

UNITED STATES PATENT OFFICE.

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BOMBING GUN FOR AIRCRAFT.

Application filed September 18, 1926. Serial No. 135,773.

My invention relates to a bombing gun for air craft and the principal object of my invention is to provide a gun having a plurality of barrels and a magazine, and which gun is especially designed to be attached to the underside of aeroplane or dirigible balloon for the purpose of delivering throughout relatively large areas explosive shells, gas or smoke bombs, the arrangement of the gun barrels and magazine being such that a number of shells or bombs may be simultaneously fired on lines radiating from the gun.

Obviously my improved bombing gun is designed as a weapon of war and by virtue of the multiple barrel and cylinder arrangement, which latter is adapted to carrying relatively large numbers of explosive shells or bombs, the gun may be advantageously used against troops in the field as well as for the destruction of forts, ships and cities.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will hereinafter be more fully described and claimed and illustrated in the accompanying drawing, in which—

Fig. 1 is a perspective view of an aeroplane and showing a bombing gun of my improved construction depending from the body or fuselage of said aeroplane.

Fig. 2 is a vertical section taken on a medial line through the center of my improved bombing gun.

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2.

Referring by numerals to the accompanying drawing which illustrates a practical embodiment of my invention, 10 designates the body of an aeroplane and suitably secured to the underside thereof is a depending cylinder 11 with the lower portion of which is formed integral a horizontally disposed row of radially arranged gun barrels 12.

For the smaller sizes of the bombing gun, there may be eight or ten of these radially arranged barrels, but in the larger sizes, the number of barrels may be increased as desired.

Arranged for vertical sliding movement within the cylinder 11 is a cylindrical magazine 13 and formed in the latter is a series

of horizontally disposed rows of radially arranged chambers 14 that are adapted to receive explosive shells such as S or shells carrying incendiary, smoke or gas bombs.

This magazine is adapted to be raised and lowered by any suitable means and in Figs. 2 and 3 I have shown a relatively simple and practical raising and lowering means that includes racks 15 that project upwardly from the top of the magazine and which racks are engaged by power actuated gear wheels 16.

Supported in any suitable manner and extending vertically through the center of magazine 13 is a cylindrical member 17 that performs the functions of a breech block in that its surface bears directly against the inner ends of the shells S.

Arranged in the lower portion of this breech block and in the same plane with the plane occupied by the centers of the gun barrels 12 is a horizontally disposed row of spring-held firing pins 18, the springs of which normally hold said pins in retracted positions. Arranged for vertical sliding movement through the center of the breech block 17 is a rod 19 provided near its lower end with an inclined shoulder 20 and which latter is adapted, when said rod is moved downward, to bear on the inner ends of the firing pins 18, thus simultaneously forcing said pins outwardly so as to engage the primers of the shells S.

When my improved bombing gun is loaded all of the chambers 14 are filled with shells and the magazine 13 is elevated to a position where the lower row of shells are in alignment with the gun barrels 12.

To fire this lower row of shells the operator within the body or fuselage of the aeroplane lowers rod 19 with a quick movement, thereby simultaneously forcing the firing pins 18 outwardly with the results that the projectiles or bombs are fired from the lower series of shells and travel outwardly through the gun barrels 12 and thus said barrels or bombs are thrown outwardly on radial lines and after having traveled outward a distance that is in proportion to the explosive forces developed in the shells S, the projectiles or bombs will drop to the ground and there exploded.

Inasmuch as the shells S are radially arranged around the breech block 17, the recoil from the shells in each series will be

centralized in said breech block. After one series of the shells has been fired as just described, the next adjacent upper series may be brought into position to be fired by lowering the magazine 13 so as to bring said next adjacent series into alignment with the gun barrels and this procedure may be repeated until all of the shells in the magazine have been fired.

The distance traveled by each explosive shell or bomb outwardly from the gun is dependent upon the size of the shell or bomb and likewise upon the force developed by the explosive within the shell. Further explosive shells as well as the incendiary gas and smoke bombs may be fired or delivered through the gun barrels by means of other than explosive forces, for instance, by compressed air, centrifugal force, or by centrally arranged electrical means. Further, other forms of firing means than the one herein shown and described may be employed.

