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UNITED STATES PATENT OFFICE.

FREDERICK A. PFLUG, OF KITCHENER, ONTARIO, CANADA.

LIQUID-DISPENSING APPARATUS.

Application filed December 10, 1925. Serial No. 74,570.

This invention relates to devices for dispensing liquids particularly adapted for use in the retailing of gasoline and the like, and my object is to produce apparatus for this purpose of the type in which the liquid is dispensed from a measuring chamber in which the liquid is visible; in which the measuring chamber is readily repaired or replaced; in which the dispensing apparatus is readily adjustable to accurately draw off desired quantities of liquid; and in which the shape of the chamber and the construction and arrangement of the dispensing mechanism are so related that the chamber may be made of a minimum cross sectional area relative to its height for the type of dispensing mechanism employed.

I attain my object by forming the measuring chamber of rectangular form in horizontal cross section, and providing it with one or more replaceable glass sides.

The dispensing means includes a draw-off tube journalled at the bottom of the measuring chamber adjacent one corner and adapted to swing in a vertical plane diagonal to the sides of the chamber.

Stop mechanism is provided whereby the draw-off tube may be positioned to draw off any desired quantity of liquid, and this stop mechanism is provided with separate adjusting means for each position whereby absolute accuracy of measurement may be attained at any predetermined position of the draw-off tube.

The invention is illustrated in the accompanying drawings in which

Fig. 1 is a horizontal section through the measuring chamber of a dispensing device constructed in accordance with my invention;

Fig. 2 a vertical section along the line 2—2 in Fig. 1, parts being broken away;

Fig. 3 a sectional detail illustrating the operating means for the draw-off tube of the adjustable stop mechanism therefor; and

Fig. 4 a plan view of the adjustable slide on one of the stop mechanisms.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 are standards on which are supported the corner frames 2 of the measuring chamber. In the preferred construction these standards are formed as rods having their ends threaded into the sleeves 3 forming parts of the corner frames. The standards 1 will, of course, be supported on any suitable base (not shown). The corner frames are formed with flanges against which the glass side plates 4 are clamped by means of the rabbeted frames 5, suitable packing or luting being employed to make the joints liquid tight. A suitable cover 6 is provided for the chamber. The bottom 7 of the chamber underlies the corner frames 2, which latter are held securely in position relative to the bottom by the standards 1.

In the bottom of the chamber is formed a recess 8, the said recess extending substantially along the diagonal of the bottom. A draw-off tube 9 is adapted to be almost wholly received in the recess, as shown in Fig. 2, with the lower edge of its mouth at or slightly below the level of the upper surface of the bottom 7. The recess is inclined as shown, so that the tube, when in the position shown, is inclined from its mouth to its discharge end. The discharge end of the draw-off tube is provided with a laterally extending tubular trunnion 10, which is adapted to fit within the sleeve 11 of the discharge tube 12, which sleeve is mounted in the side wall of the recess 8. The draw-off tube is thus adapted to be swung up and down to bring its mouth to different levels in the measuring chamber whereby any desired quantity of liquid may be drawn off.

To operate the draw-off tube I provide the following mechanism. A spindle 13 is secured to the draw-off tube and extends axially through the trunnion 10 and sleeve 11, passing out through the outer end of the latter through a stuffing box 14. A rock arm 15 is secured to the end of this spindle. A spring 16 bearing against the end of the stuffing box and against the rock arm provides means tending to maintain the tubular trunnion in its position in the sleeve 11. The rock arm is provided with means whereby it may be locked in any desired position to thus rigidly fix the position of the draw-off tube. It is essential that the stop mechanism be adjustable and that separate adjustment be provided for each position of the draw-off tube, since it is not commercially practicable to make these measuring chambers absolutely true and the draw-off mechanism must be capable of being separately adjusted for each position according as one, two, three four, five or more gallons of the liquid are to be drawn-off. I therefore provide the

cross section of the chamber, the horizontal cross sectional area of the chamber being less than the square of the length of said tube and its height at least equal to the length of the tube less the distance of its pivot below the bottom of the chamber.

