G. E. WELLS.

PROJECTILE.

APPLICATION FILED JAN. 28, 1910.

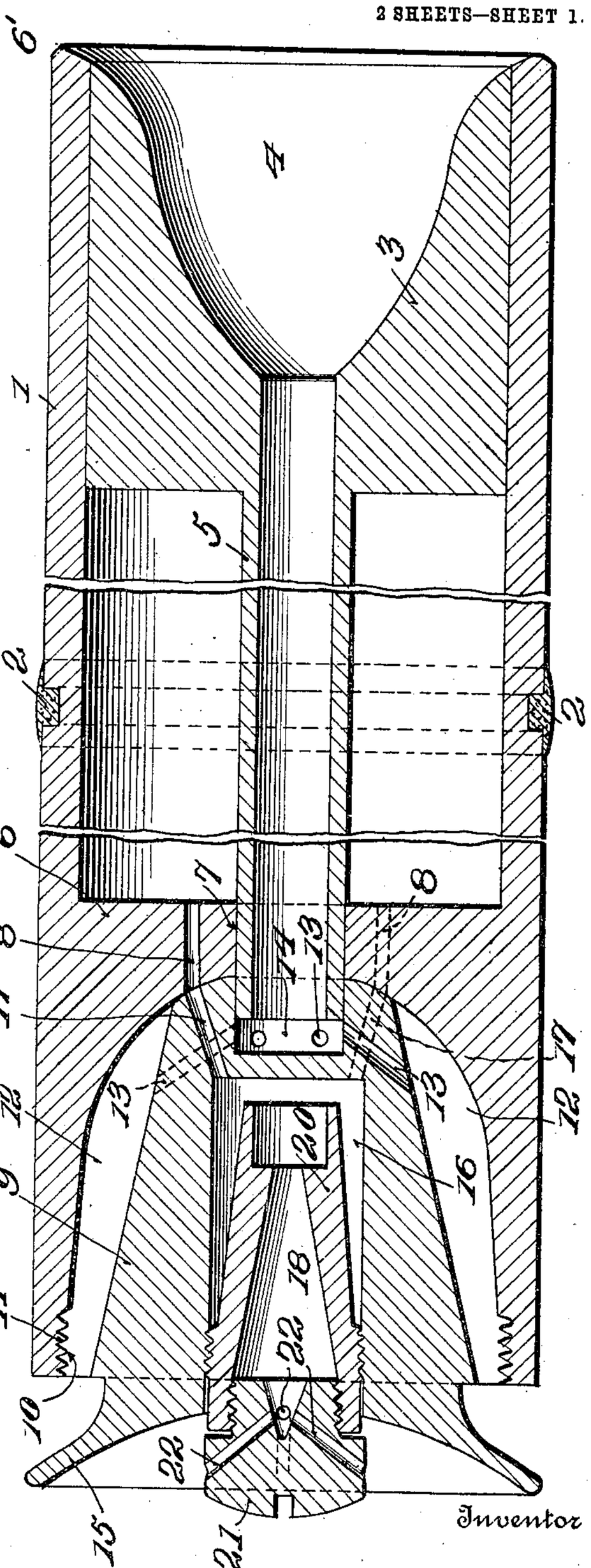
962,482.

