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 MEANS FOR SECURING PERCUSSION CAPS IN CARTRIDGES.
 APPLICATION FILED MAY 25, 1907.

898,802.

Patented Sept. 15, 1908.

Fig. 1.

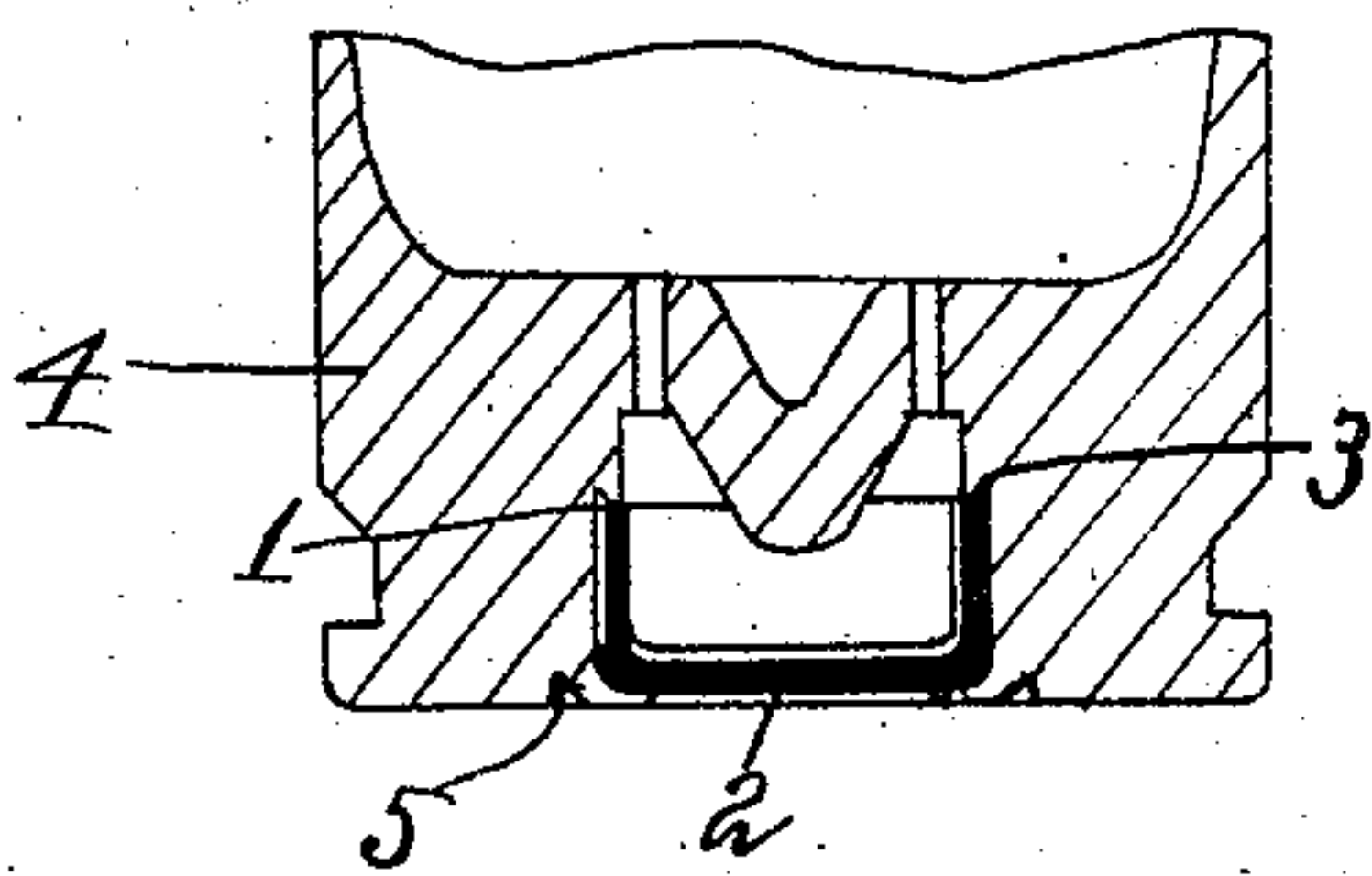


Fig. 2.

