

Feb. 18, 1969

H. H. WIESE

3,427,741

SELF-ARMING GRENADE LAUNCHER

Filed Oct. 10, 1967

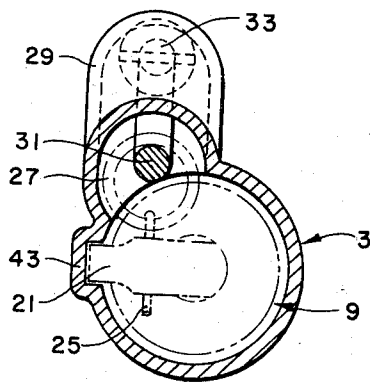
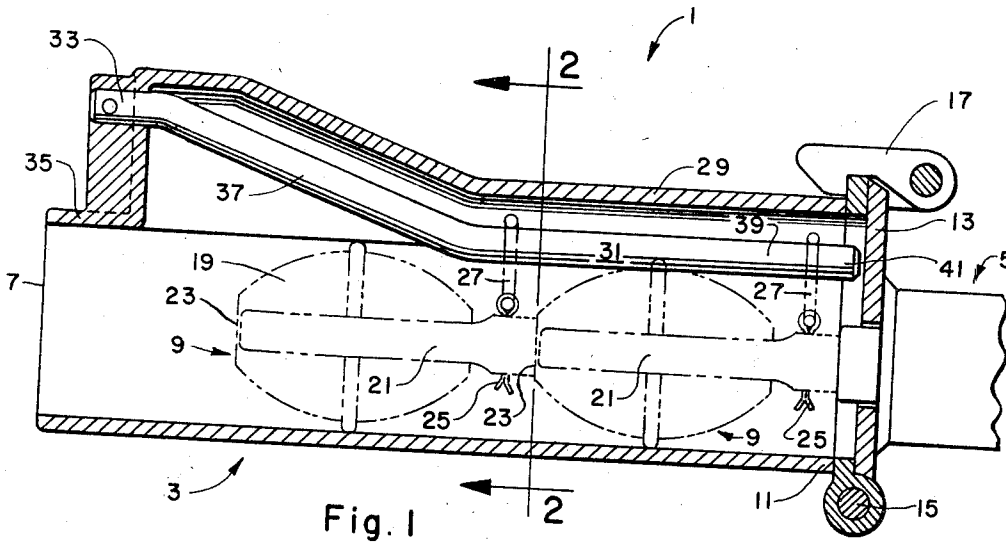


Fig. 2

INVENTOR.

HAROLD H. WIESE

BY

Harry M. Saragovitz, Edward J. Kelly,
Herbert Kohl, Jr., Gilbert E. Small
ATTORNEYS

ATTORNEYS

1

3,427,741

SELF-ARMING GRENADE LAUNCHER

Harold H. Wiese, Davenport, Iowa, assignor to the United States of America as represented by the Secretary of the Army

Filed Oct. 10, 1967, Ser. No. 674,353

U.S. Cl. 42-1

Int. Cl. F41f 7/00, 15/00

7 Claims

ABSTRACT OF THE DISCLOSURE

The invention relates to grenade launchers and provides automatic means for extracting the safety pin from a grenade in response to its propulsion through the barrel of the launcher. Extraction is accomplished by a cam rod which pulls the safety pin from the grenade as it is propelled through the barrel.

Background of the invention

The present invention relates to grenade launchers and more particularly to automatic means for extracting the safety pin from the grenade in response to its propulsion through the launcher.

Heretofore, grenade launchers required the removal of the safety pin prior to loading the grenade in the launcher. Although this arrangement was satisfactory for most purposes, extreme caution was required in handling the grenade so as not to prematurely release the arming lever, particularly if a decision is made not to fire the grenade but to disarm the launcher.

Therefore, it is a primary object of the present invention to provide automatic means for arming a grenade incident to propulsion thereof from a grenade launcher.

It is also an object of the present invention to provide means for removing the safety pin from a grenade incident to propulsion thereof from a grenade launcher.

A further object of the present invention is to provide an improved grenade launcher which will enhance the safety thereof.

Still further it is an object of the present invention to provide an improved grenade launcher which will maintain the grenade in a safe condition at all times except when it is to be propelled from the launcher.

Another object of the present invention is to provide an improved grenade launcher which is relatively simple to construct, highly efficient, easy to assemble, and economic to manufacture.

Summary of the invention

In accordance with a preferred embodiment of the present invention, a launcher is provided which automatically removes the safety pin from grenades to be propelled therefrom. This is accomplished by a rod disposed within the barrel of the launcher for slidably receiving the finger ring of the safety pin. A cam portion of the rod extends forwardly away from the barrel axis whereby upon propulsion of the grenade through the barrel, the cam portion pulls the safety pin from the grenade.

Brief description of the drawing

The novel features characteristic of the present invention as well as additional objects and advantages thereof, will be understood better from the following description when read in connection with the accompanying drawing, in which:

FIGURE 1 is a central longitudinal section of the grenade launcher, parts thereof being broken away; and

FIGURE 2 is a sectional view thereof taken along the line 2-2 of FIGURE 1.

