N. F. RODZIKEVITCH.

ANTI-AIRCRAFT BOMB OR SHELL.

APPLICATION FILED NOV. 27, 1916.

1,225,497. Patented May 8, 1917.

Fig. 1.

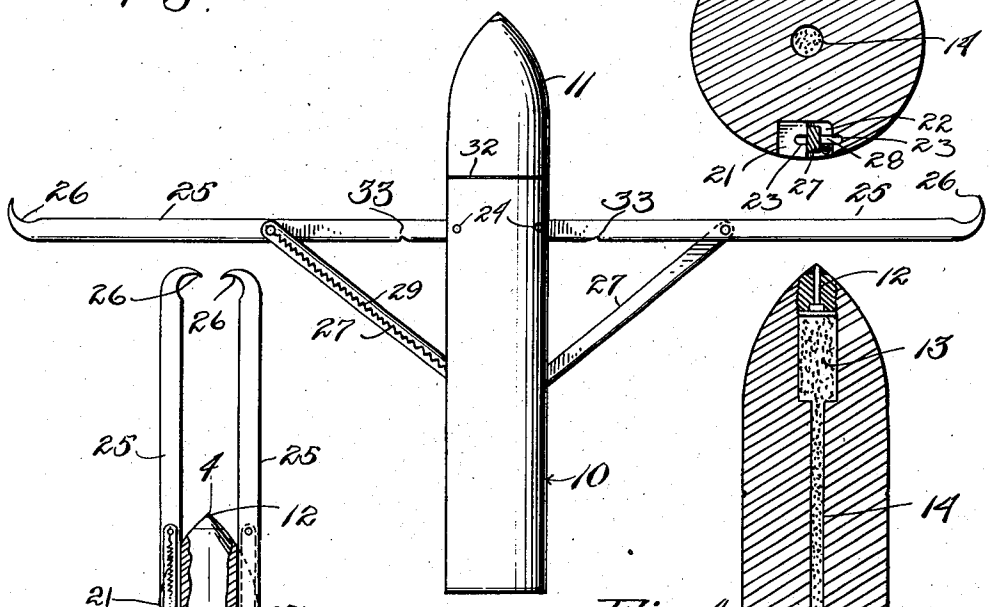


Fig. 5.

Fig. 2.

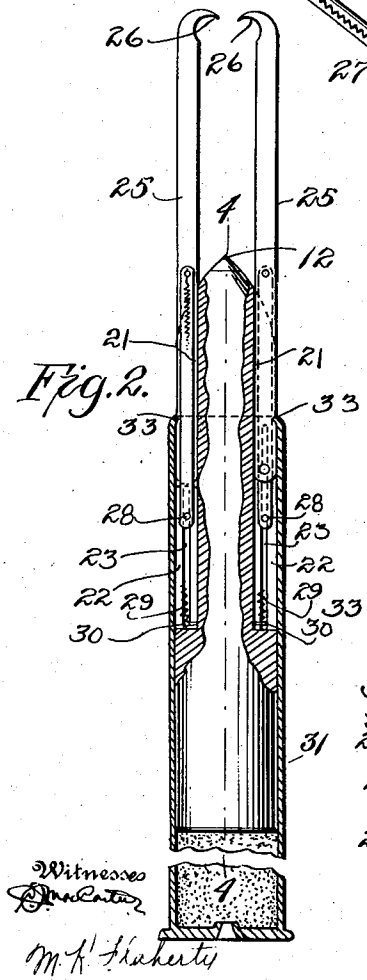


Fig. 4.

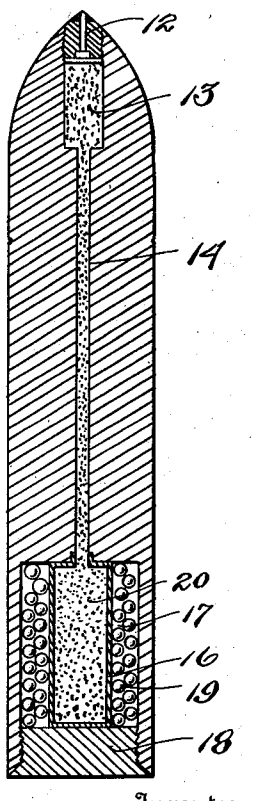
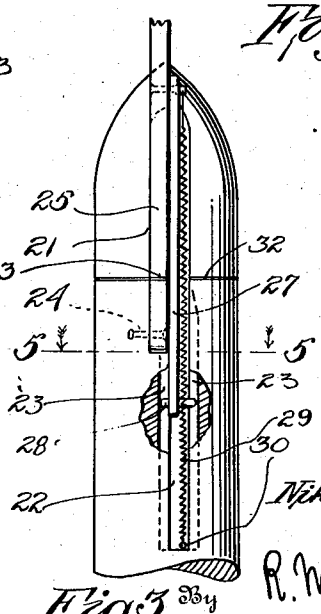


Fig. 3.



Witnesses

M. F. Flaherty

Inventor

Nikolaj F. Rodzikevitch

By R. Morgan Elliott & Co.