Patented June 28, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

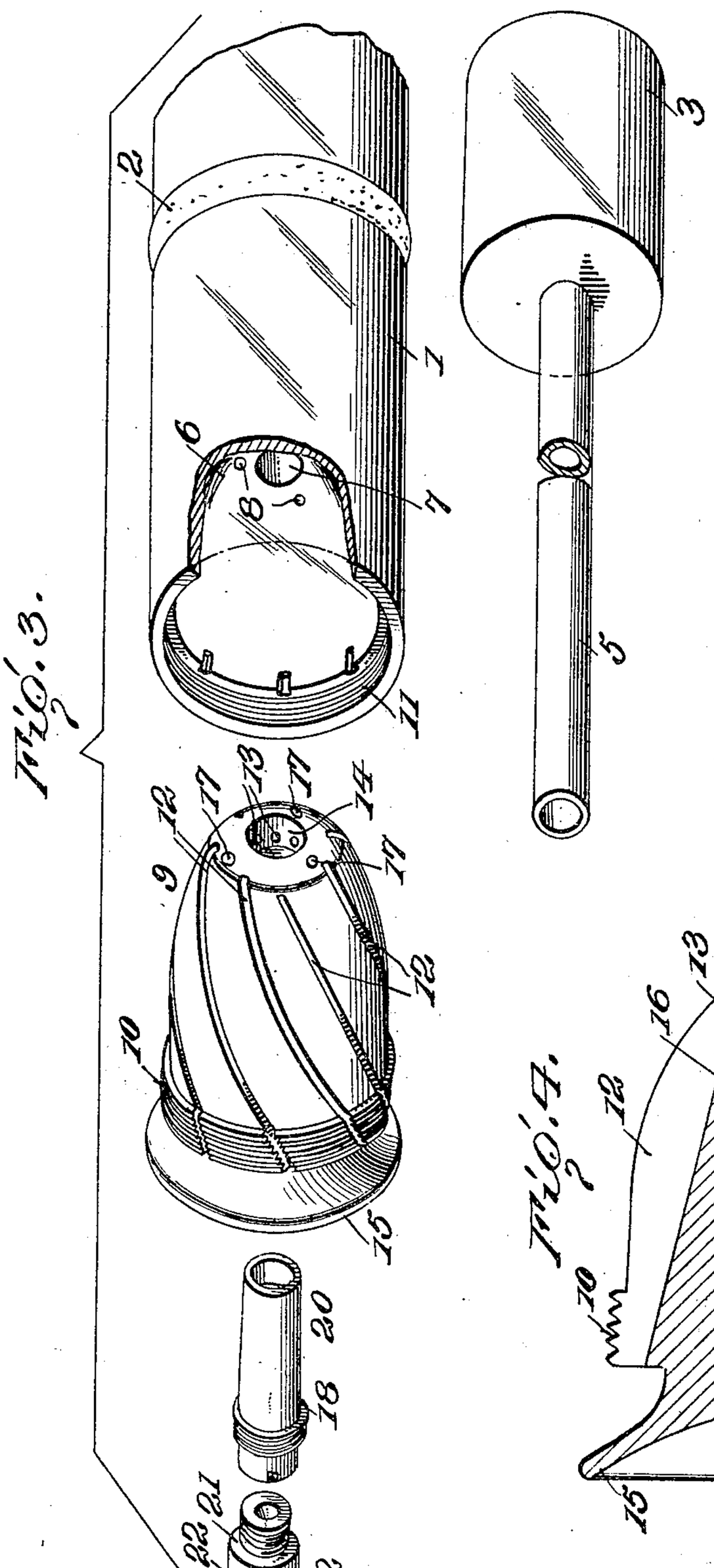


Fig. 5.

