Dec. 14, 1948. W. L. ROESSNER 2,456,324

INSECTICIDE DISPENSER

Filed July 25, 1945

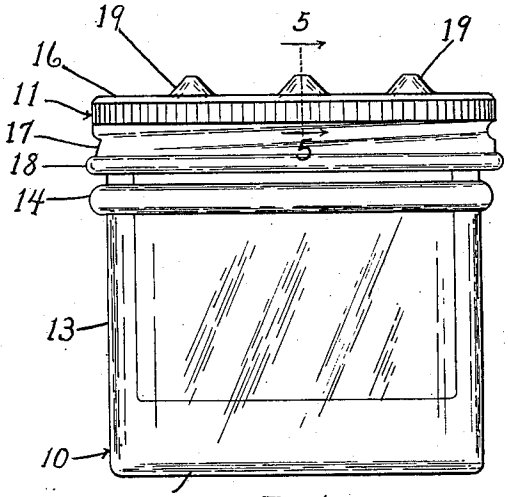


Fig. 1

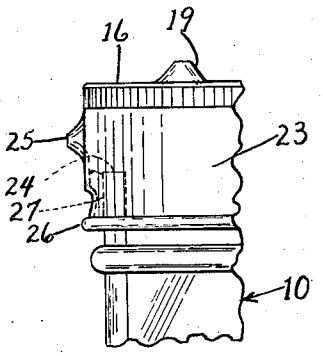


Fig. 2

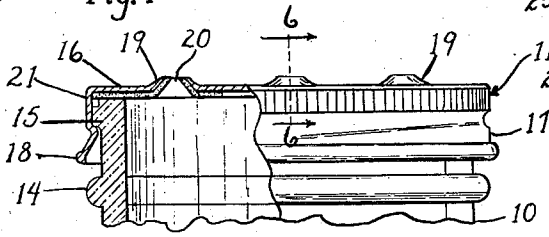


Fig. 3

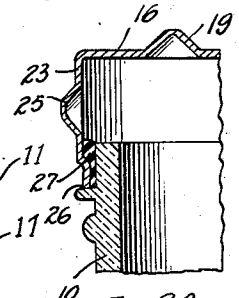


Fig. 2A

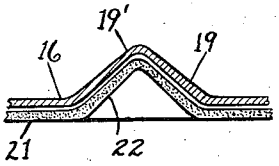


Fig. 5

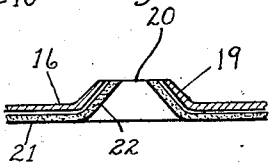


Fig. 6

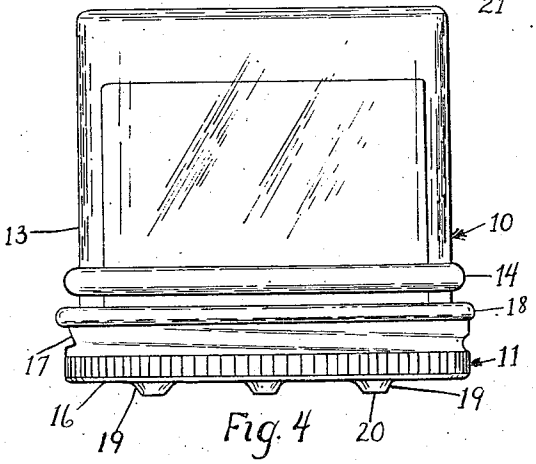


Fig. 4

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Patented Dec. 14, 1948 2,456,324

UNITED STATES PATENT OFFICE

2,456,324

INSECTICIDE DISPENSER

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Application July 25, 1945, Serial No. 606,962

3 Claims. (Cl. 43—131)

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This invention relates to insecticide dispensers and particularly to devices adapted to contain and dispense poisonous liquid insecticides.

Insecticide dispensers heretofore known are objectionable for a number of reasons. They require manipulation of the container closures or dispensing nozzles which results in contamination of the operators' hands by the insecticide. Many require the use of tools to provide openings in the containers for the purpose of dispensing the contents. Prior art devices are faulty in that they do not permit complete and easy dispensing of the insecticide, nor means for controlling or altering the rate of feed of the container contents.

