Oct. 7, 1947. L. C. SONNENSCHEIN 2,428,744

BOMB

Filed Jan. 24, 1945 2 Sheets-Sheet 1

Fig. 1.

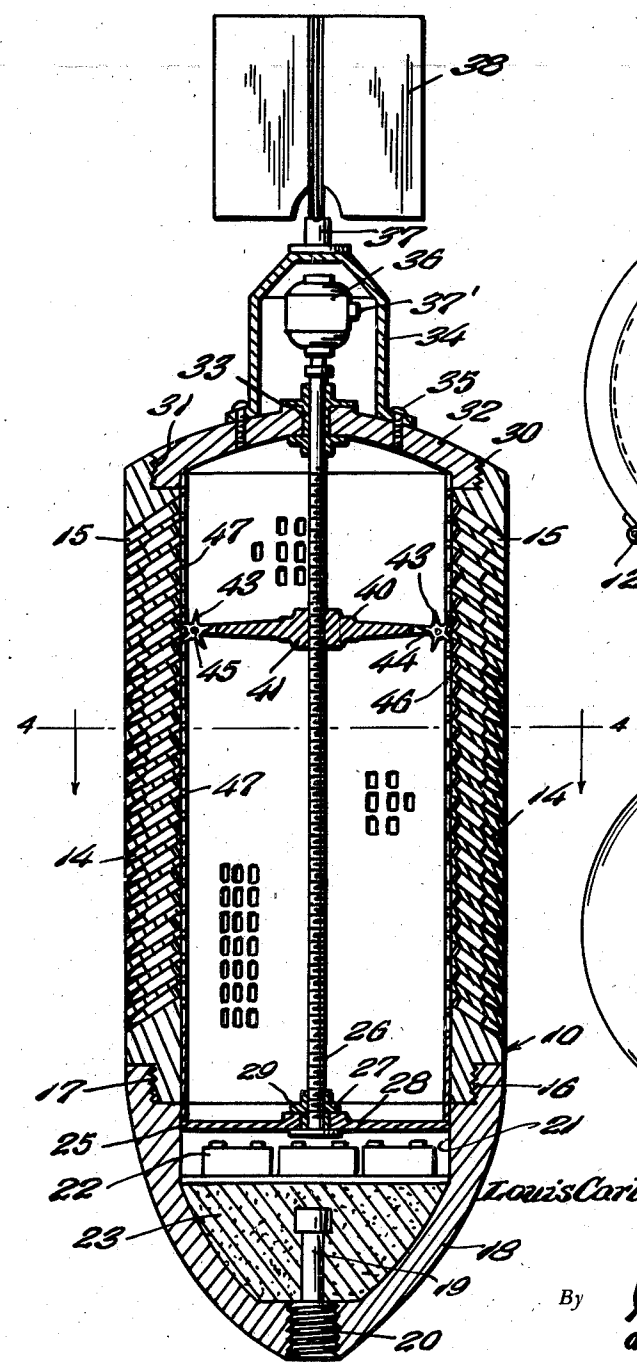


Fig. 2.

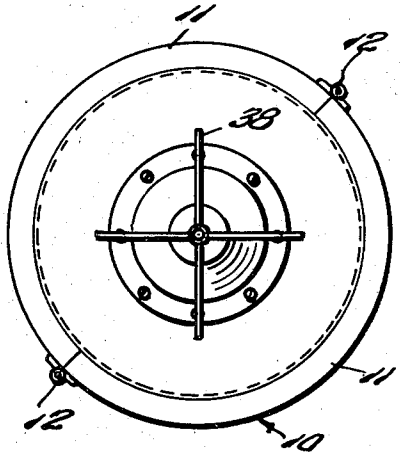
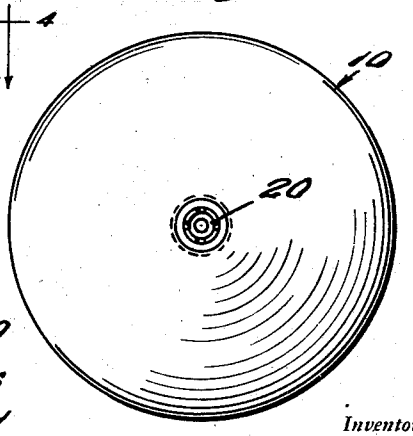


Fig. 3.



