

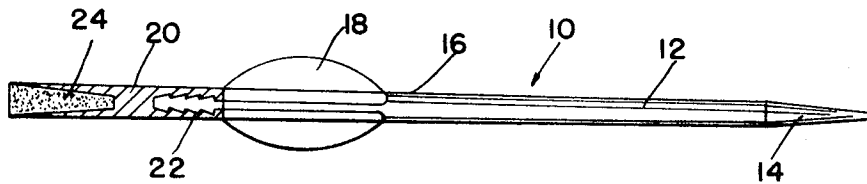
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I. R. BARR

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TRACER PROJECTILE

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TRACER PROJECTILE

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3 Claims

ABSTRACT OF THE DISCLOSURE

A projectile having a steel front section and a magnesium tail section. The magnesium tail section contains an igniting mixture composed of zirconium and barium chromate which upon ignition will act to initiate the burning of the magnesium tail section thereby causing a trace.

The invention described herein may be manufactured, used, and licensed by or for the Government for governmental purposes without the payment to me of any royalty thereon.

The invention relates to a tracer projectile and more particularly to a tracer projectile comprised of a two-piece, magnesium-steel, projectile having an igniting mixture in a tail section.

In the past, it was well known in the art to provide burning means in a projectile so as to be able to trace its path. Upon the advent of flechettes or very small type projectiles the problem of achieving a trace without affecting the ballistic trajectory became acute. This is due, partially, to the very small area within which the burning means can be located.

The instant invention overcomes the aforementioned problems by providing the projectile in two sections, namely, a forward portion comprised of steel and a tail portion comprised of magnesium. A pocket is provided, at the rear of the tail portion, which contains a special igniting mixture which will ignite the magnesium tail portion causing a visible trace of the projectile flight path.

It is therefore an object of the present invention to provide a projectile of the flechette type having tracing means.

Another object is the provision of a projectile having tracing means which tracing means do not affect the ballistic trajectory.

The above objects as well as others together with the benefits and advantages of the invention will be apparent upon reference to the detailed description set forth below, particularly when taken in conjunction with the drawing annexed hereto in which: a projectile 10 is comprised of a forward steel section 12 having a nose portion 14 and

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a rear portion 16. A plurality of steel fins 18 are provided at the rear portion 16 in order to insure the desired stability during flight. A magnesium tail section 20 is attached to the rear portion of projectile 10 in axial alignment therewith by a swaging process, as illustrated by reference character 22. The rear portion of the magnesium tail section 20 defines a pocket 24 which contains the special igniting mixture. The igniting mixture is comprised of, for example, zirconium and barium chromate, and is ignited from the action of the primer (not shown) and in turn initiates burning of the magnesium tail section 20.

I claim:

1. A tracer projectile comprising, a metallic front portion including a body portion, a nose portion attached to the forward end of said body portion, a plurality of fins attached to the rearward end of said body portion, a magnesium rear portion, said rear portion being in axial alignment with and connected to said front portion rearwardly of said fins, said rear portion including a tail portion and having a pocket in the rearward end thereof, and an igniting mixture contained in said pocket to entirely burn away said magnesium rear portion but not said front portion.

2. A projectile of the type described in claim 1 wherein said igniting mixture includes a combustible metal plus oxidizer.

3. A projectile of the type described in claim 1 wherein said igniting mixture consists of zirconium and barium chromate.

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