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E. W. BRANDT

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ROCKET PROPELLED PROJECTILE WITH DETONATOR CARRIER

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Fig. 1

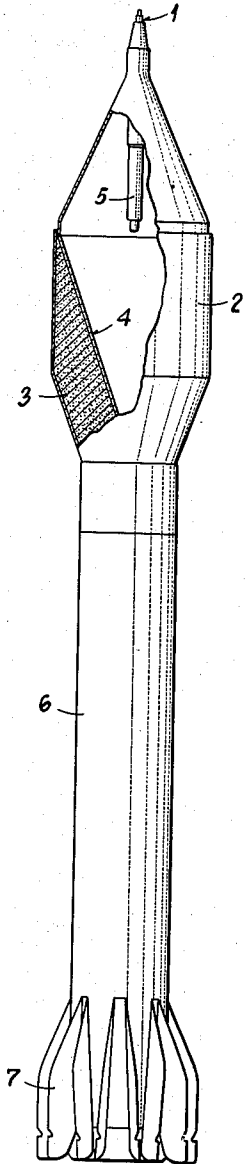


Fig. 2

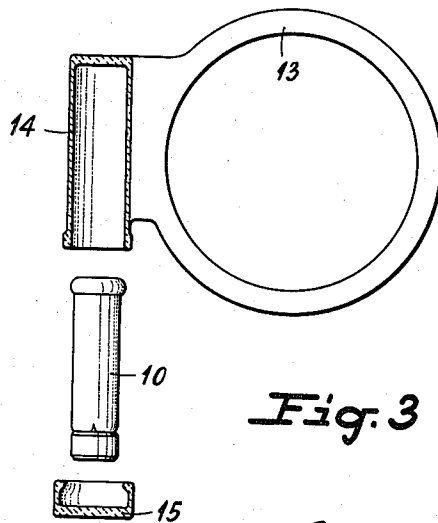
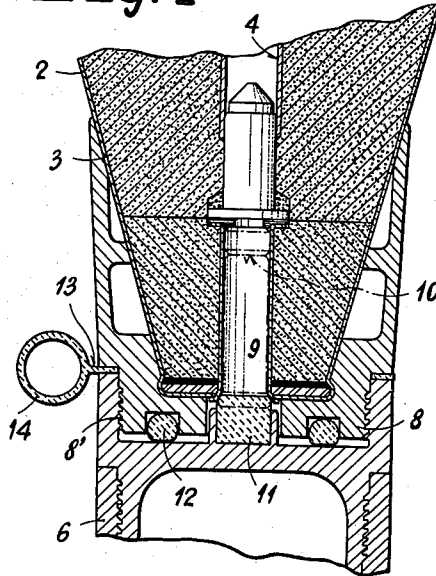


Fig. 3

E. W. Brandt

INVENTOR.

BY  
Max. Pat. Miller + Stewart  
Attorneys.

1

2,963,972

## ROCKET PROPELLED PROJECTILE WITH DETONATOR CARRIER

Edgar William Brandt, Geneva, Switzerland, assignor to Anstalt für die Entwicklung von Erfindungen und gewerblichen Anwendungen Enegra, Vaduz (Liechtenstein), a company

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3 Claims. (Cl. 102—49)

This invention relates to projectiles.

One of the safety measures taken during the transportation and storage of munitions consists in separating them from their priming charge. This precaution is particularly advisable for the transportation by sea of hollow charge projectiles because, especially in the event of fire, the explosion of a number of primed projectiles would probably entail the loss of the vessel owing to the perforations of the hull that the hollow charge effect would inevitably produce.

The present invention aims at providing means which permit the transportation and the storage of unprimed projectiles, to each of which nevertheless its detonator remains attached.

To this end the invention provides a projectile, of the self-propelled type, comprising at least two separable elements, of which the first, forming the war head, contains a hollow explosive charge and means for transmitting combustion from a head fuze to a detonator disposed at the rear of the said charge, the said detonator being held in the active position, after the first element has been fixed on the second, by the front part of said second element which constitutes the container containing the propellant. This projectile is characterised in that during transportation and during storage an annular packing is inserted between the aforesaid two elements, the outer edge of said packing containing a hermetically closed capsule in which the detonator is adapted to be housed.

In order to enable the invention to be more readily understood, reference is made to the accompanying drawings which illustrate diagrammatically and by way of example, one embodiment thereof and in which:

Figure 1 is an elevation of the primed projectile, partly in section;

Figure 2 is an axial section on a larger scale of a portion of the said projectile, unprimed; and

Figure 3 is a plan view of a packing shown in elevation in Figure 2.

The projectile shown in Figure 1 comprises a head fuze 1, a casing 2 containing a hollow explosive charge 3 the cavity of which is covered by a metallic cap 4, primer column 5 intended to ensure the transmission of combustion from the fuze to a detonator placed at the rear of the said charge 3 and a tubular container 6 containing the propellant, the said container being provided with fins 7 externally at its rear end.

The war head of the projectile is adapted to be sepa-

2

rated from the propellant container by means of the screw thread 8' (Figure 2) at the rear of the base 8 covering the rear of the casing 2, thus giving access to a housing 9 in which the detonator 10 is disposed. The said detonator is held in the active position by a wedge 11 of elastic material, such as rubber for example, which, when the detonator 10 has been withdrawn, is adapted to ensure the sealing of the housing 9 in conjunction with a toric packing 12.

During transportation and during storage, the war head and the propellant container are manually screwed together so as slightly to compress an annular packing 13 of a preferably synthetic plastic material, for example a vinyl resin. This packing 13 is inserted between the respective abutting surfaces of the two elements and its outer edge contains a portion in the form of a capsule 14, which is hermetically closed by means of a plug 15 after the introduction of the detonator 10 (Figure 3).

When the projectile is to be used, it is only necessary to separate its two main constituent elements, remove the packing 13, introduce into the housing 9 the detonator 10 taken from the capsule 14, and finally to screw the two elements tightly one upon the other, thus compressing the packing 12. These operations are carried out manually and without the aid of any tools.

What is claimed is:

1. A rocket projectile, comprising a front warhead member having a hollow explosive charge with a rear axial housing and a rear annular recess, a head fuze, a detonator removably held in said housing, means for transmitting the fire from the said fuze to said detonator, a rear member constituting a combustion chamber for a propelling charge, said chamber removably attached to the warhead member, means on the front part of the chamber member for holding the said detonator in operating position, an annular packing member interposed between the aforesaid two members during transportation and during storage, said annular packing having, at its outer edge, a tightly sealed capsule for storing the detonator.

2. A rocket projectile as claimed in claim 1, comprising means on the front part of the chamber member for holding the said detonator in operating position and independent sealing means comprising an annular toric packing on said front part of the chamber member for seating in said recess of the front member.

3. In combination with a rocket projectile having a front warhead member and a rear propelling member, means for carrying an inactive detonator comprising an annular packing element removably interposed between said members, said element having a tangential capsule for holding a detonator during storage and transportation.

### References Cited in the file of this patent

#### UNITED STATES PATENTS

2,415,803	Abell	Feb. 18, 1947
2,487,053	Hickman	Nov. 8, 1949
2,848,947	Latham	Aug. 26, 1958
2,876,702	Wheelwright et al.	Mar. 10, 1959

#### FOREIGN PATENTS

78,051	Denmark	Aug. 16, 1954
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