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R. B. LAWRENCE

HAND WEAPON

Filed Dec. 1, 1922

Fig. 1.

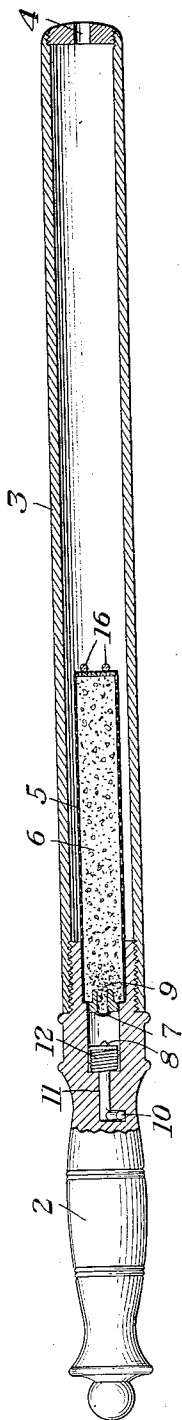


Fig. 2.

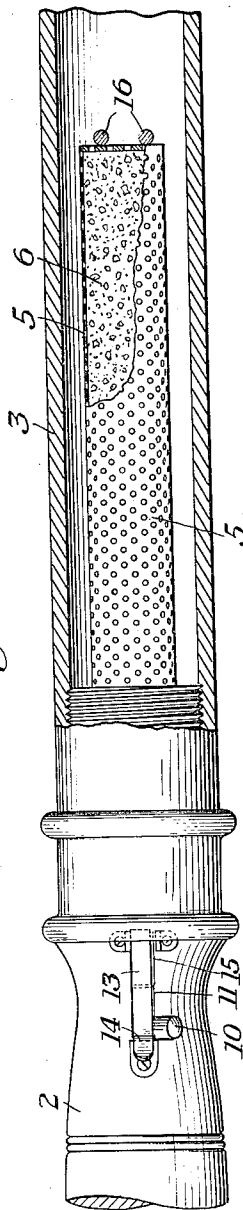


Fig. 4.

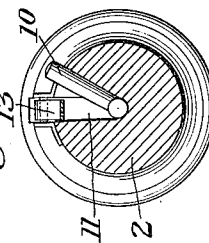
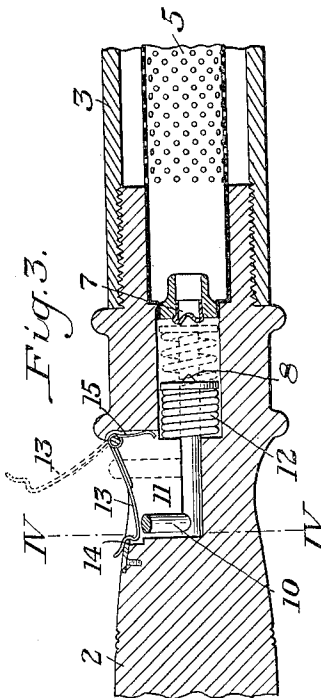


Fig. 3.



INVENTOR

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UNITED STATES PATENT OFFICE.

RUBEN B. LAWRENCE, OF BELLEVUE, PENNSYLVANIA, ASSIGNOR TO FEDERAL LABORATORIES, INCORPORATED, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF DELAWARE.

HAND WEAPON.

Application filed December 1, 1922. Serial No. 604,450.

To all whom it may concern:

Be it known that I, RUBEN B. LAWRENCE, a resident of Bellevue, Allegheny County, Pennsylvania, have invented a new and useful Improvement in Hand Weapons, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to hand weapons, and more particularly to hand weapons which employ an incapacitating gas.

For offensive or defensive use in police work or the like, and more particularly
15 against large gatherings, the ordinary weapons are either ineffective or too highly destructive to be used. I provide a weapon which discharges an incapacitating gas, such as tear gas, thereby effectually coping
20 with the situation without loss of life, but while I prefer to use a gas having only temporary effect, I do not limit my invention thereto, as lethal gases may be employed for use in more serious circumstances.
25

My weapon may be combined with an auxiliary weapon, such as a policeman's club, thereby providing an officer with a double weapon in the same compass. I
30 also provide for directing the emitted gas, and have found by actual test that my invention is capable of discharging a stream of incapacitating gas for a distance of fifty feet or more. This not only safeguards the
35 user from the effect of the gas, but also enables him to use the weapon at a comparatively long range, thus protecting him from assault. This feature of my invention is also useful against barricaded criminals,
40 as has been shown by actual use, since the gas may be readily discharged through a keyhole or under a door.

In the accompanying drawings, illustrating one embodiment of my invention:

45 Figure 1 is a view, partly broken away, showing my weapon embodied in a policeman's club;

Figure 2 is an enlarged view of a portion of Figure 1;

50 Figure 3 is a sectional view, showing the means for setting off the gas; and

Figure 4 is a sectional view on the line IV—IV of Figure 3.

In the illustrated embodiment of my in-

vention, a policeman's club having a handle 2, is provided with a hollow body or shaft 3, which is preferably of metal and of the same weight as the usual policeman's club. The end of the body has a nozzle 4, through which the incapacitating gas is emitted. 55 60

The gas-emitting or generating device consists of a foraminous tube or cartridge 5, containing the gas-producing substance 6. I prefer to use a mixture of chloracetophenone and gunpowder for this purpose. 65 Chloracetophenone is a crystalline solid which generates a very strong lachrymatory gas when heated. Upon ignition of the gunpowder, the heat of combustion quickly vaporizes the crystals and at the
70 same time the gunpowder gives off a large quantity of vehicular gas, which furnishes sufficient pressure to discharge the mixture of gases through the nozzle 4 with great force and carrying power. While
75 it is preferred to use a solid gas-producing substance, a liquid may be used, enclosed, for example, in a glass vial to be ruptured by an explosive charge.