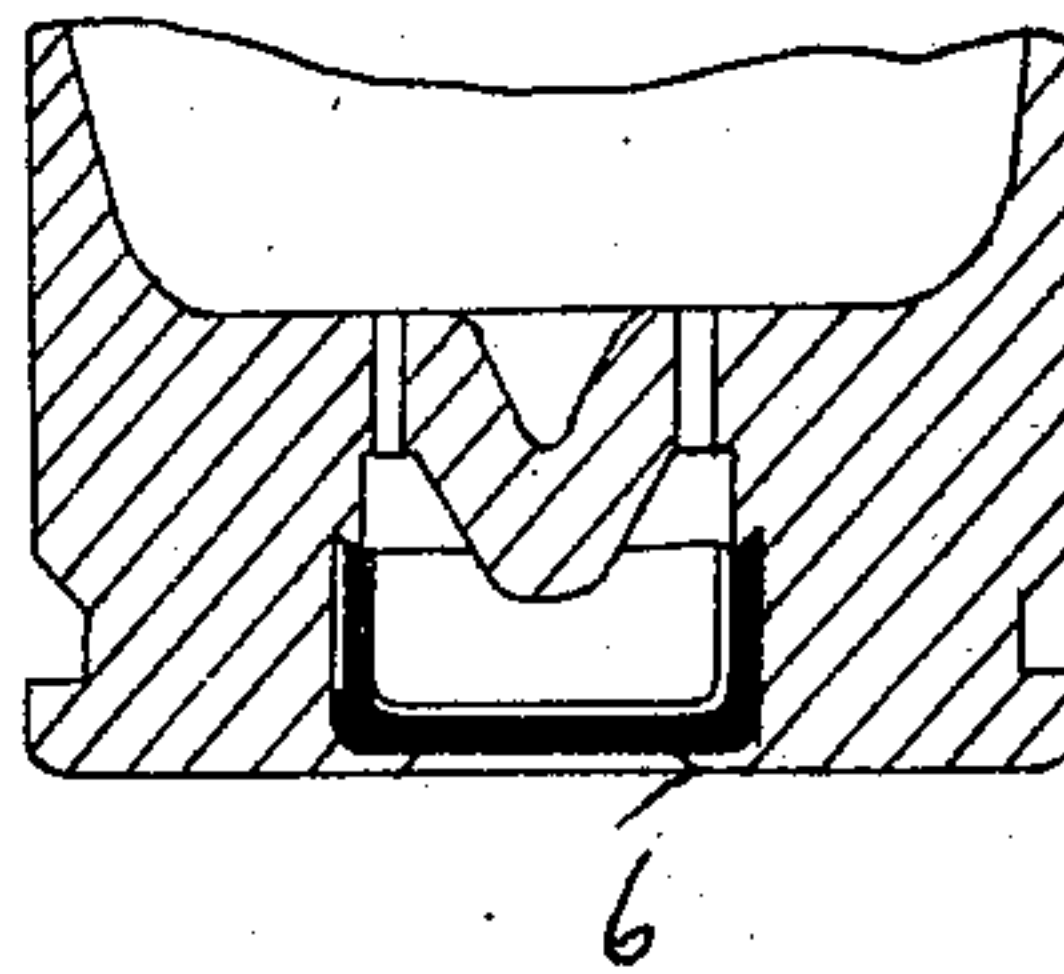


Fig. 2^a

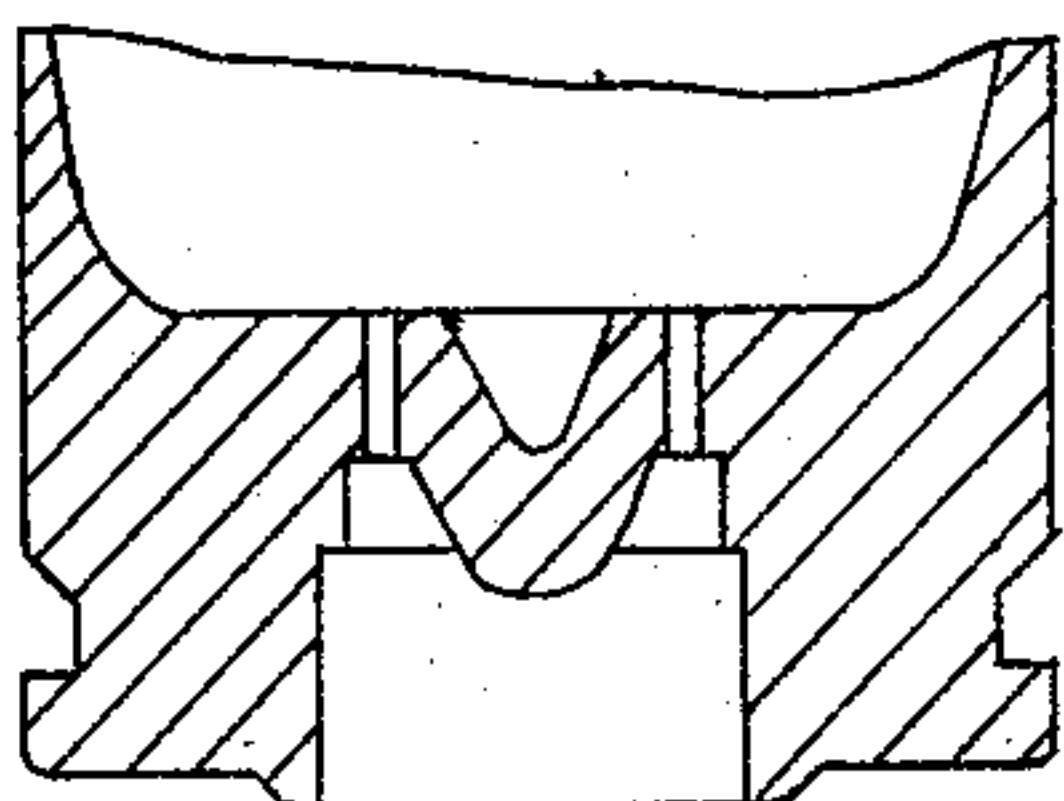


Fig. 3.

