Dec. 19, 1933. J. P. JAGY 1,939,900

DISPENSER

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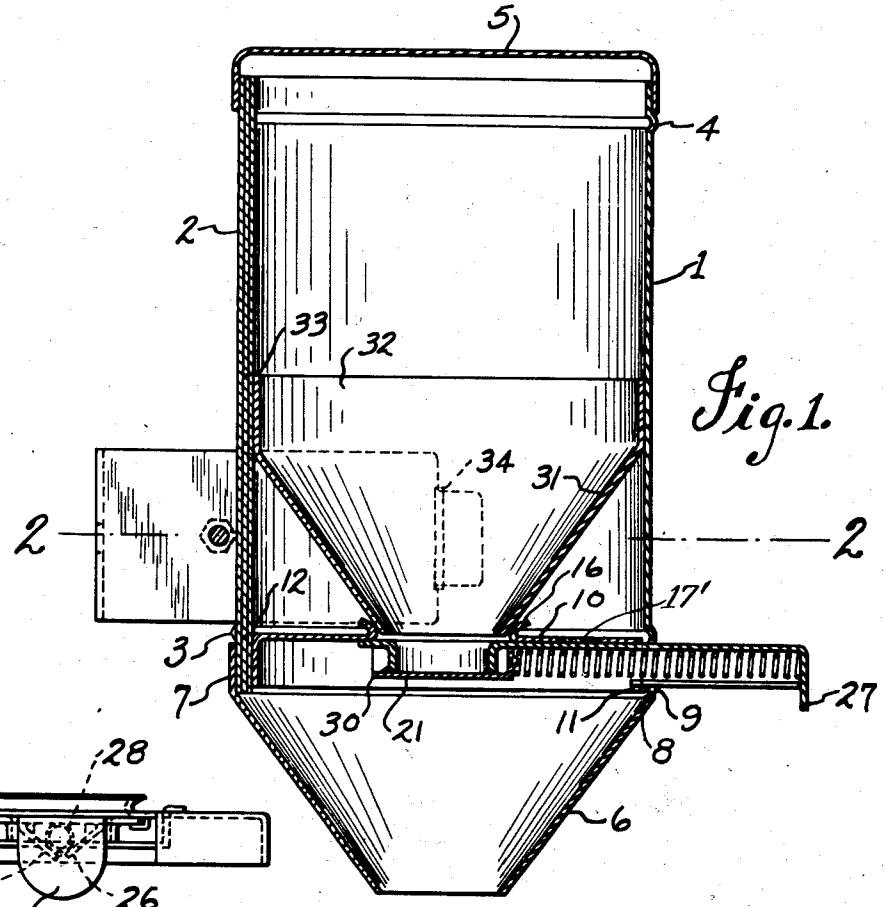


Fig. 1.

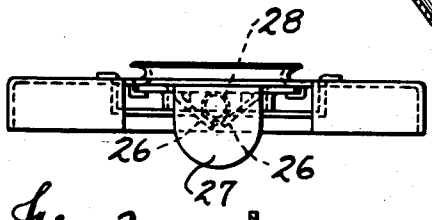


Fig. 3.