The object of my invention is to overcome the objections noted and to provide an exceedingly simple and efficient container and dispenser; a device adapted to store the insecticide and to be air tight and leak-proof until the dispenser is put into operation; in which the dispenser is put into dispensing condition by merely rubbing it on an abrasive surface without the aid of any tool, and without contaminating the hands of the operator; and which can be placed in any desired position and be moved to another location without having the insecticide come into contact with the hands of the user.

Some of the poisonous solutions commonly used as insecticides are sufficiently potent to kill pests by contact. Naturally it is desirable to avoid injury to the fingers and hands of the user by contact with such solutions. Arsenic, a common ingredient in these solutions, is known by the medical profession to be one of the causes of herpes zoster. Consequently, an important feature of my invention is the fact that the user does not need to come into contact with the solution nor to handle the dispensing portion of the container, either before or after the dispenser has been put into operation.

The dispenser is so constructed that a plurality of feed openings are provided by merely rubbing the dispenser on an abrasive surface such as a concrete walk or brick wall. The size of the openings may be varied. Thus the user may control the speed of flow of the solution, and may increase it by increasing the size of the openings by rubbing the dispenser on an abrasive surface, as heretofore stated.

Another advantage of my invention is the construction which permits the device to empty itself at a desirable rate of speed for its intended purpose. A further advantage results from the number and location of the feed openings, and their

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availability to the pests intended to come into contact with or to eat the insecticide.

Other objects and advantages will appear from the following description.

In the drawings:

Fig. 1 is an elevational view of an insecticide container and dispenser embodying my invention, showing the device in the non-operative condition in which the insecticide is stored therein prior to use.

Fig. 2 is a fragmentary, elevational view of a modified form of the invention.

Fig. 2—A is a fragmentary vertical sectional view of the modification shown in Fig. 2.

Fig. 3 is a vertical sectional view of the container-dispenser of Fig. 1, with the container partly broken away, but showing the dispenser openings in the container closure.

Fig. 4 is an elevational view of the container-dispenser in its inverted, operative position.

Figs. 5 and 6 are vertical sectional views of the dispenser details, on an enlarged scale, taken in the planes of the dotted lines 5—5 on Fig. 1 and 6—6 on Fig. 3, respectively.

In that embodiment of the invention shown in the drawings, the container is indicated as a whole at 10 and the combination closure cap and dispenser at 11. The container 10 preferably is made of glass or other suitable material, and comprises a circular, flat bottom 12, cylindrical side walls 13, a circumferential rib 14 and screw thread 15. The open end of the container 10 is closed by the screw cap 11 which, preferably, is made of metal, and comprises a top 16 and screw threaded skirt 17 adapted to engage the thread 15 on the container 10. The lower edge of the skirt 17 may be provided with a bead 18.

The top 16 of the combination closure cap and dispenser, as shown in Fig. 1, is provided with a plurality of raised members 19, preferably three in number. These protuberances 19 are approximately cone shaped and are formed in the top 16 by pressing the metal outwardly from the inside of the cap by the aid of any suitable tool. Pressing of the metal outwardly to form the protuberances 19 results in spreading the metal and reducing its thickness and consequently the metal of the members 19, particularly at and near the apex of the cone, is relatively thin. This is indicated at 19' in Fig. 5, where the thickness of the metal in the upper part of the cone portion is less than that of the flat part of the top 16. While the reduction of the thickness of the metal in the members 19 is incidental to the forming of said

protuberances, it is a desirable and valuable feature of my invention for the reason that it facilitates the forming of an opening 20 in the apex of each member 19 for the purpose of dispensing the insecticide solution when the device is put into operation. The form and material of the members 19 are such that the opening 20 in the apex of each member may be made by merely rubbing the protuberances on an abrasive surface such as a cement walk or brick wall. The opening thus formed is indicated at 20 in Figs. 3, 4 and 6.

In the form of container and closure means shown in Figs. 1 and 3, I preferably use a washer 21 which may be in the form of a disc or a flat ring. Its peripheral portion is located between the upper edge of the container 10 and the inner flat surface of the cap top 16, where it forms a seal and prevents leakage of the insecticide solution. If a disc washer is used, or if the ring washer is of sufficient radial width to underlie the raised members 19, I prefer to indent the washer also from the inside of the cover, as indicated at 22, so that the washer conforms to the contour of the inner surfaces of the cover 16 and members 19. The washer 21 may be made of paper or other absorbent material which aids in feeding the insecticide solution gradually to the openings 20 in the members 19. However, it is to be understood that the use of a washer may be dispensed with, as I prefer to do in the form of construction shown in Fig. 2.