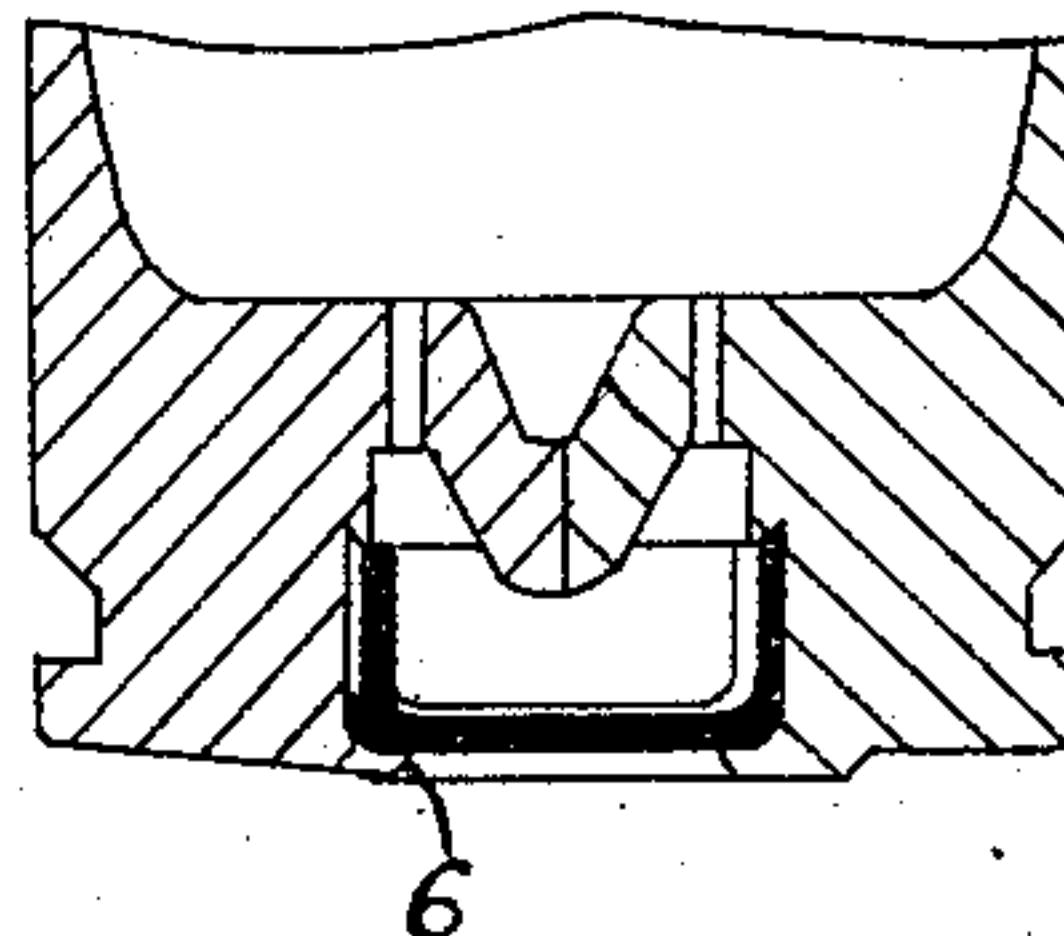


Fig. 4.