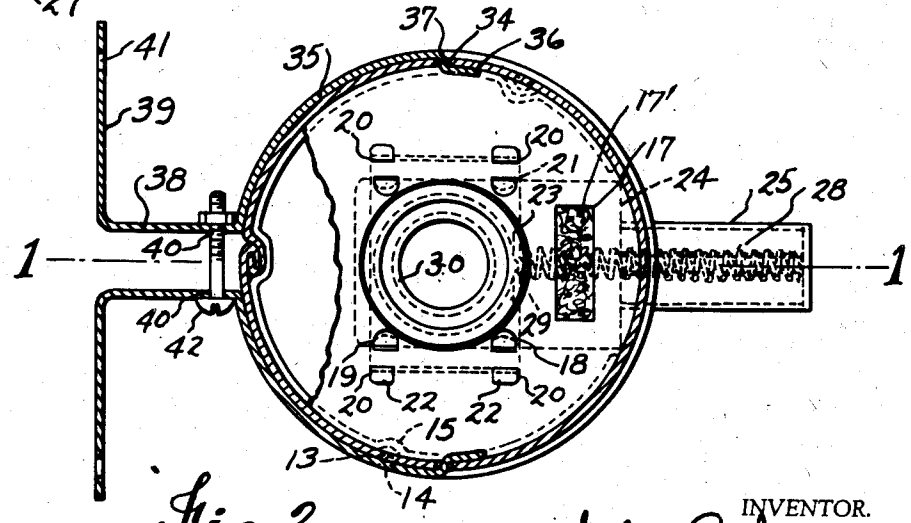


Fig. 2.

INVENTOR.

John P. Jagy

BY Allen & Allen

ATTORNEYS.

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UNITED STATES PATENT OFFICE

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DISPENSER

John P. Jagy, Cincinnati, Ohio, assignor to The Auto Sun Products Company, Cincinnati, Ohio, a corporation of Ohio

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Serial No. 577,522

12 Claims. (Cl. 221—104)

My invention relates to dispensing devices, especially to the simpler kinds for dispensing relatively small quantities by hand manipulation, and to those devices of this kind for dispensing powdered granular or other dry, disintegrated materials, such as powdered soap or other powdered toilet articles in washrooms of hotels and other public places, or for dispensing sugar or other similar foodstuffs in restaurants, or the like, or any other material of such consistency wherever dispensing of such material is found desirable.

One of the objects of my invention is to provide an all metal device of this kind of very light, yet strong and durable construction, preferably of sheet metal drawn or stamped into shape. A further object is to provide a device of this construction in which the work of assembly is reduced to a minimum and yet which, when assembled, will be secure against intentional or unintentional damage, or removal. A further object is to mount the device rigidly enough for practical purposes, yet to permit such shaking or vibration of the device as a whole, under pressure of manipulation, as would serve to keep the powdered or similar material loosened and freely feeding to the dispensing outlet. A further object is to provide, under the control of a sliding cut-off member, a feeding to the cut-off member and a feeding from the cut-off member to the outside of the dispenser both centrally of the device; thus providing for complete feeding of the material to the cut-off member, and for delivery of the material from the cut-off member in the position relative to the manipulating means most convenient for the operator. Other objects will appear in the course of the following description, which is illustrated by the accompanying drawing, in which:

Figure 1 is a vertical front to rear section on the plane of the line 1—1 of Fig. 2.

Fig. 2 is a horizontal cross section on the plane of the line 2—2 of Fig. 1.

Fig. 3 is a detail front elevation of the base or bottom of the device and the dispensing slide and details associated therewith.

The cylindrical shell 1 is formed of a single sheet which has its ends joined by a seam 2, and has near its bottom an outwardly distended circumferential bead 3, and somewhat nearer to its top a similar bead 4. On the top of this shell a usual form of cup-shaped lid 5 fits with its rim down against the bead 4. Similarly fitting on the bottom is the exterior funnel 6, the main part of which is an inverted frustum of a cone with a cylindrical rim 7 extending up from the base of the inverted cone; this rim 7 fitting around the shell 1 up against the lower bead 3. The front of the bottom of the shell is cut away up to this bottom bead 3, forming a rectangular, downwardly opening notch 8; while the funnel 6 has in its rim a notch 9 with its sides diverging upwardly to register with the notch 8 of the shell 1.

The base or bottom 10 is of shallow inverted cup-shape fitting in the lower end part of the shell 1, and has a notch 11 considerably wider than the notches 8 and 9 but positioned symmetrically thereto. At the rear this base 10 has an indentation 12 to fit around the seam 2 of the shell, which incidentally holds the bottom or base 10 with its notch 11 in the above correct position relative to the notches 8 and 9; and in addition all three of the notched parts, the shell 1, the funnel 6, and the base 10 are held with the notches properly registering and against separation of these parts from each other by dents 13, 14, and 15 in the respective parts. In practice, the base 10 is put into the shell with its dent 15 formed therein, and the shell has its dent 13 forced into the base dent 15, and then the funnel 6 is put on and its dent 14 is forced into the dent 13 of the shell.

