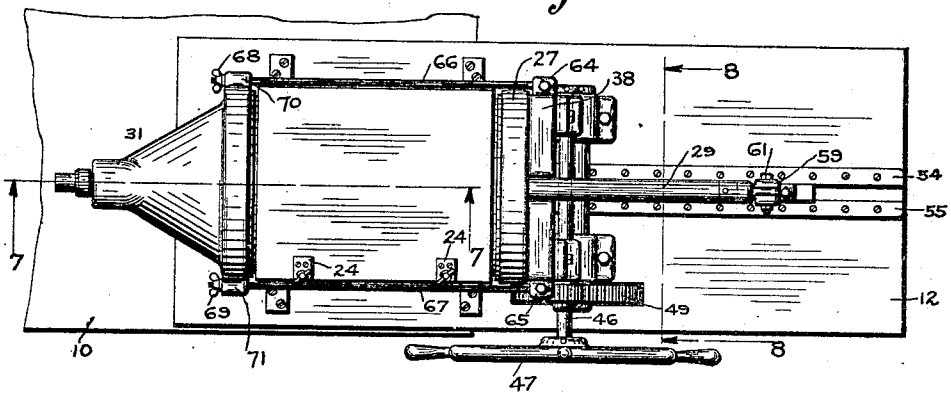
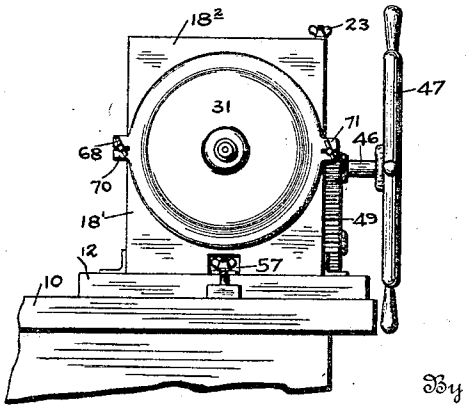


Fig. 3.



Inventor
Harold de Olaneta
By Henry E. Rockwell
Attorney

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Fig. 4.

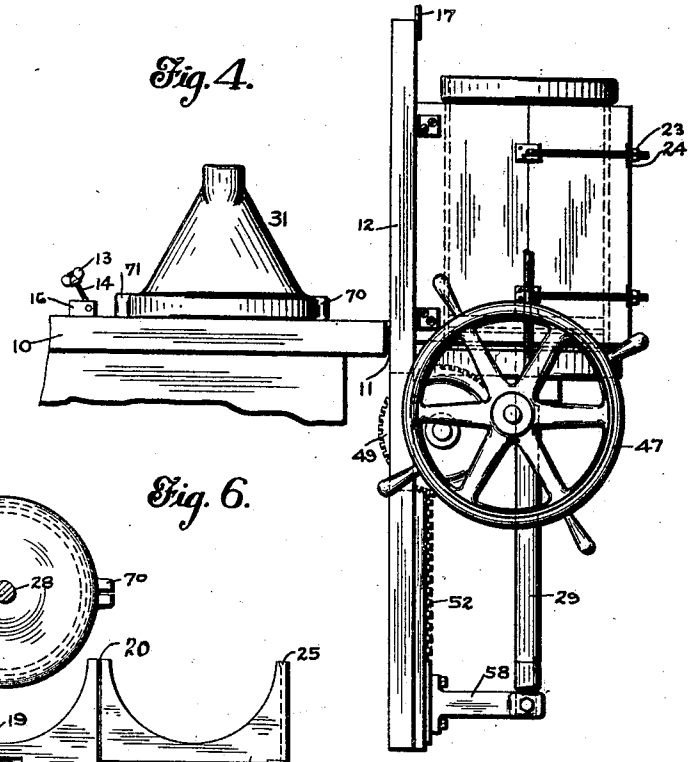


Fig. 6.

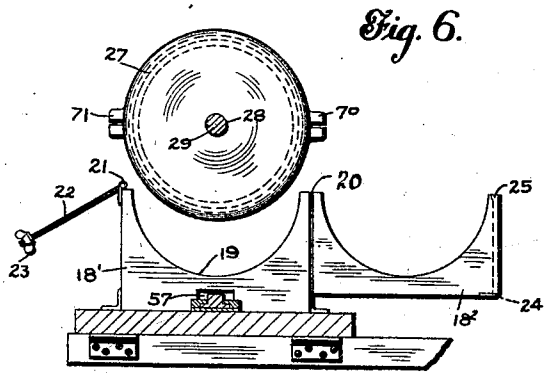


Fig. 10.

