March 3, 1942. C. P. SHINN, JR 2,275,185

LUBRICATING DEVICE AND SPRAY GUN

Filed April 23, 194C

Fig. 1.

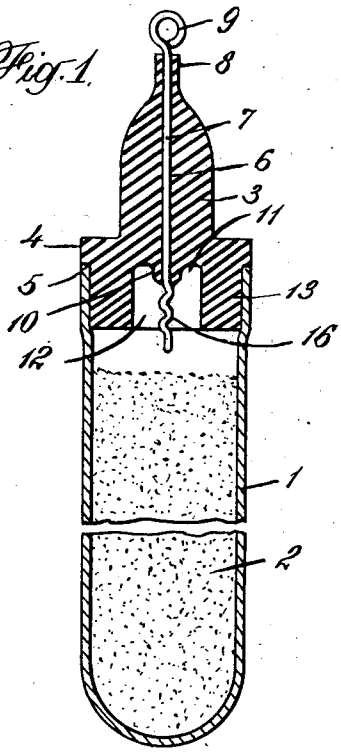


Fig. 2.

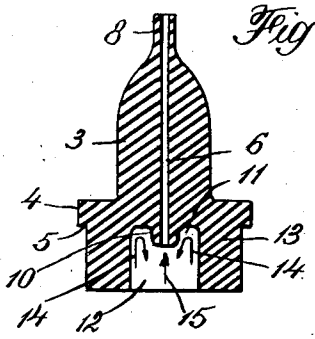


Fig. 3.

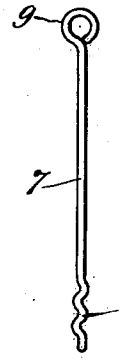


Fig. 4.

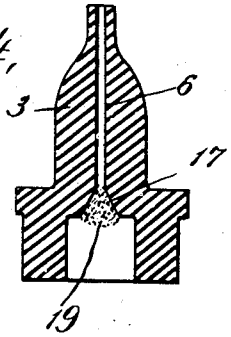
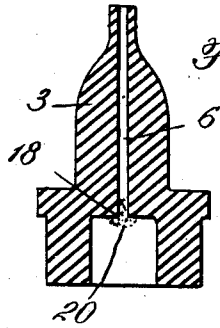


Fig. 5.



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Patented Mar. 3, 1942

2,275,185

UNITED STATES PATENT OFFICE

2,275,185

LUBRICATING DEVICE AND SPRAY GUN

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Application April 23, 1940, Serial No. 331,095

4 Claims. (Cl. 221—32)

This invention relates to lubricating devices and spray guns and more particularly to devices of this character that use finely divided flake graphite as a lubricating medium, or any powder to be sprayed, such for example as an insecticide.

One object of this invention is, to provide a container to hold the powder and a cap, secured to the container, of a novel construction for spraying the powder where needed.

Another object is to so construct the cap of the container that the powder cannot clog the outlet of the cap and thereby prevent the flow of the powder therethrough.

Another object is to provide the outlet of the container cap with a novel form of closing pin, to prevent the powder escaping from the container excepting when in use.

Another object is to construct the container of flexible transparent material so that the amount of powder therein is easily seen and also so that the container can be compressed to project the powder therefrom when desired.

Another object is to provide a device of this kind that, while it can be made to sell at a low price, yet is dependable and effective for the purpose.

Referring to the drawing:

Fig. 1 is a sectional view of the complete device.

Fig. 2 is a sectional view of the cap with the pin removed.

Fig. 3 is a side view of the pin.

Fig. 4 is a sectional view of one modified form.

Fig. 5 is a sectional view of another modified form.

Similar numerals apply to similar parts throughout the several views.

The device consists essentially of the container body, which is adapted to hold the powder, 2, a cap member 3 constituting an outlet member, to enclose the same and a pin 7, to prevent the powder from escaping from the container.

The container body is constructed of transparent flexible material, such as Celluloid or synthetic resin, and is preferable of cylindrical form closed at one end and provided with a cap 3 at the other.

The cap 3 is flexible and may be made of soft rubber, it is cylindrical in general contour and has a flange 4, forming a shoulder 5, with a smaller diameter member 13, and against which shoulder 5, the free open end of the container body 1 is assembled. The body 1, is of slightly smaller diameter than the member 13, and may be forced thereon when assembled thereto and may also be cemented in place if so desired. The outer end of the cap 3, beyond the flange 4, is constituted by a cylindrical member 3. Through the center of the cap 3, a hole 6 passes to form an outlet for the powder. The inner end of the hole 6, terminates in a concentric cylindrical recess 12, and is surrounded by a groove 11, concentric therewith in the bottom of the recess 12, forming an annular projection or annulus 10 concentric with the hole 6. The annulus 10 projects from the bottom of the recess, 12, and forms the inside entrance to the container outlet hole 6. The bottom of the recess 12, and also the periphery of the annulus is rounded as shown at 11 Fig. 2.

