Feb. 18, 1941. F. J. BRIGHTMAN 2,231,879

ANTIAIRCRAFT GUN

Filed March 16, 1939

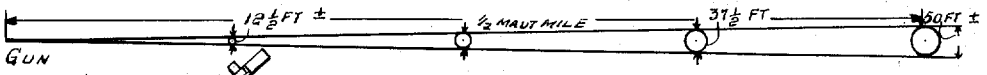


Fig. 5.

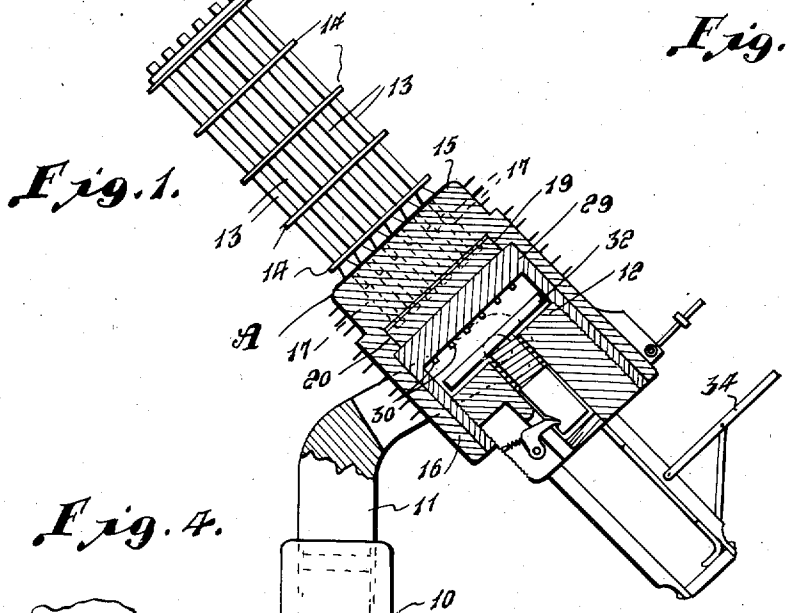
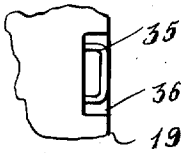


Fig. 1.

Fig. 4.



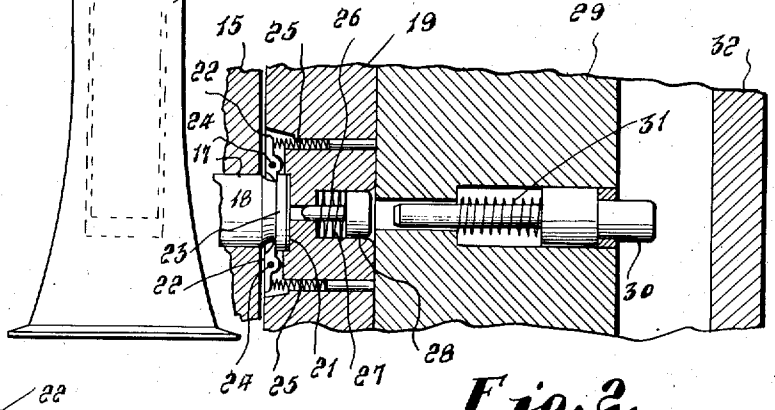


Fig. 2.

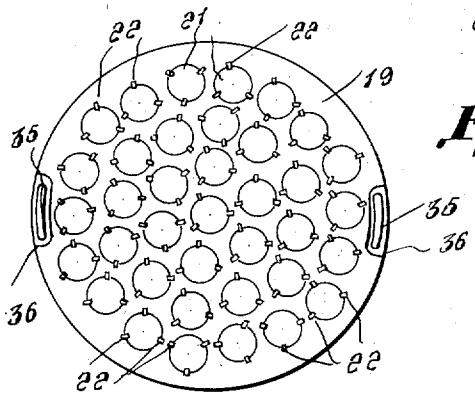


Fig. 3.

Inventor

Frederick J. Brightman

By A. F. Randolph

Attorney

Patented Feb. 18, 1941 2,231,879

UNITED STATES PATENT OFFICE

2,231,879

ANTIAIRCRAFT GUN

Frederick J. Brightman, Honolulu, Territory of Hawaii

Application March 16, 1939, Serial No. 262,267

2 Claims. (Cl. 89—1)

This invention relates to a gun particularly adapted for antiaircraft use although not limited thereto.

It is particularly aimed to provide a gun in which the hits will be almost certain when the elevation, deflection, lead, etc. are substantially correct when the gun is fired and wherein a plurality of barrels are all fired at the same time producing a pattern which is uniform, so that the number of balls or projectiles required will be maintained at a minimum, and such a construction as will produce a pattern of the desirable "short shot string."

The more specific objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawing illustrating an operative embodiment.

In said drawing:

Figure 1 is a view primarily in side elevation but partly in section showing my improved gun;

Figure 2 is an enlarged detail longitudinal section taken through the parts adjacent one of the firing devices;

Figure 3 is an elevation of the cartridge clip or mount;

Figure 4 is an enlarged fragmentary elevation of said cartridge clip or mount adjacent one of the handles, and

Figure 5 is a diagrammatic view showing the approximate performance of the gun over a distance of one-half nautical mile with a certain approximate divergence.