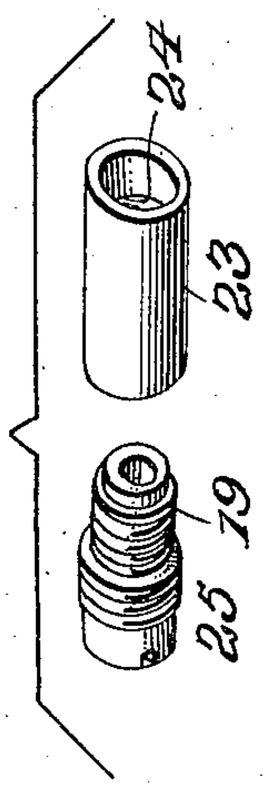
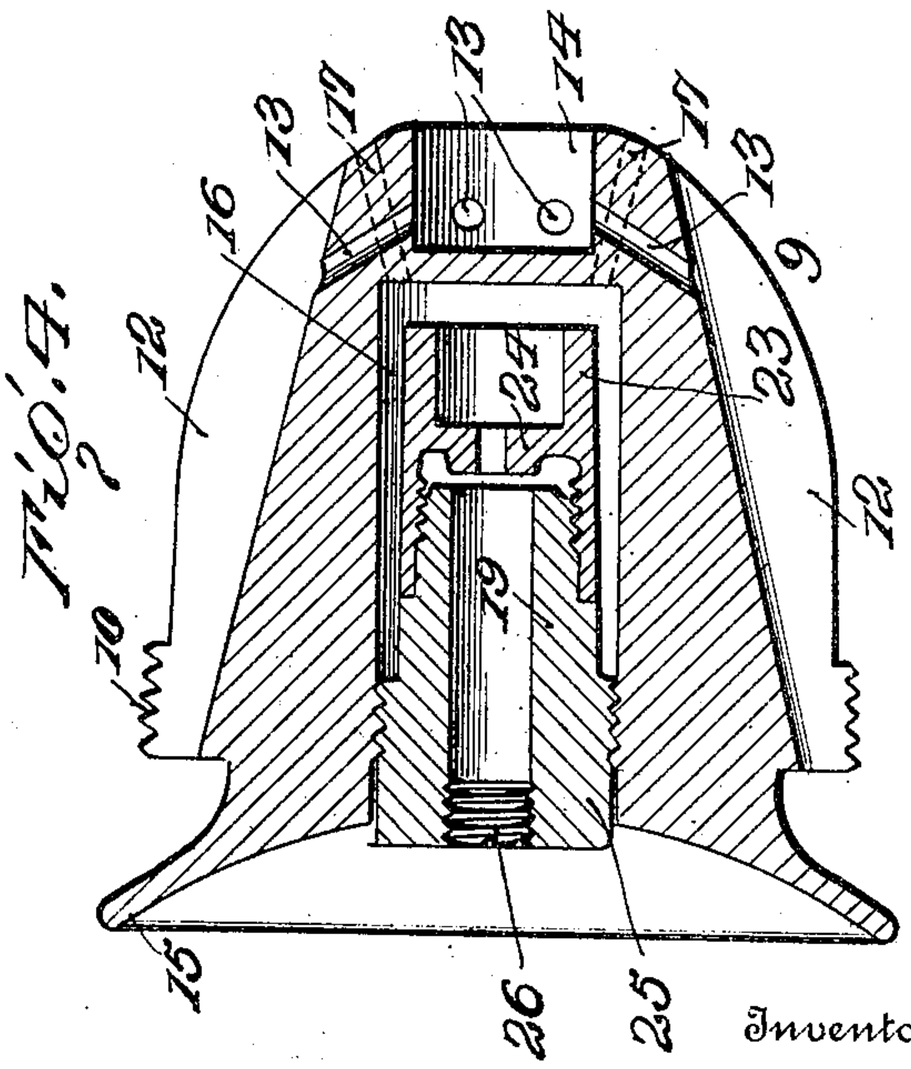


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE E. WELLS, OF NATIONAL MILITARY HOME, OHIO.

PROJECTILE.

962,482. Specification of Letters Patent. **Patented June 28, 1910.**

Application filed January 28, 1910. Serial No. 540,653.

To all whom it may concern:

Be it known that I, GEORGE E. WELLS, a citizen of the United States, residing at National Military Home, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Projectiles, of which the following is a specification.

This invention relates to certain new and useful improvements in projectiles, and the object of my invention is to provide a projectile in which the passage of the projectile through the air in flight will produce a rotary effect and with a flatter trajectory than is the case where merely the ordinary rifle is used.

With these and other objects in view my invention consists in certain constructions, combinations and arrangements of parts the preferred form of which will be first described in connection with the accompanying drawings and then the invention particularly pointed out in the appended claims.

Referring to the drawings wherein the same part is designated by the same reference numeral wherever it occurs, Figure 1 is a perspective view of a projectile constructed in accordance with my invention; Fig. 2 is a central longitudinal section on an enlarged scale and broken away at the central portion; Fig. 3 is a perspective view of parts detached and partly broken away; Fig. 4 is a central longitudinal section of the plug in the rear of the projectile showing the same as equipped with a percussion cap instead of a fuse; Fig. 5 is a perspective view of the parts of the cap mechanism detached.

