

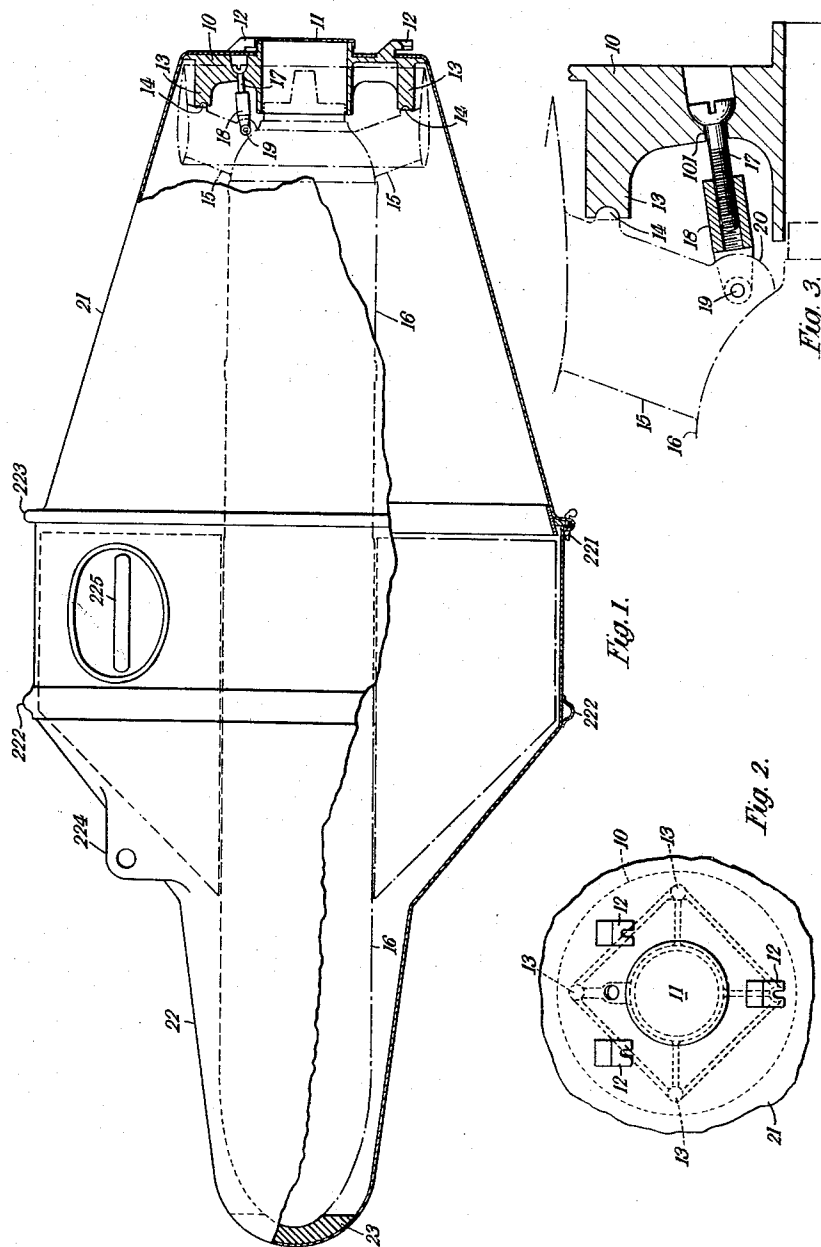
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LAUNCHING MEANS FOR ROCKET-PROPELLED MISSILES

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## LAUNCHING MEANS FOR ROCKET-PROPELLED MISSILES

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2 Claims. (Cl. 89—1.7)

The invention relates to rocket-propelled missiles, particularly though not exclusively such missiles as are provided with individual containers which will afford protection against damage in transport or during storage, or due to adverse climatic conditions, and of which the section enclosing the after end of the missile incorporates means by which the missile may be mounted on a launching support. The object of this invention is to provide improved means for supporting the tail of the missile upon a launching platform preparatory to discharge.

