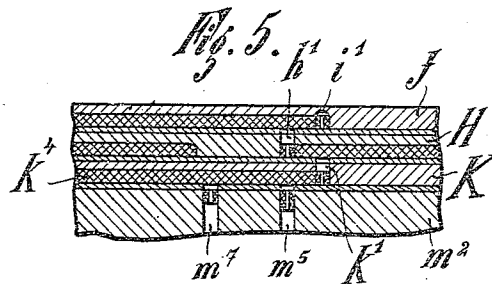
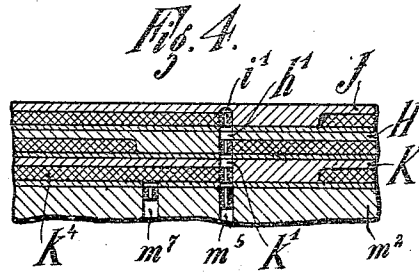
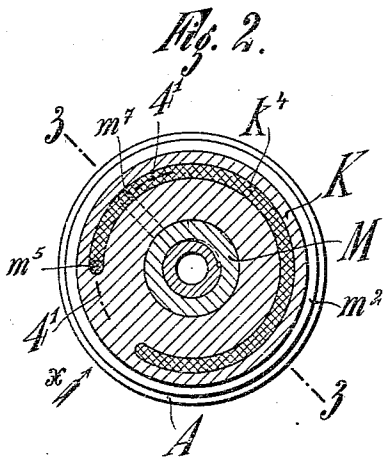
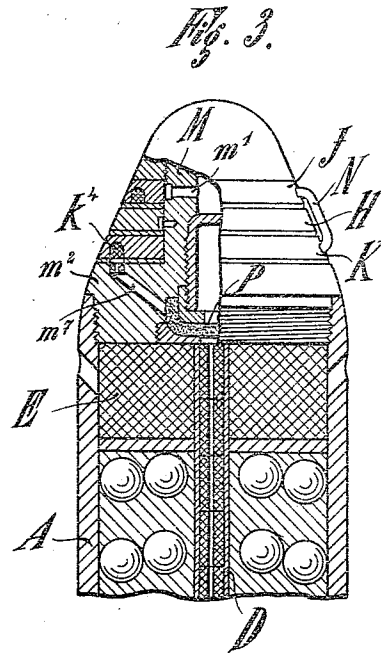


1,039,870.



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UNITED STATES PATENT OFFICE.

KARL WIESER, OF BREDENEY, GERMANY, ASSIGNOR TO FRIED. KRUPP AKTIENGESellschaft, OF ESSEN-ON-THE-RUHR, GERMANY.

BURNING FUSE FOR PROJECTILES.

1,039,870.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed February 3, 1912. Serial No. 675,295

To all whom it may concern:

Be it known that I, KARL WIESER, residing at Bredeney, Germany, a subject of the Emperor of Germany, have invented a certain new and useful Improvement in Burning Fuses for Projectiles, of which the following is a specification.

The subject of the present invention is a special construction of a burning fuse for projectiles such as described in United States Patent application (Ser. No. 655,572).

One embodiment of the invention is shown in the accompanying drawing by way of illustration, according to which, the burning fuse is conceived in arrangement upon a projectile which contains a charge for rendering visible the path of flight and in addition thereto, is constructed as a base chamber shrapnel.

In said drawings, Figure 1 is an axial longitudinal section of the fuse and the adjacent portions of the projectile; Fig. 2 is a section on the line 2—2 of Fig. 1, seen from above; Fig. 3 is a section on the line 3—3 of Fig. 2, viewed in the direction of the arrow x ; and Figs. 4 and 5 show in schematic representation, two different adjustments of the fuse, being respectively sections on the line 4—4 of Fig. 1 and the line 4¹—4¹ of Fig. 2, seen from the left.

For convenience, parts hereinafter described which also exist in the previous patent above referred to, are designated by similar reference characters.

A designates the projectile shell, D the fire-duct leading from the impact charge P of the burning fuse to the shrapnel bursting charge, arranged in the base chamber of the projectile, and E the smoke charge.

The burning fuse possesses three superimposed composition pieces K, H and J of which, as usual, the middle piece H is rigidly connected with the fuse body M, while the uppermost composition piece J and the lowermost piece K are arranged to rotate and connected together by a coupling piece N. The arrangement of the igniting pellet which, at the firing of the projectile, produces the fire-jet and which is not shown, as well as the fire-duct m^1 leading to the uppermost composition piece J, are provided in a known manner. In the fuse plate m^2 and leading outwardly from its front face, two channels m^5 and m^7 are provided, whose outlets, as shown in Fig. 2, are so arranged that

they can be connected by the composition ring k^4 of the lowermost composition piece K. The channel m^5 leads to the smoke charge E and the channel m^7 to the impact charge P. The angular distance of the outlet positions of the two channels m^5 and m^7 is so measured that they define a sector upon the composition ring k^4 , when connected thereby, whose length corresponds to the time which must lapse between the ignition of the smoke charge and the ignition of the bursting charge, for example, a time of two seconds. The channel m^5 lies in one and the same axial plane with the fire-duct h^1 leading to the beginning of the composition ring of the stationary composition piece H, so that when the fire-ducts i^1 and h^1 , leading to the beginning of the composition ring of the rotatable composition pieces J and K, are adjusted to the same axial plane, the fire-jet can reach directly to the smoke charge E (Figs. 1 and 4). Thus, if the fuse is adjusted in the manner illustrated in Figs. 1 and 4, the fire-jet produced in firing, strikes along the path m^1 , i^1 , h^1 , k^4 , m^5 immediately into the smoke charge E; production of smoke thus commencing immediately. Likewise, the composition ring k^4 of the lowermost composition piece K is ignited, and after burning of the portion of the composition ring lying between the channels m^5 and m^7 (in the example assumed, after two seconds) the fire-jet reaches, through the path m^7 , P, D, to the shrapnel charge and causes explosion thereof. Should the rotatable composition pieces K, J, prior to firing, be rotated beyond the stated position, obviously, as will be recognized for example from Fig. 5, the space of time between the moment of firing to the ignition of the smoke charge will be increased, while the space of time from the ignition of the smoke charge to the explosion of the shrapnel charge will remain the same, since after ignition of the smoke charge, there is always the same sized piece of the composition ring k^4 of the lowermost composition piece to be burned, namely that lying between the channels m^5 and m^7 , before the fire-jet can attain the shrapnel charge.

The operation of this projectile is thus the same as described in the principal patent. But whereas in attaining this operation in the projectile of the principal patent, a special slow burning powder substance must be

arranged, this is done away with in the above described projectile, since in the latter, the composition ring k^4 replaces the action of the slow burning powder substance.

5 I claim:—

A burning fuse for projectiles having two fire-ducts, of which the one leads to the bursting charge and the other to a smoke charge, a fuse plate, and a rotatable composition piece lying above the fuse plate and

having a composition ring arranged to connect said fire-ducts.

The foregoing specification signed at Barmen, Germany, this 13th. day of January, 1912.

KARL WIESER. [L. s.]

In presence of—

HELEN NUFER,
A. NUFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."