The gunpowder may be either ordinary black powder or smokeless powder, but if the latter is used, it is preferably mixed with magnesium, oxide or some other inert substance to retard combustion.

The powder is ignited by a detonating cap 85 7 at the end of the tube 5. A striker 8 is provided for setting off the cap and a primer of meal powder 9 is placed behind the cap to insure proper combustion when the detonator is set off. The striker 8 is
90 provided with a pin or trigger 10, which fits in a bayonet slot 11. The normal position of the trigger is shown in Figures 2 and 4, with the striker back from the detonator. When it is desired to set off the
95 gas, the user pushes the trigger over with his finger or thumb, and the spring 12 forces the striker against the detonator as shown by dotted lines in Figure 3.

To prevent accidental discharge, I provide a safety latch 13. This latch normally lies in the major portion of the bayonet slot 11, and prevents releasing of the trigger 10. When the weapon is to be used, the latch is lifted from the detent 14 by the user's finger and is thrown to the dotted line position of Figure 3 by a spring 15, leaving the trigger free. 100

After the weapon has been discharged, the handle 2 may be unscrewed from the body 3 and the empty tube 5 removed. A new tube or cartridge, with its detonator and primer, may be inserted after pulling back the trigger. When the parts of the club are again screwed together, it is ready to be fired again.

The cartridge is carried near the handle of the club, so that it is not likely to suffer from use of the club itself. The cartridge is embraced at its upper end by the handle 2 and is prevented from longitudinal movement by pins 16.

I have used the term "hand weapon" in this specification and the appended claims as a term of general definition, and mean that it shall include any weapon which is under the control of the user at the time of discharge, as distinguished from a grenade or a gas shell, for example, and while I have shown one embodiment of my invention, it will be understood that it is not so limited, but may be embodied in other constructions within the scope of the following claims.

I claim:

1. A hand weapon, comprising means for emitting a stream of incapacitating gas, manually-controlled means for setting off the weapon, and means for rendering said manually-controlled means inoperative when desired, substantially as described.

2. The combination with a weapon for emitting a stream of incapacitating gas, of an auxiliary weapon, substantially as described.

3. The combination with a weapon for emitting a stream of incapacitating gas, of an auxiliary weapon, the pointing of the auxiliary weapon being effective for directing the emitted gas, substantially as described.

4. The combination with a policeman's club, of means for emitting a stream of incapacitating gas, substantially as described.

5. A policeman's club comprising a hollow body, a gas nozzle therein, a renewable device within the body adapted to generate an incapacitating gas whereby a stream of gas is emitted from the nozzle when the renewable device is set off, and means for setting off such device, substantially as described.

6. A policeman's club comprising a hollow body having a gas nozzle formed therein, a gas emitting device within the body adapted to emit an incapacitating gas over a substantial time period, whereby a stream of gas is emitted from the nozzle, and means for setting off the gas emitting device, substantially as described.

7. A policeman's club comprising a hollow body having a nozzle therein, a device within the body adapted to generate an incapacitating gas when set off, whereby a

stream of gas is emitted from the nozzle, means for setting off the gas emitting device, comprising a detonator and a striker therefor, and means for releasing the striker substantially as described.

8. A policeman's club comprising a hollow body, a container therein holding an incapacitating gas-producing substance and a material capable of self-supporting combustion, and manually-operable means for igniting such material, substantially as described.

9. A policeman's club comprising a hollow body, a nozzle at the end thereof, a container within the body containing a solid vaporizable incapacitating gas-producing substance and gunpowder, a detonator, a striker therefor, and a trigger adjacent the hand of the user for releasing the striker, substantially as described.

10. A policeman's club comprising a hollow body, a nozzle at the end thereof, a container within the body containing a solid vaporizable incapacitating gas-producing substance and gunpowder, a detonator, a striker therefor, a trigger adjacent the hand of the user for releasing the striker, and means for retaining said trigger in inoperative position when desired substantially as described.

11. A policeman's club having a handle and a hollow body, a gas cartridge within the club, means controlled from the handle of the club whereby the gas cartridge may be set off, and means for disassembling the body and the handle whereby the gas cartridge may be removed and a new one inserted, substantially as described.

12. A policeman's club comprising a handle, a manually-controlled striker in the handle, a cartridge containing a gas-producing substance and a detonator removably mounted on the handle, and a hollow club shaft also removably mounted on the handle and fitting over the cartridge, substantially as described.

13. A policeman's club comprising a handle, a spring-operated striker in the handle, a trigger on the handle adapted to be operated by the hand of the user, a cartridge containing a gas-producing substance and a detonator removably mounted on the handle, a hollow club shaft also removably mounted on the handle, and fitting over and enclosing the cartridge and having a gas-directing opening, substantially as described.

14. A policeman's club comprising a handle, a striker therein, a trigger controlling the striker and arranged to be operated by the hand of the user, a safety detent for preventing accidental operation of the trigger, a cartridge containing a detonator and a gas-producing substance removably mounted on the handle, and a hollow club

shaft removably mounted on the handle and forming a chamber for enclosing the cartridge, substantially as described.

5 15. A hand weapon comprising a hollow body, a gas emitting device therein spaced from the body, of a gas emitting device containing a combustible and a gas producing substance adapted to be gasified by the heat of the combustible, the spacing of the gas

emitting device from the walls of the hollow body permitting free combustion over substantially the entire surface of the gas emitting device, and means for igniting the combustible, substantially as described. 10

In testimony whereof I have hereunto set my hand.

RUBEN B. LAWRENCE.