

April 14, 1953

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2,634,535

POLICEMAN'S CLUB AND CARTRIDGE FIRING MECHANISM

Filed Aug. 7, 1950

2 SHEETS—SHEET 1

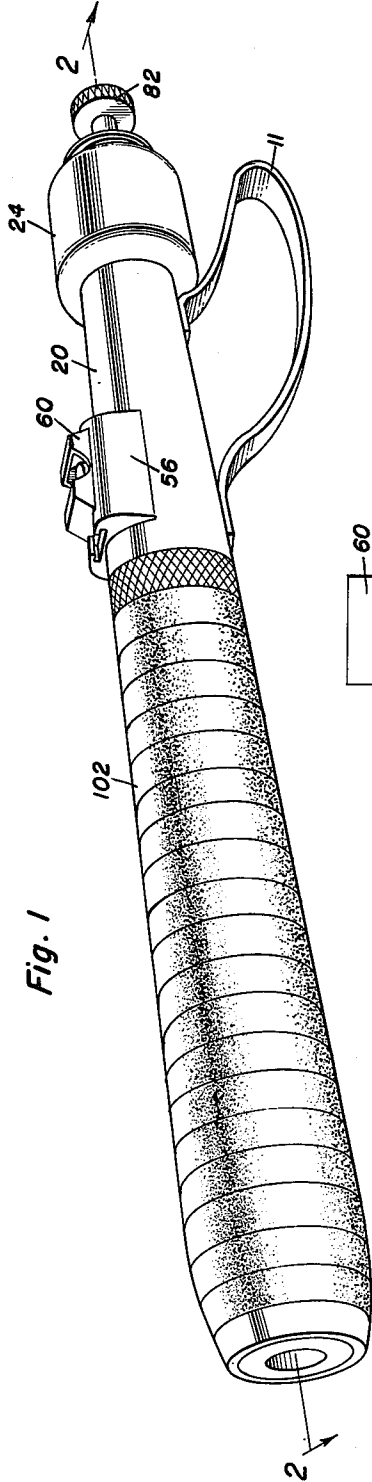


Fig. 1

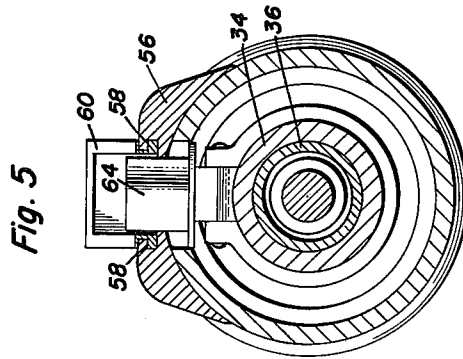


Fig. 5

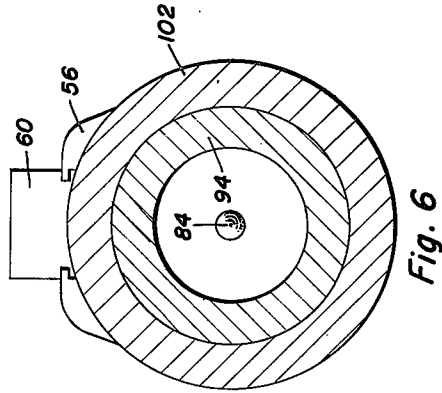


Fig. 6

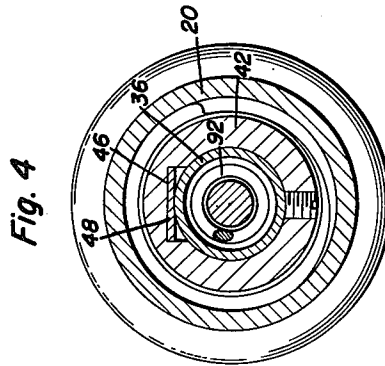


Fig. 4

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2 SHEETS—SHEET 2

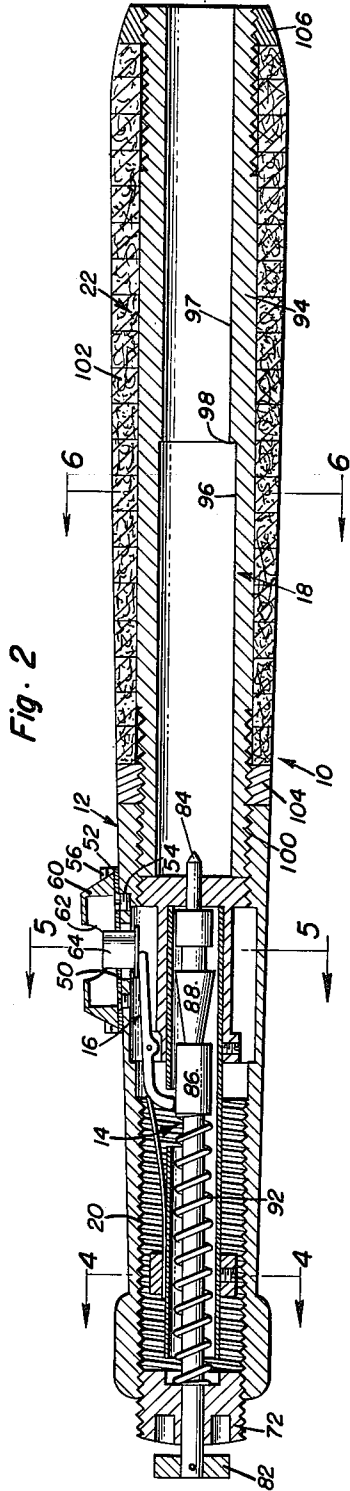


Fig. 2

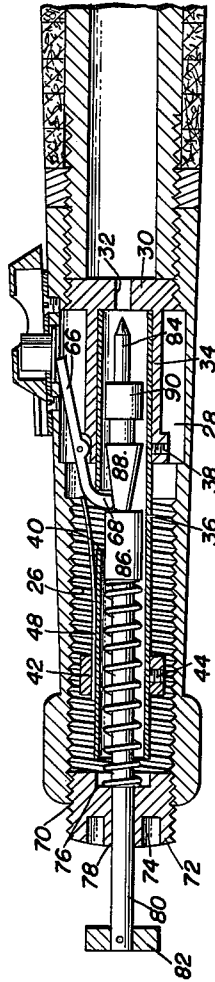


Fig. 3

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UNITED STATES PATENT OFFICE

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POLICEMAN'S CLUB AND CARTRIDGE FIRING MECHANISM

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1 Claim. (Cl. 42—1)

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The present invention relates to improvements in policemen's clubs, and more particularly to the type of policeman's club wherein means are provided for firing a cartridge such as a tear gas or the like.

An object of the present invention is to provide a novel policeman's club which is of hollow construction and wherein means are provided within the hollow construction for housing a tear gas bomb with means for firing the same through the end of the club.

Still another object of the present invention resides in the novel arrangement whereby the firing mechanism is actuated for discharging the percussion cap of the cartridge.

A still further object of the present invention resides in the provision of adjustable means whereby the force with which the firing pin strikes the cartridge may be adjusted.

A further object of the present invention resides in the provision of a resilient means for normally urging the lever actuating means to engagement with the plunger means for holding the same in retracted position.

Various other objects and advantages will be apparent from the detailed description to follow. In the description as well as in the claim, parts are at times identified by specific names for convenience, but such nomenclature is intended to be as generic in its application to analogous parts as the prior art will permit.

The best form in which I have contemplated applying my invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the policeman's club;

Figure 2 is a longitudinal sectional view taken substantially along the plane of line 2—2 of Figure 1;