Centrally the base 10 has an opening with a neck 16 formed upward and flaring outwardly therefrom, and just forward from this neck it has a transverse oblong slot 17, through it in which may be held a piece of felt, or the like, 17'. At each side of the neck 16, a front tongue 18 and a rear tongue 19 are bent down and then inward toward the middle of the base, and out from these tongues are respective slits 20. The shelf plate 21 is oblong and parallel to the base 10, with its ends bent upward and having tongues 22 extending through the respective slots 20 and bent outward over the top of the base. This shelf plate 21 has at the middle of its front a lug 23 bent upward. The slide member 24 comprises a rectangular main part with its opposite lateral edges hung in the depending tongues 18 and 19 of the base 10, within the shelf plate 21, and sliding over the top of the front lug 23 of said plate; and it also comprises a front extension 25 which is formed by flanges 26 bent downward and inward toward each other from side portions of the sheet of which the slide member is made; a rounded end portion being left at the front and bent down in front of the ends of the flanges 26 to form an extended front end 27 for the extension against which the thumb,

finger, or other part of the hand may be applied for manipulating the dispenser. This part 27 also forms the abutment for the front end of the compression spring 28, the rear end of which lies against the front lug 23 of the shelf plate 21; this spring lying between the inwardly bent flanges 26 of the extension and being held in position thereby throughout a considerable front part of its length. To hold the rear portion in position, the front lug 23 has a forwardly extended extension 29. In the middle of its rear end part, the slide member main portion 24 has an opening with a neck 30 extending downward around it to the top of the shelf plate 21. The parts are so proportioned that the slide member main part 24 engaging its front corners with the parts of the shell 1 at the respective sides of the base notch 11, stops the slide against the outward pressure of the spring 28 with the opening of the slide registering with the opening of the base; the latter opening preferably being somewhat the larger. During this registry, the depending neck 30 of the slide opening will be over the middle of the shelf plate 21. Also the parts are so proportioned that at the backward limit of sliding of the sliding member, its rear end will engage with the back part of the base 10 when the neck 30 has been pushed back just far enough to clear the rear edge of the shell plate 21. The inner funnel 31 is similar to the outer funnel 6, with the main lower part an inverted frustum of a cone, and an upper cylindrical rim flange 32; the principal difference being that this inner funnel 31 is small in diameter so that this flange 32 fits snugly inside the shell 1. The rear of this flange 32 has the indentation 33 fitting around the seam of the shell body 2, which thus prevents the funnel from turning in the shell. This funnel is pushed down in the shell until its lower open end fits in the outwardly flaring neck 16 of the base 10 to discharge directly into the neck 30 of the slide member.

In opposite sides of the shell 1 near the lower bead 3 are vertical slits 34. There are two hanger members made of flat metal strip. Each member comprises a part 35 bent into an arc to fit around the shell 1, a forwardly projecting tongue 36 at the front end of this arc shaped part which is narrower than the part 35 and is bent inward with a compound bend 37. Each member also comprises a rearward extension 38 bent sharply from the part 35, and a rear terminal attaching plate part 39 bent sharply outward at right angles to the part 38, this latter part having an opening 40 through it near its junction with the arc-shaped part 35, and the rear terminal plate 39 having an opening 41 through it near its outer end. These hangers are brought together in inverse relation, and their front tongues 36 are inserted through the respective slits 34 of the shell; the hangers having to be swung far outward from their final operative position for insertion of these tongues and entrance of the compound bends 37 into the slits 34. Then when the hangers are swung together in operative position, in which they are held by means of a bolt 42 through their openings 40, the compound bends 37 become set very sharply through the slits 34, with the tongues 36 binding outwardly very tightly against the inside surfaces of the shell 1; while this also permits the arc-shaped parts 35 to hug the outside of the shell very tightly upon screwing up the bolt 42. When thus drawn together, the rear attaching plates 39 are in the same transverse plane, and the holes 41 permit the passage of screws for fastening the dispensing device to the wall or other vertical surface.

