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2,354,039

PRACTICE BOMB

Filed Oct. 22, 1942

2 Sheets-Sheet 1

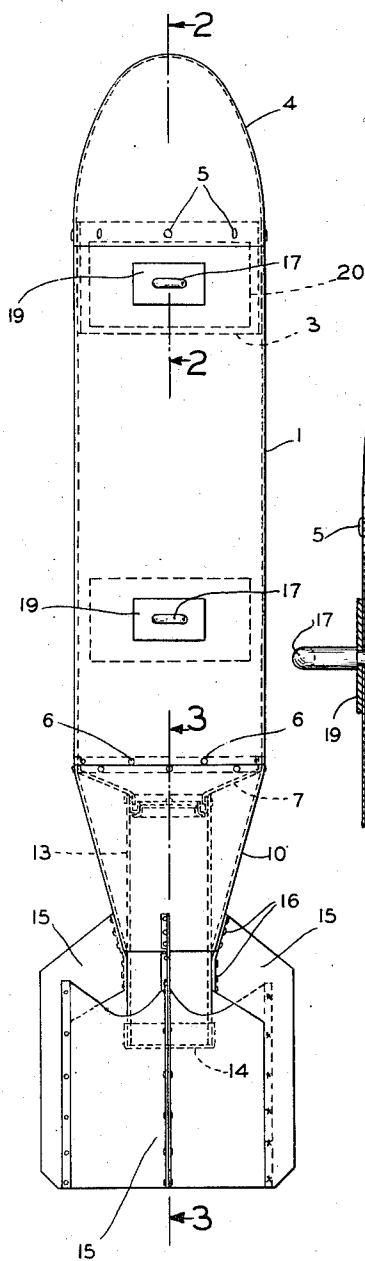


FIG. 1.

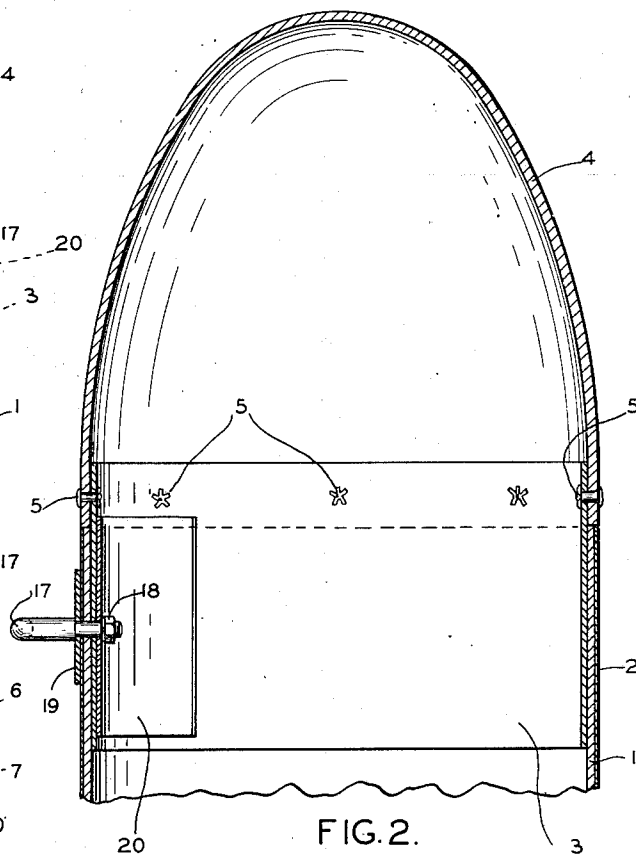


FIG. 2.

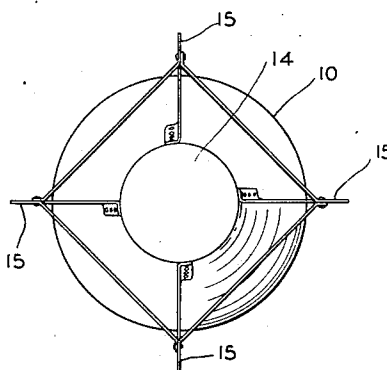


FIG. 4.

