

No. 865,298.

H. DAHLKE.
TIME FUSE.

PATENTED SEPT. 3, 1907.

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Fig. 1.

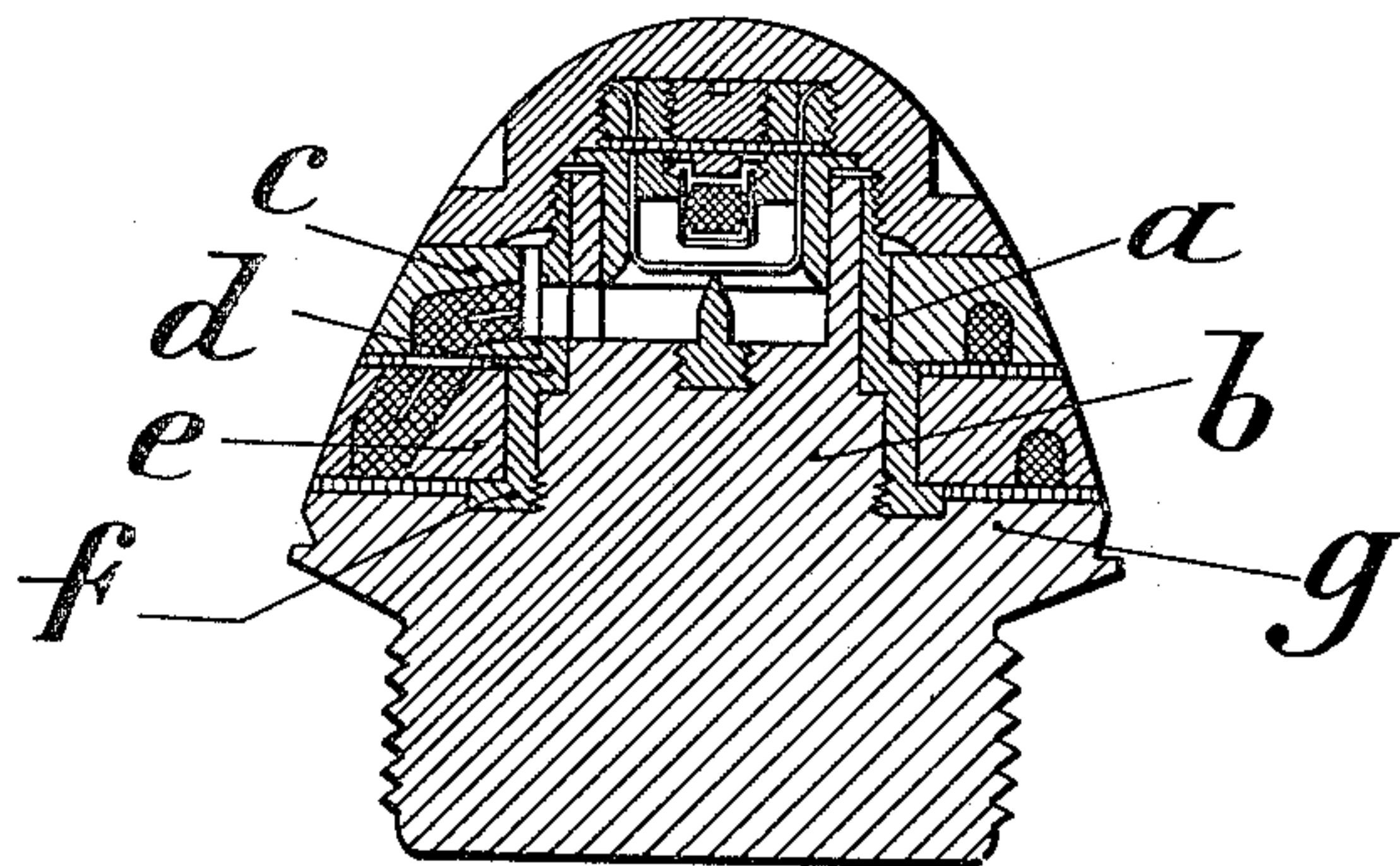
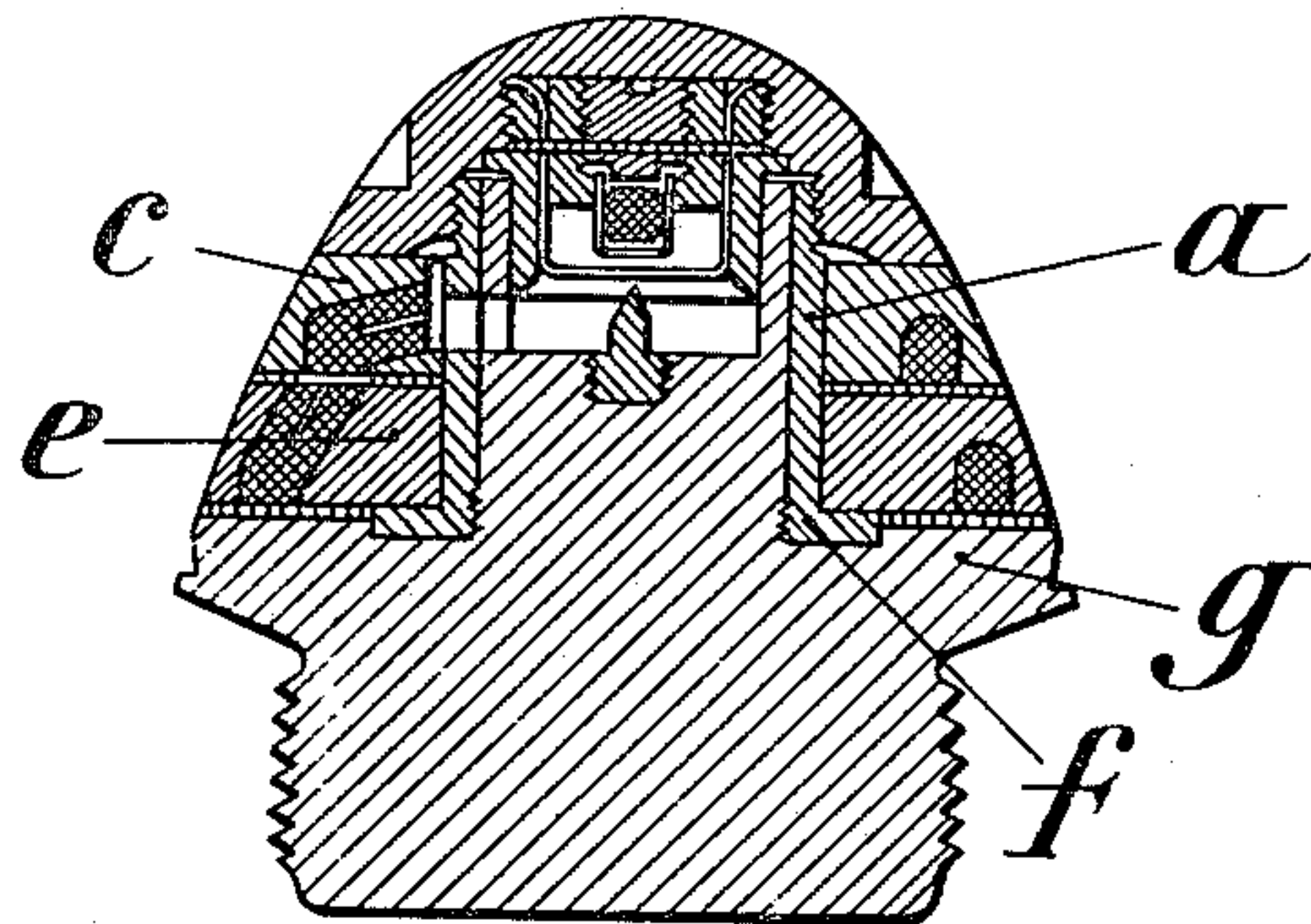