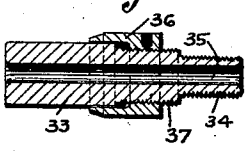
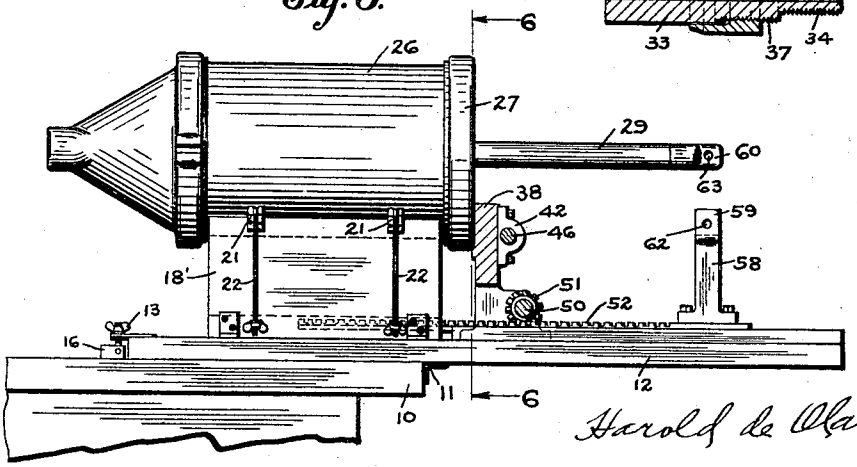


Fig. 5.



Inventor

Harold de Olaneta

By Henry E. Rockwell

Attorney

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H. DE OLANETA

DEVICE FOR DISPENSING PASTE OR LIKE MATERIAL

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Fig. 7.

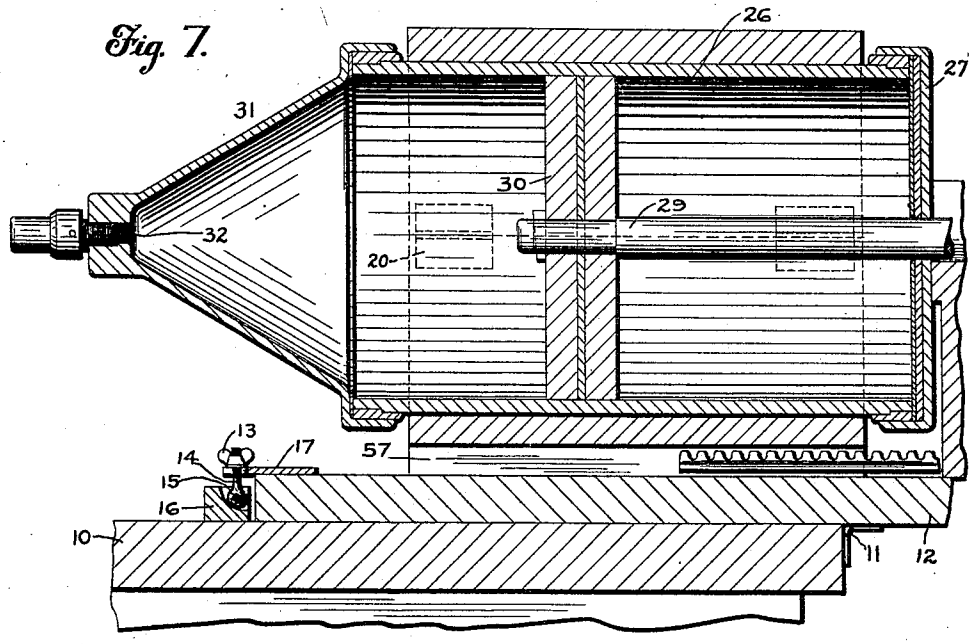


Fig. 8.

