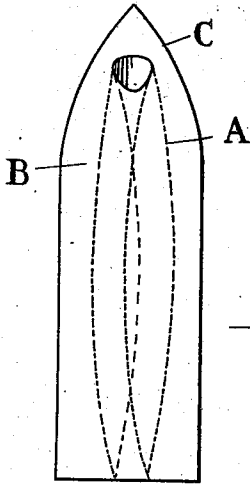


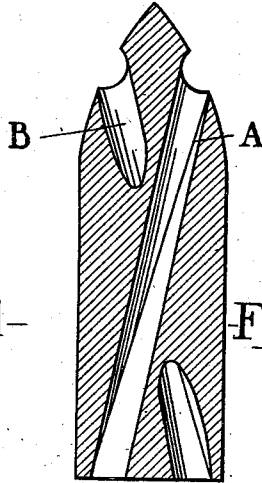
E. SPENCER.
 BULLET AND PROJECTILE.
 APPLICATION FILED SEPT. 5, 1908.

922,638.

Patented May 25, 1909.



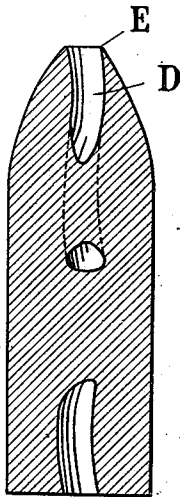
-Fig:1-



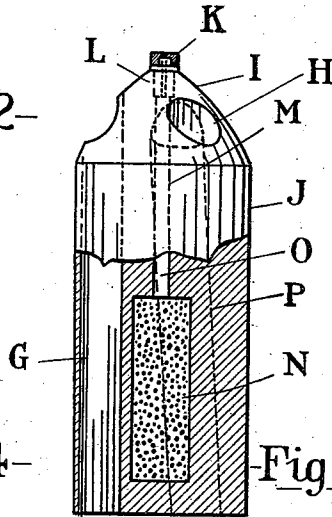
-Fig:3-



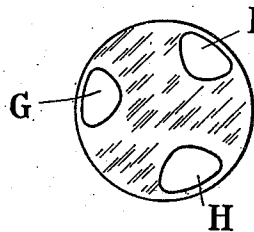
-Fig:2-



-Fig:4-



-Fig:5-



-Fig:6-

WITNESSES:

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ATTY.

UNITED STATES PATENT OFFICE.

EDWARD SPENCER, OF WEST BRUNSWICK, VICTORIA, AUSTRALIA.

BULLET AND PROJECTILE.

No. 922,638.

Specification of Letters Patent.

Patented May 25, 1909.

Application filed September 5, 1908. Serial No. 451,881.

To all whom it may concern:

Be it known that EDWARD SPENCER, of Walton House, Brunswick Road, West Brunswick, in the State of Victoria, Commonwealth of Australia, a subject of the King of Great Britain, has invented certain new and useful Improvements in Bullets and Projectiles, of which the following is a specification.

As is well known, many attempts have hitherto been made to improve the form or construction of bullets and projectiles so as to impart to them a rapid rotation by atmospheric action after their discharge from smooth bore fire-arms or guns.

The improvements which I have devised will serve to attain the desired end and also to give improved effects as hereinafter explained. For instance, according to my first improvement I make air holes of a particular character that curve diagonally through elongated bullets or projectiles so as to give these a very high velocity, speed of revolution on the axis by atmospheric action, a steadiness in flight, and a very flat trajectory when fired from smooth bore fire-arms or guns.

The invention will be better understood upon reference to the accompanying sheet of drawings in which—

Figure 1 represents an elevation of an elongated bullet having the diagonally curved air holes shown by dotted lines. Fig. 2 is a plan of the rear end of Fig. 1. Fig. 3 is a section along one of the said air holes through a bullet, illustrated for the purpose of showing that the two diagonally curved holes are separate one from the other and also that where they pass each other at or about the midlength portion of the bullet there is a thin solid partition of metal between them. Fig. 4 is a sectional elevation of a bullet in which my second improvement is shown. Figs. 5 and 6 represent a partial elevation and plan respectively of a percussion projectile or shell for guns of large caliber showing three air holes made throughout its length instead of diagonally curved holes as hereinbefore mentioned.

My first improvement as shown in Figs. 1 and 2 consists in making air holes (A) and (B) each to commence near the point (C) of the conoidal or front end of the bullet. These holes are situate diametrically opposite each other on the front and rear ends, and the hole (A) passes from right to left,

while the other hole (B) passes from left to right, both terminating and opening out into the rear end of the bullet. Said holes have an even curve throughout so as to clear each other at the center or midlength portion of the bullet, and each one has a half turn from right to left in the length of bullet, and in cross section the area of each is one quarter of the diameter of said bullet.

My second improvement shown at Fig. 4 will also serve for rotating the bullet on its axis. In this case there is one hole (D) commencing at the point (E) and terminating at the rear end. This hole (D) which is made of a size equal to one quarter of the cross section area of the bullet is spirally diverted to the right and left of the axis of said bullet and terminates at the center of its rear end.

It may be here explained that all the holes made through the bullets or projectiles are comparatively speaking of a large cross area, but this peculiarity is necessary for the reason that there will be an improved atmospheric action within the air holes, and also a better back pressure instead of suction at the rear end of the bullet or projectile in its flight. So important is this innovation with respect to bullets for small caliber fire-arms that I have designed my third improvement so as to obtain the same effects with percussion or time fuse shells. This third improvement as shown at Figs. 5 and 6 consists in making three air holes (F) (G) and (H) through the body of the shell. These holes are equidistant from one another and extend from the front or conoidal portion (I) to the rear end of the shell, being made near its exterior. Each hole (F), (G) and (H) lies at an angle parallel with the axis of projectile while the rear end of hole is out of line with the front end to the extent of three eighths of the diameter of said shell as shown by dotted lines (O) and (P) representing the sides of hole (F). The diametral width of each hole (F), (G) and (H) will be one quarter of the diameter of the shell. In this view (J) represents the shell, (K) the percussion cap, (L) the nipple for same, (M) flash vent, (N) the ammunition chamber. The holes made in the bullet or in the projectile may be either angular, circular, or semicircular in shape and the bullets may be made of iron, steel, lead or of any other suitable metal.

Having now fully described my invention,

what I claim as new and desire to secure by Letters Patent is:

A bullet having an air hole therein commencing at the front end or point of the bullet and turning spirally to the right and left, then terminating centrally at the rear end of said bullet, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD SPENCER.

Witnesses:

ALBERT E. SWANSON,
FLORENCE SWANSON.