2

Description of a preferred embodiment

Referring more particularly to the drawing, wherein similar reference characters have been used to designate corresponding parts throughout, there is shown a grenade launcher 1 in accordance with the present invention.

The grenade launcher is normally mounted on a base (not shown) for pivotal movement to orient it for firing in selected directions. The launcher comprises a launching tube or barrel 3 and an ejection or propulsion device 5. The launching tube is generally cylindrical and has one end 7 thereof open through which grenades 9 may be propelled. The opposite end 11 of the tube is normally closed by an end cap 13 which is pivotally attached to the tube by suitable means, such as hinge 15. The end cap 13 is provided with an appropriate fastener 17, such as the latch shown in FIGURE 1, thereby to hold the end cap in a secure, closed position until it is necessary to reload or unload the launcher.

The grenades 9 intended for propulsion through the launcher are standard grenades having a barrel-like body portion 19 and an arming lever 21 extending rearwardly from the forward end 23 of the body portion along the side thereof and terminating rearwardly of the body portion. The arming lever is normally spring-biased and held in a disarmed position by the safety pin 25 which is withdrawn incident to launching the grenade toward a target. In order to facilitate withdrawal of the safety pin, a finger ring 27 is attached to one end thereof.

The launching tube 3 is provided with a U-shaped housing 29 extending laterally and longitudinally thereof. A cam rod 31 is freely supported within the U-shaped housing and has its forward end 33 attached to the front end 35 of the housing. The cam rod has one section 37 or cam portion thereof which is directed rearwardly and radially inwardly toward the launching tube and terminates in another section 39 which is disposed parallel to the axis of the launching tube. The parallel disposed section 39 is also disposed at a radial distance from the axis of the launching tube sufficient to allow clearance for passage of the grenades through the tube. The rearwardly disposed end 41 of parallel section 39 terminates adjacent to the end cap 13 and is freely disposed for receiving the finger rings 27 of grenades loaded into the launcher.

The launching tube is also provided with another laterally extending housing 43 adjacent to the U-shaped housing 29. The other housing 43 is substantially rectangular in cross section and extends the entire length of the launching tube. The other housing 43 is disposed in a position for receiving and provides clearance for the grenade arming lever 21. In addition, the other housing 43 facilitates maintaining the grenade oriented in the launching tube for smooth functioning of the cam rod 31.

The grenade launcher provided by the present invention enables one or more grenades to be loaded in a single tube for simultaneous launching by simply stacking them one upon the other, in the manner illustrated in the drawings. Automatic arming of the grenades is accomplished incident to propulsion through the tube by the finger ring sliding along the cam rod. The cam portion of the rod functions to withdraw the pin so that the arming lever is free to arm the grenade once it leaves the launcher.

It will be recognized that the present invention provides a relatively simple arrangement which is conducive to safe operation since the safety pin is not extracted prior to launching thereby providing the operator and other personnel with greater safety than that of prior art launchers. In addition thereto, it also facilitates disarming of the launcher and makes for greater safety in the event it is decided to unload the launcher.

I claim:

1. A launcher for grenades having a removable safety pin comprising a tubular barrel, means for ejecting said grenade from said barrel, and means for extracting said safety pin from said grenade in response to ejection of said grenade from said barrel.

2. The invention defined in claim 1 wherein said extracting means comprises a member for engaging said safety pin, said member being supported by said barrel and having a cam portion thereof disposed inclined outwardly from said barrel in the direction of ejecting said grenade from said barrel.

3. The invention defined in claim 2 wherein said extracting member includes a dwell portion extending rearwardly from said cam portion, the end of said dwell portion remote from said cam portion being freely disposed to facilitate engagement of said safety pin with said extracting means.

4. A launcher for grenades having a removable safety pin comprising a tubular barrel adapted to receive a grenade at one end thereof for propulsion through said barrel and ejection from the opposite end thereof, a portion of said barrel being extended outwardly to provide a chamber extending laterally from and communicating with the hollow interior of said barrel, means for propelling said grenade through said barrel, and means extending from within said lateral chamber toward said one

end of said barrel for extracting said safety pin from said grenade in response to propulsion of said grenade through said barrel.

5. The invention defined in claim 4 wherein said extracting means comprises a cam member having one end thereof fixed to said barrel within said lateral chamber, the opposite end thereof being freely disposed and extending toward said barrel one end.

6. The invention defined in claim 5 wherein said cam member comprises a rod having a cam portion and a dwell portion, said cam portion extending from said fixed end and being angularly disposed with respect to the axis of said barrel.

7. The invention defined in claim 6 wherein said dwell portion extends from said cam portion to said freely disposed end, said dwell portion being disposed parallel to said barrel axis, said freely disposed end terminating adjacent to said one end of said barrel to facilitate engagement of said extracting means with said safety pin in response to loading said grenade in said launcher.

References Cited

UNITED STATES PATENTS

1,173,515	2/1916	Holt	89—1.5
3,307,283	3/1967	Cox	42—1

BENJAMIN A. BORCHELT, *Primary Examiner.*