

Feb. 22, 1966

N. A. BUSILLO

3,235,992

DISPENSER FOR TEAR GAS AND THE LIKE

Filed May 22, 1964

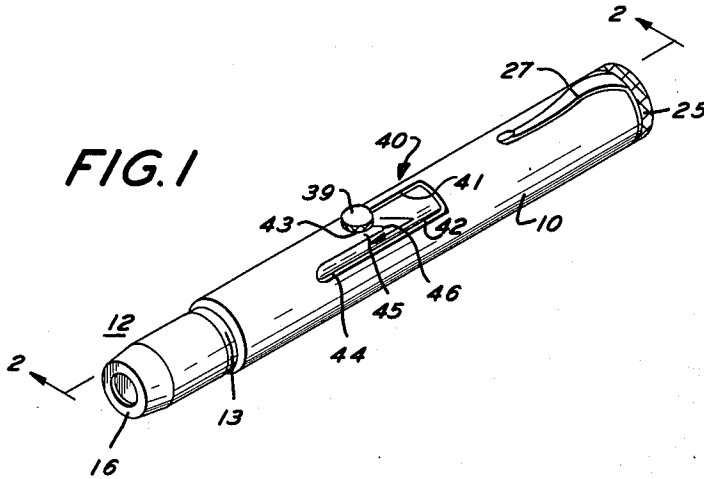
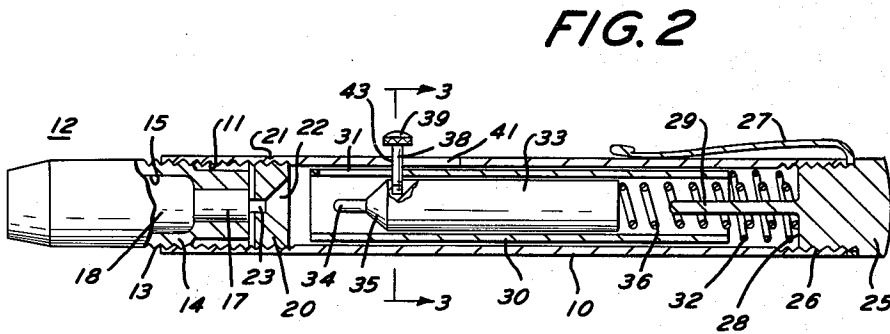
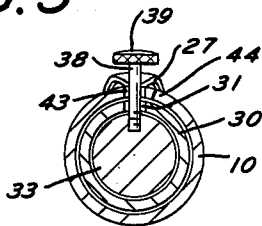
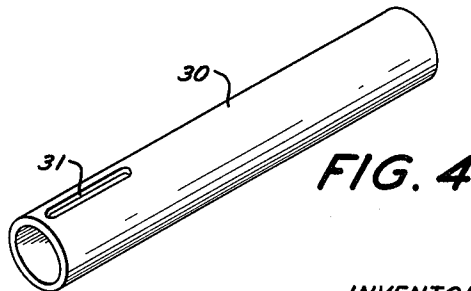


FIG. 3



INVENTOR
NICHOLAS A. BUSILLO

BY *B. T. Wobensmith*

ATTORNEY

1

3,235,992

DISPENSER FOR TEAR GAS AND THE LIKE

Nicholas A. Busillo, 1023 N. 67th St., Philadelphia, Pa.

Filed May 22, 1964, Ser. No. 369,449

1 Claim. (Cl. 42-1)

This invention relates to dispensers for tear gas, flares and the like and more particularly to improved portable dispensers of this type.

Various portable dispensers for tear gas and the like have heretofore been proposed and in which replaceable charge containers or cartridges were employed, but these had various shortcomings. One prior dispenser was heavy and had openings to the interior through which foreign objects could enter, particularly if the dispenser was carried in a woman's handbag. Such objects interfered with the subsequent operation and prevented activation of the charge container or cartridge.

Other portable dispensers for tear gas and the like had receptacles or bores into which a powder loaded lead bullet cartridge could be inserted and fired. This was not only hazardous to the user but also placed in the hands of vicious persons a weapon far removed in intent from the normal defensive function of a portable tear gas dispenser.

It is the principal object of the present invention to provide an improved dispenser for tear gas and the like which is free from the objectionable features of prior dispensers for this purpose.

It is a further object of the present invention to provide a dispenser for tear gas and the like in which the internal mechanism is guarded against the entry of objects which would interfere with the normal operation thereof.

It is a further object of the present invention to provide a dispenser for tear gas and the like which is light in weight and has improved operating mechanism.

Other objects and advantageous features of the invention will be apparent from the description and claim.

The nature and characteristic features of the invention will be more readily understood from the following description taken in connection with the accompanying drawings forming part thereof, in which;

FIGURE 1 is a perspective view of a dispenser in accordance with the invention;

FIG. 2 is a longitudinal sectional view, enlarged, taken approximately on the line 2-2 of FIG. 1;

FIG. 3 is a transverse sectional view still further enlarged, taken approximately on the line 3-3 of FIG. 2; and

FIG. 4 is a view in perspective of the guard tube removed from the dispenser.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes can be made in the structure disclosed without departing from the spirit of the invention.

Like numerals refer to like parts throughout the several views.

Referring now more particularly to the drawings the dispenser in accordance with the invention preferably includes an outer tubular barrel 10, which may be made of steel but is preferably made of aluminum alloy. The barrel 10 at one end has an internally threaded portion 11 for the reception of a charge container or cartridge 12 having a threaded portion 13 removably engaged with the threaded portion 11.

