May 13, 1969 A. E. MANATOS 3,443,333

TEAR GAS PALM PISTOL

Filed Aug. 4, 1967

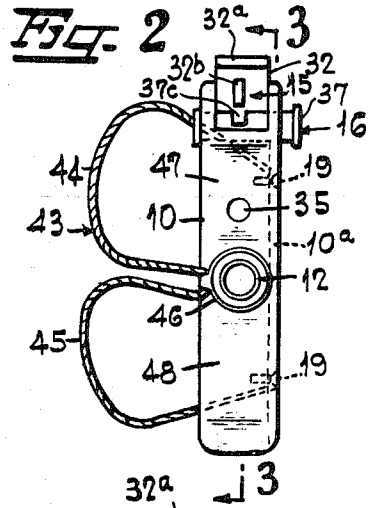

Fig. 2

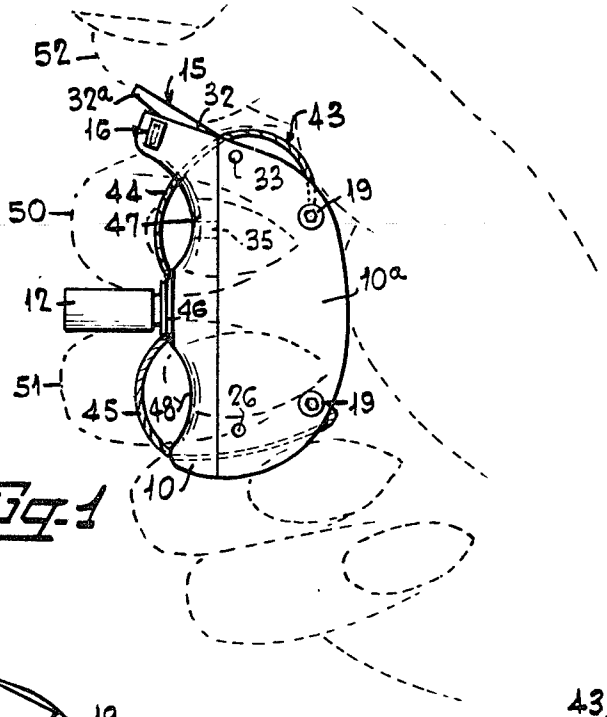

Fig. 1

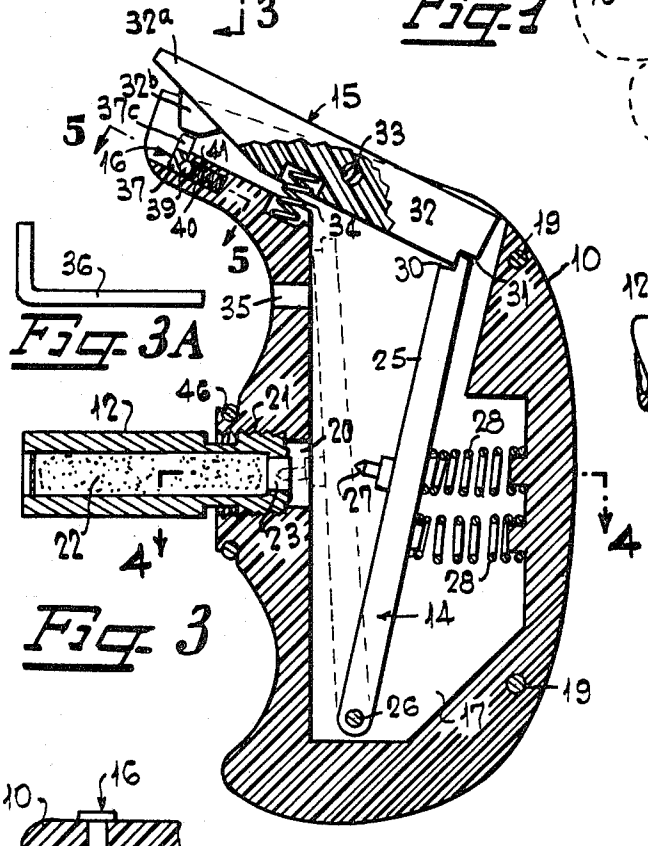

Fig. 3A

Fig. 3

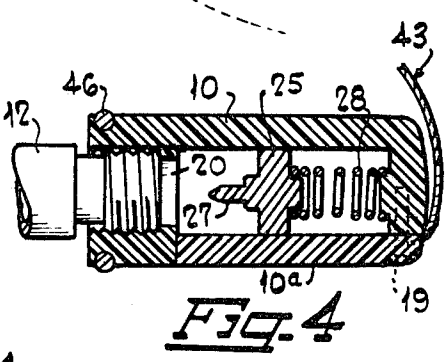

Fig. 4

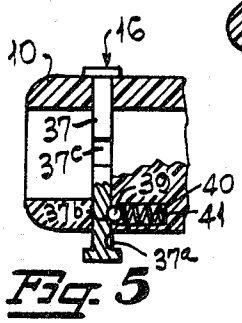

Fig. 5

INVENTOR:
ANDREW E. MANATOS

BY Robert Brown Jr.
ATTORNEY

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# TEAR GAS PALM PISTOL

Andrew E. Manatos, 1100 6th St. SW., Apt. 208, Washington, D.C. 20024

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U.S. Cl. 42—1 4 Claims

## ABSTRACT OF THE DISCLOSURE

A T-shaped tear gas pistol having a charge-containing barrel, a transversely disposed handle projecting in opposite directions from one end of the barrel, and a spring-pressed detonating lever is pivoted at and within one end of the handle and likewise projecting in opposite directions substantially across said barrel end. The barrel consists entirely of a short cartridge and is adapted to project between two adjacent fingers of the user's hand (usually the index and middle fingers) when the opposite ends of the handle are gripped between said fingers and the hand palm. A trigger is releasably engageable with the free detonating lever and is adapted to be pressed by the thumb to actuate the detonating lever.

This invention relates to defensive weapons and more especially to pistols for discharging disabling products such as tear gas.

In order for a defensive weapon to be of maximum service to a party when attacked, it must be capable of instant use unbeknown to the attacker. Heretofore, various types of tear gas weapons have been devised such as disclosed in Patents Nos. 1,760,674 and 3,109,253. Although the prior art weapons of this type are sometimes shaped to simulate non-defensive articles for the purpose of deceiving the attacker, these are also adapted to be carried in the pocket of the user: consequently, when the latter is attacked, he must reach for the weapon and thereby unintentionally warn the attacker of defensive action.

It is critically important for tear gas guns of the type described to be capable of being carried in a substantially totally concealed position in the user's hand and ready for instant discharge in response to pressure by the user's thumb. By concealing the weapon in this manner, the user stands ready to initiate a surprise counterattack upon an assailant with a minimum amount of manual movement.

It is therefore an object of this invention to provide a defensive tear gas palm pistol which may be carried and operated while in substantially totally concealed firing position within the user's hand.

It is another object of invention to provide a T-shaped pistol having a short barrel or cartridge extending transversely from an intermediate portion of the handle thereof and adapted to fit between two adjacent fingers of the user's hand when the handle is gripped between said fingers and the hand palm.

