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OPERATING DEVICES FOR AEROSOL DISPENSERS

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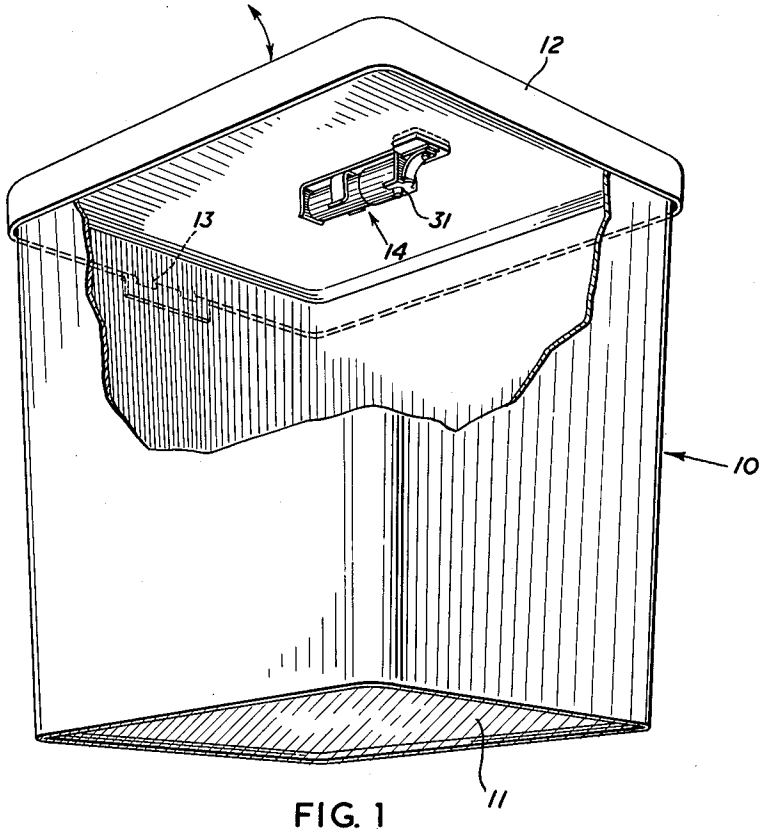


FIG. 1

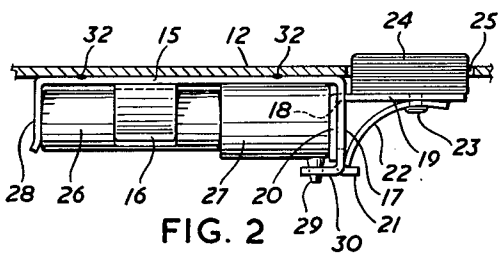


FIG. 2

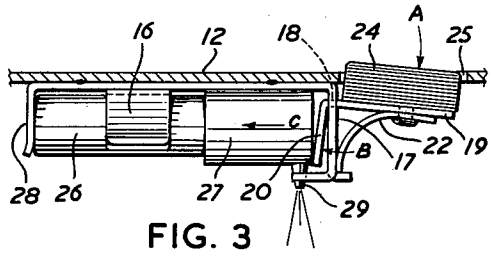


FIG. 3

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OPERATING DEVICES FOR AEROSOL DISPENSERS

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This invention relates to an operating device for an aerosol dispenser of the type comprising a container and a cap mounted on the container to be movable relatively thereto, movement of the cap towards the container operating the dispenser. A dispenser of this type conveniently comprises a substantially cylindrical container having a hollow valve stem projecting axially from one end thereof. A substantially cylindrical cap, closed at one end, fits over said one end of the container to be slidable relatively thereto and the hollow valve stem of the container is received within a sleeve at the closed end of the cap; the sleeve being in communication with a nozzle projecting from the side of the cap. Movement of the cap towards the container depresses the valve stem allowing the aerosol within the container to issue through the hollow valve stem and be directed out through the nozzle.

An object of the present invention is to provide a simple and efficient device for operating such a dispenser.