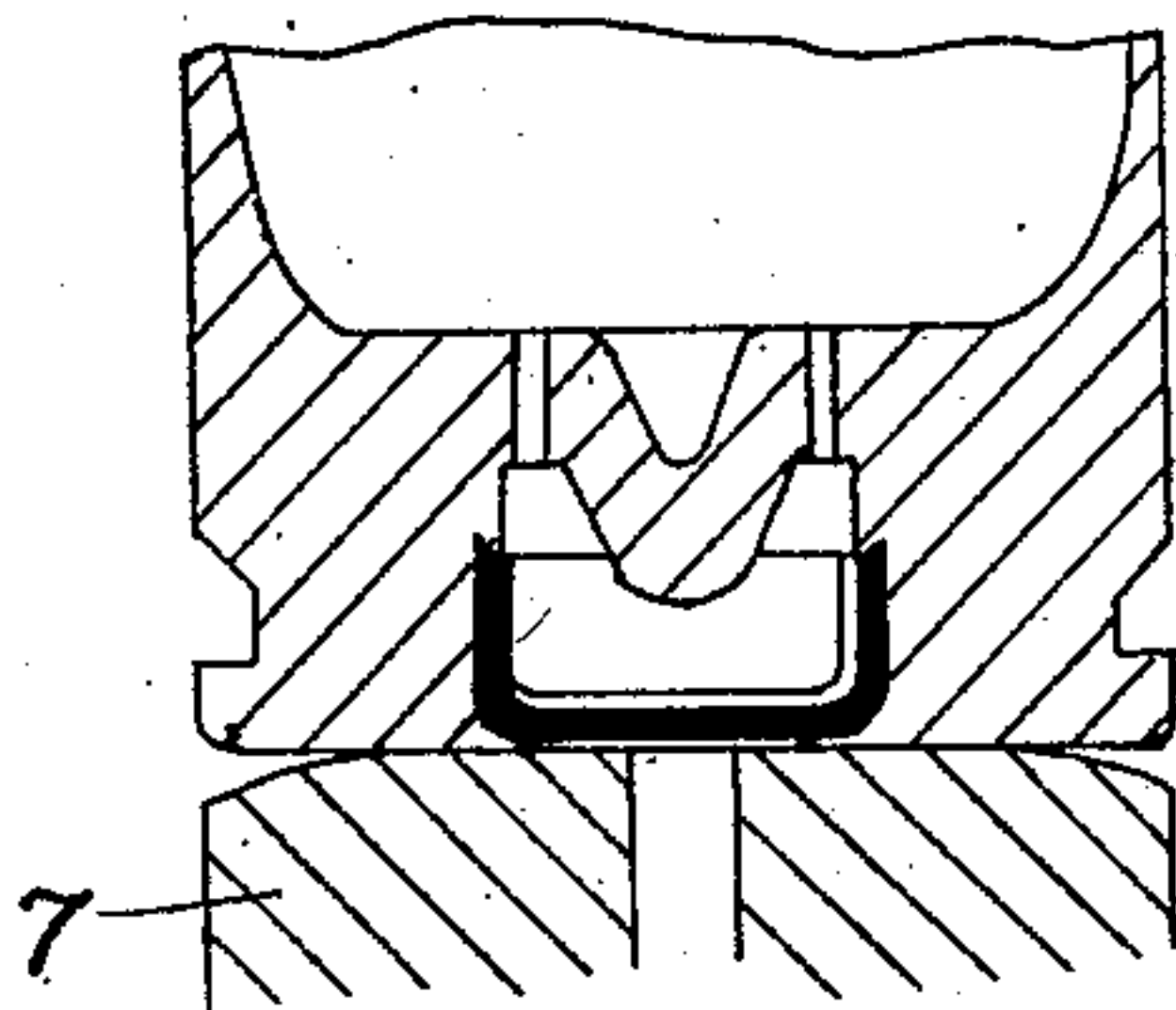


Fig. 5.

