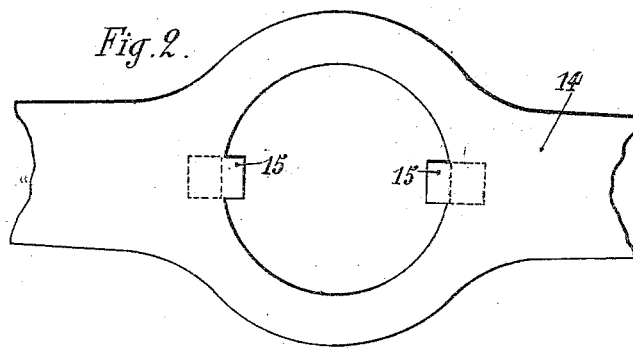
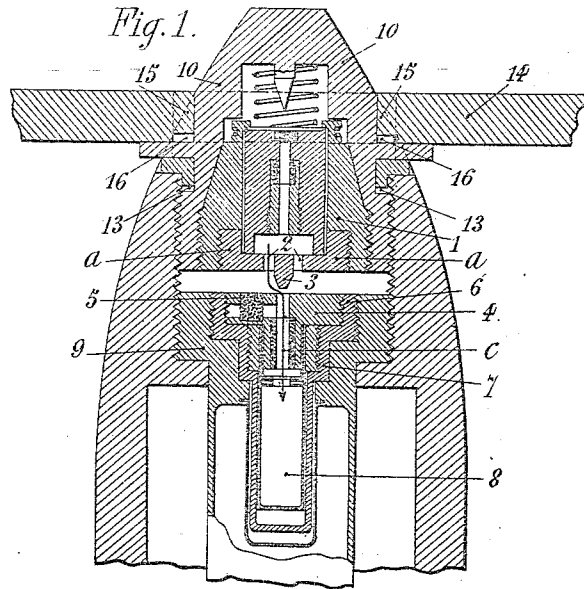


E. SCHNEIDER.
EXPLOSIVE PROJECTILE.
APPLICATION FILED MAY 4, 1911.

1,039,199.

Patented Sept. 24, 1912.

3 SHEETS—SHEET 1.



Witnesses:

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R. C. Fitzhugh.

Inventor:

Ernest Schneider.

by

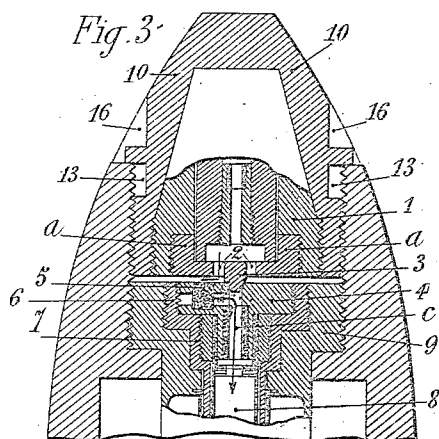
Mauro, Cameron, Lewis & Massie
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 6.

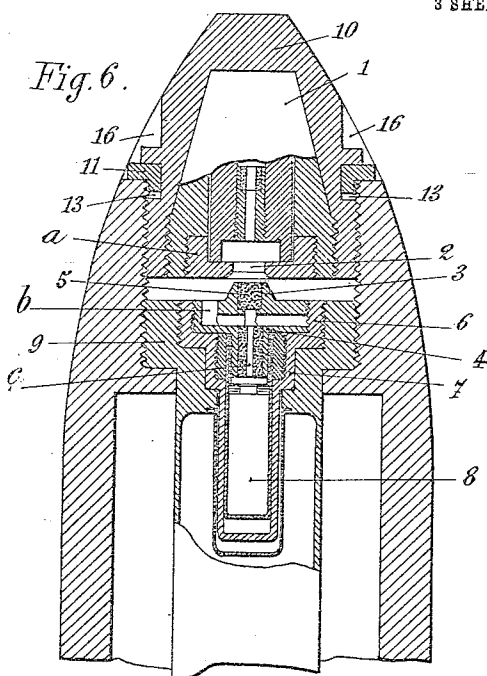


Fig. 4.



Fig. 5.