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2 Sheets-Sheet 2

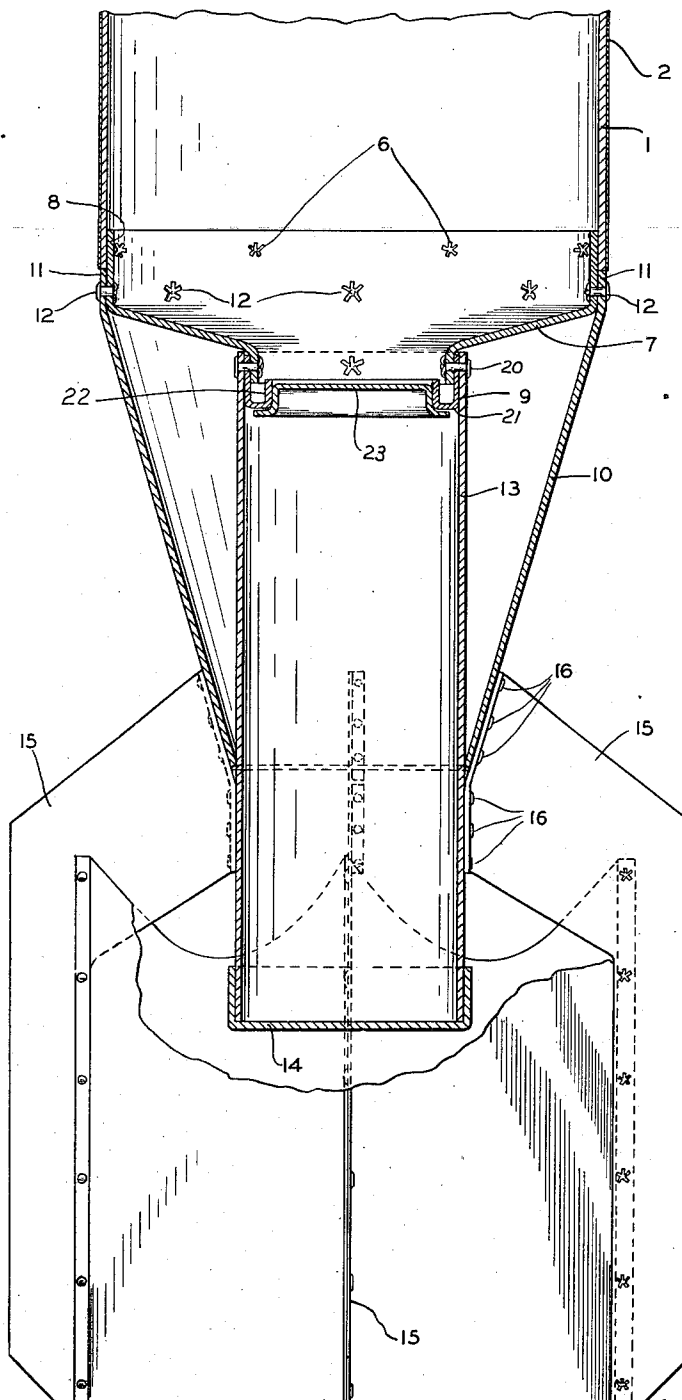


FIG. 3.

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PRACTICE BOMB

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8 Claims. (Cl. 35—25)

This invention relates, as indicated, to practice bombs, but has reference more particularly to practice bombs which simulate, in appearance, the so-called demolition bombs.

It has heretofore been customary in bomb practice, to use sheet metal containers, simulating in general appearance and in certain of its characteristics, an actual bomb, but filled, for military use, with sand, and for naval use, with salt water. These practice bombs are, in most instances, made from a number of sheet-metal parts welded or riveted together, requiring skilled labor for their assembly and manufacture into complete units. Moreover, after use, the bombs had to be salvaged so that additional labor had to be employed to recover and salvage them. Aside from this, the growing shortage of strategic materials, such as steel, has created a problem as to whether or not practice bombs in quantities sufficient to properly train bombardiers can be made available for the successful prosecution of the war.

With those disadvantages and prospects in mind, I have developed a practice bomb which is made of readily available non-strategic materials, which can be manufactured so inexpensively as to not require that it be salvaged, and which can be readily manufactured and assembled by untrained and unskilled laborers, utilizing inexpensive and readily available equipment or machinery.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is an elevation of a practice bomb embodying my invention;

Fig. 2 is an enlarged cross-sectional view, taken on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged cross-sectional view, taken on the line 3—3 of Fig. 1, and

Fig. 4 is a bottom plan view of the bomb.

In the drawings, wherein for the purpose of illustration, is shown a preferred embodiment of my invention, the numeral 1 designates the body of the practice bomb, which is in the form of a cylinder, preferably formed from spirally-wound cardboard stock, about $\frac{1}{8}$ of an inch in thickness, and having adhesively secured to its exterior a cover 2 of heavy kraft paper, which serves to conceal the joints and renders the body impervious to the flow of sand or water. This impervious-

ness may be further insured by a coating or impregnation of the body by means of a suitable lacquer or other water-impervious material.

The body 1 has adhesively secured to the interior surface thereof a ferrule 3 which is likewise made of cardboard and extends into the body 1 approximately three inches and beyond said body approximately one inch. To the portion of the ferrule 3 which projects beyond the body 1, there is secured a nose 4, of conventional shape, but preferably formed from an acetate plastic which can be conveniently cast to have a uniform thickness of about $\frac{1}{8}$ of an inch, the use of such a plastic enabling the nose to have a desired smooth outer surface, unbroken by cracks or blemishes which might affect the course of the bomb.