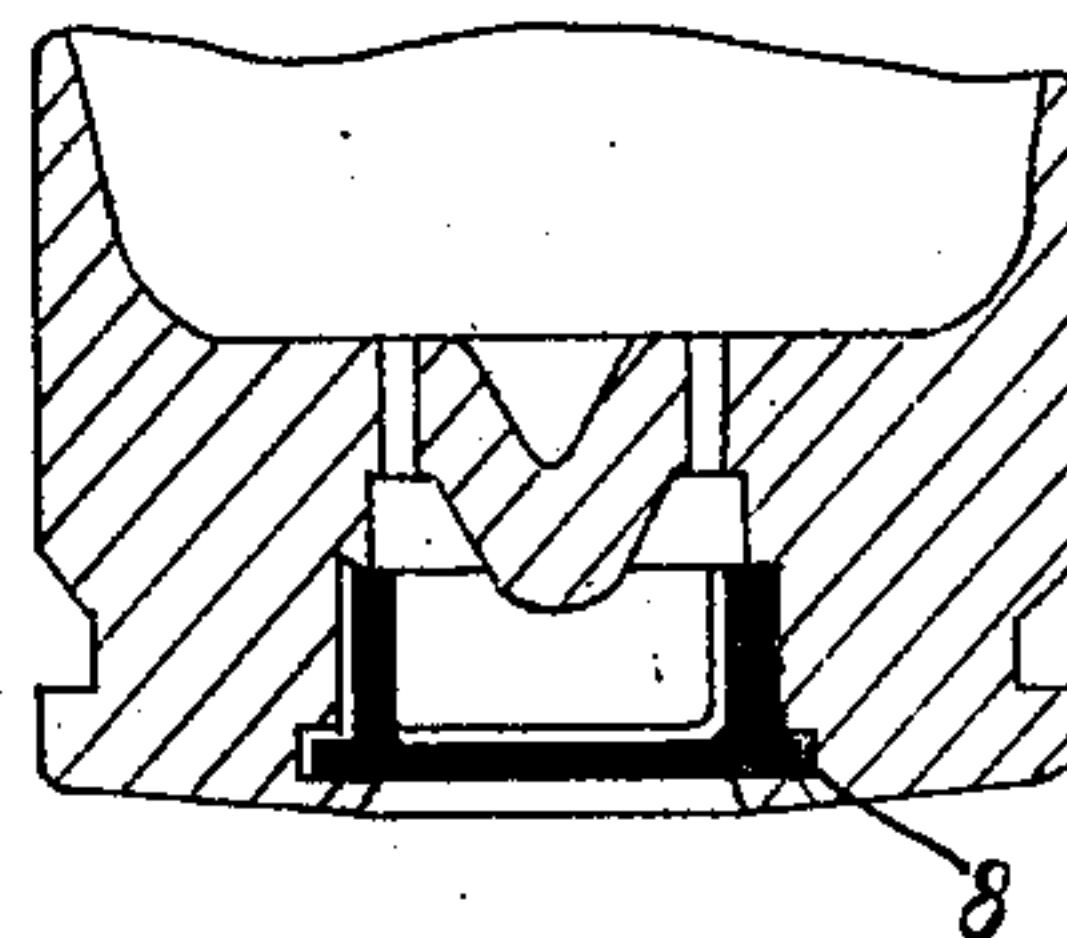


Fig. 6.

