July 13, 1943. G. FRAZER 2,324,146

CONTAINER HAVING RETARDING MEANS

Filed July 19, 1940

Fig. 1

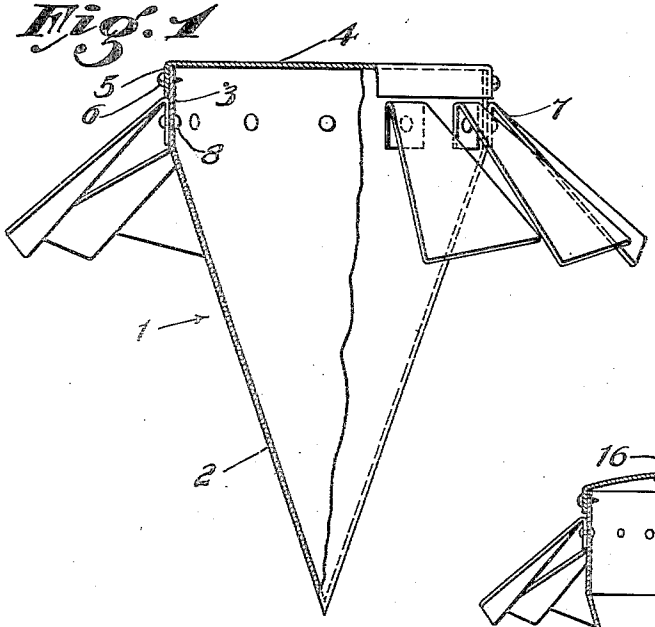


Fig. 3

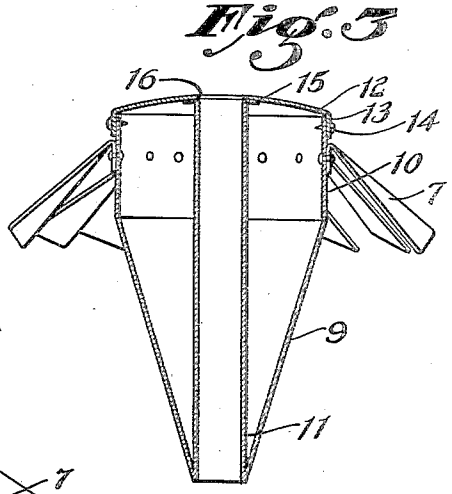
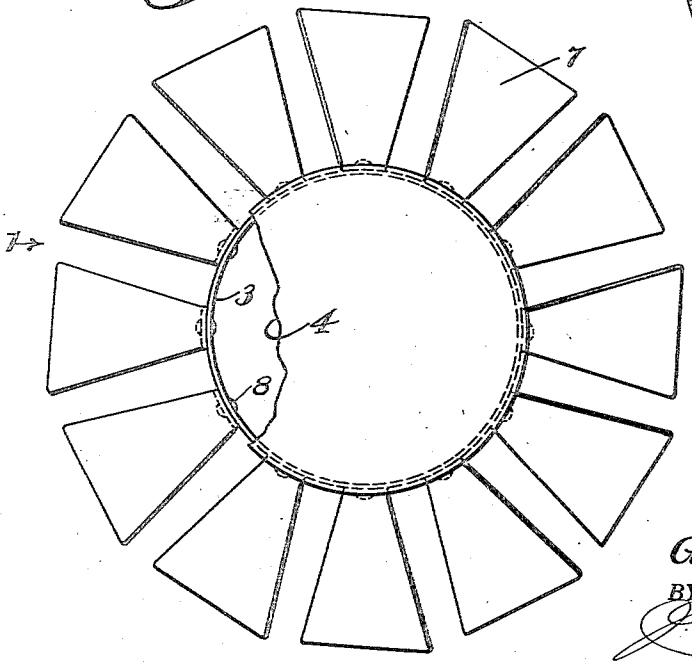


Fig. 2



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CONTAINER HAVING RETARDING MEANS

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Application July 19, 1940, Serial No. 346,336

1 Claim. (Cl. 244—138)

This invention relates to a projectile of the type wherein gravity may be the initial motivating force, causing movement thereof, together with means whereby the projectile during movement is caused to travel a given path, and accelerated or deaccelerated as to rate of descent.

More particularly, my invention has to do with a novel form of container adapted to hold explosives, in one embodiment, or to hold a useful load, such as mail, express packages, or the like, to be dropped from an air vehicle over a given area.

In the case of the delivery of cargo of any character, such as mail, express, goods, merchandise, supplies, or the like, the device is so formed that when ejected from an air vehicle, the same may descend at a minimum rate of speed.

Where the device is used for war purposes, the same may function to hold explosives, gases, chemicals, or combinations thereof, whereby the same may be used to drop, distribute, and spread said gas or chemicals upon a given area.