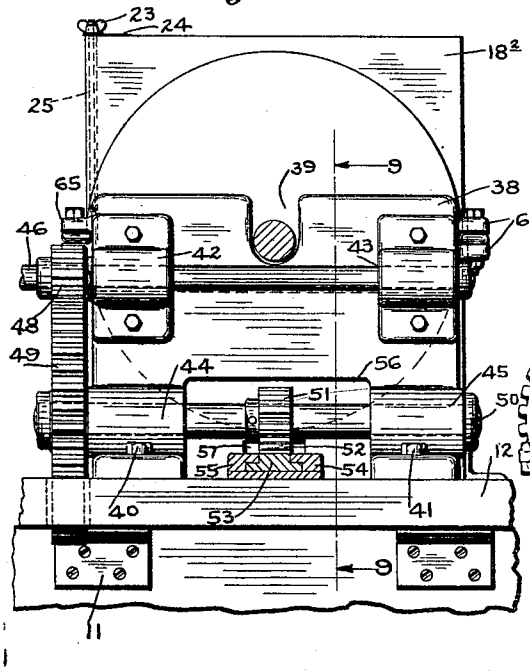
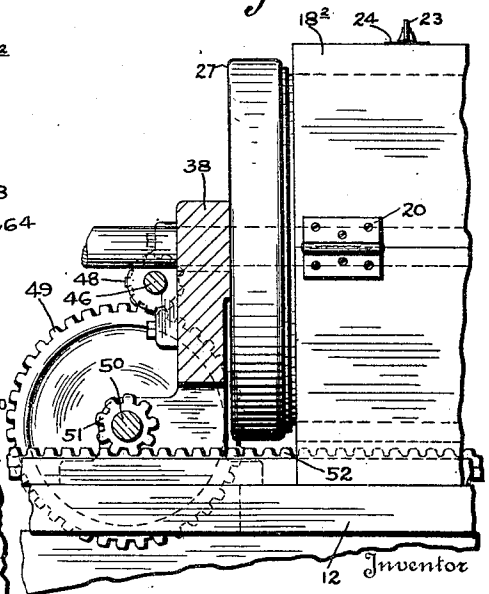


Fig. 9.



Inventor

Harold de Olaneta

By Henry E. Rockwell

Attorney

Patented Jan. 15, 1924. 1,480,883

UNITED STATES PATENT OFFICE.

HAROLD DE OLANETA, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WINCHESTER REPEATING ARMS COMPANY, OF NEW HAVEN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

DEVICE FOR DISPENSING PASTE OR LIKE MATERIAL.

Application filed June 9, 1920. Serial No. 387,673.

To all whom it may concern:

Be it known that I, HAROLD DE OLANETA, a resident of the city of New Haven, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Devices for Dispensing Paste or like Material, of which the following is a full, clear, and exact description.

This invention relates to dispensing or filling devices, and more particularly to that type of such devices used for discharging or dispensing a viscous, pasty, or thick liquid material into a suitable cup, container or the like. The device shown may, however, be used for dispensing almost any liquid substance into a cup or container, either when the container is to be filled or when it is to receive only a certain measured quantity.

One object of my invention is to provide a device of the character described, which will result in the saving of much labor in filling cups or containers with such material.

Another object of my invention is to provide a device of the character described, by which the material to be dispensed is handled expeditiously, efficiently, with neatness and without loss of the same.

A still further object of my invention is to provide improved means for discharging the material from the chamber of my device.

I also provide improved means for mounting my device upon its support.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a side elevation of the device comprising my invention in operative position.

Fig. 2 is a plan view of the same.

Fig. 3 is an end elevation looking toward the right in Fig. 1.

Fig. 4 is a view in elevation showing my device in the tilted position in which the chamber is filled.

Fig. 5 is a side elevational view showing the manner of removing the cylindrical chamber from its support.

Fig. 6 is a sectional view on the line 6—6 of Fig. 5.

Fig. 7 is a sectional view of the cylindrical chamber taken on line 7—7, Fig. 2.

Fig. 8 is an enlarged sectional end view on line 8—8 of Fig. 2, showing the driving connections for operating the piston.

Fig. 9 is a sectional view on line 9—9 of Fig. 8.

Fig. 10 is a detailed sectional view of the nozzle.

While I have chosen to illustrate a preferred form of my invention as applied to a device for the introduction of paste into cups for dry cells, it will be understood that the invention is capable of various other uses and is not to be restricted to the exact form shown.

It is desirable to provide devices for this purpose with a chamber of relatively large capacity, which is capable of containing enough paste to supply a large number of cups, and to mount this chamber in such a manner that it may be swung from its usual horizontal operative position into a substantially vertical position for refilling, when it has been emptied of its contents.

With these and other objects in view I have provided a supporting table or bench 10, on which is hingedly mounted at 11, a base 12 which serves as the supporting base of my dispensing device. This base is, as stated, hinged to the table 10, to be swung to a vertical position as shown in Fig. 4, to be conveniently filled with paste or whatever material is to be used. When swung back into operative position, the base is held by a thumb nut 13, threaded on a bolt 14, pivoted at 15 to a block 16, secured to the table 10, the thumb screw engaging over a slotted lug 17 on the base 12, through the slot of which the bolt 14 passes as shown in Fig. 7. In this way the device is securely held in operative position.

