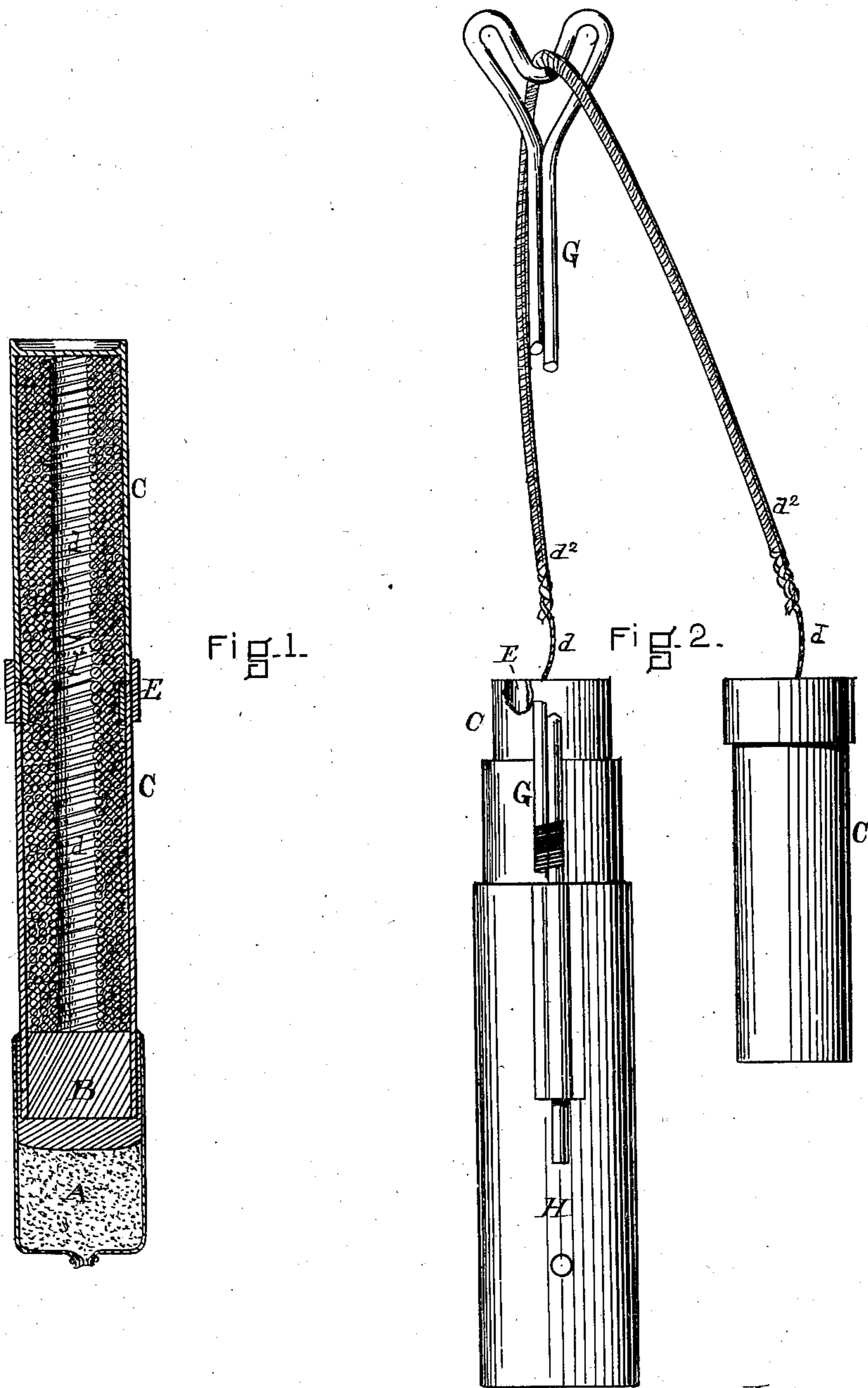


E. S. HUNT.  
Line-Throwing Apparatus.

No. 203,274.

Patented May 7, 1878.



Witnesses

George O. G. Coale  
L. H. Slade.

Inventor

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his atty

# UNITED STATES PATENT OFFICE.

EDMUND S. HUNT, OF WEYMOUTH, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENT, TO ANNIE M. HUNT, OF SAME PLACE.

## IMPROVEMENT IN LINE-THROWING APPARATUS.

Specification forming part of Letters Patent No. 203,274, dated May 7, 1878; application filed January 25, 1878.

*To all whom it may concern:*

Be it known that I, EDMUND S. HUNT, of Weymouth, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Line-Throwing Apparatus, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, making a part hereof.