5. Liquid dispensing apparatus comprising a chamber; a draw-off tube journalled to swing in a vertical plane within the chamber; operating means for the tube outside the chamber including a rock arm; a plate over which the rock arm is movable; a slide movable on the plate in a direction substantially normal to the arc in which the rock arm swings; a slot being formed in the slide inclined to the direction of movement of the slide and also inclined to the direction of movement of the rock arm; means for clamping the slide; and a retractible pin on the rock arm engageable in the slot, in positions therein varying with the positions of the slide.

Signed at Kitchener, Canada, this 28th day of November, 1925.

FREDERICK A. PFLUG.

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UNITED STATES PATENT OFFICE.

FRANCIS M. ROGERS AND CLAUDE P. McNEIL, OF WHITING, INDIANA, ASSIGNORS TO STANDARD OIL COMPANY, OF WHITING, INDIANA, A CORPORATION OF INDIANA.

INSECTICIDE AND FUNGICIDE.

No Drawing. Application filed May 3, 1926. Serial No. 106,549.

This invention relates to improvements in insecticides and fungicides, and more particularly to insecticides and fungicides suitable for the treatment of seeds and plants.

In accordance with the present invention the improved composition comprises a mineral oil, a salt of sulfonic acid derived from mineral oil and an oil-dispersible copper derivative, and is capable of forming a stable emulsion with water which is suitable for application to plants and seeds for insecticidal and fungicidal purposes.

It is preferred to employ as the emulsifying compound the so-called "mahogany soaps" or alkali-metal salts of preferentially oil soluble sulfonic acids derived from mineral oil in the manner described in the Humphreys U. S. Patent No. 1,286,179 granted November 26, 1918, or in any other suitable manner. As the copper compound it is preferred to employ the corresponding copper sulfonate or copper sulfonates of the preferentially water-soluble sulfonic acids, derived from mineral oils in the manner described in Patent No. 1,474,933, granted November 20, 1923, to Humphreys and others, or in any other suitable manner; or we may employ the copper salt of naphthenic acids, for example, the naphthenic acids derived, as soaps, from coastal or other crudes which contain them, by treating a lubricant distillate thereof with alkali and extracting with alcohol.

The improved product preferably contains about 8 to 25% of the emulsifying agent about 10 to 30% of the copper compound and about 45 to 70% of mineral oil. The mineral oil employed is preferably a light mineral oil heavier than gasoline, as kerosene, straw oil or the like.

Although it is preferred to employ such copper compounds as are herein named, and which are particularly adapted for the production of freely emulsifiable compositions efficient in use, other oil dispersible copper derivatives, as the copper salts of organic acids, particularly of the fatty acid type (e. g. copper oleate) or the copper salt of "mahogany" acids may be employed.

The invention will be more fully appreciated from the following examples of preferred compositions, but it must be understood that these examples are illustrative only and that the invention is not limited thereto, since the invention comprises innumerable modifications thereof, within the scope of the appended claims.

Example I.

	Per cent.
Mahogany soap	18½
Paraffin oil	61½
Copper naphthenate	13½
Water	3½
Alcohol	3

Example II.

	Per cent.
Mahogany soap	11
Paraffin oil	52¾
Copper sulfonate	28
Oleic acid	1½
50% sodium hydroxide solution	¼
Alcohol	3
Water	3½

In use the compositions thus constituted are mixed with from 10 to 1000 times their volume of water. Complete emulsion is readily effected and the emulsions are stable and suitable for spraying or otherwise applying to infected plants or seeds.

The improved insecticide has given greatly increased yields from diseased seeds, particularly Diplodia and Gibberella infected seeds, and is highly effective as a plant spray.

We claim:

1. A composition capable of readily forming a stable emulsion with water and effective as an insecticide and fungicide for plants and seeds, comprising a mineral oil, an oil dispersible copper compound and a salt of sulfonic acid derived from mineral oil.

2. A composition capable of readily forming a stable emulsion with water and effective as an insecticide and fungicide for seeds and plants comprising a mineral oil, a compound of copper with an acidic radical derived from mineral oil, and an emulsifying agent.

3. A composition capable of forming a stable emulsion with water and effective as an insecticide and fungicide for plants and seeds, comprising a salt of sulfonic acid derived from mineral oil, a compound of copper with an acidic radical derived from mineral oil and a mineral oil.

4. A composition capable of forming a stable emulsion with water and effective as