March 22, 1927. 1,622,160

E. MATTLET

FIRING SOCKET OR CUP FOR GRENADES

Filed July 30, 1926 3 Sheets-Sheet 1

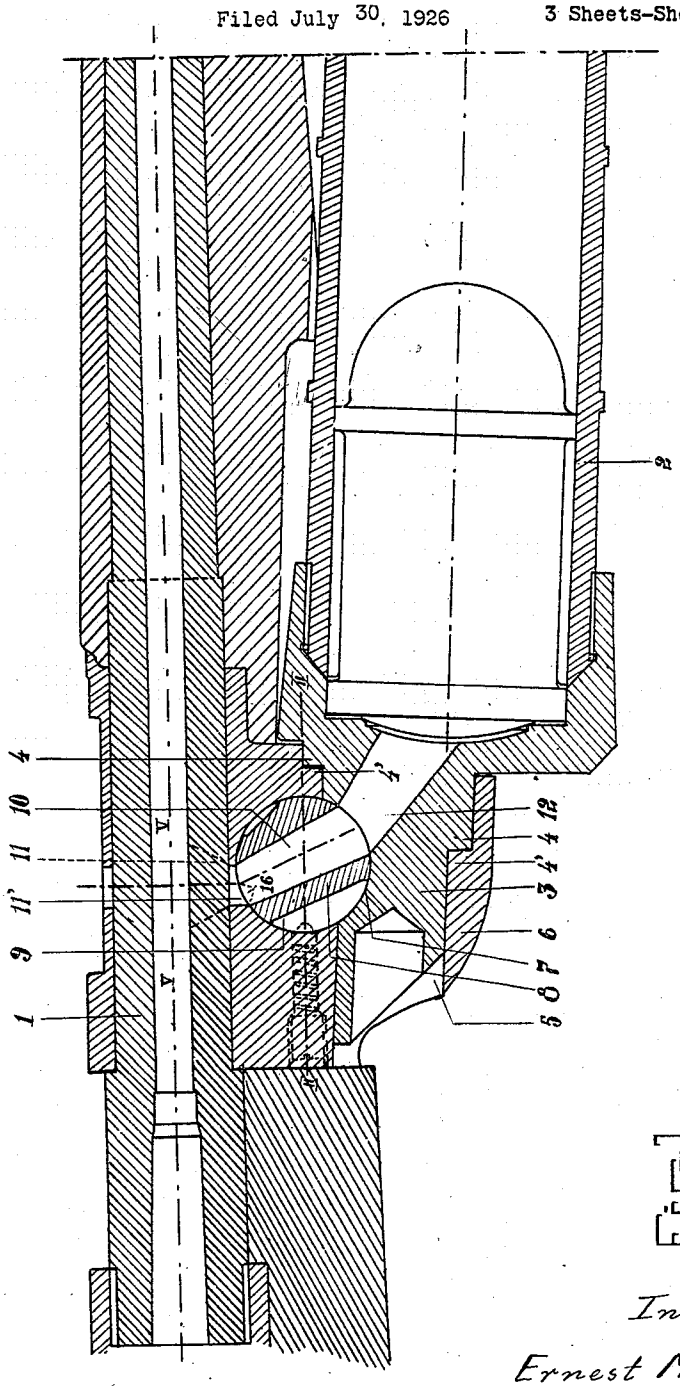


Fig. 1

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Fig. 2

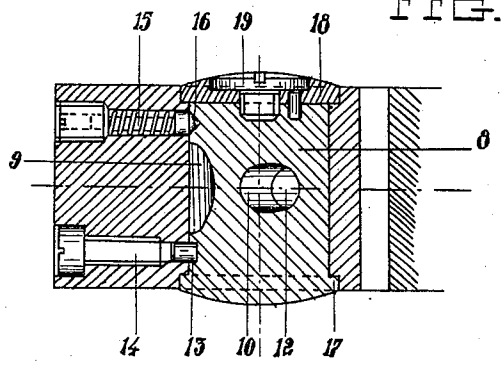


Fig. 4