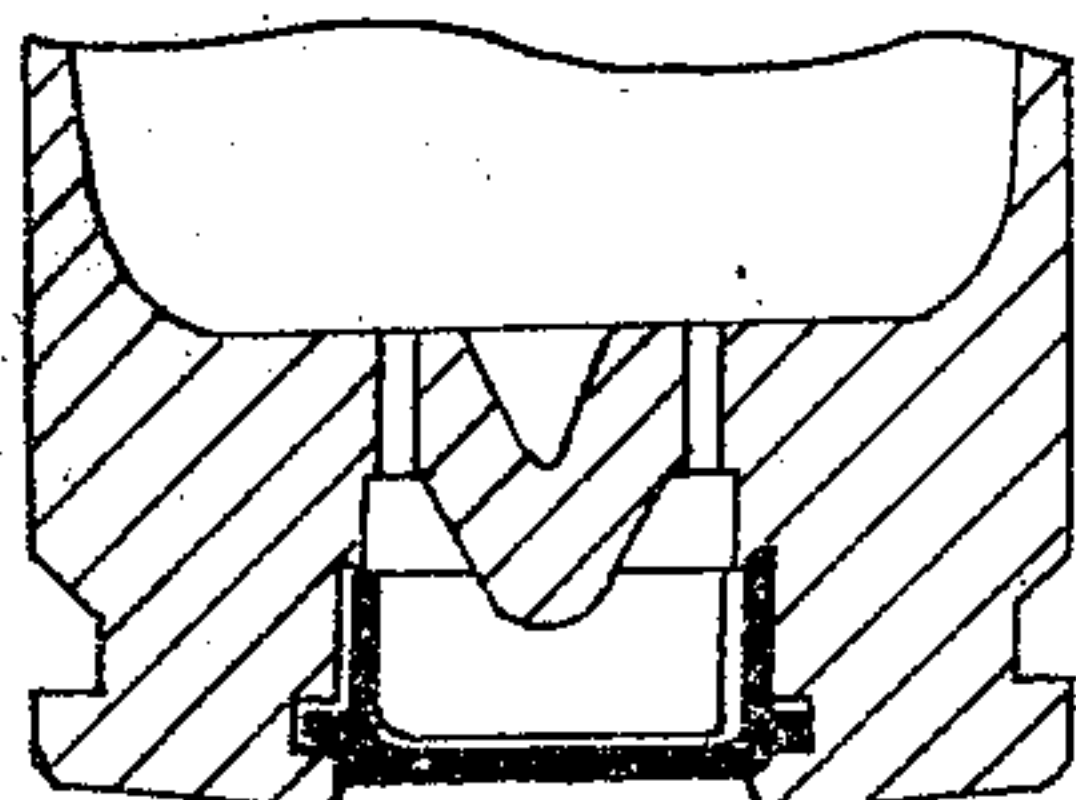
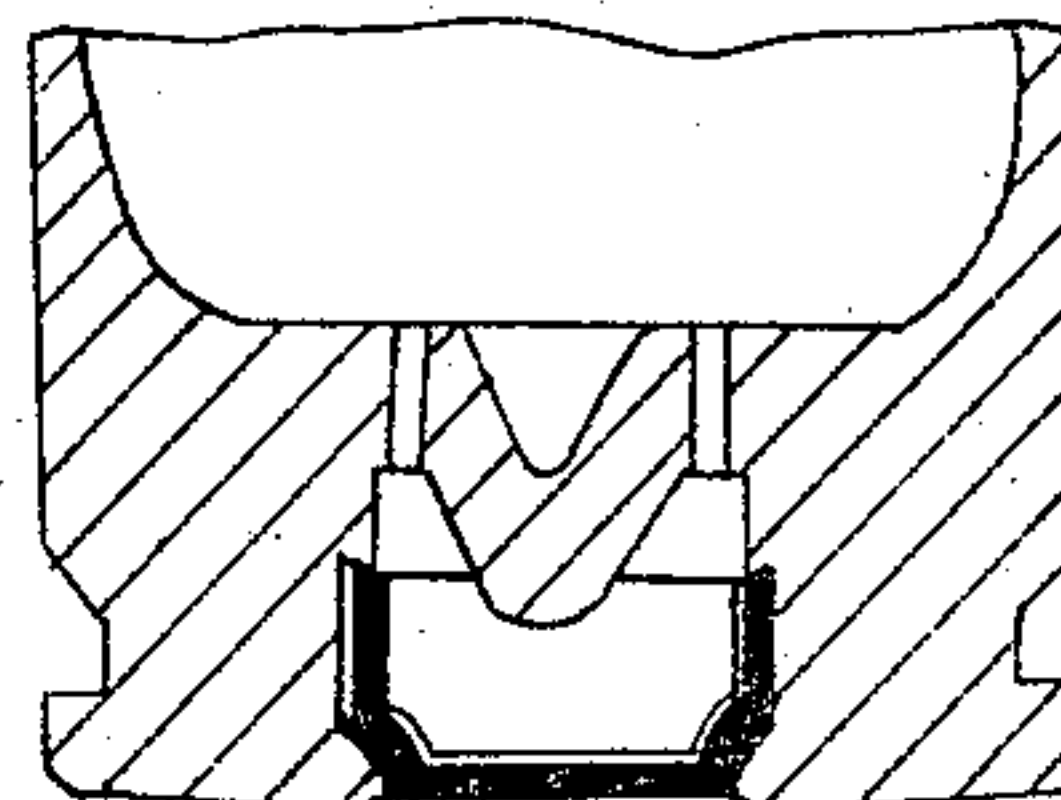