Referring specifically to the drawing wherein like reference characters designate like or similar parts, 10 designates a conventional mount in which a post 11 is rotatable on a vertical axis and to which the gun generally designated A is pivotally mounted as at 12 on a horizontal axis. The gun A has a plurality of uniformly spaced barrels at 13 which are braced and surrounded by cooling or heat dissipating flanges 14. If desired, however, such barrels 13 may be cast en bloc. Said barrels extend rigidly from a receiver head 15 at the forward end of a breech cylinder 16.

Said receiver head 15 has cartridge chambers 17 in line with the bores of the barrels and which are adapted to accommodate cartridges 18 for firing. All of the cartridges for the chambers 17 are carried by a clip or mounting plate 19 which is readily applicable to and removable from the gun, the same being disk-like and intimately fitting a correspondingly shaped chamber 20 in the receiver head 15.

Said clip or mounting plate 19 in line with the chambers 17 has recesses 21 in which the cartridges 18 are removably seated, as best shown in Figure 2, and retained through the overlapping of latches 22 with annular shoulders 23 thereof. Said latches are pivoted at 24 to the clip 19 and are urged to that position by expansive springs 25. As a result, the cartridges may be applied to the clip while out of the gun and inserted into the same as a unit and after firing, removed from the gun as a unit. The latches 22 are readily displaceable to release the cartridges 18 and a special tool is preferably provided to simultaneously release all of the latches 22 and thereby simultaneously release all of the fired cartridges.

In line with the recesses, the clip 19 has firing pins 26 urged out of firing position by coil springs 27. Such pins have heads 28 and the pins and heads are slidably mounted in appropriate recesses of the clip as shown.

A driving pin head is applicable to and removable from the cylinder 16, being adapted to be attached in any suitable manner. This driving pin head 29 carries conventional slidably mounted driving pins 30, which are urged to retracted position by expansive coil springs 31. Driving pin head 29 also carries a slidable hammer plate 32 in its bore, which is adapted to be held retracted and released at the moment of firing, in any suitable manner and by any suitable means.

Associated with the driving pin head is a colored screen device 34 of a conventional type, through which the aeroplane or target may be observed, especially through the glare of the sun. This screen 34 is preferably of a folding type.

The gun shown is of the quick firing type and hence the clip or cartridge mounting plate 19 has handles at 35 to facilitate its engagement for insertion or removal. It will be noted that the handles 35 are located completely within the confines of the clip and are accessible because of clearance 36 provided around the same.

In firing the gun, the hammer plate 32 is released under appropriate control, the same moving toward the barrels and striking the driving pins at the portions disposed behind the forward wall of the head 29. In turn, driving pins 30 engage the heads 28 of the firing pins, moving the latter into firing engagement with the primer of the adjacent cartridge 18. In this manner, all of the cartridges are fired simultaneously. Following firing, the clip 19 may be readily removed, the fired cartridges 18 released, a new supply secured to the clip, the latter inserted into the gun and the other parts of the gun restored to firing

position. In using the gun there will be furnished a plurality of clips so that while one clip of cartridges is being fired one or more empty clips may be loaded for subsequent firing.

It is obvious that the barrels may be given any desired spread or angle outwardly with respect to the center so as to produce as wide or as narrow a spray as desired. The diagram of Figure 5 shows an over all divergence of slightly less than two degrees, producing a spray that is about fifty feet wide at a distance of a half mile, with the bullets spaced about eight feet or approximately so apart at this distance. Of course, the width at fifteen hundred feet would then be about twenty-five feet. It will be realized that, depending on the range etc., an aeroplane or other target will most likely be struck by one or more of the bullets and in many cases practically riddled with one firing. For example, the barrels may be fifty or thirty calibre. The barrels in use are in many instances approximately the length of an ordinary rifle barrel so that the gun will not be unduly heavy.

Various changes may be resorted to provided they fall within the spirit and scope of the invention. Accordingly it is to be realized that I am not limited to the actual details of the lock and associated mechanism shown. The gun is to be made with any type of breech such as the interrupted screw system, sliding wedge system, combined rotary and sliding system, sliding bolt system or the like. If a recoil system is necessary, it may be of any suitable form. Also, the details of the gun mount, stand, controls and so forth may be varied.

I claim as my invention:

1. A gun of the class described having a plurality of barrel bores, a receiver head from which the barrel extends having cartridge receiving recesses alined with said bores, said receiver head having a rear hollow portion open at the rear end thereof, a clip applicable to and removable from said portion, means to mount cartridges on said clip in line with said recesses, firing pins carried by the clip, a driving pin head movable in said portion so that it may be applied to and removed therefrom to enable application and removal of a clip, driving pins carried by said driving pin head and hammer means in the rear of said driving pin head.

2. A gun of the class described having a plurality of barrel bores, a receiver head from which the barrel extends having cartridge receiving recesses alined with said bores, said receiver head having a rear hollow portion open at the rear end thereof, a clip applicable to and removable from said portion, means to mount cartridges on said clip in line with said recesses, firing pins carried by the clip, a driving pin head movable in said portion so that it may be applied to and removed therefrom to enable application and removal of a clip, driving pins carried by said driving pin head, hammer means in the rear of said driving pin head, the driving pin head having a rearwardly extending open ended cylindrical portion, and said hammer means being disposed operatively in the last mentioned portion.

FREDERICK J. BRIGHTMAN.