For this purpose the invention provides a rigid base-member which is adapted for connection to the launching platform, said base-member being provided on its inner face with a plurality of spaced lugs arranged to engage correspondingly spaced projections on the missile tail and thereby to locate the missile in the correct position for launching, and a single link attachment between anchorages respectively on the missile and said base-member at positions off-set from the longitudinal axis of the former, said link incorporating a shear pin which, when the propulsion rocket is fired, will immediately sever to release the missile.

One embodiment of the invention is illustrated in the accompanying drawings, of which:

FIG. 1 is a longitudinal elevation of a missile together with its container and launcher attachment,

FIG. 2 is a fragmentary elevation of the rear of the base-member, and

FIG. 3 is a detail of the link attachment drawn to a larger scale.

The base member of the means by which the tail of the missile is supported upon the launching platform takes the form of the aluminium alloy disc 10, which is provided on its outer face with a plastic end closure panel 11, and a plurality of slotted lugs 12, 12 by which the base-member is secured to similarly disposed projections provided upon the launching platform. Spaced equiangularly about the centre of the panel 11 on the inner face are a number of recessed bosses 13 which are adapted to receive a correspondingly arranged set of rearwardly extending projections 14 on the tail 15 of the missile, the body of which is outlined in chain-dotted lines 16. The panel 11 is adapted to be blown out of its mounting by the thrust of the efflux gases when the rocket is discharged.

The missile is positively attached to the disc 10 by means of a link which takes the form of a bolt 17, the head of which is passed through a countersunk hole 101 in the disc and having its shank threaded into a socket 18 which is pivotally connected by a shear pin 19 to a lug 20 on the missile tail 15, the bolt-hole 101 in the disc 10 and the tail lug 20 being off-set from the longitudinal axis of the missile, such that the direction of the breaking force on the shear pin 19 lies in a plane containing the centre-of-gravity of the missile the position of which is indicated at 161 of FIG. 1. By screwing the bolt 17 in its socket 18 the link is shortened and the missile is drawn down upon its locating bosses 13. The arrangement of said bosses 13 is symmetrical in relation to the longitudinal

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axis of the missile, such that when the missile is held by said link 17, 18 with its projections 14 seated firmly against the said bosses 13, the missile is located correctly for launching.

When the rocket is ignited, the missile tends to pivot slightly about the most heavily loaded locating boss 13, and the consequent increase in tension on said link 17, 18 overcomes the shear strength of the pin 19, so that the connection is severed and the missile is free. It should be noted that the recesses in the bosses 13 which engage with the locating projections 14 on the missile are so shaped that no support for the missile is provided after the shear pin 19 is fractured.

The base disc 10 may be made as an integral part of a container for the missile, as shown in FIG. 1. Said container comprises a casing 21 for enclosing the after part of the missile, which casing 21 is attached at its rear end to the periphery of said disc 10, and a fore-end casing 22 which is attached by suitable releasable fasteners at 221 to the forward end of the casing 21. Said casing 22 incorporates rigid hoops 222, 223 upon which the missile and its container may be rolled during stowage, a lifting lug 224, and handles 225. In the forward end of the casing 22 the nose of the missile rests upon a shock-absorbing pad 23.

What I claim as my invention and desire to secure by Letters Patent is:

1. Container for storing or launching a rocket propelled missile which is adapted to be connected to a launching platform, the missile having a tail with spaced projections, comprising: a casing for retaining the missile, a base member joined to the rearward end of said casing, said base member including a plurality of slotted lugs extending rearwardly therefrom for engagement with a launching platform, and further including a longitudinal aperture therethrough for expelling exhaust gases, a blowout panel operatively secured to the rearward end of said base member, a plurality of lugs disposed on the inner-surface of said base member and arranged to engage the correspondingly spaced projections on the missile tail to thereby locate the missile in correct position for launching, means carried by said base member for releasably attaching the missile to said base member at one point, said attachment means being disposed on an axis offset from the longitudinal axis of the missile and including a shear pin so that when the propulsion rocket is discharged, said shear pin will be severed to release the missile.

2. Container defined in claim 1 wherein said attachment means comprises: means defining a counter sunk hole in said base member offset from the longitudinal axis of said missile, bolt means disposed in said counter sunk hole and socket means threadably engaged with the bolt means and adapted to be pivotally secured to the lug at the tail of the missile by the shear pin at a position offset from the longitudinal axis of the missile.

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