

E. SCHNEIDER.

PERCUSSION FUSE.

APPLICATION FILED JUNE 20, 1910.

971,691.

Patented Oct. 4, 1910.

Fig. 1.

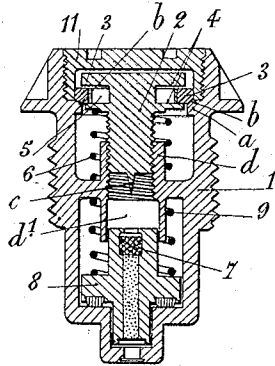


Fig. 2.

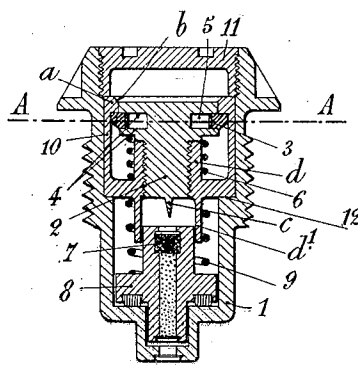


Fig. 4.

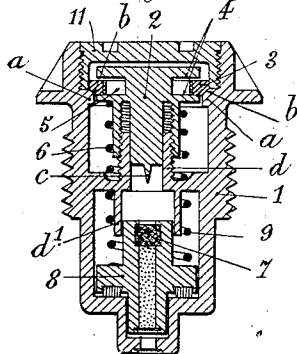


Fig. 3.

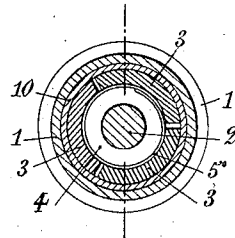
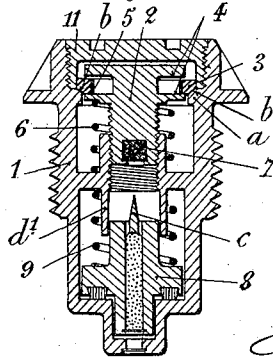


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

EUGENE SCHNEIDER, OF LE CREUZOT, FRANCE.

PERCUSSION-FUSE.

971,691.

Specification of Letters Patent.

Patented Oct. 4, 1910.

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To all whom it may concern:

Be it known that I, EUGENE SCHNEIDER, of Le Creuzot, Saône-et-Loire, France, have invented new and useful Improvements in and Relating to Percussion-Fuses, which is fully set forth in the following specification.

This invention relates to percussion fuses, and has for its chief object to cock the same, that is to say to release one of the parts which are normally separated and out of reach of each other, by the effect of the rotation of the fuse body relatively to a mass carrying one of the said parts.

According to this invention the fuse body is provided internally with engaging projections and also with an internally or externally screw threaded guide into or onto which the block carrying the striker or the priming is screwed. This block is itself provided with an extensible part normally resting upon and outside of the engaging projections of the fuse body and which maintains the said block disengaged until the shot is fired. The rotary movement of the fired projectile produces a limited screwing of the fuse body upon the said block and a compression of the extensible part to allow longitudinal movement of the block to take place so that the said block is engaged behind the projections, thereby cocking the fuse. The block is held in this position, its screwing being limited by its bearing upon the threaded guide; the charge of the projectile is ignited when it strikes the object owing to the priming and the striker coming into contact under the influence of momentum.

In order that my said invention may be clearly understood and readily carried into effect, the same will be described with reference to the accompanying drawings, in which:—

Figure 1 is a longitudinal section of one constructional form of my device, the parts being represented in the position of rest. Fig. 2 is a similar section of a modified constructional form, the parts being represented in the position in which the fuse is cocked. Fig. 3 is a plan on the line A—A in Fig. 2. Figs. 4 and 5 illustrate two further modifications of the invention in sectional elevation.

In these figures, 1 designates the body of the fuse provided with engaging members which may be constituted, for example by a crown *a*, projecting from the inner wall and

presenting externally a chamfer or beveled face *b* upon which, in the condition of rest, the extensible part bears; this part is fitted to a screw threaded block 2 carrying one of the two igniting elements (*i. e.* either the priming or the striker) for example the striker *c* as shown in Figs. 1, 2 and 4. The fuse body is furnished with an axial guide *d* suitably screw threaded for the reception of the mass 2. The extensible part with which this latter is provided may comprise segments 3 engaging in a groove 4 in the block 2 and held apart by a spring 5 (Fig. 3). In the condition of rest, the segments 3 bear upon the chamfer *b* on the engaging projection *a*. An auxiliary spring 6 normally assists in holding the block 2 in the position of rest. That one of the igniting elements which is not carried by the block 2 (the striker *c*, in the case illustrated in Fig. 5) is carried by a block 8 freely guided in the body of the fuse and which may work in a smooth rearward extension *d'* of the screw threaded guide *d*. A spring 9, one end of which rests upon the fuse body and its other end upon the block 8, normally holds the latter away from the block 2.