It is a further object of invention to provide a pistol of the type described wherein the barrel consists entirely of a cartridge detachably secured to the handle.

It is yet another object of invention to provide a tear gas pistol which is of minimum size, simple in construction, relatively inexpensive to manufacture, and of a shape which facilitates instant use in an emergency.

Some of the objects of invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which,

FIGURE 1 is a side elevation of a tear gas pistol according to the invention, and positioned in a person's hand ready to be fired;



FIGURE 2 is an elevational view looking at the left-hand side of FIGURE 1;

FIGURE 3 is an enlarged vertical sectional view taken along line 3—3 in FIGURE 2, showing the detonating mechanism of the piston in bold-line cocked position;

FIGURE 3A is a view of an accessory pin employed to cock the detonating mechanism;

FIGURE 4 is a sectional plan view taken along line 4—4 in FIGURE 3, and

FIGURE 5 is a sectional detail view taken along line 5—5 in FIGURE 3, showing portions of the safety device for preventing accidental discharge of the pistol.

Referring more particularly to the drawings, the numeral **10** denotes the handle of a T-shaped tear gas pistol having a relatively short barrel or cartridge **12** extending transversely from an intermediate portion thereof. The handle supports a detonating mechanism **14**, a trigger mechanism **15**, and a safety mechanism **16**, each of which will be described hereinafter in detail.

The handle **10** has a recess **17** therein to which access may be had by means of a side cover plate **10***a* removably secured in position by means of screws **19**. The recess has communicating therewith a transversely disposed bore **20** in which is threadably secured the above-mentioned cartridge or barrel **12** as at **21**, said cartridge being charged with a suitable tear gas or like product **22** and provided with a percussion cap **23** at the threaded end thereof.

The detonating mechanism **14** comprises a lever **25** pivotally mounted at one end of the handle as at **26** within the recess **17**, said lever extending in opposite directions from the intersection of the handle and barrel axes. The intermediate portion of said lever is provided with a firing pin **27** adapted to strike the cap **23** as the lever **25** is moved from bold-line to dotted-line position by means of compression springs **28**.

The upper free end of detonating lever **25** is disposed at the opposite handle end and has a notch **30** therein adapted to releasably engage a second notch **31** on the lower end of inclined latch **32** of the trigger mechanism **15** to thereby hold the detonating mechanism **14** in bold-line cocked position. By positioning the lever within the handle and in the above described coextensive relationship with the intermediate handle portion, a simple, more efficient, and compact construction is provided.

