

Sept. 29, 1942.

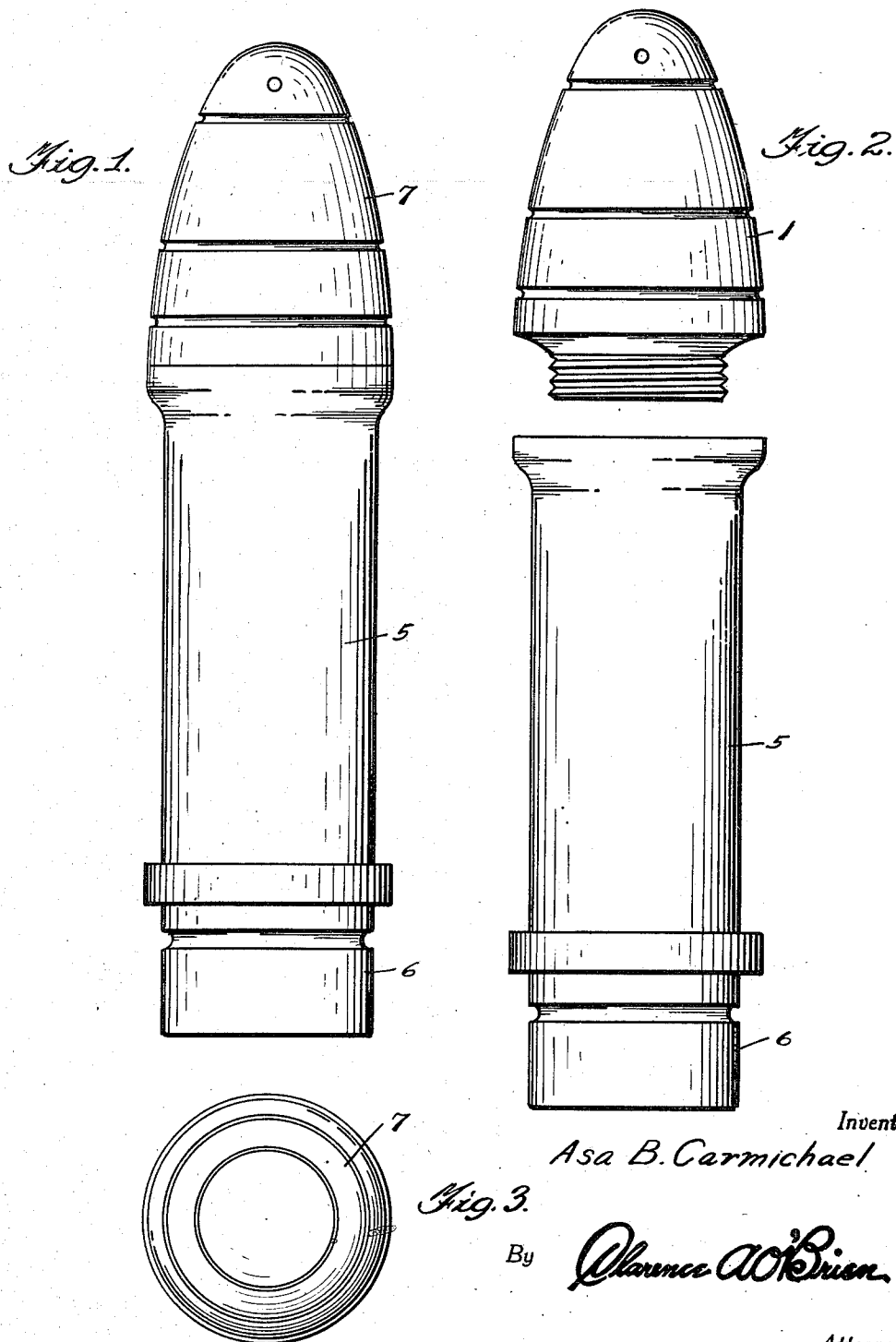
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2,296,980