When the shot is fired the body 1 of the fuse in rotating is screwed, by means of its screw threaded guide *d*, upon the corresponding thread on the block 2 which does not participate in any movement of rotation. This screwing compresses the extensible part 3, and the spring 5 is compressed and the segments slide upon the chamfer *b*. The screwing of the fuse body upon the block 2 is limited by the guide *d* striking against the block 2 as shown in Fig. 2. At this moment the segments 3 have passed beyond the engaging crown *a* and the spring 5 in extending separates the said segments which engage behind the crown. The fuse is then cocked and complete immobility of the block 2 is insured, the engagement of the segments preventing any unscrewing. As soon as the projectile encounters an obstacle the block 8 compresses its retaining spring 9, and moves forward to cause the priming 7 and the striker *c* to meet.

The engaging crown *a* instead of being integral with the body of the fuse, as is the case in the examples illustrated in Figs. 1, 4 and 5, may be carried by a separate part as shown in the constructional form illustrated in Fig. 2. In this example, the crown *a* forms a projection upon the upper end of

a ring 10 held between a shoulder 12 of the fuse body and the plug 11. The screw threaded guide *d*, may also be formed upon a separate part. It is only necessary that the parts *a* and *d* should be suitably fixed to the fuse body in such a manner as to rotate with it but not be capable of any longitudinal displacement.

As above stated, the block 2 which is screwed upon the threaded guide *d* of the fuse body, may carry either of the firing elements, as desired. In the example represented in Figs. 1 to 4, the said mass carries the striker *c*, while the priming 7 is carried by the freely guided block 8; in the example illustrated in Fig. 5 the reverse arrangement is represented.

The screw threads of the guide *d* may be internal as in the example represented in Figs. 1, 2 and 5, the block being then provided with a corresponding external screw thread. It may also be external as shown in Fig. 4, the block 2 then carrying a corresponding internally screw threaded socket.

It will readily be understood that the striker is normally held away from the priming at a greater distance than that required in order that ignition may be effected owing to the inertia of the block, the additional interval of space being only traversed when the shot is fired, owing to the rotation of the fuse body and upon that one of the igniting elements which is not carried by the block. The result of this arrangement is that absolute safety is secured during transportation and manipulation of the projectile.

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

1. A percussion fuse for projectiles comprising in combination a fuse casing provided with a guide sleeve fast thereto and having a screw thread, a spring-pressed block having a telescoping engagement with said sleeve and normally held out of firing position by said spring, a second spring-pressed block having a screw-threaded engagement with said sleeve and a spring-pressed member carried by said block for locking the same in safety position, said locking means being disengaged from safety position by rotation of said sleeve on said last-named block when the projectile is fired,

and means engaging said member for locking said block in firing position.

2. A percussion fuse for projectiles comprising in combination a fuse casing provided with a screw-threaded guide sleeve fast thereon, oppositely disposed spring-pressed firing blocks guided by said sleeve, one of which is provided with a screw-thread engaging that of said sleeve, spring-pressed locking means for locking said block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against relative movement to said sleeve.

3. A percussion fuse for projectiles comprising in combination a fuse casing, provided with a screw-threaded guide sleeve fast thereon, oppositely disposed spring-pressed blocks guided by said sleeve, one of which carries a firing pin and the other a firing element, one of said blocks having a screw-thread engaging said sleeve, and spring-pressed locking means carried by said last-named block adapted to engage said casing for holding the block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against movement relative to said sleeve.

4. A percussion fuse for projectiles comprising in combination a fuse casing provided with a screw-threaded guide sleeve fast thereon, oppositely-disposed spring-pressed firing blocks guided by said sleeve, one of which has a threaded engagement with said sleeve and the other having a telescoping engagement therewith, spring-pressed locking means for locking the first-named block in safety position, said locking means being released by rotation of said sleeve on said threaded block when the projectile is fired, and means locking said block against relative movement to said sleeve.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EUGENE SCHNEIDER.

Witnesses:

DEAN B. MASON,
R. DE SELVINGER.