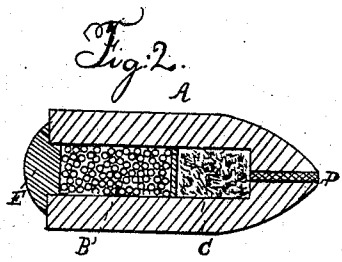
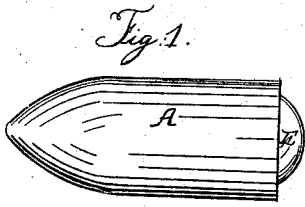
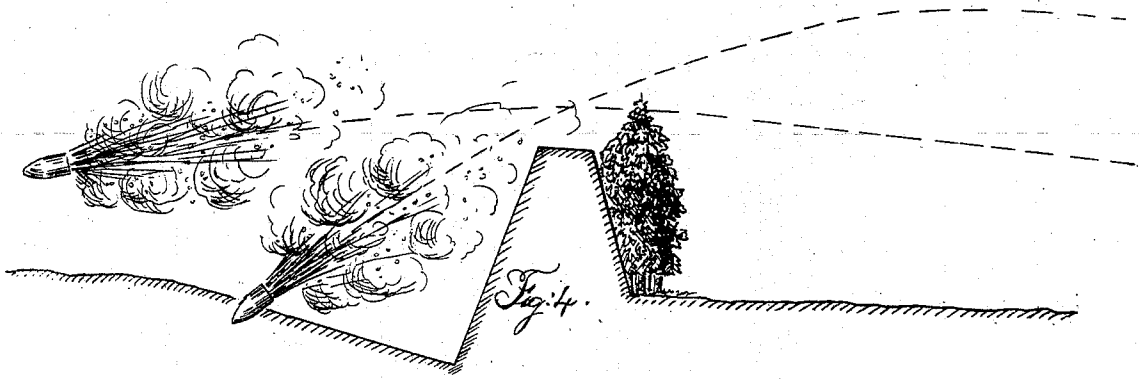


I. P. NOYES.  
Explosive Shell.

No. 52,314.

Patented Jan. 30, 1866.



*Cha. Edw. Koss*  
*James T. Graham*

Fig. 2:  
*Isaac P. Noyes*  
*By Thos. D. Cow*  
*Atty.*

# UNITED STATES PATENT OFFICE.

ISAAC P. NOYES, OF PROVIDENCE, RHODE ISLAND.

## IMPROVEMENT IN EXPLOSIVE SHELLS.

Specification forming part of Letters Patent No. 52,314, dated January 30, 1866.

*To all whom it may concern:*

Be it known that I, ISAAC P. NOYES, of Providence, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in Projectiles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in furnishing a projectile so constructed and arranged as to fire a charge of shot from its rear end, either while in flight or after it has reached its mark, and thus enable the gunner to reach the enemy, though he be protected by breast-works, ramparts, or bomb-proofs, and which, when used against bodies of the enemy in the open field, will, by its rear discharge, inflict more injury than it has already done in its direct flight, as hereinafter more fully described.

In the drawings, Figure 1 is a side view of my improved projectile. Fig. 2 is a vertical longitudinal central section of the same. Fig. 3 is a rear-end view of the projectile. Fig. 4 is a sketch designed to illustrate the action of the projectile when discharged.

A is the main body of the projectile. B is the shot. C is the powder. D is the fusevent. E is the plug.

The main body A of the projectile is chambered, as represented in the drawings. The chamber or cavity which contains the powder and shot should be of such a size and depth as to contain a sufficient charge for the purpose intended, and yet not so large as to weaken the main body A of the projectile, and

not so deep as to prevent the forward part of the projectile from being the heavier, and thus interfere with its directness of flight.

The plug E is made to fit into the bore or cavity for the charge, and has a flange or shoulder over or onto the edges of the main body of the projectile, as represented in the drawings. Said flange should not extend quite to the outer edge of said main body of the projectile, lest the friction of its edges against the inner surface of the bore of the gun from which it is discharged might draw it from its position after the projectile has started and before it has left the muzzle of the gun.

The plug E should fit into the body of the shell sufficiently tight to keep it in place during the flight of the projectile, and yet so as to be readily blown out by the explosion of the charge of powder C.

To explode the powder C, I prefer to use a fuse, as represented in the drawings; but this is not absolutely necessary, as the charge might be exploded in any of the ways ordinarily practiced.

I claim—

A projectile which, with the effective properties of a direct shot, possesses the additional one of being capable of discharging a load of shot from its rear end either during its flight or after it has struck, said projectile being constructed substantially as herein described, and for the purposes set forth.

ISAAC P. NOYES.

Witnesses:

JOHN P. CAMPBELL,  
EDWIN NORTHROP.