On the base 12 is secured by any suitable means, a block 18, provided with a cylindrical bore or opening 19. This block is divided into two sections, a lower section $18'$ and an upper section 18^2, the division being along a horizontal plane, and the two sections are hinged on one side as shown at 20 on Figs. 6 and 9. The upper face of the lower section and the lower face of the upper section are correspondingly hollowed out to provide the opening or bore 19. To that side of the lower section of the block opposite the

hinged side are pivoted at 21, two threaded rods 22, each having a wing or thumb nut 23 on its free end. These wing nuts are adapted to engage over slotted lugs 24, on the upper edge of the adjacent side of the upper block section, the rods 22 passing through the slots as shown in Figs. 1, 2 and 8. The upper block section 18^2 is grooved at 25, the rods 22 lying in these grooves when in operative position.

In this bore 19 is mounted a cylindrical chamber 26, which may fit snugly in the bore, as shown in Fig. 6, and is securely fastened between the two block sections $18'$ and 18^2 when the upper section is swung over into position as shown in Figs. 1, 2 and 3 and the rods 22 clamped into place in the slotted lugs 24. The cylinder is closed at one end by a head 27, having a central opening 28 for a rod 29 on which is mounted, in any suitable manner a plunger or follower 30. The other end of the cylinder is provided with a tapering or funnel shaped cover 31 which is readily removable to charge or fill the cylinder with the paste or material to be used, the smaller end of the cover being thickened and provided with a threaded bore 32 which is adapted to receive a nozzle 33 correspondingly threaded as at 34, and having a central bore 35 through which the material is forced when discharged from the cylinder. An abutment in the form of a collar 36 is adjustably threaded on the nozzle at 37. The cups or containers into which the paste is to be discharged, are slipped on the outer end of the nozzle as far as will be permitted by the collar 36 and the amount of paste, or other material, which is discharged into the cup may thus be measured.

Adjacent to the cylinder head 27, is secured, to the supporting base 12, a standard 38 generally rectangular in shape, to support the driving elements of the machine. The height of this casting or standard is such that the top extends past the plunger rod 29, and its upper portion is provided with a recess 39, adapted to receive the plunger rod. The casting is securely bolted to the base 12 at 40 and 41 and is provided with four journal bearings, the two upper of these being in alignment as shown at 42 and 43, as likewise are the two lower shown at 44 and 45. In the two upper bearings is rotatably supported a shaft 46, which is rotated, manually in the embodiment shown, by the wheel 47. On this shaft 46, is secured a pinion 48, which meshes with a gear 49 rigidly mounted on a shaft 50 rotatably supported by the lower journal bearings 44 and 45. On the shaft 50, at about the longitudinal center of the cylinder, directly beneath the piston 29, is secured a pinion 51, which meshes with the teeth of a rack bar 52, which is shown as having a T-shaped base 53, to be guided properly, by the guide plates 54 and 55 secured to the base 12. The rack bar 52 approximates in length that of the rod 29 and in operation passes under the cylinder 26. To permit this movement an opening 56 is provided in the standard 38 and a longitudinal channel 57 is provided on the lower side of the block 18.

On the rear end of the rack bar 52, is secured a standard 58, the upper end of which is bifurcated at 59 (Fig. 2) and the reduced, flattened end 60 of the plunger rod 29 is received between the forks thereof and detachably secured in place by a bolt 61 passing through aligning openings 62 in the standard and an opening 63 in the rod 29.

The standard 38 is provided on opposite sides thereof with pairs of ears 64, 65, between which are pivoted to swing in a horizontal plane rods 66 and 67. The opposite ends of these rods are threaded and provided with wing nuts 68 and 69. The top 31 of the cylinder has on the base portion thereof two pairs of ears 70, 71, one pair being diametrically opposite to the other and the two ears of each pair are so spaced apart that the rods 66 and 67 may be received there between, the nuts 68 and 69 bearing against the outer portion of the lugs, as shown in Figs. 1 and 2. It is apparent that when the parts are in the position shown in these figures and the wing nuts tightened on the rods 66 and 67, the cylinder will be securely held against longitudinal movement, by being clamped to the standard 38 and the top or cover 31 will at the same time be held securely in place.