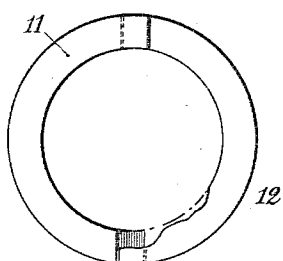
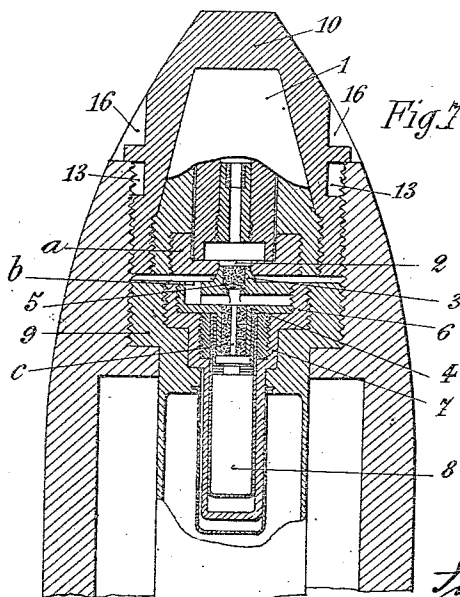


Fig. 7.



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UNITED STATES PATENT OFFICE.

EUGÈNE SCHNEIDER, OF LE CREUZOT, FRANCE.

EXPLOSIVE PROJECTILE.

1,039,199.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed May 4, 1911. Serial No. 625,055.

To all whom it may concern:

Be it known that I, EUGÈNE SCHNEIDER, citizen of the Republic of France, residing at Le Creuzot, Saône-et-Loire, France, have invented certain new and useful Improvements in and Relating to Explosive Projectiles, of which the following is a specification.

This invention relates to explosive projectiles, of the kind set forth in the specification of my British Patent No. 8758 of 1910 in which means are provided for transmitting the flame between the fuse and the priming characterized by a priming holder in the head of which a flame passage block is arranged the latter being furnished with a central passage charged with compressed powder or mealed powder and with one or more slightly eccentric passages charged with mealed powder or compressed powder. In the various constructional forms described in the specification of the said application for patent the head of the priming holder is screwed into a socket formed in continuation of the body of the fuse, its bottom being perforated with an axial passage communicating with the body of the fuse in such a manner that the variable screwing of the priming holder into the socket causes an obturator (which may either be free or rigidly connected with one of the elements) to render the direct passage free for the flame or to obturate this passage to cause the flame to be transmitted through the conduit or conduits charged with compressed powder. The obturation of the communication between the fuse and the direct transmission conduit of the flame passage block is thus obtained by bringing together the priming holder and the bottom of the fuse body; conversely a separation of these two elements (bottom of the fuse body and head of the priming holder) renders the direct communication free.

The present invention has for its object two modifications of a particular construction of the aforesaid invention.

According to the present invention the head of the priming holder is attached to a detonator body which is screwed into the projectile, the body of the fuse having its bottom perforated with a communication

passage and being screwed into a detachable ogival head which can be screwed more or less deeply into the projectile; a detachable 55 collar is provided between the adjustable ogival head and the projectile the presence or absence of which indicates respectively that the projectile is adjusted for direct transmission of the flame from the primer 60 or for retarded transmission of the flame.

In order that the said invention may be more clearly understood and readily carried into effect I will describe the same more fully with reference to the accompanying 65 drawings, in which:—

Figure 1 is a longitudinal section of one of these constructions the parts being arranged for the direct transmission of the flame and a key for unscrewing or screwing 70 the ogival head being represented fitted to the latter. Fig. 2 is a partial plan view of this key. Fig. 3 is a longitudinal section similar to that in Fig. 1 and showing the parts in the position for retarded operation. 75 Figs. 4 and 5 illustrate in sectional elevation and in plan respectively a detachable collar in two pieces. Figs. 6 and 7 show in longitudinal section a second construction, the parts being represented respectively in position for direct operation and for retarded 80 operation.

The novel constructional forms comprise a priming holder 7 furnished with its detonating priming 8 and at the center of its 85 head 6 a flame passage block 4 is screwed; the latter is perforated with an axial passage *c* and one or more eccentric passages *b* communicating with the axial passage. The axial passage is free or charged with mealed 90 powder while the lateral passage is charged with compressed powder as shown in Figs. 1 and 3; or the lateral passage is free while the upper part of the axial passage *c* above the point at which the lateral passage *b* 95 opens is charged with compressed powder as shown in Figs. 6 and 7.

Communication between the fuse and the free passage may be interrupted by fitting a projection 3 carried by the bottom *a* of 100 the fuse body into the upper part of the axial passage *c* as in the example illustrated in Figs. 1 and 3; or by fitting a projection 3 from this upper part of the axial passage

into the communication passage 2 in the bottom *a* of the fuse body as in the example illustrated in Figs. 6 and 7.