Fig. 7.



WITNESSES:

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MEANS FOR SECURING PERCUSSION-CAPS IN CARTRIDGES.

No. 898,802.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed May 25, 1907. Serial No. 375,742.

To all whom it may concern:

Be it known that I, RICHARD HERMANN STRIBECK, engineer, citizen of Prussia, residing at Grunewald, near Berlin, Germany, have invented new and useful Improved Means for Securing Percussion-Caps in Cartridges, of which the following is a specification.

The invention has reference to an improved means of fixing and securing percussion caps into cartridge cases, particularly cartridge cases in which that part which surrounds the detonator and also surrounds the ignition space, together with the bottom and the anvil, is formed of one piece of metal.

In accordance with the usual means the percussion cap is held by the friction between its cylindrical outer face and the interior bore of the cartridge case provided for the reception of the percussion cap. This friction is invariably produced by so forming the percussion cap that its diameter is somewhat larger than the said bore of the cap chamber and is pressed into the latter. The joint between the percussion cap and the cap chamber is intended to be produced by the pressure with which said detonator bears against the bore. Experience has however demonstrated that with this construction the percussion cap does not always remain tight, owing to two principal reasons. One of these consists in the expansion of the cap chamber. This occurs almost as a general rule with light metals and light alloys (the specific weight of which is less than 4) owing to their small degree of hardness. Owing to this expansion the percussion cap becomes loose, gases flow between the same and the cap chamber and cause erosion. The other cause of lack of tightness is the sunk position of the percussion cap in the cap chamber. On firing the percussion cap is displaced in the bore of the cap chamber by the gas pressure, until it bears against the face of the breech bolt or block of the gun. Owing to this movement and the simultaneous deformation of the bottom of the percussion cap by the gas pressure on the one hand and the firing pin on the other, the joint is destroyed.