Fig. 2.



WITNESSES

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TIME-FUSE.

No. 865,298.

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To all whom it may concern:

Be it known that I, HERMANN DAHLKE, engineers manager, a subject of the German Emperor, residing at Sömmerda 11, Dreyseplatz, Germany, have invented certain new and useful Improvements in Time-Fuses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-

10 Owing to the continual increase of the initial velocity of projectiles, it is found that the fuse body, and particularly those parts which are weakened by the numerous channels and borings formed therein, are liable to become distorted or upset by the concussion or set back upon firing, whereby also the igniting charge-ring or time train of the fuse is liable to be affected, thus causing inaccuracies in the proper action of the fuse.

The present invention has for its object to obviate such difficulties and consists in supporting the time train and reinforcing said parts of the fuse body which for certain reasons are made of a comparatively weak material, by means of a suitable shield formed as a collar, cap or ring of a stronger material which receives the force of the set-back upon firing. A preferred embodiment of the arrangement for this purpose is shown on the accompanying drawing, in which

Figure 1 shows a vertical section of a double time fuse with one form of the said shield applied thereto; and Fig. 2 is a similar view of a modification.

30 The shield which is formed of a stronger material than the fuse body itself, is constructed as a flanged collar having a substantially cylindrical portion *a* and annular portions *d* and *f*, and is fitted over the stem *b* of the fuse body in such manner that the upper igniting charge ring *c* of the time train bears with its lower surface upon the annulus *d*, while the lower igniting charge ring *e* rests upon the bottom annulus *f* of the collar, so that, upon the concussion or set-back upon firing, the said rings are supported by the said annular portions of the collar and the action of the time train will not be affected in any way by any distortion of the fuse body. The portion *f* of the collar is formed as a flange by means of which it bears against the plate *g* of the fuse body.

45 In the modified construction shown in Fig. 2, the shield is only provided with a bottom flange *f* against which the lower igniting charge ring *e* bears and which thus serves to support both the rings *e* and *c*. The flange *f* can, if required, be extended or made to cover the entire surface of the plate *g* so as to afford increased support.

By the construction described, the time train is isolated and its normal predetermined action thereby shielded against extraneous influences due to any distortions in the fuse body.

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. In a fuse, the combination, with a fuse-body carrying a time train, of a collar of relatively harder metal surrounding the same in the plane of the train to prevent upsetting thereof by the set-back upon firing.

2. In a fuse, the combination, with a fuse body, and a time train carried thereby, of a highly resistant collar separating the time train from the fuse body to prevent injury to the train by the set-back upon firing.

3. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring to prevent the upsetting of the stem and the consequent deformation of the time ring by the set-back.

4. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside of the time ring and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

5. In a fuse, the combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

6. The combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and provided with an outwardly extending flange underlying each portion of the double time ring, to prevent the upsetting of the fuse body and the consequent deformation of the time ring upon firing.

7. The combination, with a fuse body having its stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a stepped collar of highly resistant metal arranged about the stem inside the time rings and provided at its lower portion with an outwardly extending flange, the upper time ring resting upon the stepped portion of the collar and the lower time ring resting upon the flange, to prevent the upsetting of the fuse-body and the consequent deformation of the time rings upon firing.

8. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, of a time train isolated from the fuse body by an incombustible non-distortable shield.

9. In a fuse, the combination, with a fuse body, and a time train, of incombustible non-distortable means independent of the fuse body for supporting the time train.

10. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of non-distortable means interposed between the time train and fuse body to prevent the action of the former being affected by distortion of the latter due to set-back.

11. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of an incombustible non-distortable shield interposed between the train

and the fuse body to prevent the action of the former being affected by distortions of the latter due to set-back.

12. In a fuse, the combination, with a fuse body, and a time train, of incombustible non-distortable means underlying and supporting the train to protect its action against set-back.
13. In a fuse, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of incombustible non-distortable means underlying the time train and separating the train from the fuse body to prevent the action of the train being affected by distortion of the fuse body due to set-back.
14. In a fuse body, the combination, with a fuse body arranged to be fitted to a projectile, and a time train, of a non-distortable shield arranged about the fuse body and beneath the train to protect the latter from injury due to deformation of the former.
15. In a fuse, the combination, with a fuse body, of a time train, and an incombustible and non-distortable supporting annulus arranged between the base of the fuse body and the train.
16. The combination, with a fuse body, adapted to be seated in a projectile, and a time train carried thereby, of a highly resistant collar separating the time train from the fuse body without and independent of the projectile to prevent the upsetting of the fuse body and the consequent deformation of the train by the set-back.
17. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having its stem bored out to receive the firing mechanism, and a time ring surrounding

ing said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and without and independent of the projectile to prevent the upsetting of the stem and the consequent deformation of the time ring by the set-back.

18. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having an integral stem bored out to receive the firing mechanism, and a time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside of the time ring and without and independent of the projectile and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

19. In a fuse, the combination, with a fuse body adapted to be seated in a projectile and having an integral stem bored out to receive the firing mechanism, and a double time ring surrounding said stem, of a collar of highly resistant metal arranged about the stem inside the time ring and without and independent of the projectile and provided with an outwardly extending flange underlying the time ring, to prevent the upsetting of the stem and protect the action of the fuse against the effect of set-back.

In testimony whereof I have affixed my signature to this specification, in the presence of two witnesses.

HERMANN DAHLKE.

Witnesses:

CARL COBBE,
THEODOR PORTSCHER.