His Attorneys

UNITED STATES PATENT OFFICE.

NIKOLAJ F. RODZIKEVITCH, OF FARRELL, PENNSYLVANIA.

ANTI-AIRCRAFT BOMB OR SHELL.

1,225,497. Specification of Letters Patent. Patented May 8, 1917.

Application filed November 27, 1916. Serial No. 133,647.

To all whom it may concern:

Be it known that I, NIKOLAJ F. RODZIKEVITCH, a subject of the Czar of Russia, residing at Farrell, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Anti-Aircraft Bombs or Shells, of which the following is a specification.

This invention relates to projectiles and has special reference to an anti-aircraft bomb or shell.

One important object of the invention is to improve the general construction of devices of this character.

A second important object of the invention is to provide a device of this character having an improved arrangement of tearing arms to rip the envelop or planes of an air craft.

A third important object of the invention is to provide an improved device of the kind described wherein tearing arms are arranged to be held closed by the cartridge case.

With the above and other objects in view, as will be hereinafter apparent the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawing, and specifically claimed.

In the accompanying drawing, like characters of reference indicate like parts in the several views, and:—

Figure 1 is a side elevation of the shell with the tearing arms extended as it appears after firing.

Fig. 2 is a side elevation partly in section and showing the shell and cartridge casing with the parts in the positions in which they are held before firing.

Fig. 3 is a side elevation partly in section of the forward portion of the shell, the view being at right angles to Fig. 2.

Fig. 4 is a vertical section at right angles to Fig. 1.

Fig. 5 is a transverse section through the body of the shell.

In the embodiment of the invention herein illustrated there is provided a body 10 having a sharp point 11 at the front end or point of which is a fuse typically indicated at 12, the fuse being of any preferred kind such as a combined percussion and time fuse. Also located in this nose is a chamber filled with an explosive 13, the chamber communicating by a passage 14, filled with slow burning powder 15 with a casing 16 in a chamber 17 at the base of the shell or bomb.

The base of the shell is closed by a base plug 18 and around the casing 16 are packed shrapnel bullets 19, the casing itself being filled with an explosive 20.

Thus the shell or bomb has two explosive charges, the one in the nose acting first and blowing the nose to pieces while the one in the base acts afterward to blow the rear end of the shell or bomb to pieces and scatter the shrapnel.

Extending from the nose toward the base are broad channels 21 provided with rearward extensions 22 offset to one side of the channels 21 and having oppositely disposed grooves 23 in their side walls. Extending part way across each of the channels 21 is a pin 24 whereon is pivoted the rear end of a respective tearing arm 25 provided at its free end with a claw 26. Pivotally connected to each of the arms 27 is one end of a respective brace 27, the remaining end of each brace carrying a cross pin 28 slidable in grooves 23. This end of the brace 27 engages the rear end of its channel 22 when the arms 25 are extended as in Fig. 1, the rear ends of said arms and braces being housed in the channels before firing.

In order to assist in throwing the arms outward each arm has connected thereto one end of a tension spring 29, the remaining end of each spring being connected to the shell at 30.

At 31 is shown the cartridge case which partly envelops the shell and arms before firing, the mouth of the case being crimped into the shell groove 32 and arm notches 33 when the parts are assembled as in Fig. 2.

In operation, the cartridge is put into a proper gun in the form shown in Fig. 2 and fired. Upon leaving the gun the rotation given the projectile by the rifling will tend to throw the front ends of the arms outward by centrifugal action and this will be assisted by the springs, the two forces causing the arms to assume the position shown in Fig. 1. When in this position the rear ends of the braces will engage the rear ends of the channels and the arms will rest on the shoulders formed between the major and minor portions of said channels. When the fuse operates the front portion of the shell will first be exploded and after a slight interval of time the rear portion will explode. If the shell hits an aircraft before

exploding the arms will tear the planes or envelop to such extent as to wreck the craft and in any case the explosion of the shell will produce great damage when occurring near an air craft.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that many minor changes may be made in the form and construction of the invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described but it is wished to include all such as properly come within the scope claimed.

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

1. A bomb of the class described having longitudinal channels in its sides, tearing arms having their rear ends pivoted in the channels, braces having their front ends pivoted to the arms and their rear ends slidably mounted in the channels, and springs connecting the free portions of said arms and the body of the bomb adjacent the rear ends of the channels.

2. A bomb of the class described having longitudinal channels in its sides, tearing arms having their rear ends pivoted in the channels, braces having their front ends pivoted to the arms and their rear ends slidably mounted in the channels, springs connecting the free portions of said arms and the body of the bomb adjacent the rear ends of the channels, said arms and the body of the bomb being provided with grooves alining when the arms are folded, and a cartridge casing partly enveloping the bomb and arms and having its mouth crimped into said grooves.

In testimony whereof I affix my signature in the presence of two witnesses.

NIKOLAJ F. RODZIKEVITCH.

Witnesses:
D. NEWMAN,
PETE M. LOSIK.