The invention will be described by way of example with reference to the accompanying drawing in which:

FIGURE 1 is a perspective view of a domestic garbage can having a device according to the invention secured to the inside of its lid, parts of the can being cut away to show the location of the device,

FIGURE 2 is a side elevation of the device in an inoperative position with the dispenser secured in the device, and

FIGURE 3 is a view similar to FIGURE 2 showing the device in its operative position.

Referring now to the drawing, a garbage can has a body indicated generally at **10** and has a bottom **11** and a hinged lid **12**; the lid is hinged to the body **10** by a hinge **13**. A device for operating an aerosol dispenser is indicated generally at **14** as secured to the underside of the lid **12**.

The device **14** includes a clamping body having a base **15** and a double-armed spring clip **16** secured to the base. At one end of the base **15** is provided a first flange **17** having an aperature **18** therein. An angled lever **19** passes through the aperture and is provided with a second flange **20**, the portion of the lever **19** which is horizontal in FIGURE 2 constituting an operating arm. The first flange has a lug **21** formed therein and an arcuate spring **22** extends between the lug **21** and the lever **19** and is riveted to the lever at **23**. An operating knob **24** is also secured to the lever **19** by rivet **23** and projects through an aperature **25** in the lid **12** on the garbage can. The spring **22** urges the lever **19** to a position such that the first and second flanges are held in contact with one another as shown in FIGURE 2.

An aerosol dispenser comprising a container **26** and a cap **27** is shown as held in position in the device. The container **26** is held by the spring clip **16** and is located at one end by a down turned flange **28** integral with the base **15**. A nozzle **29** is formed in a side of the cap **27** and the end of the cap remote from the container is in contact with the second flange **20** as shown in FIGURE 2. The first flange **17** has an extension **30** extending generally perpendicularly from the flange and this extension is provided with a slot **31**, see FIGURE 1, which receives the nozzle **29**. The base **15** of the device is spot welded to the lid of the garbage can **12** as at **32**.

The operation of the device is as follows, in FIGURE 2 it is shown in its inoperative "at rest" position. It will be seen that the second flange **20** is forced into contact with the first flange **17** by the arcuate spring **22** and furthermore that the second flange **20** is interposed between the first flange **17** and the end of the cap **27** which is remote from the container. Moreover, the nozzle **29** of the dispenser is received in the slot **31**. If now the operating knob **24** is moved downwardly in the direction of the arrow A in FIGURE 3, the lever **19** will pivot about a fulcrum provided by the walls of the aperture **18** and the second flange **20** will move in the direction of the arrow B and away from the first flange **17**. Movement of the second flange in the direction of the arrow B will move the cap of the container in the direction of the arrow C and will operate the dispenser so that aerosol is dispensed through the nozzle **29**. The nozzle **29** will slide in the slot **31** as the dispenser is operated. When pressure is removed from the operating knob **24** the spring **22** will return the parts to the position shown in FIGURE 2. The slot **31** ensures that the aerosol discharged by the dispenser will be directed downwardly into the garbage can.

It will be seen that the invention provides an extremely simple and efficient device for operating an aerosal dispenser and that such a device has particular application to the lid of a garbage can or similar container.

It will be understood that the form of the invention herewith shown and described is a preferred example and that various modifications may be carried out without departing from the spirit of the invention or the scope of the appended claims.

What I claim as my invention is:

1. A device for operating an aerosol dispenser of the type comprising a container and a cap mounted on the container to be movable relatively thereto, movement of the cap towards the container operating the dispenser; the device comprising a body, a first flange of the body for mounting adjacent to, but spaced from, the end of the cap remote from the container, said flange having an aperture therein and a lug remote from said aperture and extending away from said end; an angled lever mounted in said aperture, said lever having an operating arm and a second flange for interposition between the first flange and said end of the cap; and an arcuate spring interposed between the first flange and the lever to normally hold the lever so that the second flange is in contact with the first flange, said spring being secured at its one end to the operating arm of the lever remote from the second flange and at its other end engaging said lug on the first flange, pivoting of the lever against the spring and about a fulcrum provided by the walls of the aperture moving the second flange away from the first flange to move the cap to operate the dispenser.