Detachably assembled in the hole 6 is a pin 7 which is a free fit therein, but of sufficient diameter to prevent any of the powder 2 from passing therethrough when the pin 7 is inserted therein. The outer end of the pin 7 is coiled to form an easy means of manually inserting and removing it from the cap 3. The pin 7 has a reflexed terminal 16 at the inner end. The width of the reflexed terminal 16 is slightly greater than the diameter of the hole 6, in order that it cannot easily drop out and yet can be easily removed from the hole 6 when the device is put into use.

In Figs. 4 and 5 are shown two other forms of entrances to the inner end of the hole 6 from the recess 12. It has been found in practice that if either of these constructions were used, the powder 19 and 20 respectively would clog the inner end of the hole 6 and the device would become inoperative.

In Fig. 4 the inner edge of the end of the hole 6 is fluted as shown, while in Fig. 5 it is substantially perpendicular with the bottom of the recess 12.

The construction shown in Figs. 1 and 2, has been found from experience, to overcome the clogging of the powder at the inner end of the hole 6, due to the use of the annulus 10 and the form and relation of the parts. The rounded corners at the bottom 11, of the recess 12, are effective to cause counter currents of powder 14 to flow against the outgoing powder thereby preventing clogging at the entrance to the hole 6.

In order to use the device, the pin 7 is removed from the cap 3, the end 8 of the latter is placed where the powder is needed and the container body 1 is pressed slightly between the fingers thus putting the powder 2 under pressure, and projecting it from the device in the form of a fine powder that seeks the surfaces to be covered.

Many modifications in the construction of this

device may occur to those skilled in this art but such changes would come within the scope and spirit of this invention. Having described my invention so that anyone skilled in the art to which it pertains may make and use the same, what I claim and wish to secure by Letters Patent is:

1. A spray gun, including a transparent flexible container for the powder, a cap of flexible material at one end of the container, said cap having a shoulder against which the container is assembled, a cylindrical member extending into one end of the container having a recess concentric therewith to receive the powder prior to being projected therefrom, a flexible annulus at the bottom of and concentric with said recess, a cylindrical extension to said member projecting beyond the end of the container and a tubular terminal for the said extension of less diameter than the extension, said cylindrical extension and tubular terminal having a longitudinal central opening therethrough constituting a passage for the powder.

2. A spray gun, including a transparent flexible container for a powder, having one end thereof closed, a flexible cap assembled to the open end of the container of one piece of flexible material, including a flange of larger diameter than the container, and a concentric cylindrical member extending from the flange into the container and forming a shoulder with the flange against which the container is assembled, a central cylindrical recess in said member, a central tubular extension protruding from the center of the bottom of said member, a cylindrical body extending away from the container integral with said flange of less diameter than the same and a second tubular extension concentric and integral with the free end of the cylindrical body of approximately the same diameter as the first named tubular extension, both of said tubular extensions being connected by a longitudinal passage forming with the extensions, an orifice through which the powder is projected.

3. A powder dispenser comprising a tubular body having a part at least of its wall resilient and collapsible, a cap member secured at one end of the body and formed of soft rubber with an elongated outlet passage of substantially uniform diameter, said cap member having a tubular portion at each end of the passage, said tubular portion at the inner end projecting inwardly of the body and having an annular recess extending around the tubular portion at the inner end of the passage for preventing the powder from clogging the outlet from the body, the tubular portion at the outer end being integral with the remainder of the cap member and of smaller diameter and a wire stopper and cleaner member fitting in said passage from the outer end and through the inner end thereof and having an offset handle portion at its outer end, another portion of the wire member being offset laterally from the axis of the remainder of the wire member and serving to flex the material of the cap member when being moved longitudinally in the passage whereby said stopper and cleaner member may be readily inserted into and withdrawn from the passage but will be held resiliently in the passage against accidental displacement.

4. A spray gun, including a resilient container for the powder, a unitary cap member of resilient material secured to one end of the container, said cap member having a portion extending into one end of the container, with a recess concentric therewith to receive the powder prior to being projected therefrom, an interior projection at the bottom of and concentric with said recess and having a rounded inner end extending into the recess, a tubular extension to said cap member projecting beyond the end of the container and a resilient tubular terminal for the said extension of less diameter than the extension, said cap member having a longitudinal central opening therethrough constituting a passage for the powder extending through the interior projection, the tubular extension and the tubular terminal.

CHARLES P. SHINN, JR.