Latch **32** is pivoted intermediate its ends as at **33** to the upper end portion of handle **10**, said latch being yieldingly biased in a clockwise direction to a latched position by means of a compression spring **34**. By depressing the upper inclined end portion **32***a* of latch **32**, the detonating lever **25** will be released to cause the firing pin **27** to strike cap **23** which, in turn, will detonate charge **22** in cartridge **12**.

It is evident from FIGURE 3 that the distance between firing pin **27** of lever **25**, when the latter is in cocked position, may be easily adjusted to suit operating conditions by rotating cartridge **12** in its threaded bore **20**.

A bore **35** is provided in the upper front end portion of handle **10** and opposite the upper end portion of detonating lever **25**. This bore is adapted to receive one end of a pin **36** (FIGURE 3A) when it is desired to cock the detonating mechanism.

The safety mechanism **16** includes a bar **37** (FIGURES 2, 3 and 5) slidably mounted for transverse movement in the upper end portion of handle **10**, said bar being located immediately beneath the latch end **32***a*. Bar **37** has spaced recesses **37***a* and **37***b* therein which are adapted to be selectively engaged by a ball **39**, said ball being yieldingly pressed into a selected recess by means of a spring **40** in bore **41**. The bar is also provided with a notch **37***c* in its upper edge, the latter being adapted to be penetrated by a projection **32***b* depending from the underside of latch end

32*a* when the latch is depressed to actuate the detonating mechanism **14**.

In the drawings, the trigger mechanism **15** is shown in firing position, at which time the ball **39** engages the recess **37***b* (FIGURE 5) and projection **32***b* is positioned opposite the notch **37***c* as previously stated. When it is desired to render the latch or trigger **32** inoperative, the bar **37** is pressed away from the observer in FIGURE 5 until the recess **37***a* is engaged by the ball **39** and the notch **37***c* is laterally offset with respect to projection **32***b* thereabove, thus blocking the downward movement of the latch end **32***a*.

An elastic strand or band **43** is attached to handle **10** so as to provide loops **44** and **45** into which adjacent fingers of the user may be inserted to hold the pistol upon the hand.

The strand **43** has its opposite ends secured respectively to the upper and lower end portions of handle **10** as at the previously mentioned cover screws **19**, the intermediate portion of said strand being secured to the handle as at **46** near the barrel **12**.

Concave recesses or notches **47** and **48** are provided in the upper and lower front portions of the handle **10** and opposite the loops **44** and **45** respectively, said loops and recesses combining to form two openings for accommodating adjacent fingers of the hand when gripping the handle.

As shown in FIGURE 1, the pistol is usually held with the index finger **50** and the middle finger **51** extending respectively through loops **45** and **46**, with the cartridge projecting between these fingers, and with the thumb **52** resting upon trigger or latch end **32***a*. When the pistol is gripped with the fingers thus positioned, the handle **10** will rest in the palm of the hand while the barrel **12** and trigger **32** will be covered by the fingers and thumb, thereby concealing substantially the entire outer pistol surface, the pistol being ready for use with a minimum amount of manual motion.

It will be appreciated that some users may prefer to have the loops **44** and **45** extend around, and have the cartridge **12** project between, two other adjacent fingers of the hand while employing the thumb to actuate and cover the trigger **32** as before.

I claim:

**1.** A substantially T-shaped pistol comprising a barrel member for holding a charge of tear gas product or the like, a transversely disposed handle member having its ends projecting respectively in opposite directions from one end of said barrel member, a spring-pressed detonating lever mounted within said handle member and having its ends projecting across said barrel member end substantially in said opposite directions whereby the barrel member is adapted to project between two adjacent fingers of a user's hand when the projecting handle member ends are gripped between said fingers and the hand palm, means for pivotally securing said lever at one end of said handle member for oscillation within the handle member ends and toward and away from said barrel end, means mounted in the handle member end remote from said lever pivot for releasably holding the lever in retracted position against said spring pressure, and means mounted on the last-named handle member end and engageable by the user's thumb to release the retracted lever for movement toward said barrel end.

**2.** A pistol as defined in claim **1** wherein said handle member end remote from said lever pivot is provided with an opening extending substantially in the plane of oscillation of said lever, and further comprising means insertable into said opening and engageable with the free end of said lever for moving the latter from released to retracted position.

**3.** A pistol as defined in claim **1** and further comprising a pair of elastic finger-receiving loops, one end of each of said loops being secured to said handle member adjacent said barrel end and the opposite ends of said loops being secured respectively to the opposite end portions of said handle member to form a supporting means for the pistol.

**4.** A pistol as defined in claim **1** wherein said barrel member consists of a tear gas cartridge and further comprises means for threadably securing said cartridge to said handle member whereby the distance between said secured cartridge end and the retracted detonating lever may be adjusted.


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BENJAMIN A. BORCHELT, *Primary Examiner.*

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