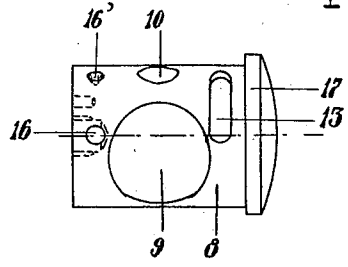
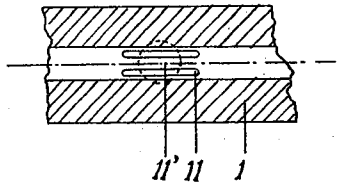


Fig. 5



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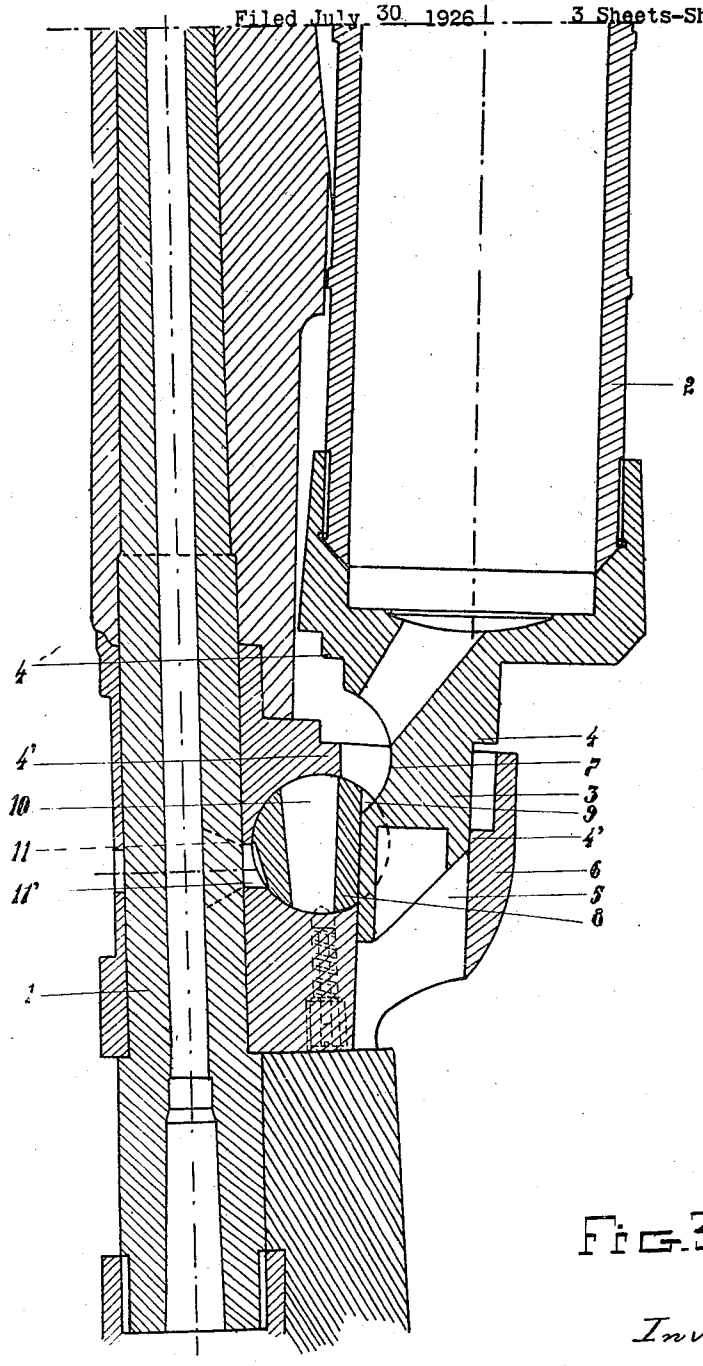


Fig. 3

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Patented Mar. 22, 1927. 1,622,160

UNITED STATES PATENT OFFICE.