It will be seen that the part of the shell 1 above the interior funnel 31, together with this funnel forms a hopper from which a quantity of the material is projected down into the slide neck 30 when the latter is in its forward position; and when the slide member is pushed backwards by pressing on its front part 27, this portion within the neck 30 is cut off and pushed back off the shell plate 21 to fall into the lower outer funnel 6 at the rear part thereof, whence the material slides down and out through the open lower end of the funnel 6. The device thus is very convenient to dispense a material that is to be caught by the hand. If the thumb or the heel of the hand be pressed against the front end 27 of the slide, pushing the slide backward, while the palm and fingers of the hand are held under the funnel 6, the material thus will slide onto these latter parts of the hand. Thus the device is very conveniently operated entirely with one hand; and this convenience will be readily recognized in connection with dispensing such materials as powdered soap at lavatories. If dispensing tooth-powder, for example, the brush is held under the funnel 6 with one hand, while the slide is worked with the other hand; similarly, for example, in dispensing sugar the cup or spoon would be held under the funnel 6 with one hand while working the slide with the other hand. In any instance when the pressure is released on the slide the spring 28 immediately pushes it forward to receive another charge of the material in the neck 30; and when in this forward position there is a very effective closure between the parts, so that there is no spillage or excess discharge of the material. Likewise since the continued operation of the device to obtain any considerable quantity of the material is tedious, the theft of the material from the receptacle is very thoroughly discouraged.

The manner in which the hanger or bracket is secured to the shell also contributes to the simplicity and economy of manufacture of the device, while at the same time affording a very effective means preventing removal of the dispenser as a whole. The felt 17' in the slot 17 over the slide in front of the neck 30, serves to wipe off any material which may adhere to the front part of the slide as it passes forwardly from under the neck 16 and funnel 31, and which would tend to cause a caking of certain materials in the space between this part of the slide and the base plate 10. I have found, however, in practice that with most materials this wiping element 18 need not be used. It is preferable, however, to make the base 10 with such a slot for all of the dispensers permitting the wiper 18 to be used if necessary. It will be understood that the shell 1 may be continued to any desirable height for holding large quantities of material; as, for example, is highly desirable in a large restaurant where sugar is dispensed. Also, the shell may have any cross section other than circular.

I have found in practice that while the bracket device securely supports the dispenser on a wall or like supporting means, it allows some shaking or vibration of the dispenser under pressure against the manipulating means 27 sufficient to agitate the material in the shell or casing 1 and cause it always to feed freely down through the funnel to the neck 30 of the cut-off member. It will be understood that while I am able to rely on this shaking for agitation of the material,

there is nothing involved in my invention which precludes the use of some kind of agitator or any other device inside the container or shell 1 which would act to loosen the material or otherwise facilitate the descent of the material for feeding from the dispenser.

I have rather specifically illustrated and described my invention as is required, but I do not wish to be understood as being limited to such precise disclosure, but what I claim as new and desire to secure by Letters Patent, is:—

1. In a dispenser, a casing shell having a notch in its lower edge, a shallow inverted cup-shaped base fitting in said shell and having a notch in its rim registering with the shell notch, and having a substantially central opening, a shelf element under said opening, a cut-off element having a passage normally between said base opening and said shelf element and movable to bring said passage past an edge of said shelf element to discharge from the passage, said cut-off element having a closure part closing said base opening when so moved, and having a manipulating extension through the base and shell notches, and means for holding said extension in said notches.

2. In a dispenser, a casing shell having a notch in its lower edge, a shallow inverted cup-shaped base fitting in said shell and having a notch in its rim registering with the shell notch, and having a substantially central opening, a shelf element under said opening, a cut-off element having a passage normally between said base opening and said shelf element and movable to bring said passage past an edge of said shelf element to discharge from the passage, said cut-off element having a closure part closing said base opening when so moved, and having a manipulating extension through the base and shell notches, and a funnel having a rim fitting around the lower end of said shell, with a notch registering with said shell and base notches and receiving said extension, said funnel rim thereby holding said extension in said notches.