My invention is more especially designed for throwing a line from the shore to a wreck, or from a wreck to the shore, but is, of course, adapted to other uses.

The drawings illustrate a shot having my coil-case applied to it, also one of my hand coil-cases, and also a line-support attached to the gun.

The distinguishing characteristic of my invention consists in the projectile made up of a short heavy shot and a long light case containing the line, the case being open at the mouth, and the projectile adapted to be fired with the shot next to the powder and the coil-case at the mouth of the cannon, and to reverse itself soon after it leaves the gun.

The minor features of my invention relate to the mode of coiling the line and the mode of holding it and of preventing injury to it from the gases which escape from the mouth of the gun.

In that form of projectile shown in the drawings, A is the powder, B the shot, C the coil-case, and D the coil. E is a wooden mouth-piece attached to the case C, in order to make it sure that the sharp edge of C shall not injure the line.

The end  $d$  of the line is, where a light line is used, attached to a short piece of stouter line,  $d^2$ , the line  $d^2$  being less likely to be injured by the escaping gases, &c., near the mouth of the gun when fired. For a like reason the line  $d^2$  is supported, as shown, by the supporter G, which prevents it from lying directly across the mouth of the gun, that being the most unfavorable position for it.

The coil is formed by winding the line upon a mandrel, the line passing through a vessel containing melted paraffine or other like substance, and also passing through a proper tension mechanism, to make the coil compact. A

single coil is first wound of the desired length; next a second coil over, but the reverse of, the first; then a third like the first, but over the second; then a fourth like the second, but over the third, and so on, forming a compact cylindrical coil, containing the desired length of line, the size of coil varying, of course, with the length and size of the line. The hand-coil is made in the same way. After the coil is put in the case a small amount of melted paraffine is applied between it and the case, and it is thus held securely in the case.

I propose in practice to make the hand-coil of considerably heavier line than the shot-coil, using for the hand-coil the line  $d^2$ .

I prepare my improved apparatus by putting the hand-coil and shot-coil mouth to mouth and covering the joint with a short metal cylinder, and make the whole watertight by a proper casing.

To use the apparatus, separate the hand-coil from the projectile, load the projectile mouth outward, place the line  $d^2$  over the supporter G, as shown, and hold the hand-coil in the hand, its mouth in the same direction as the mouth of the gun. When the gun is fired only a small portion of the line from the hand-coil will be drawn out. The length of coil in the shot should be considerably in excess of the travel of the shot, which will, of course, depend upon well-known principles.

I am aware of Patent No. 23,726, of 1859, to Trowbridge, which describes a sounding apparatus on a principle closely analogous to the principle of my new projectile; and I disclaim all that is described and shown in that patent.

I am also aware of the French patent to Delvigne, A. D. 1847, vol. 10, plate xlii, which shows a shell or hollow shot with a coil of line and a hole at the base of the shell, through which the line extends. This I disclaim, as my projectile has the coil-case at that end of the shot farthest from the powder, and the mouth of the coil-case is at its front end when the shot is in the cannon, the shot proper being so much heavier than the coil-case and coil that when fired the projectile will reverse itself as soon as it leaves the gun—that is, when loaded the shot is behind the coil-case and the mouth of the case is forward, but during nearly the whole

of its flight the shot is in front and the coil-case behind it, the mouth of the case being then at the rear of the projectile. In this way the coil-case can be made of sheetmetal, which is altogether too weak to resist the shock of the explosion, and the center of gravity of the projectile be brought very near the powder, thus protecting the coil and coil-case from the shock and from the gases without the use of a sabot or any other contrivance, besides greatly reducing the cost of the projectile.

What I claim as my invention is—

1. The projectile above described, composed of the shot B and coil-case C and coil D, the coil-case being open in front, and the shot B being much heavier than the coil-case and coil, the whole constructed and arranged substantially as shown, and adapted to be fired with the mouth of the coil-case outward, and to reverse itself as soon as it leaves the gun.

2. The coil composed of a series of coils, packed with paraffine or its equivalent, substantially as described.

3. The supporter G, in combination with the gun H, substantially as and for the purpose specified.

4. The improved mode of throwing a line above described, consisting in using a hand-coil in connection with a shot-coil, the latter coil being in a case or holder forming a part of and traveling with the shot, and the former coil being held stationary, the lines composing the two coils being joined together at their contiguous ends, all as above described.

EDMD. S. HUNT.

Witnesses:

J. E. MAYNADIER,  
GEORGE O. G. COALE.