ERNEST MATTLET, OF BRUSSELS, BELGIUM, ASSIGNOR TO FABRIQUE NATIONALE D'ARMES DE GUERRE, SOCIETE ANONYME, OF HERSTAL-LEZ-LIEGE, BELGIUM.

FIRING SOCKET OR CUP FOR GRENADES.

Application filed July 30, 1926, Serial No. 126,021, and in Belgium August 8, 1925.

The present invention relates to firing sockets or cups which are eccentrically mounted on gun or rifle barrels so as to permit grenades to be fired by the action of the gases produced when the bullet is fired from the gun, the said gases being by-passed into the socket in such a way as to project the grenade out of the latter.

The invention more particularly relates to a device for enabling the socket to be rapidly isolated and even removed, the gun being adapted in this case to continue to be employed with all its normal ballistic properties.

For this purpose the body of the socket is provided at its back part with a pin disposed axially and penetrating, when the body of the socket is placed in position upon the gun or rifle, into a corresponding lodgment in a supporting member attached to the rifle and communicating with the barrel of the latter through a suitable duct; the said pin is provided with a transverse groove or throat into which enters subsequently a cylindrical member also passing through the said supporting member.

In order to enable the above mentioned pin and consequently the body of the socket to be withdrawn without necessitating the removal of the above mentioned cylindrical locking member, the latter is provided upon its periphery with a throat or groove which can be brought into coincidence with the pin by simply rotating the said cylindrical member.

The said cylindrical member is further provided with a channel which puts the duct pierced in the wall of the barrel into communication with the duct pierced in the pin of the socket; this channel is directed in such a way that the above mentioned communication is broken and consequently the rifle barrel isolated, when the pin of the socket body can be withdrawn from its lodgment.

The invention is illustrated by way of example in the accompanying drawings, in which:

Figure 1 is a longitudinal section through a gun the barrel of which alone is shown in part and is provided with the socket or cup according to the invention.

Figure 2 is a horizontal section taken along the line II—II in Figure 1.

Figure 3 is a similar section of that shown in Figure 1 the socket being shown in process of removal.

Figure 4 is an elevation of a detail.

Figure 5 is a horizontal section taken along the line V—V in Figure 1.

In the example shown in the drawings only the rear part of the barrel 1 is shown with which the body of the socket 2 is in communication. The said body 2, within which will be placed the grenade, is provided at its back part with a pin 3 disposed axially and provided with shoulders 4, which when the said pin is introduced into the corresponding lodgment 5 of the supporting member 6, slipped over the rear part of the barrel 1, abut against corresponding shoulders 4′ on the latter.

In order to retain the said pin 3 in its lodgment 5 it is provided with a transverse groove 7 into which penetrates a cylindrical member 8 which also passes through the supporting member 6; this cylindrical member thus opposes the disengagement of the pin 3 and consequently the removal of the socket body.

In order to permit this removal however, the said cylindrical member is provided upon its periphery with a throat or groove 9 which, by the rotation of the cylindrical member may be brought into coincidence with the pin 3, as shown in Figure 3, in such a way as to enable the socket body to be withdrawn.

The above mentioned pivotal movement of the cylindrical member 8 may be effected from the outside by acting by any suitable means upon its extreme face situated at the side of the shoulder 17; it may, for instance, be obtained by means of a screw driver inserted in a suitable slot formed in the said face.

The above described method of attachment of the socket body is also combined, according to the invention, with a device such that, when the cylindrical member 8 is turned so as to permit the removal of the socket body (see Fig. 3), the by-pass of the barrel leading the gases under pressure from the barrel to the socket is at the same time closed in such a way that the gun is thus adapted to continue to be employed with all its normal ballistic properties.

To this end, the cylindrical member 8 is provided with a channel 10 which puts into communication (see Fig. 1) the ducts 11 and 11′ pierced in the barrel and in the member 6 with the ducts 12 pierced in the pin 3 and opening into the end of the body 2 of the socket.