3. In a dispenser, a casing, a base for said casing having a discharge opening, and having a neck flaring upwardly from said opening, a funnel in said casing with its discharge end fitting in said neck, a shelf element under said opening, and a cut-off element having a passage normally between said opening and said shelf element and movable to bring said passage past an edge of said shelf element to discharge from the passage, said cut-off element having a closure part closing the base opening when so moved.

4. In a dispenser, a casing having a bottom with a discharge opening, and means controlling discharge of material from said opening comprising a shelf element under said opening and a cut-off element having a passage normally under said opening and movable to bring said passage past an edge of said shelf element to discharge from the passage, said cut-off element having a closure part closing said base opening when so moved, and having a manipulating extension from said part with a terminal part for manual engagement, and a spring compressed between said terminal part and said shelf element.

5. In a dispenser, a casing having a bottom with a discharge opening, and means controlling discharge of material from said opening comprising a shelf element under said opening and a cut-off element having a passage normally under said opening and movable to bring said passage past an edge of said shelf element to discharge from the passage, said cut-off element having a closure part closing said base opening when so moved, and having a manipulating extension from said part with side walls and with a terminal part for manual engagement near the ends of said walls, and a spring compressed between said terminal part and said shelf element and retained between said side walls.

6. In a dispenser, a casing having a bottom with a discharge opening, and means controlling discharge of material from said opening comprising a shelf element under said opening and a cut-off element having a neck normally under said opening and movable to bring said neck past an edge of said shelf element to discharge from the neck, said shelf element having an extension facing out from its opposite edge, and said cut-off element having a manipulating extension past said opposite edge with a terminal part for manual engagement, and a spring compressed between said terminal part and said extension of said shelf element.

7. In a dispenser a casing comprising a sheet metal shell, a sheet-metal inverted cup-shaped base fitting in the lower part of said shell, and a sheet metal funnel having a rim fitting around the exterior area of the shell coinciding with the interior area thereof within which said base fits in said shell, the base walls, the shell and the funnel rim having successively fitting dents holding the base, shell and funnel together, said base having an outlet, and means for controlling discharge from said outlet.

8. In a dispenser, a casing comprising a sheet metal shell, a sheet-metal inverted cup-shaped base fitting in the lower part of said casing, having an outlet opening, a sheet metal shelf element having terminal upward extensions fixed to said base at opposite sides of said outlet opening, and means movable between said shelf element and said outlet opening for causing discharge from the dispenser.

9. In a dispenser, a casing comprising a sheet metal shell, a sheet-metal inverted cup-shaped base fitting in the lower part of said casing, having an outlet opening, a sheet metal shelf element having terminal upward extensions fixed to said base at opposite sides of said outlet openings, a sheet metal cut-off element having a passage normally over said shelf element, and guide tongues extending from said base under opposite lateral edge parts of said cut-off element, whereby said cut-off element is movable to bring said passage past an edge of said shelf element to discharge from the passage.

10. In a dispenser, a sheet metal container having slits in opposite walls substantially parallel with its axis, inversely presented sheet metal bracket elements each comprising an outer part lying across the outside of said container with a tongue joining said part in a compound bend, said tongue extending through a respective slit, and means for drawing said outer parts together whereby the tongues bind out against the inner surfaces of the container with the compound bends retentively seating in the respective slits, said outer parts having extensions for securing them to a support.

11. In combination with a sheet metal shell having slits in opposite walls substantially parallel with its axis, inversely presented sheet metal bracket elements each comprising an outer part lying across the outside of said shell with a tongue joining said part in a compound bend, said tongue extending through a respective slit, and means for drawing said outer parts together

whereby the tongues bind out against the inner surfaces of the shell with the compound bends retentively seating in the respective slits, said outer parts having extensions for securing them to a support.

12. A sheet metal cut-off element for a dispenser comprising a flat main part with an opening near one end and a neck pressed down from said opening, and a manipulating extension from its opposite end having side walls bent downward and inward toward each other and a terminal part bent down past the ends of said walls.

JOHN P. JAGY.