While I have shown and described my improved bombing gun as being arranged on the underside of an airplane, it will be understood that a gun of practically the same construction might be utilized on top of an airplane or dirigible balloon and where such arrangement is employed, it will be necessary to elevate the magazine 13 with a step-by-step movement in order to successively bring the rows of shells into alignment with the radially disposed gun barrels.

While my improved bombing gun is primarily designed as a weapon of war, it may be utilized for agricultural and domestic purposes, for instance, for discharging gas, smoke or spray bombs onto orchards or fields for the purpose of killing crop-destroying insects, destructive scale and the like, and likewise the gun may be used for the distribution of chemical or pulverized fertilizer and for seeding land where new trees are to be planted to replace those that have been removed.

In some instances it may be found desirable and advantageous to arrange the gun so that only two oppositely arranged barrels will be fired at the same time, for instance, the barrel that is pointed toward the front of the airplane and the barrel that is pointed toward the rear of the airplane. Further, when two oppositely disposed barrels are being used the magazine may be arranged so as to be partially turned after a pair of the shells have been fired, thus firing all of the shells of each horizontally disposed row or group before the magazine is lowered to bring the next series into alignment with the two barrels that are being used.

It will be understood that minor changes in the size, form and construction of the various parts of my improved bombing gun may be made and substituted for those herein shown and described without departing

from the spirit of the invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. A bombing gun for air craft comprising a cylinder adapted to be secured to the craft, a plurality of radially arranged barrels projecting from said cylinder, a magazine arranged for sliding movement through said cylinder and a plurality of rows of shell receiving chambers formed in said magazine.

2. A bombing gun for air craft comprising a cylinder adapted to be secured to the craft, a plurality of radially arranged barrels projecting from said cylinder, a magazine arranged for sliding movement through said cylinder, a plurality of rows of shell receiving chambers formed in said magazine and shell firing means arranged within said magazine.

3. A bombing gun for air craft comprising a cylinder adapted to be secured to the craft, a plurality of radially arranged barrels projecting from said cylinder, a magazine arranged for sliding movement through said cylinder, a plurality of rows of shell receiving chambers formed in said magazine and a breech block extending axially through said magazine.

4. A bombing gun for air craft comprising a cylinder adapted to be secured to the craft, a plurality of radially arranged barrels projecting from said cylinder, a magazine arranged for sliding movement through said cylinder, a plurality of rows of shell receiving chambers formed in said magazine, a breech block extending axially through said magazine and shell firing means within said breech block.

5. The combination with an air craft of a cylinder secured to said air craft, a plurality of radially disposed gun barrels carried by said cylinder, a magazine arranged for sliding movement through said cylinder, means for actuating said magazine and said magazine having a plurality of rows of radially arranged shell receiving chambers.

6. The combination with an air craft, of a cylinder secured to said air craft, a plurality of radially disposed gun barrels carried by said cylinder, a magazine arranged for sliding movement through said cylinder, means for actuating said magazine, said magazine having a plurality of rows of radially arranged shell receiving chambers and a breech block extending axially through said magazine.

7. The combination with an air craft, of a cylinder secured to said air craft, a plurality of radially disposed gun barrels carried by said cylinder, a magazine arranged for sliding movement through said cylinder, means for actuating said magazine, said magazine having a plurality of rows of radially arranged shell receiving chambers and

means within said magazine for firing the shells contained in said chambers.

8. The combination with an air craft, of a cylinder secured to said air craft, a plurality of radially disposed gun barrels carried by said cylinder, a magazine arranged for sliding movement through said cylinder, means for actuating said magazine, said magazine having a plurality of rows of radially arranged shell receiving chambers, a breech block extending axially through said magazine and means arranged within said breech block for firing the shells that are carried in the chambers of the magazine. 10

In testimony whereof I affix my signature.

GEORGE P. ANDRUS.