United States Patent

Jaslow

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[54] AMMUNITION

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[73] Assignee: **The United States of America as represented by the Secretary of the Army**

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[52] **U.S. Cl.** **102/93**, 102/DIG. 7

[51] **Int. Cl.** **F42b 13/16**

[58] **Field of Search** 102/38, 92.2, 92.3, 93, 94, 102/DIG. 7

[56] **References Cited**

UNITED STATES PATENTS

3,033,116 5/1962 Critcher et al. 102/93

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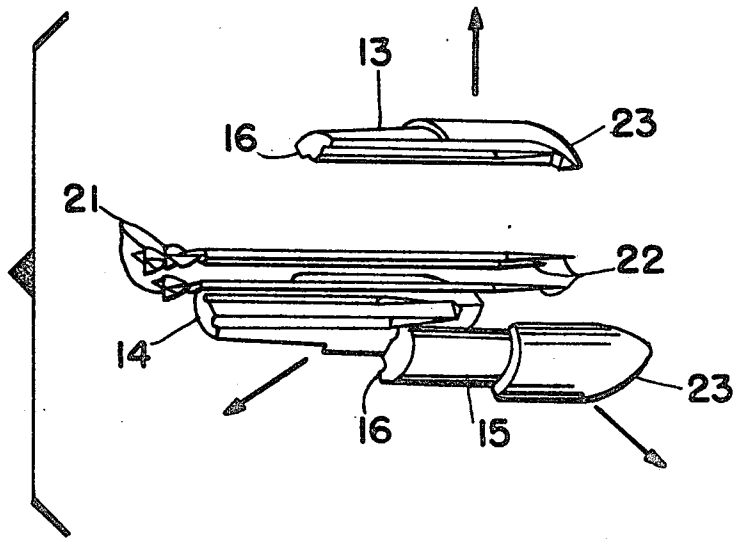
[57] **ABSTRACT**

A sabot and sub-caliber projectile weapon having a plurality of individual sabot segments, each segment having a pair of parting surfaces and an intermediate internal surface. The internal surfaces define a sabot internal chamber in fluid communication with pressure gas when developed in environmental gun barrel.

2 Claims, 3 Drawing Figures



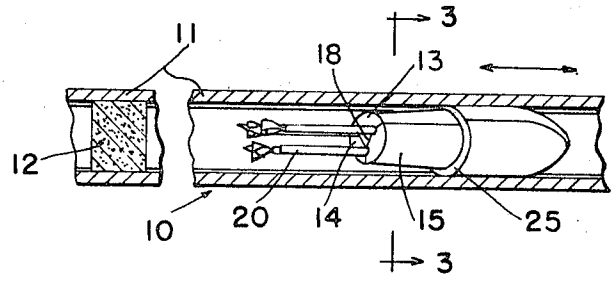


FIG. 1.

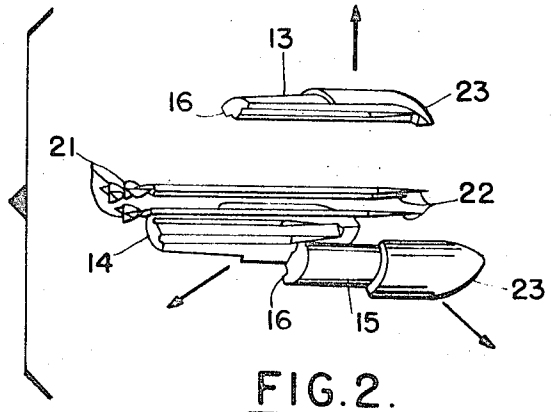


FIG. 2.

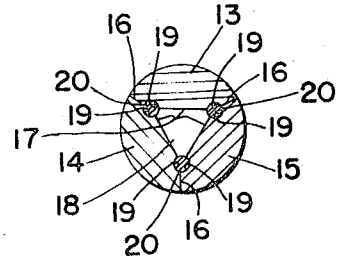


FIG. 3.

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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.

This invention relates to ammunition and, more particularly to a multiple projectile sabot type of weapon.

It is an object of the invention to provide a sabot and sub-caliber projectile type of weapon in which a plurality of projectiles are simply supported by complementary segmental sabot portions.

Another object of the invention is to provide such a weapon having means for radially dispersing the projectiles to a maximum extent after the sabot structure leaves a gun barrel or bore.

These and other objects, advantages and features will become more apparent from the following description and accompanying drawings in which:

FIG. 1 is a perspective view partially broken away in section of a preferred weapon arrangement embodying the principles of the invention.

FIG. 2 is an exploded perspective view of the FIG. 1 arrangement upon the segmental sabot and projectile structure being radially dispersed.

FIG. 3 is an enlarged transverse sectional view taken substantially along line 3—3 of FIG. 1.

The preferred sabot and sub-caliber projectile type of weapon, shown generally at **10** (FIG. 1), includes a multiple projectile carrying sabot predeterminedly mounted within a gun barrel or tube **11** forwardly of an appropriate propellant charge **12** capable, upon ignition by electrical or other means not shown, of developing a desired gas pressure of high proportions that would launch and control the sabot structure as hereinafter described.

The sabot and projectile structure has a plurality of longitudinally extending sabot segments **13, 14, 15** (FIG. **1, 2, 3**) each of which has a pair of parting surfaces **16, 16** (FIGS. **2,3**) that are complementary with the parting surfaces of the adjacent segments, and has a rearwardmost internal surface **17** positioned intermediate its respective parting surfaces that together with the corresponding other segmental internal surfaces **17, 17** of like dimension define a sabot internal chamber **18** which is of an equilateral polygonal transverse contour. Each segment has a longitudinally extending groove portion

19 (FIG. **3**) between each of its parting surfaces **16, 16** and its substantially flat internal surface **17**, each groove portion subtending a transverse are in excess of 90° across its own radial contour. In the assembled sabot condition, adjacent ones of the groove portions **19, 19** define an appropriate aperture to facilitatingly receive and retain a sub-caliber projectile **20** having a finned rearward portion **21** and a substantially tapered or pointed nose **22** (FIG. **2**) that is seated in the appropriately shaped forward portion of complementary grooves **19** adjacent the sabot closed forward end **23**.

By virtue of this arrangement, developed pressure gas enters the rearwardly open sabot internal chamber **18**, as well as forwardly acting upon rearwardly facing surfaces of the sabot segments including the flanged seal portions **25**, such that after the sabot and sub-caliber projectile unit leaves the gun tube or bore **11** the combustion gas pressure within the chamber **18** will radially disperse the sabot segments **13, 14, 15** and the projectiles **20** to a maximum extent.

Various modifications, changes and alterations may be resorted to without departing from the scope of the invention as defined in the appended claims.

I claim:

1. In a sabot and sub-caliber projectile weapon having a plurality of individual sabot segments assembled together to form a separable sabot within a gun barrel,

each of said segments having a pair of parting surfaces which are complementary with parting surfaces of adjacent ones of said segments, each segment having an internal surface positioned intermediate its respective parting surfaces and together with corresponding internal surfaces of the other segments define a sabot internal chamber, each of said segments having a longitudinal groove portion between each of its parting surfaces and its internal surface, a sub-caliber projectile seated in each aperture defined solely by adjacent ones of said groove portions,

and pressure gas developing means within said barrel and in fluid communication with said internal chamber for radially dispersing said sub-caliber projectiles.

2. The structure of claim **1** in which each of said aperture defining groove portions subtends a transverse arc in excess of 90° of the projectile periphery.

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