F. A. MARKLEY.

Compound Explosive Projectiles.

No. 138,907. Patented May 13, 1873.

Fig. 1.

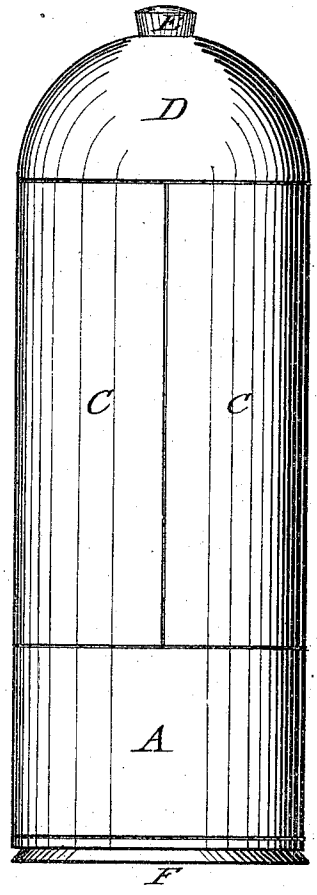


Fig. 2.

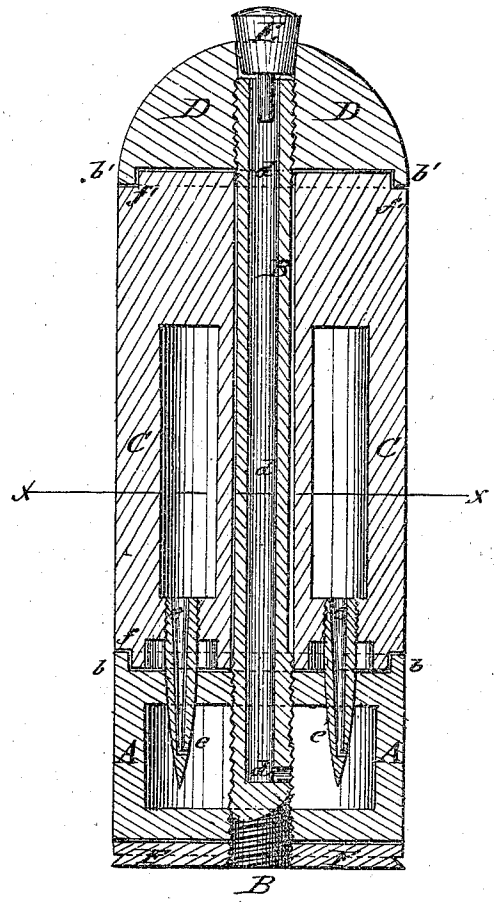


Fig. 3.

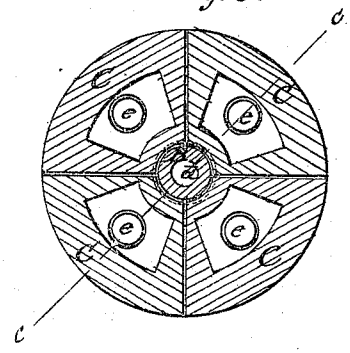
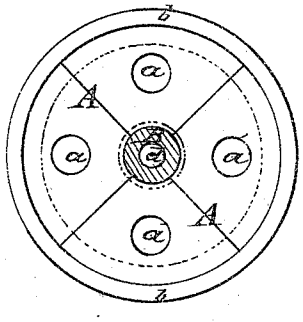


Fig. 4.



Witnesses:

P. C. Dieterich.

C. Sedgwick

Inventor:

F. A. Markley

Per

Attorneys.

UNITED STATES PATENT OFFICE.

FRANK A. MARKLEY, OF WAYNESBOROUGH, VIRGINIA.

IMPROVEMENT IN COMPOUND EXPLOSIVE PROJECTILES.

Specification forming part of Letters Patent No. **138,907**, dated May 13, 1873; application filed April 5, 1873.

To all whom it may concern:

Be it known that I, FRANK A. MARKLEY, of Waynesborough, in the county of Augusta, and State of Virginia, have invented a new and improved Explosive Projectile, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my shell; Fig. 2, a vertical section of the same, on the line *c c*, Fig. 3; Fig. 3, a horizontal section on the line *x x*, Fig. 2; and Fig. 4, a top view of the main cylinder.

Similar letters of reference indicate corresponding parts.

The object of my invention is improvement in the class of shells or explosive projectiles which are formed of several detachable parts; and the improvement consists in the construction of the projectile as hereinafter described, whereby the several auxiliary shells or chambers are connected to the main cylinder.

In the drawing, A represents the main powder-cylinder of the projectile, having a hollow chamber for the reception of the coarse powder charge, and central top and bottom perforations, cut as female screws for the insertion of the rod B. The top of chamber A has also smaller perforations *a*, Fig. 4, for the tube connections of the auxiliary shells. A projecting rim *b* runs along the periphery of the top part, embracing therewith the adjacent quarter shells C, resting upon main cylinder A. The connecting-rod B is placed longitudinally through the projectile, forming the core of the same. It is suitably threaded at top and bottom ends, with a cylindrical perforation *d* extending centrally through it, which opens sidewise into main chamber A. It is filled with fine powder to ignite the main charge as soon as the shell strikes or the fuse takes effect. The auxiliary shells C, being formed of two, four, or more longitudinal parts of the cylindrical body of the shell, are also hollow, and of similar material as main cylinder A. They connect by perforated fuse-tubes *e*, through top apertures *a*, with the main powder-chamber, and require to be filled in the part nearest tubes *e* with fine powder, to keep the tubes full and insure the connection with the main chamber. The auxiliary shells C are arranged around rod B and provided with recesses *f'*, corresponding with rim *b* of the main cylinder A. Recesses *f'*, at the upper ends, connect with rim *b'* of solid top part or cap D, which is screwed to the upper end of rod B. The quarter shells C are thereby rigidly held between the top and bottom pieces, and firmly bound together by rod B. The tube of rod B, as well as the top part D, is closed with fuse-cap E, which may be fixed in such a manner as to ignite the fuse on striking the object, or adjusted to explode the shell at a certain fixed time. The bottom plate F, screwed on the lower end of rod B, serves to connect the shell to the cartridge.

On the ignition of the fuse connection, the powder charge in the main chamber explodes and throws the quarter shells in different directions. The fuse of each shell will take fire from the first explosion and ignite the powder charges of the auxiliary shells, scattering their fragments again with powerful effect, producing thereby an effective and deadly instrument of war.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The explosive projectile, consisting of main cylinder A, in connection with auxiliary shells C, held together by rod B and plate F, substantially as described.

FRANK A. MARKLEY.

Witnesses:
JOHN H. FABER,
THOMAS W. ALEXANDER.