The use of the ferrule 3 further enables the nose to form a butt joint with the body 1, which is highly desirable. The nose is secured to the ferrule by means of a series of circumferentially-spaced rivets 5, which are preferably $\frac{1}{8}$ " diameter and of the star clinch type.

Secured to the opposite end of the body 1, as by means of star clinch rivets 6, is a head consisting of a conical portion 7, a flange 8, to which the body 1 is riveted and a flange or collar 9 of smaller diameter than the flange 8. This head is also preferably in the form of a casting approximately $\frac{1}{8}$ of an inch thick, of an acetate plastic similar to that from which the nose is formed.

Secured to the flange 9 of the head, as by means of rivets 20, is a metallic collar 21, having a rebent smoothly rounded flange 22 which extends for a short distance into the head. This collar 21 serves for the attachment of a metallic cover 23, which may be readily removed.

It will be noted that the flange 8 extends into the body 1, but that about half of this flange extends out of the body 1. This enables a cone 10 to be fitted over the flange and to be easily and quickly aligned with the body. The cone 10 has a flange 11 which forms a butt joint with the body and is riveted to the flange 8 by means of star clinch rivets 12, which are preferably in staggered relation with the rivets 6.

The cone 10 is preferably formed from vulcanized fiber or a special paper board stock, approximately $\frac{3}{8}$ " thick, and serves to centralize a filler sleeve 13 made of paper stock similar in nature and thickness to that from which the body 1 is made. The sleeve 13 is in alignment with the head and fits over the collar 21, the

sleeve being secured to the collar and flange 9 of the head by means of the rivets 20.

The sleeve 13 is provided at its outer end with a paper cap 14 which has a press fit with the sleeve, and which may be easily removed to permit filling of the bomb with sand or water.

The bomb further includes fins 15, of conventional form, but preferably made of a special paper board stock, approximately $\frac{3}{8}$ " thick, the fins being provided with suitable flanges whereby they are secured, as by means of star clinch rivets 16, to the cone 10 and to the sleeve 13.

The practice bomb is provided with the usual suspension lugs 17, which extend through the body of the bomb, and are maintained in position by means of nuts 18, the body being reinforced at the points through which the lugs extend by means of reinforcing strips 19 and 20 of sheet metal. These strips, the lugs, nuts and rivets therefore constitute the only portions of the bomb which are metallic.

After the bomb has been assembled in the manner described, it may be dipped in a paint or lacquer of suitable color, so as to impart the same color to all parts of the bomb.

The bomb, as thus constructed, weighs approximately six pounds, as contrasted with the sixteen pounds which the ordinary sheet metal practice bombs weigh. In order to make up the difference in weight, in making a 100 pound demolition practice bomb, an additional ten pounds of sand will therefore be introduced into the bomb of the present invention, sufficient additional space within the body or sleeve being usually provided for this purpose.

It follows from the foregoing description that I have provided a practice bomb which is made from non-strategic, readily available materials, which can be readily manufactured and assembled at minimum cost and by the use of unskilled labor, utilizing inexpensive and readily available equipment or machinery, and which can be made so inexpensively as not to require that it be salvaged. In its unfilled condition, moreover, it is so light that it can be handled with little effort.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without

departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A practice bomb comprising a body formed of paper stock and a nose formed of a plastic, said nose having a smooth outer surface unbroken by cracks or blemishes which might affect the course of the bomb.

2. A practice bomb comprising a body and cone formed of paper stock, and a nose formed of a plastic, said nose having a smooth outer surface unbroken by cracks or blemishes which might affect the course of the bomb.

3. A practice bomb comprising a body and cone formed of paper stock, and a nose and head formed of a plastic, said nose having a smooth outer surface unbroken by cracks or blemishes which might affect the course of the bomb.

4. A practice bomb comprising a body, cone and fins formed of paper stock, and a nose and head formed of a plastic, said nose having a smooth outer surface unbroken by cracks or blemishes which might affect the course of the bomb.

5. A practice bomb comprising a body formed of paper stock and a nose formed of an acetate plastic, said nose having a smooth outer surface unbroken by cracks or blemishes which might affect the course of the bomb.

6. A practice bomb comprising a body, a cone and a head, said head having a flange extending from a point within said cone to a point within said body, said body and cone being connected to said flange.

7. A practice bomb comprising a body, a cone and a head, said head having a conical body and a flange integral with said body, said flange extending from a point within said cone to a point within said body, said flange interconnecting and permanently secured to said body and cone.

8. A practice bomb comprising a body and cone of paper stock, a sleeve of paper stock extending from a point within said cone to a point below said cone, a head connected to said sleeve and having a flange extending from a point within said cone to a point within said body, said flange connected to said body and cone, and fins of paper stock riveted to both the cone and the portion of the sleeve which extends below said cone.

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