The object of the present invention is to provide means for preventing the penetration of the gases between the percussion cap and the cap chamber by providing the cap chamber with a projection against which the edge of the percussion cap bears. In order

that this bearing may be maintained during firing, the percussion cap must be prevented from displacement under the influence of the gas pressure. This object is attained owing to the fact that parts of the bottom of the percussion cap, or projections specially formed upon the same, rest against corresponding projections within the interior of the cap chamber. The present invention, therefore, overcomes the defects referred to above which as explained give rise to loosening of the percussion cap and the escape of gases between the latter and the cap chamber.

In order that the invention may be clearly understood reference may be had to the accompanying drawing in which—

Figure 1 is a sectional view of the cartridge head with the cap therein—Fig. 2 is a like view showing a modification—Fig. 2^a is a sectional view of the cartridge head shown in Fig. 1 before the insertion of the cap—Fig. 3 is a sectional view of a different form of cartridge head.—Fig. 4 is a like view showing a part of the breech block which has a special new form.—Figs. 5, 6 and 7 are sectional views of further modifications.

As already stated, the edge 1 of the detonator 2 bears against a corresponding projection 3 within the cartridge 4. In Fig. 1 by impressing a circular channel 5 in the head of the cartridge, a portion of the cartridge case is compressed in front of the outward portion of the percussion cap 2.

The construction shown in Fig. 2 differs from that shown in Fig. 1 owing to the fact that, the head or end face of the cartridge does not have a channel formed therein. The bead 6 projecting in front of the outward portion of the percussion cap is produced by forming the cartridge case with a raised edge surrounding the bore which receives the percussion cap as shown in Fig. 2^a, and forming down this edge after the insertion thereof. The construction shown in Fig. 2 is preferable, in carrying out the invention, to that in Fig. 1, as in this case the bottom of the case is not weakened by the formation of a channel.

The constructions illustrated in Figs. 3 and 4 are still more complete than that shown in Fig. 2, as in these in the first place the head of the cartridge case does not bear upon the face of the breech bolt or block 7 completely but only with an annular surface 7 (Fig. 3) surrounding the exposed surface of the percussion cap said annular surface

being of greater or less width according to the gas pressure and the hardness of the material employed. Under the influence of the pressure which in firing acts upon the inner surface of the cartridge head this latter is deformed until a portion of the head of the case proportionate to the load has come against the face of the breech bolt or block see Fig. 4. By this means the percussion cap is pressed in the direction of the axis from both sides and thus the pressure on the joint of the detonator is still further increased. As the pressure of the joint increases in accordance with the gas pressure at firing a reliable joint is obtained, even with high gas pressures.

The forgoing explanations will render Figs. 5 to 7 intelligible. These figures show different forms of caps, for instance, Fig. 5 shows a cap having a flange 8 engaging a recess in the cartridge head. Fig. 6 shows the flange in a different location and Fig. 7 shows a cap having a reduced portion against which the case engages.

The invention is also applicable to percussion caps which are connected to the cap chamber by screwing or otherwise.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. A cartridge having a cap chamber in its head, an annular shoulder formed in said chamber, a cap having its inner edge adapted to bear against said shoulder, and a projection on the cartridge head adapted to bear on a part of the cap head to hold the cap in the chamber.

2. A cartridge having a chamber in its head, an annular shoulder in said chamber, a cap adapted to enter said chamber and to have its inner edge rest against said shoulder, and an annular raised portion on the cartridge surrounding said chamber, said portion being adapted to be forced over on the cap to hold the same in place.

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

RICHARD HERMANN STRIBECK.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.