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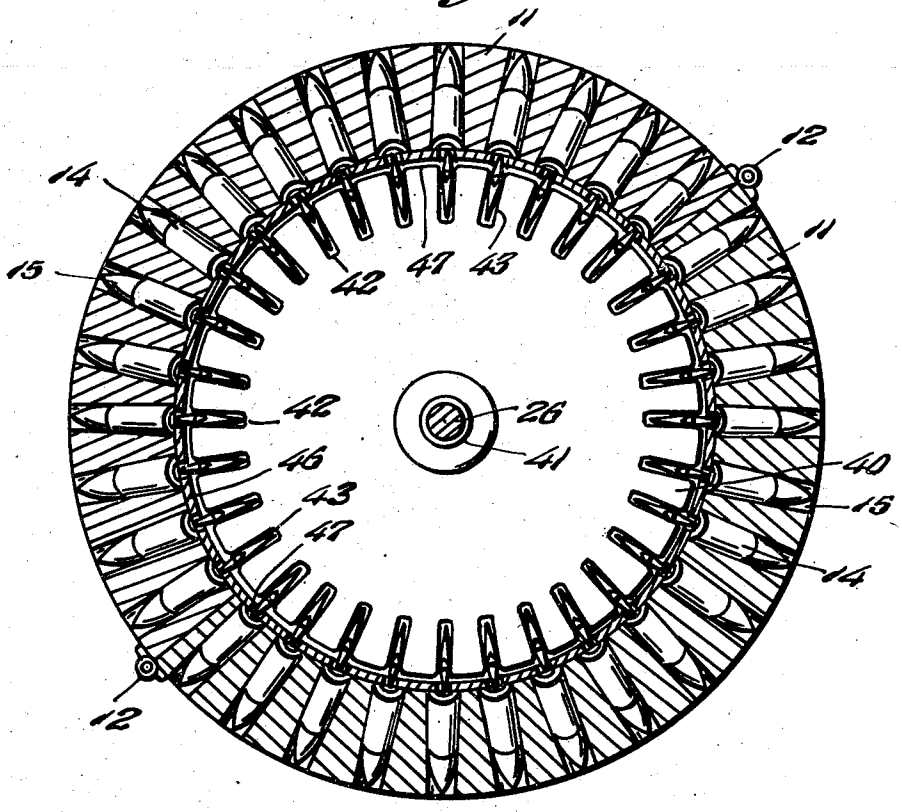
Attorneys

Oct. 7, 1947. L. C. SONNENSCHEIN 2,428,744

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Filed Jan. 24, 1945 2 Sheets-Sheet 2

Fig. 4.



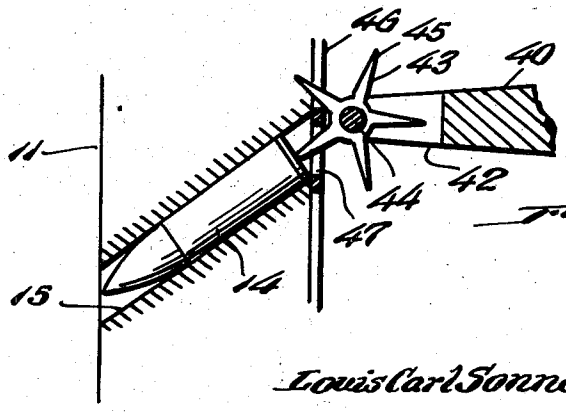


Fig. 5.

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BOMB

Louis Carl Sonnenschein, Milwaukee, Wis.

Application January 24, 1945, Serial No. 574,292

3 Claims. (Cl. 102—5)

1

This invention relates to a bomb, and more particularly to such a bomb adapted for anti-personnel use.

A primary object of this invention is the provision of an improved bomb having incorporated therein a relatively large number of small caliber bullets, adapted to be fired radially during the descent of the bomb, in such manner as to cover a relatively wide area in the manner equivalent to sustained machine gun fire.

An additional object of this invention is the provision of such a bomb provided with means whereby the same may be readily assembled.

A further object of the invention is the provision of an improved mechanism for firing the bullets contained in the casing during the descent of the bomb.

A further and more specific object of the invention is the provision in such a bomb of an explosive charge, adapted to destroy the casing upon impact, after all the bullets contained therein have been fired, and also to provide an explosive effect in the area struck, to further increase the devastating effect of the device.

Still another object is the provision of such a bomb which will have a highly increased destructive effect, which will be reliable and efficient in operation, and relatively simple and inexpensive to load and assemble, and which will be relatively safe to handle in normal operations, until such time as the firing mechanism is actuated by the bombardier.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings—

Figure 1 is a vertical sectional view of one form of bomb embodying this invention, taken substantially along the center line thereof.

Figure 2 is a top plan view of the bomb shown in Figure 1.

Figure 3 is a bottom plan view of the device.

Figure 4 is an enlarged sectional view taken substantially along the line 4—4 of Figure 1, and

Figure 5 is an enlarged sectional view of a constructional detail.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings, there is generally indicated at 10 a bomb body, comprised of two longitudinally separable halves 11, adapted

2

to be secured together as by means of any suitable fasteners 12. The body is made separable for ease and facility in loading a plurality of bullets 14 into a relatively large number of apertures 15, disposed in aligned horizontal and vertical rows extending completely about the bomb peripherally and substantially the full length of the body. The recesses 15 are inclined downwardly at a suitable angle, as for example, 30 to 45 degrees, in order that the bullets contained therein when fired in a manner to be more fully described hereinafter, will cover a relatively wide area.

The lower portion of the bomb body 10 is threaded as at 16, and adapted to engage the threaded portion 17 of a nose cap 18, containing a charge of explosive 19 as, for example, trinitrotoluene or the like, and is provided with a fuse 20 which may be either of the time or impact variety.

