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PROJECTILE FOR FIRING AT AIRSHIPS.
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1,025,500.

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Fig. 1.

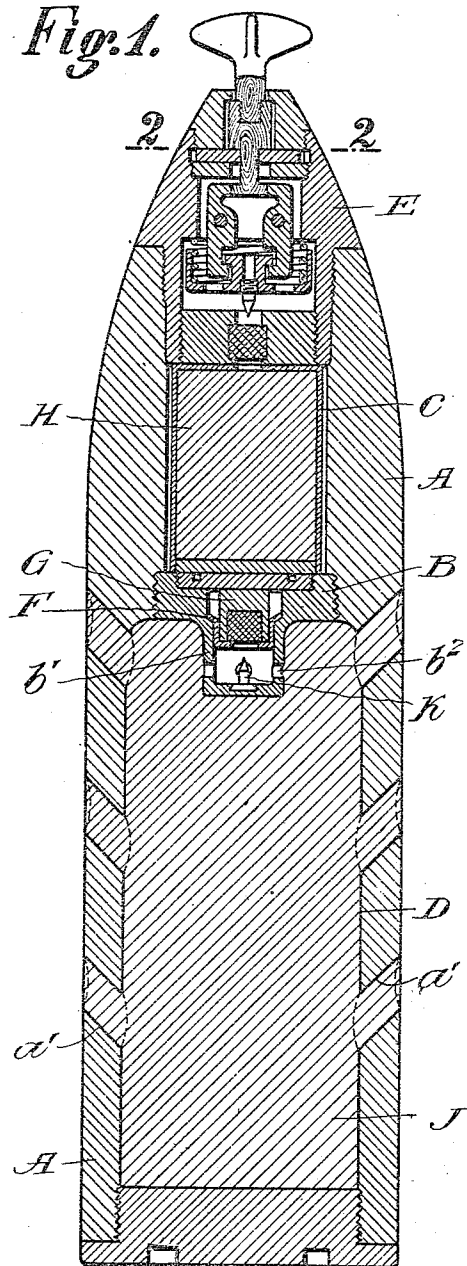
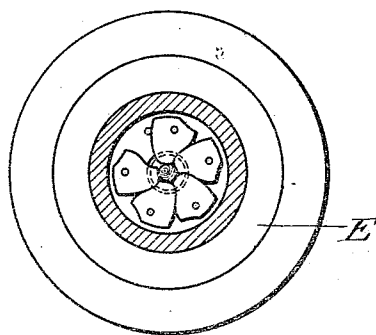


Fig. 2.



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PROJECTILE FOR FIRING AT AIRSHIPS.

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To all whom it may concern:

Be it known that we, KARL WIESER, residing at Florastrasse 4, Bredenev, Germany, and WILHELM SCHWARTZ, residing at Bergstrasse 20, Bredenev, Germany, both subjects of the Emperor of Germany, have invented a certain new and useful Improvement in Projectiles for Firing at Airships, of which the following is a specification.

This invention relates to those projectiles which are provided with a bursting charge and a burning charge which burns during the flight of the projectile, and it has for its purpose to render a projectile of this kind suitable for firing at airships (especially balloons). The attainment of this purpose is rendered possible by the invention, by causing the burning mass to occupy the greater portion of the space within the projectile and by having the discharge openings for the gases which develop in the combustion of the burning mass, presented in a lateral direction and symmetrically distributed.

In the drawing, in which one embodiment of the subject matter of the invention is illustrated by way of example, Figure 1 is an axial longitudinal section of the projectile, and Fig. 2 is a section on the line 2—2 of Fig. 1 seen from above.

The illustrated projectile comprises a projectile body A containing two chambers C, D, completely divided from each other by a wall B. The forward chamber C is filled with a bursting charge H, for the ignition of which an impact fuse E is arranged in the head of the projectile. In order to serve its purpose, this fuse must be so sensitive that it will operate by the impingement of the projectile against the skin of a balloon.

The rearward chamber D which occupies the greater portion of the space within the projectile is filled with a burning mass J, which is so selected that in its burning, it develops a thick, easily visible smoke. In order to permit the flame of the burning mass to escape from the chamber of the projectile, a plurality of perforations a^1 are provided in the projectile body A which lead laterally outward and are symmetrically distributed. These perforations are likewise filled with the burning mass. For igniting the burning mass, a fuse erected in the dividing wall B is provided. This consists of a pellet bolt G slidable in the housing b^1 and

detained by a spring F, and an igniting needle K arranged in the base of the housing b^1 . The arrangement of these fuse parts is so determined that the ignition is effected at the time of firing the projectile. For conducting the flame jets toward the burning mass J, several perforations b^2 arranged in the housing b^1 serve.

As soon as the projectile is fired, the fuse G. K. comes into action and the burning mass begins to burn. In consequence of this, the path of flight of the projectile is rendered clearly visible by the large masses of smoke streaming out through the perforations a^1 . The path of flight remains visible to the greatest distances, since the chamber D occupies the greater portion of the space within the projectile and thus can accommodate a correspondingly large proportion of burning mass J. One can thus readily judge of the position of the path of flight of the projectile relatively to the target (the balloon). Since the perforations a^1 are symmetrically distributed, the reaction of the discharging smoke gases is balanced. Consequently, the direction of flight will not be influenced by the escape of the smoke gases. This advantage is of special importance since the difficulty already involved in striking a balloon would be greatly enhanced by irregularity in the flight. When the projectile reaches the balloon, the impact fuse E acts, so that the bursting charge H is caused to explode and exert its destructive effect. While the bursting charge H is comparatively small, the resistance of the material of which the balloon is made is so slight that the effect of the projectile will not be influenced.

It is to be noted that bursting projectiles with a burning mass located in a special chamber and burning during the flight of the projectile are known. But with the known projectiles of this kind, the bursting charge occupies the greater portion of the projectile space, so that only a small space remains for the burning mass. Furthermore, only a single small opening for the escape of the smoke gases is provided. The development of light and smoke of such a projectile is, therefore, so small that at greater distances of the target, a sure observation of the path of flight of the projectile is not possible. Should it be attempted to avoid this difficulty by providing a

larger amount of escape openings or enlarging the section of the escape openings, the burning mass would be exhausted after a short time and the greater portion of the flight of the projectile would remain invisible. Such projectiles are, therefore, unsuitable for firing at airships.

Having thus described the invention, the following is what is claimed as new:—

10 A projectile for use in firing at air ships, having a normal length and containing a burning mass that produces a thick and easily visible smoke when ignited, means causing the burning mass to be ignited by
15 the firing of the gun, a bursting charge and an impact fuse for igniting said bursting

charge, the burning mass and the bursting charge being placed in two chambers of the projectile which are separated one from the other and the chamber containing the burning mass being greater than the chamber containing the bursting charge and constructed with perforations, through which said smoke is discharged. 20

The foregoing specification signed at Bar-men, Germany, this 19th day of April, 1909. 25

KARL WIESER.
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In presence of—
OTTO KÖNIG,
C. J. WRIGHT.