Figure 3 is a detail sectional view of a portion of Figure 2 enlarged and showing the lever means engaged with the plunger for holding the same in retracted position;

Figure 4 is a vertical transverse sectional view taken substantially along the plane of line 4—4 of Figure 2;

Figure 5 is a vertical transverse sectional view taken substantially along the plane of line 5—5 of Figure 2; and

Figure 6 is a vertical transverse sectional view taken substantially along the plane of line 6—6 of Figure 2.

Referring more particularly to the drawings, wherein like numerals designate like parts throughout, the numeral 10 designates generally

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the billy club of the present invention, which includes a substantially tubular housing means 12, a plunger and firing pin means 14, retractable lever actuating means 16, and cartridge holding means 18.

The policeman's club 10 and the substantially tubular housing 12 are substantially of conventional form, having a handle portion 20 and a club portion 22. The handle portion 20 is provided with an annular enlarged portion 24 forming the end of the club, and the handle portion 20 is provided with an internally threaded bore 26 and an enlarged recess 28. A partition wall 30 is threadably engaged within the internally threaded bore 26 and is provided with a centrally disposed aperture 32 through which a firing pin is adapted to project. The partition wall 30 is provided with an axially extending tubular portion 34 in which is securely mounted the thin walled sleeve 36 which extends substantially the length of the handle portion 20. The thin walled sleeve 36 is held within the tubular extension 34 by means of the set screw 38 and is provided with an opening 40 in the upper side thereof for a purpose to be hereinafter described.

At an intermediate portion of the thin walled sleeve 36, an annular ring 42 is secured thereon by means of the set screw 44, and the annular ring is provided with a recess 46 for receiving one end of a flat spring strip 48.

The handle portion 20 is provided with an opening 50 with a sheet metal plate 52 secured therearound by means of screws 54. Mounted on the sheet metal plate 52 is a plunger housing 56 provided with the longitudinally extending parallel grooves 58. Slidably disposed within the grooves 58 is a reciprocable cap 60 having a finger opening 62 at its upper side.

