





# UNITED STATES PATENT OFFICE.

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## SHELL.

SPECIFICATION forming part of Letters Patent No. 697,703, dated April 15, 1902.

Application filed May 1, 1901. Serial No. 58,339. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. CALLAWAY, a citizen of the United States, residing at Mountainhome, in the county of Elmore and State of Idaho, have invented certain new and useful Improvements in Projectiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a projectile for a mortar, cannon, or other form of gun or machine for throwing a shell or large and heavy missile, the purpose being to construct an object for carrying small cartridges beyond the range of infantry into the lines of the enemy for effective work behind earthworks and in trenches.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are necessarily susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a projectile embodying the invention. Fig. 2 is a perspective view of the projectile forming an element or part of the large missile or shell. Fig. 3 is a section of the projectile shown in Fig. 2 about on the line X X of Fig. 4. Fig. 4 is a section on the line Y Y of Fig. 3. Fig. 5 is a perspective view of the breech or firing pin.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The projectile is preferably of spherical form, although within the purview of the invention it may have any form, the latter being immaterial; but the ball shape is preferred because of convenience in handling, ease with which a number can be loaded into a shell, and the greater effectiveness in service. The projectile is formed with a diametrical opening 1, into which the breech 2 is secured, said opening being enlarged at its

outer end to receive the head 3 of the breech and having its inner end threaded for the reception of the threaded end 4 of the part 2, whereby said part is held in place. A multiplicity of openings 5 are formed in the body of the projectile and communicate at their inner ends with the opening 1 and are adapted to receive cartridges 6 of the capless type or of other form to be exploded by a charge of powder, as from a touch-hole. The cartridges 6 are fitted into the opening 5 and are in communication with the opening 1, so as to be discharged when the powder or fulminate placed in the opening 1 explodes, thereby sending a shower of bullets in every direction.

The breech 2 is hollow and is adapted to receive a time-fuse 8, and an opening 9 is formed in a side of the breech to communicate with the explosive 7, filling the space between the said breech and walls of the opening 1, whereby fire may be communicated from the fuse to said explosive for discharging the cartridges 6. The breech is headed at its outer end, as shown at 3, to overlap and close the outer end of the opening 1 and prevent escape of the explosive 7. The part 2 may be screwed into the projectile by a tool of any kind, and, as shown, its headed end is slotted for the reception of a screw-driver or kindred tool.

A number of projectiles constructed substantially as herein set forth is loaded into a shell 10, as shown in Fig. 1, and the spaces between the projectiles are filled with an explosive which is set off by fuse 11, fitted to the shell, so as to scatter the projectiles and ignite the fuses 8 thereof. The shell 10 may be of metal, paper, or other material and may be of any size and contain any number of projectiles and is intended to be fired from a mortar, cannon, or other gun or machine and when reaching the objective point is exploded by means of the fuse 11, and the projectiles being scattered are in turn discharged of the cartridges 6 by means of the fuse 8 and explosive 7.

Having thus described the invention, what is claimed as new is—

A projectile having a breech-opening threaded at its inner end and enlarged at its outer end and adapted to receive an explosive and having other openings in communi-

ation with the breech-opening and adapted  
o receive cartridges, and a hollow breech  
headed at its outer end and threaded at its  
inner end and having an opening in its side,  
the headed end serving to enter the enlarged  
outer end of the breech-opening and close the  
same, substantially as set forth.

In testimony whereof I affix my signature  
in presence of two witnesses.

WILLIAM S. CALLAWAY. [L. S.]

Witnesses:

J. W. BALL,

A. G. SMITH.