

J. F. BUCKINGHAM.
INCENDIARY PROJECTILE.
APPLICATION FILED JULY 2, 1917.

1,301,382.

Patented Apr. 22, 1919.

Fig. 1.

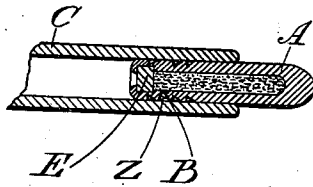


Fig. 2.

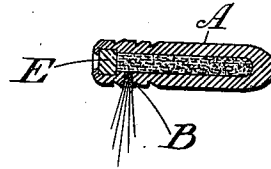
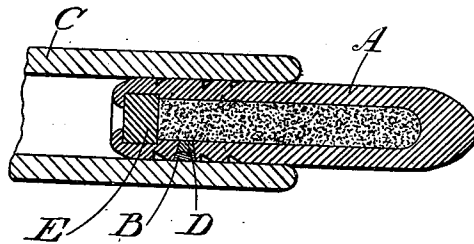


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES FRANK BUCKINGHAM, OF COVENTRY, ENGLAND.

INCENDIARY PROJECTILE.

1,301,382.

Specification of Letters Patent.

Patented Apr. 22, 1919.

Application filed July 2, 1917. Serial No. 178,266.

To all whom it may concern:

Be it known that I, JAMES FRANK BUCKINGHAM, a subject of the King of England, residing at Coventry, Warwickshire, England, have invented certain new and useful Improvements in Incendiary Projectiles, of which the following is a specification.

This invention relates to incendiary bullets, shells and the like, of the kind in which the bullet contains an incendiary substance which is ejected from the bullet when it leaves the barrel. In patent specification No. 178,264 it is stated that in some cases the outlets from the bullet case may be formed at the side instead of at the rear so that the contents of the bullet case are not exposed to the force of the explosion of the cartridge and cannot escape until the bullet has left the barrel.

It is the object of this invention to provide an improved construction embodying this feature, in which the contents are thoroughly protected from the force of the explosion and also cannot come into contact with and damage the interior of the barrel.

According to the present invention, the lateral hole or holes contain a closure which is released by the heat of the explosion but as the closures are in the side of the bullet they cannot be dislodged until the bullet is free of the barrel. The closing substance may be a plug of metal, etc., which melts when the cartridge is fired or it may be a solid plug retained by a fusible solder.

In the accompanying drawings,

Figure 1 is a sectional view showing a bullet constructed in accordance with this invention just leaving the barrel.

Fig. 2 is a similar view showing the bullet after it has left the barrel.

Fig. 3 is a sectional view showing a modification.

Like letters indicate like parts throughout the drawings.

In both constructions the bullet case A is arranged to contain phosphorus or some other suitable substance which liquefies owing to the heat conducted through the walls from the explosion of the cartridges, and is then ready to be ejected through one or more outlets either in a flaming condition, or to burst into flame directly it comes in contact with the air. The outlet B is made in the side of the bullet and is closed by a plug Z of some easily melted substance such as a

solder which will be melted automatically by the heat conducted to it. On firing the cartridge this solder will melt, but it and the contents of the bullet will not escape until the bullet leaves the barrel C as will be clearly seen in Figs. 1 and 2. In Fig. 1 it will be noticed that the plug Z is retained by the barrel. In Fig. 2 the melted plug has been dispersed and the bullet is in flight, ejecting the contents through the hole B. The incendiary contents selected expand considerably when heated and when used in a rifled barrel the internal pressure due to the heat conducted to them, added to the centrifugal action, causes the contents to be violently ejected and finely distributed so that a uniform effect is obtained.

In the alternative construction shown in Fig. 3 the hole B is only indirectly closed by the fusible substance. In each outlet B is placed a non-fusible plug D or the like and this is held in place by an easily fusible solder.

Thus the rear end of the bullet can be permanently closed by a plug E and the contents are fully protected from the force of explosion of the cartridge, and the barrel protected from contact with the incendiary substance.

In some cases it may be desirable that the lateral hole be placed near the front of the bullet so that a short time may elapse before the heat is conducted along the bullet. The result is that the flame does not appear until the bullet has traveled a certain distance away from the rifle or gun. This is of advantage in some cases as it does not enable the position of the gun to be so easily traced. Consequently the location of the outlet or outlets with regard to the length of the bullet determines the moment at which the flame commences.

The invention is applicable to tracers as well as to incendiary bullets and shells.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A hollow projectile comprising a hollow shell having an opening in the side, a plug for the rear of the shell, easily meltable incendiary substance within the shell and a fusible substance plugging the entrance to the opening, for the purpose specified.

2. A hollow projectile comprising a hollow shell having an opening in the side, a plug for the rear of the shell, easily meltable

incendiary substance within the shell, a plug within the opening and a fusible substance keeping the plug in place, for the purpose specified.

- 5 3. A hollow projectile comprising a hollow shell having an opening in the side, a plug for the rear of the shell, easily melt-able incendiary substance within the shell, a non-fusible plug within the opening and

a fusible substance keeping the plug in place, 10 for the purpose specified.

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

JAMES FRANK BUCKINGHAM.

Witnesses:

ALBERT BROWN,
ANNIE L. WADE.