This invention relates to cases and the like used on missiles including the type known as intercontinental ballistics missiles. More specifically, this invention relates to the confounding and thwarting of the enemy's detection apparatus.

Many missile detection systems utilizing radar or active infrared depend upon the reflection of energy from the target being tracked. Other detection systems rely upon visible detection of the target by utilizing sun reflections from the target.

During the course of hurling a nose cone with payload or warhead on its prescribed trajectory, the various stage cases of the propulsion system are expended and severed from the missile, thereby reducing the size of the structure remaining in flight.

Normally, by the time the energy of the final stage of the propulsion system has been expended, the course of the trajectory is in the stratosphere. When the nose cone and payload are separated from the final stage missile case, usually by an explosive charge, flight conditions are such that the after-body will continue in flight for a period of time on the same general trajectory as the nose cone but at diminishing speed until re-entry is made and the after-body consumed on descent.

As the nose cone and warhead are approaching the enemy, and while the final stage case is also on the same general trajectory, the enemy's detection apparatus could be on the true target or on the false after-body. The true target would normally be the smaller of the two.

The object of this invention is to provide a final stage case which will be separable from the after-body by means of an explosive charge. After a preset length of time to insure sufficient separation, the after-body is divided into segments by detonating the explosive carried within the trough cavities of the after-body. This detonation may be triggered through a suitable delay by the same device which triggers the charge to separate the nose cone and after-body. The device which triggers the separation of the nose cone from the after-body and triggers the detonation to divide the missile case into segments is well known to the art and is not shown or claimed as part of this invention.

As shown on FIG. 4, the various segments upon division are hurled out on a spread pattern while at the same time travelling on the same general flight trajectory as the nose cone. The segments will follow this same general pattern until there has been enough loss of velocity to produce re-entry into the atmosphere. Since the reflective characteristics of the segments are similar to those of the nose cone, it is obvious the enemy's detection apparatus will be unable readily to distinguish the true target from the false targets.

While a preferred form of the invention has been shown and described, various modifications and substitutions of equivalents will occur to those skilled in the art after a study of the foregoing disclosure. Hence the disclosure should be taken in an illustrative rather than in a limiting sense, and it is the desire and intention to reserve all modifications within the scope of the appended claim.

I claim:

1. An exploding missile case for housing a propulsion system propelling a payload into flight after which the case structure is explosively divided into segments of substantially the same radar reflective characteristics as the payload, said case structure comprising a hollow cylindrical case detachably joinable at one end to a payload and having a plurality of longitudinal cavities formed by inwardly dimpled longitudinal troughs in said case and sealed with closure strips continuous welded across the opening of said longitudinal troughs, a plurality of circumferential cavities formed by inwardly
3,357,356 3. dimpled circumferential troughs in said case joining said longitudinal troughs and sealed with closure strips continuous welded across the opening of said circumferential troughs, said longitudinal and said circumferential cavities being hermetically sealed from within and without said case and outlining said case into a plurality of arcuate segments at least a portion of which have substantially the same radar reflective characteristics when divided as that of the pay load, and explosive in said cavities for dividing said case into the outlined arcuate segments at a predetermined time after the pay load has separated from said case in flight.

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