SHELL

Filed Oct. 17, 1940

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

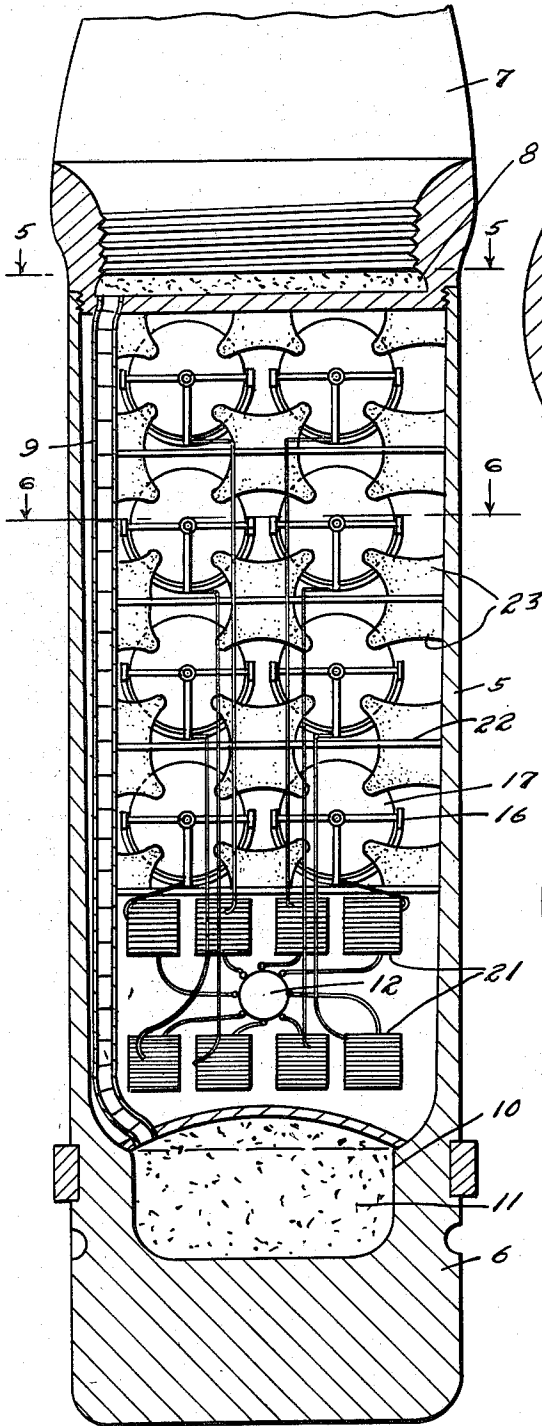


Fig. 4.

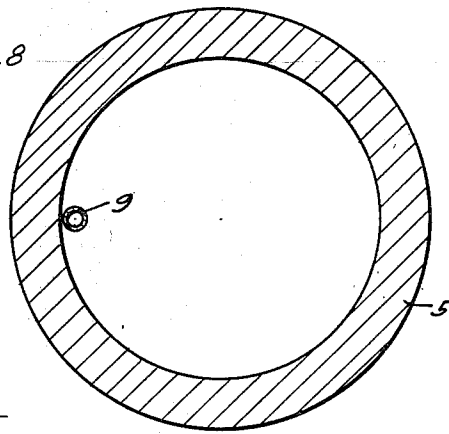


Fig. 5.

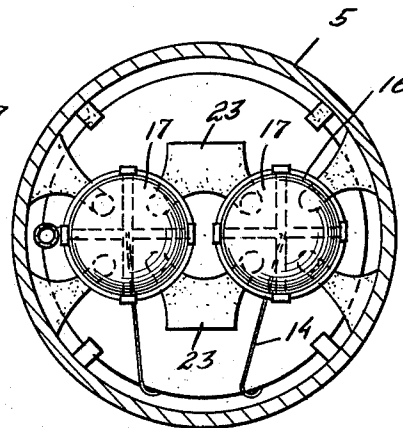


Fig. 6.

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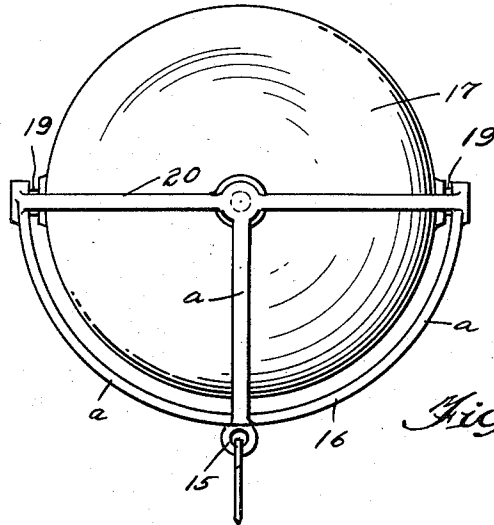


Fig. 7.

