

(No Model.)

J. J. McINTYRE.
PROJECTILE.

No. 484,862.

Patented Oct. 25,

Fig. 1.

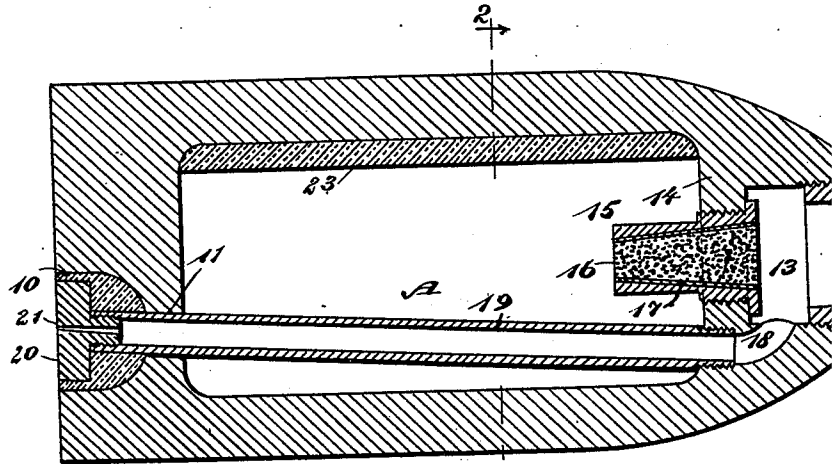
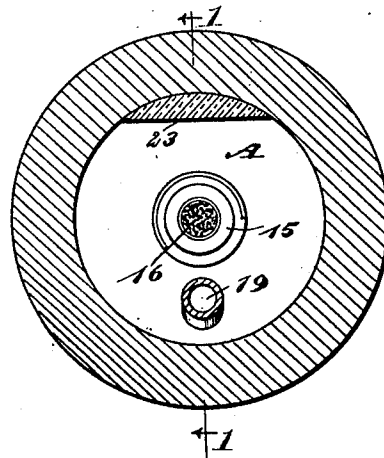


Fig. 2.



WITNESSES:

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IN
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AT.

UNITED STATES PATENT OFFICE.

JOSEPH J. MCINTYRE, OF BROOKLYN, NEW YORK.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 484,862, dated October 25, 1892.

Application filed January 15, 1892. Serial No. 418,161. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. MCINTYRE, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Projectiles, of which the following is a full, clear, and exact description.

My invention relates to an improvement in projectiles, and has for its object to provide a safe and sure medium whereby the flame may be conveyed from the base of the projectile to the fuse-chamber and insure perfect ignition; and the invention consists in the novel construction of the projectile, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a longitudinal section through the projectile, taken, practically, on the line 1 1 of Fig. 2; and Fig. 2 is a diametrical or transverse section taken on the line 2 2 of Fig. 1.

In the base of the projectile, ordinarily near one side, a cavity or pocket 10 is produced, which pocket, through the medium of a channel 11, is in communication with an interior chamber A of the projectile, adapted to contain the charge. The point or forward end of the projectile consists of a plug 12, secured to the body of the projectile, which plug covers an air or flame chamber 13, formed in the body of the projectile in front of a partition 14, dividing the air-chamber from the charge chamber or compartment A. In the partition 14 an opening is formed, into which opening a fuse-plug 15 of any improved construction is entered and secured. This plug extends within the charge chamber or receptacle and is hollow, its interior surface being conical, and the plug is also open at both ends. Into this plug the fuse 16 is entered. In the drawings said fuse consists of powder or other highly combustible and explosive material inclosed within a jacket 17 of paper or other preferred material, and the fuse is conical, so as to fit to the interior contour of the plug and prevent the fuse being blown

into the charge-chamber by the action of gases.

The air-chamber 13 is connected by a channel 18 with the charge-chamber at one side of the fuse-plug. A tube 19 is screwed into the inner end of the channel 18, and the tube extends rearward through the charge-chamber and the channel 11 in the base of the projectile into the pocket or cavity 10. Within this pocket or cavity a plug 20 is located, the plug comprising, preferably, a disk-like body and a shank emanating from the central portion of its inner face, and the shank of the base-plug 20 is threaded and screwed into the rear end of the tube 19, as is best shown in Fig. 1. This plug is provided with an opening 21, extending through its body and through its shank, thereby affording communication between the charge ordinarily located at the back of the projectile and the interior of the tube 19. This opening 21 is preferably made somewhat tapering, the narrower portion being at the outer face of the plug. A packing of any suitable and preferred character interposes the base-plug and the walls of the pocket or cavity 10.

The front plug 12 has openings 22 formed therein communicating with the air-chamber 13. These openings are really vents, and are intended to carry off gases from the fuse. In operation the flame from the combustible material carried at the back of the projectile will pass through the opening 21 in the base-plug 20, from thence into the tube 19 through the tube and the channel 18 and chamber 13, and will then ignite the fuse 16, thus in proper time firing the charge within the charge-chamber A. The front plug 12 is provided in order that the charge may be placed in the chamber A and the fuse in the fuse-plug through the opening formed in the projectile when the front plug 12 is removed.

It will be observed that the tube and the base-plug 20 are located at one side of the projectile. Therefore in order to properly balance the projectile a counterpoise-weight 23 is placed, preferably, in the charge-chamber A, as is shown in both Figs. 1 and 2, at the side immediately opposite that in which the tube 19 is located. The space between the walls of the pocket or cavity 10 and the

base-plug 20 is filled with lead, copper, or any soft metal, so as to prevent the gases driving through the pocket around the tube into the charge-chamber A and thereby prematurely exploding the contents of that chamber, and is also so constructed that the tube can expand or contract and be perfectly safe. It will thus be observed that the tube 19 is the medium by means of which the flange 10 may be conveyed from the base of the projectile to the fuse-chamber, thus insuring perfect ignition. The tube is perfectly safe, being about twelve times as large in diameter as the inlet 21. Thus the tube is capable of 15 freely taking away any gases that may enter through said inlet.

If in practice it is found desirable, the tube may be cast in the projectile or may be connected therewith in any approved manner, and any desired number of tubes may be employed, it being understood that in connection with each tube a plug 20 is used, having the flame-inlet 21, or an independent fuse-plug can be inserted in the tube instead of 25 said opening.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A projectile provided at one end with a 30 fuse-plug and also provided with a tube which establishes communication between the base of the shell and a space formed above the fuse-plug, substantially as shown and described, whereby the fuse-plug may be ignited 35 by a flame passed through the tube, as and for the purpose specified.

2. A shell provided with a charge-chamber, a fuse-plug one portion of which extends within the charge-chamber, and a firing-tube establishing communication between the 40 outer end of the fuse-plug and the base of the shell, which plug passes through the charge-chamber, but has no communication with it, substantially as shown and described.

3. The combination, with the fuse-plug and 45 fuse of a projectile and a plug located in the base of the projectile and provided with a through-aperture, of a tube connected at one end with the base-plug, said tube being of much greater diameter than the aperture in 50 said base-plug, the opposite end of the tube being in communication with the fuse and fuse-plug, as and for the purpose specified.

4. The combination, with a projectile provided with a pocket in its base, an interior 55 charge-chamber, an air or fuse chamber, and a fuse located between the air or flame chamber and the charge-chamber, of a plug located in the base-pocket of the projectile, provided with an aperture extending through from its 60 inner to its outer face, a tube connected with the base-plug at one end and connected at its opposite end with the fuse or air chamber, and a packing fitting the space between the base-plug and the walls of the pocket in the 65 base of the projectile, substantially as and for the purpose specified.

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Witnesses:

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