J. B. HOFFMANN, Jr.

AERIAL BOMB.

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1,285,181.

Patented Nov. 19, 1918.

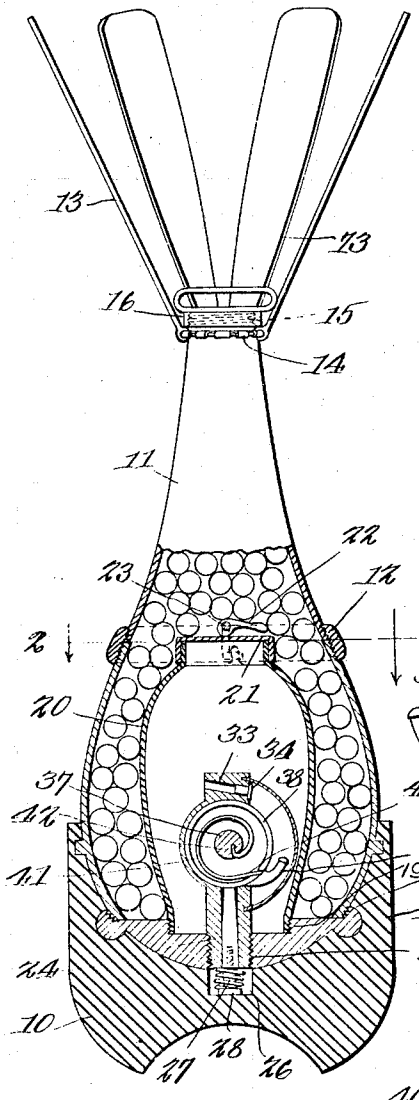


Fig. 1.

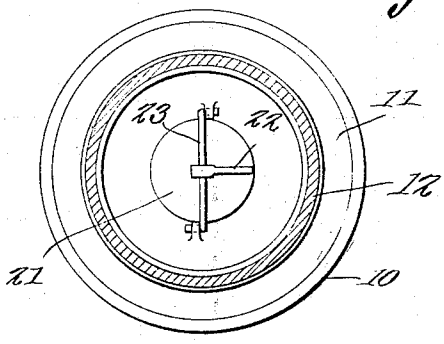


Fig. 2.

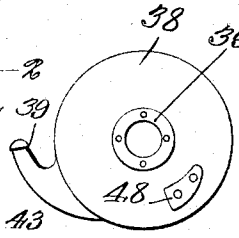


Fig. 5.

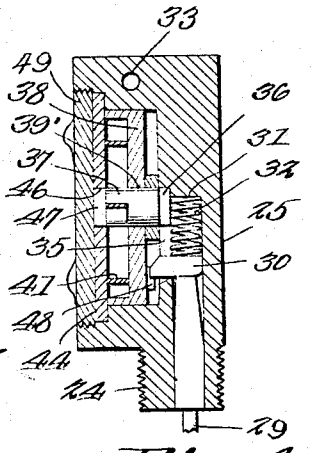


Fig. 4.

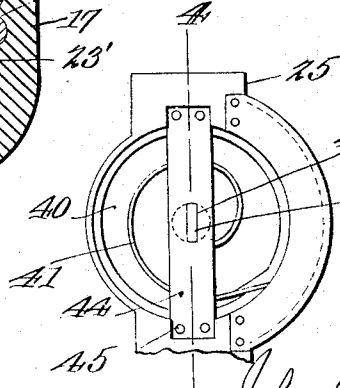


Fig. 3.

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AERIAL BOMB.

1,285,181. Specification of Letters Patent. Patented Nov. 19, 1918.

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To all whom it may concern:

Be it known that I, JOHN B. HOFFMANN, Jr., a citizen of the United States of America, and resident of Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Aerial Bombs, of which the following is a specification.

This invention relates to aerial bombs and particularly to novel means whereby an explosive charge is held or confined in a receptacle apart from the projectile but within the projectile holder so that the projectiles surround or nearly surround the container with the explosive charge in order that when the explosion occurs, force will be exerted practically evenly against all of the projectiles within the projectile holder.

A further object of this invention is to provide novel means for detonating the explosive charge, the same being associated with novel means for holding a firing pin in position to operate when released to fire the charge, novel means being also provided for releasing the firing pin for forcing it into contact with a cap.

A still further object of this invention is to provide an incasing device yieldable on contact with an object so that it may operate to move a trigger for releasing the firing pin.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view, partly in section and partly in elevation of a bomb embodying the invention;

Fig. 2 illustrates a section on the line 2—2 of Fig. 1;

Fig. 3 illustrates an enlarged detail view of the firing pin operating mechanism;

Fig. 4 illustrates a sectional view on the line 4—4 of Fig. 3; and

Fig. 5 illustrates a view in elevation of the firing pin and parts associated with it.

In these drawings 10 denotes a base covering preferably of yieldable material such as rubber which upon striking an object yields sufficiently to move a firing pin, as will presently appear.