The charge carrier or cartridge 12 is of known type and includes a body 14 having a hollow charge containing bore 15 with a closure 16 at one end and a percussion cap 17 at the other end for effecting rupture of the closure 16 and ejection of the contents of the bore 15. The

2

charge 18 in the bore 15 can be of any desired type such as a powder which when ejected acts as tear gas, a powdered or liquid fire extinguishing material, or a flare providing material.

The threaded portion 11 of the barrel 10 has a limit stop 20 in threaded engagement therein, held in fixed position in any desired manner either by tightness of its threads or by impacting the metal as at 21 with a small punch after the stop 20 has been located.

The stop 20 has a central opening with a frustoconical portion 22 and a cylindrical portion 23 for purposes to be explained.

The opposite end of the barrel 10 from that in which the charge container or cartridge 12 is located has a closure plug 25 in threaded engagement with the barrel 10 at 26. The closure plug 25 can retain a resilient clip 27 in position for carrying the dispenser in a garment pocket like a fountain pen or mechanical pencil.

The closure plug 25 has an inner end face 28 with a central aligning pin 29 extending therefrom.

In the interior of the barrel 10 and in loose sliding engagement therein a guard sleeve 30 is provided having a longitudinal slot 31. A helical compression spring 32 engaging the face 28 bears against one end of the sleeve 30 and urges it toward the charge container or cartridge 12.

Within the interior of the sleeve 30 and freely slidable with respect thereto is an actuating rod 33. The rod 33 has an activating end pin 34 with a frustoconical stop shoulder 35, the end pin 34 being of a length to extend through the cylindrical opening 23 and activate the percussion cap 17 when the shoulder 35 engages and is held by the end of the opening portion 22.

The rod 33 at one end thereof has a helical compression spring 36 in engagement therewith, the other end of the spring 36 engaging the closure plug face 28. The aligning pin 29 aids in retaining the springs 32 and 36 in place when they are partially relieved.

In order to control the positioning of the actuating rod 33 a manual operating pin 38 is provided having a head 39. The pin 38 extends through the slot 31. The barrel 10 also has a slot 40 therein having a portion with widely spaced parallel sides 41 and 42, a short forward extension 43 for holding the pin 38 at an inactive position, a long forward extension 44 for permitting discharge movement of the pin 38 so that the actuating rod 33 advances its end pin 34 to activate the charge container or cartridge 12. The extensions 43 and 44 have a wedge shaped wall 45 therebetween with a rounded rear edge 46. The wide spacing of the sides 41 and 42 avoids any locations which would tend to catch or restrain the pin 38 in any movement from its inactive to its activating position.

The mode of use will now be pointed out.

The manual operating pin 38 is positioned in the short forward slot extension 43 and in this position holds the actuating rod 33 and the end pin 34 thereof in inactive position, against the force of the spring 36. The guard sleeve 30 is also held by the spring 32 so that it closes the slot 40 including the portion between the slot sides 41 and 42 and the forward extensions 43 and 44. Entry of foreign objects into the interior of the barrel 10 is thus prevented while the dispenser is in its inactive condition.

If now it is desired to discharge the contents of the charge carrier or cartridge 12, with the barrel 10 held in one hand by the user and with the charge carrier or cartridge 12 faced in the desired direction, the manual operating pin 38 is drawn against the force of the springs 32 and 36 rearwardly from its seat, in the short forward extension 43, moved around the edge 46 of the wedge

3

wall 45, and permitted to be driven forwardly by the spring 36 aided in part by the spring 32.

Upon forward movement of the actuating rod 33 the end in 34 moves through the opening 23, strikes the percussion cap 17 and effects discharge of the charge 18 from the bore 15.

The discharged carrier or charge cartridge 12 is removed, the operating pin 38 manually repositioned at its inactive position in the forward extension 43 and a new charge carrier or cartridge 12 is inserted.

The guard sleeve 30, in addition to preventing the entry of foreign objects into the interior of the barrel 10 while the same is being carried, also obviates the likelihood of the thumb being pinched by the operating pin 38 in its movement.

It will thus be seen that a dispenser has been provided which is particularly suited for carrying out the objects of the invention.

I claim:

A dispenser comprising a barrel having one end for the reception of a charge carrier, a closure at the other end of said barrel, a stop member inwardly at said one end, an actuating rod in said barrel having a pin movable beyond said stop member for activation of the charge carrier, a resilient member in said barrel urging said actuating rod to charge carrier activating position, said barrel

4

having a control slot, a manual operating pin connected to said actuating rod and extending through said control slot and having a manually accessible portion exteriorly disposed with respect to said barrel, said slot having a forward extension for engagement by said manual operating pin in an inactive position and another forward extension for movement of said manual operating pin and the actuating rod connected thereto to a charge carrier activating position, and a sleeve mounted for movement longitudinally along said barrel, said sleeve extending longitudinally beyond said slot in continuous closing relation to said slot, said sleeve being interiorly disposed in said barrel, and said actuating rod being interiorly disposed in said sleeve in movable relation thereto, said sleeve having a resilient member in said barrel in engagement therewith, and said sleeve having an elongated slot through which said manual operating pin extends.

References Cited by the Examiner

UNITED STATES PATENTS

1,897,992	2/1933	Ailes	42—1.7
2,757,474	8/1956	Williams	42—1.7
3,044,360	7/1964	Stefan et al.	42—1.4

BENJAMIN A. BORCHELT, *Primary Examiner.*