Jan. 5, 1932. D. DORPH 1,839,870

WEAPON

Filed Feb. 1, 1930

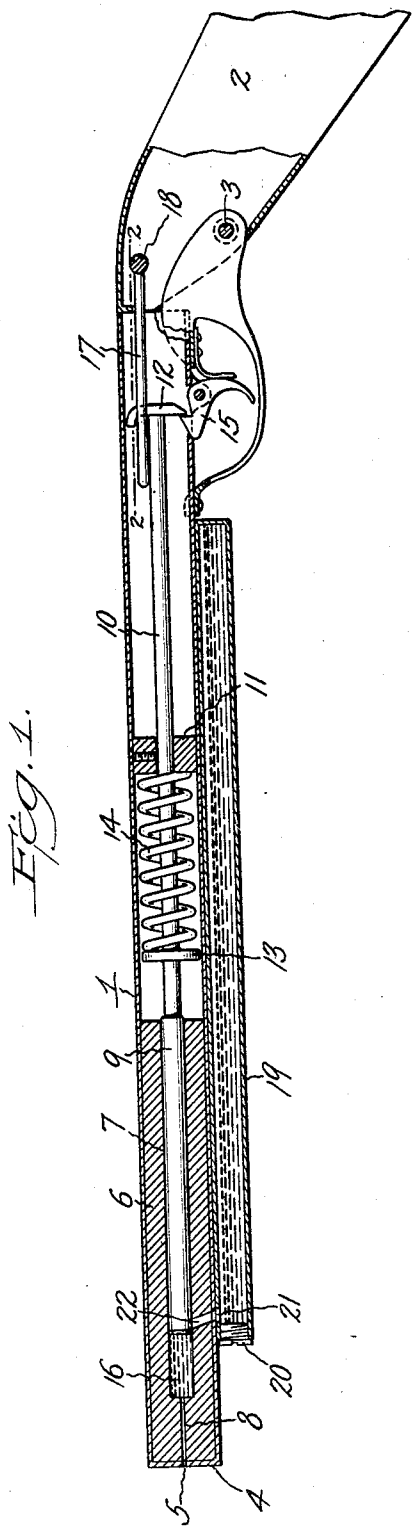


Fig. 1.

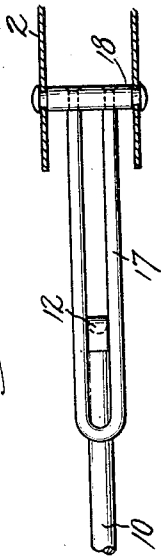


Fig. 2.

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UNITED STATES PATENT OFFICE

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WEAPON

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This invention relates to weapons for the killing of flies, mosquitoes and other insects, and my improvement in particular is directed to a weapon from which a liquid charge, in the form of a solid stream, can be projected with accuracy upon an object distant four or five feet.

Certain compound liquids are known that will instantly kill flies, mosquitoes and other insects without staining the walls, furniture, &c., so that the weapon may be used by children, as well as older persons, for the purpose of ridding the house interior of troublesome insects.

The insect destroying liquids referred to have heretofore been used in the form of a spray and in this form are not as efficient as when projected in the form of a solid stream. Also, added zest ensues in sighting the weapon, as with a rifle, and taking deliberate aim, with the insect for a target, it being necessary to shoot straight in order to hit the mark.

In providing a weapon of the character indicated I employ an ordinary toy rifle which may be operated by spring or compressed air means but is adapted to eject a charge of liquid, through a reduced terminal bore, and is also provided with means for renewing the charge in each operation of resetting the ejecting means.

Other features and advantages of my invention will hereinafter appear.

In the drawings:—

Figure 1 is a side sectional view of a weapon in which my improvement is incorporated, and

Fig. 2 is an enlarged detail, taken on the section line 2—2 of Fig. 1.

In said figures let 1 indicate the barrel of the weapon, 2 its stock, and 3 the pivot upon which the barrel and stock can be broken apart for recharging purposes.

In the example of my invention herein illustrated I have shown spring means for projecting a charge of liquid from a small orifice at the muzzle of the barrel. Said barrel appears in the form of a hollow cylinder whose muzzle end has a closure 4 which is pierced with a small orifice 5.

The forward portion of cylinder 1 is filled with a cylindrical member 6, which may be of wood or other material, and that has a central bore 7 extending to near its front end, and thenceforward continues in a small orifice 8 in alignment with orifice 5. Occupying the bore 7 is a plunger 9, an extension 10 whereof continues rearwardly through a bearing 11, that is fixed in cylinder 1, and terminates at its free end in a cross-piece 12. The extension 10 carries a fixed collar 13, in advance of bearing 11, a helical spring 14 lying between collar 13 and bearing 11, said spring in Fig. 1, appearing under tension, with cross-piece 12 caught by trigger 15. In this position the charge containing space, bounded by the front end of bore 7 and the forward end of plunger 9, is a fraction longer than the distance between the rear end of member 6 and collar 13.

Therefore, when the trigger 15 releases cross-piece 12, permitting spring 14 to expand, the plunger 9, projecting the liquid charge, from its chamber 16, through bore 8, will not strike against the end of bore 7, because the plunger stroke will be limited by collar 13 striking against the rearward end of member 6.

In resetting the plunger, which is accomplished in breaking apart the barrel and stock, a shackle or yoke 17, carried by a pivot 18 that is mounted in the stock, engages the cross-piece 12 and thereby draws the plunger rearwardly until it is again caught by the trigger.

For refilling the charge chamber 16, I provide a magazine in the form of a liquid containing cylinder 19, attached to the underside of cylinder 1, and provided at its front end with a screw cap 20. Aligned orifices 21 in cylinders 19, 1 communicate with a duct 22 through member 6, that leads to bore 7, just rearward of chamber 16, where said duct is closed by plunger 9 when the weapon is in its set position, and when discharged, thus sealing the magazine at these times.

In the operation of resetting the weapon, by breaking apart the barrel and stock, the plunger is drawn rearwardly to uncover duct 22, and in this operation the weapon should be

held, muzzle down, to permit a new charge to enter chamber 16. After this resetting operation the weapon is to be held, muzzle up, to prevent leakage through bore 8, until the occasion arises for taking aim and projecting the charge.

Variations within the spirit and scope of my invention are equally comprehended by the foregoing disclosure.

I claim:

The combination, in a weapon having a barrel and a stock, of a cylindrical member filling the forward portion of said barrel, said member having a main bore and a reduced terminal bore, a plunger in said main bore, power means located in the rearward portion of said barrel to operate said plunger, a liquid containing magazine attached to the under side of said barrel, means of communication between said magazine and main bore, means for setting said plunger to cover said means of communication in the cocked position, thereby providing a charge chamber between said plunger and the reduced bore, and means for releasing said plunger.

New York, N. Y., January 31st, 1930.

DAGFIN DORPH.