The channel 10 is directed in such a way that when the cylindrical member 8 is turned, as described above, (see Fig. 3) so as to permit the pin 3 to be withdrawn, the said channel is no longer in communication with the ducts 11, 11′ and 12.

As more particularly shown in Figures 2 and 4, the amplitude of the pivotal movement of the cylindrical member is controlled by means of a screw 14 the end of which enters into a suitable slot 13 in the said member which will on the other hand be retained in its two end positions by the action of a spring stop 14 the end of which is adapted to penetrate into suitable notches 16 and 16′ corresponding respectively to the open and closed position of the by-pass of the gases towards the socket.

The cylindrical member has formed at one of its ends a shoulder 17 and is provided at its other end with a plate 18 which is attached to it by a screw 19.

As shown more particularly in Figure 5 the duct 11′ communicates with the interior of the barrel by two slots 11 parallel to the axis of the barrel and opening into the duct 11′ of circular section; the ducts 11′, 10 and 12 are further of suitably increasing section so as to produce a slight expansion of the gases.

According to the form of construction shown in the drawings, the slots 11 are situated at the rear part of the barrel; their position will be judiciously chosen in such a way that the pressure of the gases gives the maximum efficiency from the point of view of launching the grenade.

What I claim is:

1. A firing socket or cup for grenades adapted to be mounted eccentrically upon a gun or rifle and comprising axially at its back part a pin, a supporting member attached to the gun barrel and comprising a lodgment for receiving said pin, a transverse groove or throat provided in said pin, a cylindrical member which passes through said groove and through the supporting member and means for conducting the gases from the gun barrel into the body of the socket.

2. A firing socket or cup for grenades adapted to be mounted eccentrically upon a gun or rifle and comprising axially at its back part a pin, a supporting member attached to the gun barrel and comprising a lodgment for receiving said pin, a transverse groove or throat provided in said pin, a cylindrical member which passes through said groove and through the supporting member, a duct traversing the said cylindrical member and putting in communication a duct pierced in the axial pin of the socket body.

3. A firing socket or cup for grenades adapted to be mounted eccentrically upon a gun or rifle and comprising axially at its back part a pin, a supporting member attached to the gun barrel and comprising a lodgment for receiving said pin, a transverse groove or throat provided in said pin, a cylindrical member which passes through said groove and through the supporting member, the cylindrical member being provided upon its periphery with a groove or throat which by the rotation of the said cylindrical member is adapted to be brought into coincidence with the said pin so as to permit the removal of the latter from its lodgment and means for conducting the gases from the gun barrel into the body of the socket.

4. A firing socket or cup for grenades adapted to be mounted eccentrically upon a gun or rifle and comprising axially at its back part a pin, a supporting member attached to the gun barrel and comprising a lodgment for receiving said pin, a transverse groove or throat provided in said pin, a cylindrical member which passes through said groove and through the supporting member, the cylindrical member being provided upon its periphery with a groove or throat which by the rotation of the said cylindrical member is adapted to be brought into coincidence with the said pin so as to permit the removal of the latter from its lodgment and a duct traversing the said cylindrical member and putting in communication a duct pierced in the supporting member and in the gun barrel with a channel pierced in the axial pin of the socket body, the groove and the duct of the said cylindrical member being relatively directed in such a way that the said duct is completely isolated when the groove of the cylindrical member is brought into coincidence with the pin of the socket body.

5. A firing socket or cup for grenades adapted to be mounted eccentrically upon a gun or rifle and comprising axially at its back part a pin, a supporting member attached to the gun barrel and comprising a lodgment for receiving said pin, a transverse

groove or throat provided in said pin, a cylindrical member which passes through said groove and through the supporting member, a duct traversing the said cylindrical member and putting into communication a duct pierced in the axial pin of the socket body, the ducts pierced in the supporting member and in the gun barrel with a channel pierced in the gun or rifle barrel being provided in the form of slots the longer axis of which is parallel to the axis of the barrel.

In testimony whereof I affix my signature.

ERNEST MATTLET.