2. A device for holding and operating an aerosol dispenser of the type comprising a container, a cap mounted on the container to be movable relatively thereto, and a nozzle projecting from a side of the cap, movement of the cap towards the container operating the dispenser; the device comprising a clamping body to hold the container, a first flange of the body located adjacent to, but spaced from, the end of the cap remote from the container when the container is held in the body, said flange having an aperture therein and a lug remote from the aperture and extending away from said end; an extension of the flange extending generally perpendicular thereto in a direction opposite to the extension of the lug and having a slot therein to receive the nozzle when the container is held in the body; an angled lever mounted in said aperture, said lever having an operating arm and a second flange interposed between said first flange and

said end of the cap when the container is held in the body; and an arcuate spring interposed between the first flange and the lever and normally holding the lever so that the second flange is in contact with the first flange, the spring being secured at its one end to the operating arm of said lever remote from the second flange and at its other end engaging said lug on the first flange, pivoting of the lever against the spring and about a fulcrum provided by the walls of the aperture moving the second flange away from the first flange to move the cap to operate the dispenser.

3. A device for holding and operating an aerosol dispenser of the type comprising a container, a cap mounted on the container to be movable relatively thereto, and a nozzle projecting from a side of the cap, movement of the cap towards the container operating the dispenser; the device comprising a body having an elongated base, means on the body to hold the container, a first flange extending perpendicularly from one end of the base to be located adjacent to, but spaced from, the end of the cap remote from the container when the latter is held in the body, a lug extending perpendicularly from the flange in a direction away from said end of the cap and spaced along the flange from the base, an extension of the flange extending perpendicularly therefrom to lie opposite to, but spaced from, the base, the extension having a slot therein to receive the nozzle when the container is held in the body and the flange having an aperture therein adjacent to the base; an angled lever pivotally mounted in said aperture and having an operating arm extending away from, and parallel to the base and a second flange interposed between said first flange and said end of the cap when the container is held in the body; a downturned flange extending perpendicularly from the other end of the base to coact with the end of the container remote from the cap; and an arcuate spring interposed between the lug and the operating arm of the lever and normally holding the latter so that the second flange is in contact with the first flange, the spring being secured at one end to the operating arm of said lever remote from the second flange and at its other end engaging said lug, pivoting of the lever against the spring and about a fulcrum provided by the walls of the aperture moving the second flange away from the first flange to move the cap to operate the dispenser.

4. In a receptacle having an apertured wall, the combination with the wall of a device for holding and operating an aerosol dispenser of the type comprising a container, a cap mounted on the container to be movable relatively thereto, and a nozzle projecting from a side of the cap, movement of the cap towards the container operating the dispenser; the device comprising a body having an elongated base which is fixed to the wall to be inside the receptacle, means on the body to hold the container, a first flange extending perpendicularly from one end of the base to be located adjacent to, but spaced from, the end of the cap remote from the container when the latter is held in the body, a lug extending perpendicularly from the flange in a direction away from said end of the cap and spaced along the flange from the base, an extension of the flange extending perpendicularly therefrom to lie opposite to, but spaced from, the base, the extension having a slot therein to receive the nozzle when the container is held in the body and the flange having an aperture therein adjacent to the base; an angled lever pivotally mounted in said aperture and having an operating arm, which extends parallel to the wall and away from the base, and a second flange interposed between said first flange and said end of the cap when the container is held in the body; an operating knob secured to the operating arm and received in the aperture in the wall so that the knob may be operated from outside the receptacle; a downturned flange extending perpendicularly from the other end of the base to coact with the end of the container remote from the cap; and an arcuate spring interposed between the lug and the operating arm of the lever and normally holding the latter so that the second flange is in contact with the first flange, the spring being secured at one end to the operating arm of said lever remote from the second flange and at its other end engaging said lug, operation of said knob causing pivoting of the lever against the spring and about a fulcrum provided by the walls of the aperture and thus moving the second flange away from the first flange to move the cap to operate the dispenser.

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