The head 18 is provided with a recess 21, within which are adapted to be positioned a plurality of electrical batteries 22, seated on a suitable plate 23 separating the recess from the explosive charge 19.

The upper portion of the battery compartment 21 is closed by a plate 25, having a suitable centrally disposed aperture therein, through which passes the extremity of a threaded rod 26, journaled for rotation as in a bearing 27. The rod 26 terminates in a flange 28 below the plate 25, and is secured in position as by a bushing or collar 29.

The upper portion of the body 10 is provided with internal threads 30, adapted to engage the external threads 31 of an end cap 32. End cap 32 is provided with a centrally disposed aperture, through which the opposite end of the rod 26 extends, being journaled in suitable bearings 33. A housing 34 is mounted exteriorly of the cap 32, and secured thereto as by bolts or screws 35, and contains a suitable electric motor 36 of any desired type, mounted on the extremity of the shaft 26, in such manner as to rotate the same when energized, as by means of any suitable time mechanism 37'. Suitable wiring is provided connecting the batteries 22 with the motor 36 (not shown).

Tail fins 38 of conventional design are secured to a suitable shaft 37 extending upwardly from the housing 34.

A plate 40 is positioned within the bomb body 10, and is provided with a centrally disposed threaded bore 41 adapted to engage the threaded rod 26. As best shown in Figure 4, the plate 40 is provided with a plurality of radial grooves 42,

in each of which is mounted for rotation a rowel or spur-type gear 43, rotatably journaled on an axle 44. A gear 43 is provided for each longitudinal row of bullets 14, and the arrangement is such that the points 45 of the gears are spaced exactly the distance apart of the firing caps of the cartridges in vertical rows.

Within the body 10 is positioned a cylindrical shell 46, provided with a plurality of perforations or apertures 47 therein.

From the foregoing the operation of the device should now be readily understandable. After the bomb has dropped and has assumed vertical position in falling, the motor 36 is energized at a desired time by means of the time switch 37, to effect rotation of the shaft 26. As the shaft 26 is rotated, the plate 40, which at the start of the fall is positioned at the top of the body 10, does not rotate with the shaft 26, due to the engagement of the points 45 of the gears 43 in apertures 47. Obviously, rotation of the rod 26 thus causes the plate 40 and its associated rowels 43 to move downwardly within the body 10, and as the points 45 engage successive horizontal rows of apertures 47 they correspondingly penetrate the firing caps of the cartridge, to explode the same. When the last of the cartridges have been fired, and the speed of rotation of the shaft 26 may be suitably adjusted to fire all the cartridges in any desired length of time, the bomb strikes the ground and the charge of explosive 19 is detonated by the fuse 20, completely destroying the device and adding to the general destructiveness thereof.

Obviously, if desired the explosive charge may be omitted, and the casing or body 10 suspended from the lower portion of the body of an aircraft, and utilized as a machine gun, suitable connections being provided with the pilot in order that the motor could be energized at the will of the pilot or bombardier, to fire a given number of the horizontal rows of bullets as desired, for use against personnel, other aircraft robot bombs or other suitable targets.

It will be readily understood that the bombs could be dropped in any suitable quantity and in any suitable pattern, to completely cover a selected area with a field of fire.

From the foregoing it will now be seen that there is herein provided a device accomplishing all the objects of this invention, including many advantages of great practical utility.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a device of the character described, in combination, a casing comprising two longitudinally separable halves having a plurality of horizontally and vertically aligned rows of apertures therein, cartridges positioned in said apertures, and means in said casing for firing said cartridges, said means including a vertically movable plate and a plurality of spur gears radially disposed about the periphery of said plate, the points of said gears being adapted to successively engage the firing caps of cartridges in vertical rows to prevent rotation of said plate, and means for positively moving said plate longitudinally in said casing.

2. In a device of the character described, in combination, a casing having a plurality of horizontally and vertically aligned rows of apertures therein, cartridges positioned in said apertures, and means in said casing for firing said cartridges, said means including a vertically movable plate and a plurality of spur gears radially disposed about the periphery of said plate, the points of said gears being adapted to successively engage the firing caps of cartridges in vertical rows, and a threaded rod engaging a threaded bore in said plate whereby rotation of said rod moves said plate linearly while the engagement of the spur gears in the vertically aligned rows of apertures prevents rotation of said plate.

3. In a device of the character described, in combination, a casing having a plurality of horizontally and vertically aligned rows of apertures therein, cartridges positioned in said apertures, and means in said casing for firing said cartridges, said means including a vertically movable plate and a plurality of spur gears radially disposed about the periphery of said plate, the points of said gears being adapted to successively engage the firing caps of cartridges in vertical rows, a threaded rod engaging a threaded bore in said plate whereby rotation of said rod moves said plate linearly, and an electric motor for rotating said rod while the engagement of the spur gears in the vertically aligned rows of apertures prevents rotation of said plate.

LOUIS CARL SONNENSCHEIN.

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