One point of difference between the present constructional forms and those of the aforesaid application for patent is that the priming holder is not screwed into the body of the fuse. The head 6 of the priming holder 7-8 is screwed home into a detonator body 9 which is itself screwed into the ogival head of the projectile. The fuse body 1 having its bottom *a* perforated with the communication passage 2 is screwed into a separate ogival head which may itself be screwed more or less deeply into the projectile this screwing to a greater or less depth enabling the obturator 3 to be fitted into its housing for interrupting direct ignition or the release of this obturator for establishing direct operation. Another characteristic of the present construction is the interposition between the ogival head carrying the fuse and the face of the projectile (in a housing 13 formed in the said ogival point) of a detachable collar of a different metal, the presence of the collar thus indicating visibly that the projectile is adjusted for the direct transmission of the flame of the fuse to the priming holder; the absence of the collar on the other hand indicating immediately that the shell is adjusted for retarded operation. The detachable collar is made in two or more parts being shown in two parts 11 and 12 for example in Figs. 4 and 5; this collar is preferably angular in cross section. The horizontal branch is intended to be compressed between the projectile and the ogival head 10; the vertical branch of the collar enters the projectile. An unscrewing key 14 (Figs. 1 and 2) comprises two noses 15 which engage in notches 16 in the ogival head 10. The detonator is mounted for the transmission of the flame (that is to say with the detachable collar compressed beneath the ogival point) for transport in the coffers or bins.

In order to bring the detonator into the position for retarded firing it is only necessary to unscrew the ogival head by one or more turns; the detachable collar is released automatically by this operation; it is then only necessary to allow the fragments of which the collar is composed to fall, whereupon the ogival head is screwed right home. The latter operation drives the pin 3 into its housing whether it is carried by the bottom of the fuse or by the flame passage block.

The detonator adjusted for retarded transmission of the flame may readily be adjusted for direct transmission. In this case the detachable collar is replaced beneath the ogival head. The operation of modifying the retardation is thus reduced to two exceedingly simple operations; (1) unscrew-

ing the ogival head by one or more turns and (2) screwing the said head home.

As stated above the detachable collar being formed of a different metal from that of the body of the shell and of the ogival head a mere inspection of the shell will indicate for what position the retardation is adjusted.

What I claim and desire to secure by Letters Patent of the United States is:—

1. In combination, a projectile body, a removable head, two passages provided in one of said parts one for direct transmission of the flame of ignition and the other for retarded transmission, a priming holder mounted in said body, a fuse mounted in said head, and connections between said head and body whereby the former can be moved to obturate one of said passages.

2. In combination, a projectile body, a removable head, two passages provided in one of said parts one for direct transmission of the flame of ignition and the other for retarded transmission, a holder for detonating material secured in said body, a priming holder attached to said holder for the detonating material, a fuse mounted in said head and connections between said head and body whereby the former can be moved toward said priming holder to obturate one of said passages.

3. In combination, a projectile body, an adjustable head, two passages provided in said body one for direct transmission of the flame of ignition and the other for retarded transmission, a priming holder mounted in said body, a fuse mounted in said head, and screw-thread connections between said head and body whereby the former can be moved to obturate one of said passages.

4. In combination, a projectile body, an adjustable head, two passages provided in said body one for direct transmission of the flame of ignition and the other for retarded transmission, a holder for detonating material screwed in said body, a priming holder screw-threaded in said holder for detonating material, a fuse screwed into said head and having its bottom perforated, and screw-thread connections between said head and body whereby the former can be moved toward said priming holder to obturate one of said passages.

5. In combination, a projectile body, an adjustable head, two passages provided in said body one for direct transmission of the flame from the primer and the other for retarded transmission, and a detachable collar provided between said head and body.

6. In combination, a projectile body, a removable and adjustable head, two passages provided in said body one for direct transmission of the flame from the primer and the other for retarded transmission, and a

detachable collar provided between said head and body.

7. In combination, a projectile body, a removable and adjustable head screw-threaded on said body, two passages provided in said body one for direct transmission of the flame from the primer and the other for retarded transmission, and a detachable collar provided between said head and body.

8. In combination, a projectile body, an adjustable head, two passages provided in

one of said parts one for direct transmission and the other for retarded transmission, and a detachable collar provided between said head and body.

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

EUGÈNE SCHNEIDER.

Witnesses:

R. DE SEVELINGER,

JACK C. BAKER