The shell or container 11 for the projectile and container of the explosive charge is preferably made up of two sections with a joint 12 for securing them together and the upper end of the container has blades 13 pivotally connected to it through the medium of the collar 14 which encircles the container near the top. The upper end of the container is preferably internally threaded as at 15 for the reception of a plug 16.

The base 17 has annular shoulders 18 and 19, the former of which is engaged by the projectile receptacle or casing and the other of which has threaded connection with an explosive container 20. The top of the said explosive container has a cap 21 held in place by a clamp 22 which is pivoted on a bill 23 and the latch or clamp may be moved to release the cover or it may be moved to hold the cover in place, and the said receptacle is intended to contain an explosive charge of any desired type.

A means has been provided for firing the explosive charge and in carrying out that feature of the invention, the base 17 is provided with a threaded aperture 23′ in which a shank 24 of a housing 25 is seated. The base covering 10 has a recess 26 immediately under the aperture 23′ and it constitutes a seat for a spring 27 which encircles a bolt 28 connected to a trigger bar 29, which trigger bar is slidable in the housing 25 and terminates at its upper end in a trigger 30. The housing 25 has a shoulder 31 constituting an abutment for a spring 32 which spring bears against the trigger and holds it normally depressed.

The upper end of the housing 25 has a percussion or other cap seat 33 in which the cap 34 is placed prior to filling the explosive receptacle or container. The housing 25 also has a slot 35 to receive a fin 36 of a short shaft 37 on which the disk 38 is rotatable, the said disk carrying the firing pin 39 which is adapted to strike the cap for detonating the explosive charge. The disk 38 has an aperture 39′ to receive the shaft 37 and one face of the disk is provided with a recess 40 in which a spring 41 is housed, one end of the said spring being anchored to the shaft 37 as shown at 42, the opposite end of the said spring being connected to the disk

38 as shown by the reference numeral 43. As the shaft 37 is anchored and the disk is rotatable thereon, the spring operates to rotate the disk in one direction and is intended to carry the firing pin into engagement with the cap.

A plate 44 is secured to the housing by a fastening such as 45 and the said plate has a slot 46 therein for the reception of a fin 47 on the outer end of the shaft, so that the shaft is held against rotation by reason of its being anchored to the housing and to the plate.

One face of the disk 38 has a shoulder 48 which is engaged by the trigger for holding the firing pin set and when the trigger is lifted or forced upward or inward, it passes the shoulder and releases the disk which under tension or force of the spring will be moved or partially rotated to cause the firing pin to operate. The disk is entirely protected in the housing by the shield 49 which is attached to the casing and therefore the material constituting the explosive charge cannot gain access to the operating parts for firing the bomb.

I claim—

1. In an aerial bomb, a base, a yieldable base covering adapted to move upon impact with an object and having a recess, a trigger operating bar seated in the recess, a projectile holder secured to the base, a holder for an explosive charge within the projectile holder and spaced therefrom, a casing within the holder for the explosive charge, a cap holder associated with the casing, a firing pin mounted in the casing and in operative relation to the cap, means for forcing the firing pin into engagement with the cap, and a trigger engaging member for holding the firing pin against movement.

2. In an aerial bomb, a base, a yieldable base covering adapted to move upon impact with an object and having a recess, a trigger operating bar seated in the recess, a projectile holder secured to the base, blades, means for pivotally connecting the blades to the projectile holder, a holder for an explosive charge within the projectile holder and spaced therefrom, a casing within the holder for the explosive charge, a cap holder associated with the casing, a firing pin mounted in the casing and in operative relation to the cap, means for forcing the firing pin into engagement with the cap, and a trigger engaging member for holding the firing pin against movement.

3. In an aerial bomb, a base having an aperture therein, a yieldable base covering having a recess under the aperture, a trigger bar, a member connected to the trigger bar and extending through the aperture of the base into the recess of the base covering, a trigger carried by the trigger bar, means for holding the trigger bar normally in engagement with the trigger retaining device, a disk, a firing pin on the disk, means for rotating the disk, a cap holder for retaining the cap in operative relation to the firing pin, a housing for the trigger, a holder for an explosive charge in which the housing is incased, means for connecting the holders for the explosive charge to the base, and means for connecting the holder for the projectiles to the base.

4. In an aerial bomb, a base having an aperture therein, a yieldable base covering having a recess under the aperture, a trigger bar, a member connected to the trigger bar and extending through the aperture of the base into the recess of the base covering, a trigger carried by the trigger bar, means for holding the trigger bar normally in engagement with the trigger retaining device, a disk, a firing pin on the disk, means for rotating the disk, a cap holder for retaining the cap in operative relation to the firing pin, a housing for the trigger, a holder for an explosive charge in which the housing is incased, blades, means for pivotally connecting the blades to the projectile holder, means for connecting the holders for the explosive charge to the base, and means for connecting the holder for the projectiles to the base.

JOHN BAPTIST HOFFMANN, JR.

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