1 designates the body portion of the projectile which may be hollow to form a shell or solid as may be desired, and is preferably provided with the usual rifle bands 2. Closing the forward end of the body portion 1 is the plug 3 which, at its front end, is formed with a conical opening 4 extending from the outer edge into the central portion and terminating in a rearwardly extending tube 5. The outer edge of the body portion 1 is beveled as shown at 6, and forms with the conical edge of the plug 3 a cutting edge as best shown in Fig. 2. The back end of the body portion is closed by a partition 6 which is centrally perforated as shown at 7 and through which extends the rear end of the tube 5. Where the projectile is a shell, as shown in Fig. 2 I also provide the passages 8 through the partition 6, in order that the charge in the shell may be ignited. The rear end of the projectile is closed by a conical plug 9 which is screw threaded at 10 to engage the screw threads 11 on the interior of the body portion at the rear end. The conical portion 9 on its surface is provided with a plurality of spiral grooves 12 which extend through the threaded portion 10 and open to the atmosphere behind the projectile. At their forward end they are connected by means of openings 13 to a recess 14 in the front of the conical portion into which recess the rear end of the pipe 5 extends.

In order to protect the ends of the spirals 12 and to prevent them from being clogged when the charge is exploded in the gun I preferably form the conical portion with an outwardly and rearwardly projecting flange 15, which flange is the size of the projectile and consequently closely fits the bore of the gun.

From the foregoing description it will be seen that when this projectile is fired, air will be forced from the conical cavity 4 through the pipe 5, the openings 13 into the spiral grooves 12 and passing through these grooves out at the rear of the projectile will cause the same to be rotated, it being understood of course that the partition 6 and the side walls of the rear of the body portion are formed so that the conical member 9 tightly fits in the opening and consequently the outer portions of the spirals 12 are closed. When the projectile is to be used as a shell I bore the central portion of the conical plug from the rear to form a chamber 16.

17 are passages which extend from the front end of the openings of the cavity 16 and are adapted to register with the passages 8. In the cavity 16 may be placed either a fuse containing plug 18, as shown in Fig. 2, or a detonating cap 19, as shown in Fig. 4. The fuse plug shown in position in Fig. 2 and in detail in Fig. 3 comprises a hollow member 20 which is closed at its rear portion by the plug 21, screw threaded to the said member 20, said plug 21 being provided with the passage ways 22 by which the fuse contained in the cavity in the member 20 will be ignited when the shell is fired.

The detonating plug 19 is composed of a forward portion 23, which, on its interior carries an anvil 24 to receive the detonating cap, and the tubular portion 25, the forward end of which is adapted to screw into the member 23 and to contain a plunger

which will move forward when the shell strikes and detonates the cap.

26 is a plug closing the rear end of the section 25.

I realize that considerable variation is possible in the details of construction and arrangement of parts without departing from the spirit of my invention, and I therefore do not intend to limit myself to the specific form shown and described.

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

1. In a projectile the combination with a body portion having a recessed front end, a plug closing the rear of the body portion and provided with spirally extending openings, a tube connecting the conical depression with the spirally extending openings, whereby the passage of the projectile through the air will cause the same to revolve, and a projecting flange extending from the rear of the passage to protect the rear end of the openings.

2. In a projectile the combination with a body portion having its front end provided with a conical recess, a conically shaped plug closing the rear of the body portion and fitting into a second conical shaped recess formed in the rear of the body portion, said conical plug being provided with spirally extending openings, and a tube connecting the conical depression in front of the projectile with the spirally extending openings, whereby the passage of the projectile through the air will cause the same to revolve.

3. In a projectile the combination with a body portion having its front end provided with a conically shaped recess, a plug closing the rear of the body portion and provided with a depression in its front end and spirally extending openings from the front end to the rear thereof, and a tube extending from the conical recess to the recess in front of the conical plug, whereby the passage of the projectile through the air will cause the same to revolve.

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

GEORGE E. WELLS.

Witnesses:
F. L. Browne,
R. L. Norton.