In the modification illustrated in Fig. 2, the container 10 is closed by a cap similar to the one indicated as a whole at 11 in the other figures of the drawing, but the skirt 23 is deeper than the skirt 17, leaving a space between the upper edge 24 of the container 10 and the inner surface of the top 16, opposite one or more protuberances 25 (similar to the members 19) formed in the skirt 23. In this form of construction, I prefer to use some sealing material such as a coating of gum applied to the inner surface of the skirt 23 above the bead 26, as indicated at 27, in lieu of the washer 21. This arrangement leaves the insecticide solution free to pass to the dispensers 25 on the side of the device as well as to the dispensers 19, when the device is in the inverted position shown in Fig. 4.

The opening 20 may extend through the protuberance 19 and washer 22, or only through said part 19, or through the protuberance 19 and partly through the washer 22. Variations in the size of the opening 20 and whether or not the washer is apertured result in varying the degree of flow of the container contents. The washer is permeable to liquid and serves to retard the flow through the apertures 20.

As shown in said Fig. 4, when the device has been put into operation by opening the dispensing members 19 (or 19 and 25) by forming the apertures 20 therein, it is inverted, and thus the members 19 serve the dual purpose of dispensing the solution and of supporting the container in raised position relatively to the ground, lawn or other surface, allowing insects to crawl under the dispenser into contact with the poisonous solution being dispensed therefrom and to feed at the several outlets provided for that purpose. Accidental clogging of one of the openings 20 will not render the device inoperative as is the case in prior art devices which employ a single dispenser.

The form and location of the dispensers 19, with or without dispensers 25, are such that the full contents of the container 10 will be dispensed without waste. The construction is such that the device can be handled and moved, even after having been put into operation, without contaminating the hands and fingers of the user. Sometimes insecticide solutions become increasingly viscous and clog the dispensers. In prior art constructions this necessitates handling of contaminated parts, use of tools to pry off closure members, to renew wicks or punch openings, and other inconveniences, whereas in using my device the dispensing openings 20 may be enlarged by merely taking hold of the clean, inverted container 10 and rubbing the protuberance 19 of the cap top 16 on an abrasive surface.

Changes may be made in the form and size of the several parts and in the details of construction without departing from the scope of my invention as set forth in the appended claims.

I claim:

1. An insecticide container and dispenser comprising a container and closure means thereon adapted to hold a liquid solution without leakage, said closure means having a flat wall and a cylindrical side wall each provided with external hollow protuberances adapted to be converted into dispensers of the container contents by frictional contact of the protuberances with an abrasive surface to provide an opening in each of said protuberances.

2. In a jar-like container for liquid insecticides having an open end, a supporting closure and dispensing means for said container comprising a closure wall fitted over the open end of said container and embracing the side walls thereof adjacent the opening, said end closure wall consisting of an outer non-absorbent part and an inner absorbent lining having a series of hollow protuberances extending outwardly therefrom, the walls of the protuberances being thinner at their outer ends than at their bases, and said protuberances being arranged adjacent the side walls of the container to obtain rigid support therefrom, whereby the outer ends of said protuberances consisting of the non-absorbent part only may be readily removed to provide dispensing openings therethrough by abrasion of said ends on an abrasive surface without forming an opening in the lining and distortion or collapsing thereof or of said end wall for subsequent steady support of the inverted container in spaced relation to a supporting surface.

3. In a jar-like container for liquid insecticides having an open end, a supporting closure and dispensing means for said container comprising an end closure wall fitted over the open end of said container and embracing the side walls thereof adjacent the opening, said end closure wall consisting of an outer metal part and an inner absorbent lining having a series of hollow protuberances extending outwardly therefrom, the walls of the protuberances being thinner at their outer ends than at their bases, whereby the outer ends of said protuberances consisting of the metal part only may be readily removed to provide dispensing openings therethrough by abrasion of said ends on an abrasive surface without forming an opening in the lining and distortion or collapsing thereof or of said end wall for subsequent steady support of the inverted container in spaced relation to a supporting surface, and said absorbent protuberances on the inner lining being nested in said metal protuber-

ances for retarding the flow of liquid through the openings formed in the closure protuberances.

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