The device is also useful in the fighting of forest, grass, brush, and other fires, in that chemicals or gas within the said device may be released to smother the fire.

The present invention contemplates, in its simplest embodiment, a container exteriorly provided with one or more blades which rotate as the container drops and produces a lifting effect, to the end that the speed of drop of the container is retarded. Control of the direction of movement of the container through the means of the blades permits the container to move to any desired point distant from the point of release, or directly below the point of release. Thus, when the device is used to carry explosives, the same may be dropped at a selected height and caused to travel to a designated area. In this respect, the invention is useful for the bombing of ammunition dumps and anti-aircraft batteries, etc. It is also advantageous in the laying down of a smoke screen to block out anti-aircraft defense or for delayed or instantaneous explosion for demolition, fragmentation, incendiary or gas projection.

Another object of the invention is to provide a device which may be dropped into the water from a height for the purpose of exploding naval or sea mines.

Another object is the provision of a device which may be useful in the water to act as a depth bomb at a selected depth.

The invention has for a further object the provision of a device of the character stated, which is simple of construction and inexpensive in cost of manufacture.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in a certain embodiment in the accompanying drawing, described generally, and more particularly pointed out in the claim.

In the drawing:

Figure 1 is a fragmentary, partially sectional view of one form of the invention,

Figure 2 is a fragmentary top plan view of the device shown in Figure 1, and,

Figure 3 is a vertical sectional view of a modified form of the invention.

Referring now with particularity to the drawing, that form of the invention shown in Figures 1 and 2 is designated as an entirety by the numeral 1, and the same includes a container 2 which may be in the form of a hollow cone, the base portion of which merges with a ring 3 forming a continuation of the material of the cone. A cover 4 has a rim 5 adapted to be secured to the ring 3 in any suitable manner, such as by means 6. Provided on the exterior surface of the ring 3 are blades 7. These blades are held to the ring in any approved manner, as by means 8. In the present instance, the contour of the blades is such as to resemble a paddle, in that the sides converge outwardly from the root of the blade. These blades may be canted relative to a horizontal plane passed through the axis of the container and, in addition, each blade may be given an inclination or pitch.

The form of the invention shown in Figure 3 includes a tapered side wall container 9, the base of which merges with a ring 10, the said ring carrying blades similar to those shown at 7 and given the same reference numeral, there being an open-ended tube 11 axially positioned within said container. A cover 12 provided with a rim 13 is detachably secured to the ring 10 by means 14. The upper end of the tube 11 is flanged at 15, against which flange the cover may rest and the cover is centrally provided with an opening 16.

The operation, uses and advantages of the invention just described are as follows:

If we assume that the invention is to be utilized for the unloading, delivering, dropping and discharging of cargo, mail, express, goods, wares, and the like, from an air vehicle, said cargo is

placed within the container, and the device dropped from the vehicle. The device will then move downwardly under influence of gravity and tend to rotate, due to the presence of the blades 7, and in so rotating, the blades will exert an upward thrust opposed to gravity, to the end that the rate of descent of the device in accordance with the weight of the device and the cargo therein is regulated.

That form of the invention shown in Figure 3 operates on the same principle, with the exception that as the device falls, air passes inwardly of the intake end of the tube, which would be the apex of the cone, and this column of air has a directional effect upon the device, tending to cause said device to move straight downwardly, or approximately so. The blades 7 act in the same manner, as before stated. By canting the blades at different angles and regulating the pitch thereof, it is possible to cause the device to traverse any given area. Thus, if the container is filled with explosives, the device may be caused to drift in accordance with movement of the air currents and likewise travel a given distance to a target or other area, where the explosive is to be discharged. I do not intend by this invention to describe any particular means for detonating the explosive, as such means is well understood in the art of ordnance.

When the device is used in water, it is evident that as gravity acts upon the device, that the blades have a tendency to support the device as it moves downwardly in the water, and proper timing of any demolition bomb will allow the same to explode at a given depth.

The device is primarily adapted for the dropping of cargo, although, as stated, it is useful for any type of cargo, whether destructive or constructive.

The device is particularly adapted for use in fighting forest fires, in that a chemical may be contained therein and by properly canting the blades and regulating the pitch, these devices may be released in large numbers to move over the area of the fire and deposit the chemical and smother the flames.

It is obvious that various changes and modifications, and variations may be made in practicing the invention in departure from the particular showing and the description as given, all within the purview of the appended claim.

I claim:

In a device of the character disclosed an inverted cone-shaped container, circumferentially arranged blades extending outwardly from said container and adapted to cause said container to rotate during descent of said container under gravity through a fluid medium and in turn oppose the rate of descent of said container under gravity, and a tube within and extending axially of the container forming a central fluid-way for said container for controlling drift of said container during movement thereof under influence of gravity.

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