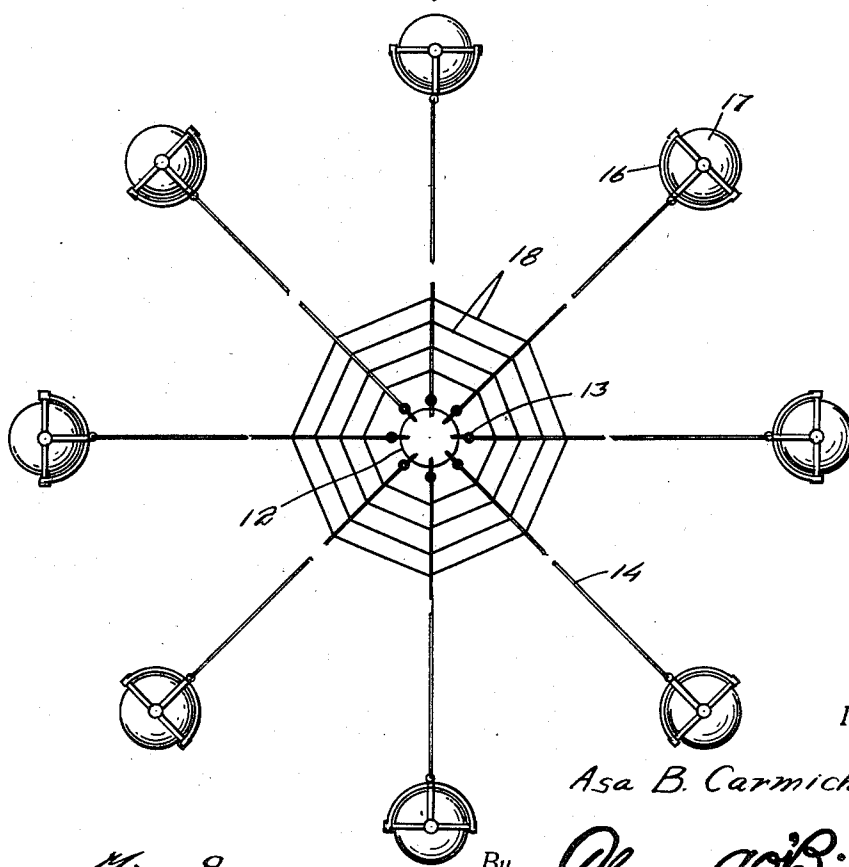


Fig. 8.

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UNITED STATES PATENT OFFICE

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Application October 17, 1940, Serial No. 361,618

1 Claim. (Cl. 102—63)

This invention relates to new and useful improvements in explosive projectiles and more particularly to a shell especially designed for anti-aircraft use.

The principal object of the present invention is to provide a shell in which a plurality of bombs are arranged and secured in a web, to the end that when the shell explodes in the region of aircraft, the bombs will spread out and the elongated web elements will bear against or wrap around aircraft with the result that a bomb or bombs are brought into contact with the aircraft resulting in the destruction thereof.

Another important object of the invention is to provide a shell of the character which will be positive acting and substantially fool-proof in operation.

Other objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a side elevational view of the shell.

Figure 2 is a side elevational view showing the fuse head separated from the case.

Figure 3 is an end elevational view of the shell.

Figure 4 is a fragmentary longitudinal sectional view through the shell.

Figure 5 is a cross section on the line 5—5 of Figure 4.

Figure 6 is a cross section on the line 6—6 of Figure 4.

Figure 7 is a side elevational view of one of the bombs.

Figure 8 is a plan view showing the bombs connected to a web.

Referring to the drawings wherein like numerals designate like parts, it can be seen that the numeral 5 denotes a case having a substantially butt end 6 and the fuse head 7, the latter being both a time and percussion type having a fuse charge 8 in the bottom thereof for setting off the contents of a fuse tube 9 which extends the length of the case 5, communicating with a pocket 10 in the butt end 6 of the case where a main charge of explosive 11 is located and which is intended to discharge all of the apparatus the case 5 contains.

In carrying out the present invention, it can be seen in Figure 8, that numeral 12 denotes a hub member which is preferably a disc having a plurality of radially disposed eye members 13 at the periphery thereof. Extending from these eye members 13 are elongated cables 14 and these connect to eyes 15 on detonating cages 16 in which bombs 17 are located.

Spider webbing 18 is provided between the inner ends of the cables 14 and this tends to spread

out the cables in substantially the manner represented in Figure 8.

Each of the cages 16 consists of a plurality of arcuate-shaped arms *a* all projecting from a central point at which the eye 15 is located. The outer ends of these arms *a* connect to detonating pins 19 which extend into the bomb 17 and the outer ends of these arms *a* are preferably connected by bridge members 20. Thus a cage or cradle is provided for each bomb 17 so that when a cable 14 bears against or wraps around an aeroplane the contact of the cage 16 with the aircraft will set off the bomb.

It is preferable that the cables 14 be wrapped on spools 21 in the case 5 in such a manner that the cables 14 will completely detach themselves from the spools when all of the mechanism in the case 5 is discharged. The interior of the case 5 is partitioned off by suitable partitions 22 and in the corners of these chambers are cushion members 23 which engage and hold the bombs centralized and protected against being accidentally discharged. These cushion members 23 can be arranged in any manner desired.

The fuse head 7 can either be exploded upon contact with an aircraft or as a result of timing thereof. Furthermore, the bombs 17 can either be exploded as a result of percussion or timing. The latter is desired to save the bombs from returning to the earth and their exploding and perhaps causing damage on home territory.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having described the invention, what is claimed as new is:

A projectile comprising a case having a fuse head at its front end and a powder containing chamber in its rear end with a conduit containing powder leading from the head to the chamber, partitions in the case dividing the same into a plurality of chambers, cushion means in the chambers, cages in the chambers, a bomb in each cage, detonating means between the cages and the bombs, a disk in the lower part of the case between the powder receiving chamber and the lowermost bomb chamber, cables connected with the periphery of the disk and the outer end of each cable being connected to a cage, portions of the cables being coiled in the space in which the disk is located and small cables connecting the inner portions of the first-mentioned cables together, said small cables being in the form of a spider web.

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