The operation of the device is as follows:

The plunger rod is drawn as far rearward as possible, and after the wing nut 13 is loosened and swung out of engaging position the supporting base is swung up to the position shown in Fig. 4, carrying the complete device with it. The wing nuts 68 and 69 are then loosened, the top 31 removed, and the cylinder charged or filled with the paste or material to be used. The top is then replaced, clamped on tightly and the device swung back into operative position as shown in Figures 1 and 2. A container to be filled is then slipped on the nozzle 33, and the wheel 47 turned until the resisting pressure indicates that the container has received the predetermined amount of material as measured by the "set" of the adjustable collar 36. Another container is then put on and filled in the same way. The nozzle 33 is removable by means of its threaded connection with the top 31 and if containers of different sizes are to be filled, nozzles of appropriate sizes may be used without necessitating the use of a different pump for each of the containers of different size.

As shown in Figures 5 and 6, by disconnecting the rod 29 and standard 62, by the removal of bolt 61, and by loosening the wing nuts 23, and swinging back the upper section 18^2 of the block 18, the cylinder may be lifted bodily out of the block and a new one put in. This is found convenient when containers are to be charged with different materials, as the complete discharge of one cylinder and its refilling with the different material is rendered unnecessary. A cylinder may be kept at hand filled with the desired material and when its use is desired it is merely substituted for the one formerly used.

It will be understood that while I have shown and described with particularity one embodiment of my invention, I do not intend to be limited thereto in all of its details and that the device is susceptible of various uses and of many changes and modifications which would lie within the spirit of the invention as defined by the appended claims.

It is not intended to claim the specific nozzle structure, per se, in this application as this subject matter is claimed in my copending application Serial No. 387,764 filed June 9, 1920.

What I claim is:

1. In a device of the character described, a support, a base plate normally resting thereon but hinged thereto to be swung into a vertical position relatively to the support, a container mounted on said base plate, a plunger disposed within the container for discharging material therefrom, and means reciprocably mounted on said base plate and connected to said plunger to operate the same.

2. In a device of the character described, a support, a base plate normally resting thereon but hinged thereto to be swung into a vertical position relatively to the support, a container mounted on said base plate, means for forcing the material from said container, and operating means for said forcing means, said operating means and said forcing means being mounted on said base plate to be swingable therewith.

3. In a device of the character described, a base plate, a container having a permanently closed rear end mounted on said plate, a removable cap closing the front end of said container, means within the container for forcing material therefrom, operating means for said forcing means mounted on said base plate, said base plate normally resting upon a support with the container in horizontal position but being hinged thereto to be swung to a position in which the container is vertically disposed.

4. In a device of the character described, a support, a base plate normally resting upon said support but being hinged thereto to swing to a vertical position, a container mounted upon said base plate in spaced relation thereto, a reciprocable rack bar mounted between said base plate and the container, a plunger within the container for forcing material therefrom, means without the container to connect said plunger to said rack bar, and means for operating the rack bar.

5. A dispensing device for paste or like material, including a suitable support, a base plate normally lying thereon but hinged to be swung to a vertical position relatively thereto, a container mounted on said base plate and swingable therewith to a vertical position with its discharge end uppermost, a plunger disposed within said container for forcing material therefrom, operating means for said plunger carried by said base plate and swingable therewith, and a removable cover for the discharge end of said container.

6. A dispensing device for paste or like material, comprising a base plate, a supporting block thereon having a cylindrical bore therethrough, said block being divided into longitudinal sections, one of which is removable relatively to the other to permit the block to be opened, a container mounted in the bore of the block, means for clamping the sections of the block together to secure the container therein, and means for preventing longitudinal movement of the container relatively of the block.

7. A device for dispensing paste or like material, including a supporting base plate, a standard mounted thereon, a block disposed in front of said standard and provided with a cylindrical bore, a container mounted in said bore, means securing said container to said standard to prevent longitudinal movement of the former relatively to the latter, a plunger mounted in the container to eject material therefrom and provided with a plunger rod projecting from the container, and operating means for said plunger rod including shafts mounted on said standard.

8. A dispensing device for paste or like material, including a suitable support, a base plate hinged to said support, a standard mounted on said base plate, a container secured to said standard a plunger mounted in the container for ejecting material therefrom and provided with a plunger rod projecting from the container, a rack bar connected to said rod, a pair of shafts journaled on said standard and provided with intermeshing gears whereby one may be driven from the other, a pinion on one of said shafts meshing with the teeth of said rack bar, and a crank upon the other of said shafts for operating the same.

In witness whereof, I have hereunto set my hand on this 7th day of June, 1920.

HAROLD DE OLANETA.