Reciprocably mounted within the openings in the sheet metal plate 52 and in the handle portion at 50 is a plunger 64 which is engageable by a finger of the policeman when the opening 62 in the cap 60 is directly above the plunger 64.

Pivotaly mounted on the elongated sleeve extension 34 is the retractable lever means 16 which includes the lever 66 having one end engageable by the plunger 64 and its other end angulated at 68 and adapted to extend through the opening 40 in the thin walled sleeve 36.

The open end 70 of the handle portion 20 is closed by the adjustable closure 72 which is threadably engaged within the bore 26 having recesses 74 in its outer surface for engagement by a tool for rotation thereby. The inner surface of the closure 72 is provided with a spring

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receiving recess 76 and an axially extending bore 78. Reciprocally mounted in the axially extending bore 78 is the plunger means 14 which includes a plunger rod 80 having a knurled handle 82 secured to its outer end. The opposing end of the plunger rod 80 is formed with a firing pin 84 which is adapted to be urged through the bore 32 in the partition wall 30 and against a percussion cap of a cartridge within the cartridge holding means 18. Intermediate its ends, the plunger rod 80 is formed with an enlarged annular abutment shoulder 86 and a frusto-conical portion 88 integral therewith with its smaller end adjacent the abutment shoulder 86. juxtaposed to the larger diameter of the frusto-conical portion 88 is an enlarged annular portion 90 which is adapted to abut the partition wall 30 for limiting movement of the plunger rod 80 in a firing direction.

A means is provided for resiliently urging the plunger means towards a firing position and includes a resilient coil spring 92 which encircles the plunger rod 80 and has its ends abutting the abutment shoulder 86 and the closure 72 at the recess 76.

The cartridge holding means 18 includes the elongated tubular club portion 94 which is provided with an enlarged bore 96 for receiving a cartridge, the shoulder 98 between the bores 96 and 97 forming an abutment for the front end of the cartridge. The tubular member 94 is threaded at its ends, the inner ends being adapted to be threadably received in the outer end of the handle portion 20 at 100. A plurality of leather rings 102 envelop the tubular portion 94 forming the clubbing portion of the policeman's club. Retaining rings 106 are threadably engaged on each end of the tubular member 94 and about the leather rings 102 for holding the same together.

From the foregoing description, taken in conjunction with the drawings, it is believed that the operation of the policeman's club of the present invention will be readily understood by one skilled in the art. When it is desired to load the policeman's club, a cartridge is inserted into the cartridge-receiving means 18 and the handle portion is then threaded onto the club portion at 100. The plunger means is, of course, in its rearmost position, as shown in Figure 3, with the angulated end 68 of the lever 66 extending through the opening 40 and engaged against the abutment shoulder 86 and frusto-conical portion 88 of the plunger means 14. The closure 72 has been threaded into the bore 26, giving the desired compression to the spring 92 for firing purposes. The cap 60 which is slidably disposed within the member 56 on the handle portion of the club is in the position shown in Figure 3 so that the plunger 64 will not be inadvertently pressed, firing the pin against the cartridge and

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causing an accident thereby. When the policeman desires to fire a cartridge, he merely slides the cap 60 so that the opening 62 is over the plunger 64. He then merely presses the plunger 64 which pivots the lever 66, disengaging the angulated portion 68 from the abutment shoulder and frusto-conical portion of the plunger rod 80. The spring 92 will then effect movement of the plunger and firing pin so that the firing pin 84 extends through the bore 32 and strikes the percussion cap of the cartridge positioned within the cartridge holding means 18. The tear gas or the like will then be expelled through the bore 97 towards its target.

Of course, the handle portion is provided with a conventional handle strap at 11.

Having described the invention, what is claimed as new is:

A policeman's club and cartridge firing mechanism comprising a substantially tubular, elongated housing having a handle portion at one end, cartridge holding means in said housing, plunger means in said housing, a firing pin integral with said plunger means and extending in the direction of said cartridge holding means, resilient means for urging said firing pin toward said cartridge holding means, retractible means for releasably holding said plunger means away from said cartridge holding means, said plunger means including an elongated rod reciprocally mounted in said housing, an annular abutment shoulder on said rod, the portion of said rod adjacent said shoulder being frusto-conical in form, said retractible means including a lever pivotally mounted in said housing and having an angulated end for engagement with said shoulder and said frusto-conical portion, a plunger reciprocally mounted in the wall of said housing and engaging the end of said lever remote from said angulated end for pivoting the angulated end out of engagement with said elongated rod, a plunger housing secured to said first mentioned housing and having an opening therein, said plunger extending through said opening, a cap slidably mounted on said plunger housing and overlying said plunger, said cap having an opening therein providing access to said plunger when the cap is slid to one position.

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