(No Model.)

S. INGERSOLL.

PROJECTILE FOR THROWING LIFE LINES.

No. 348,848. Patented Sept. 7, 1886.

Fig. 1.

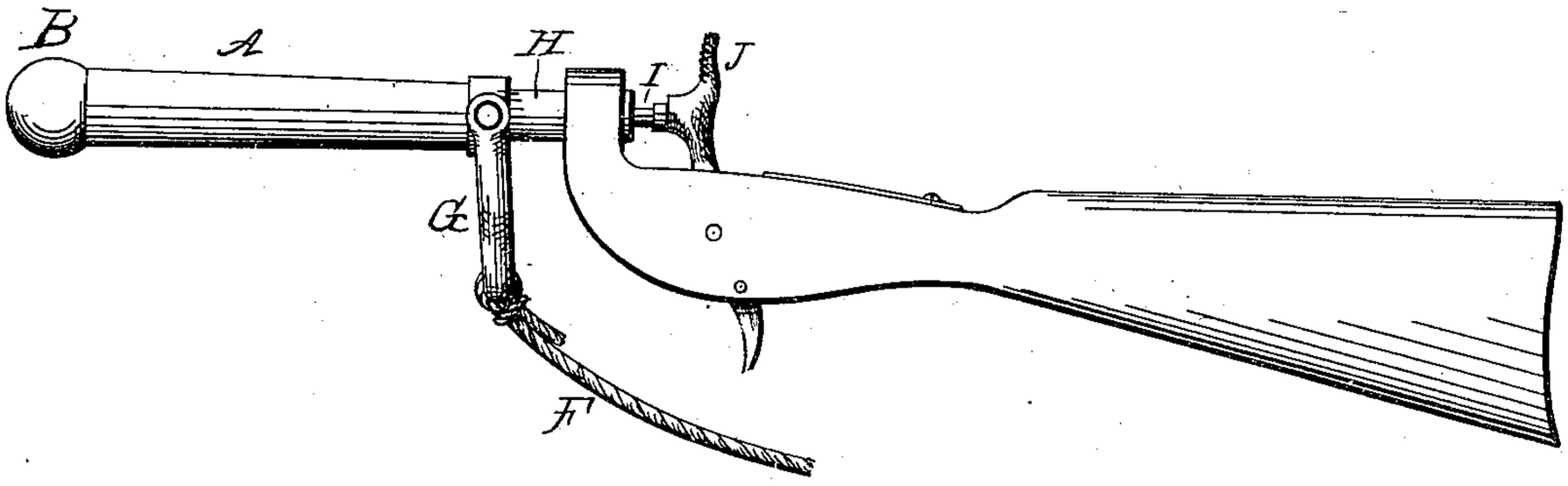


Fig 2.

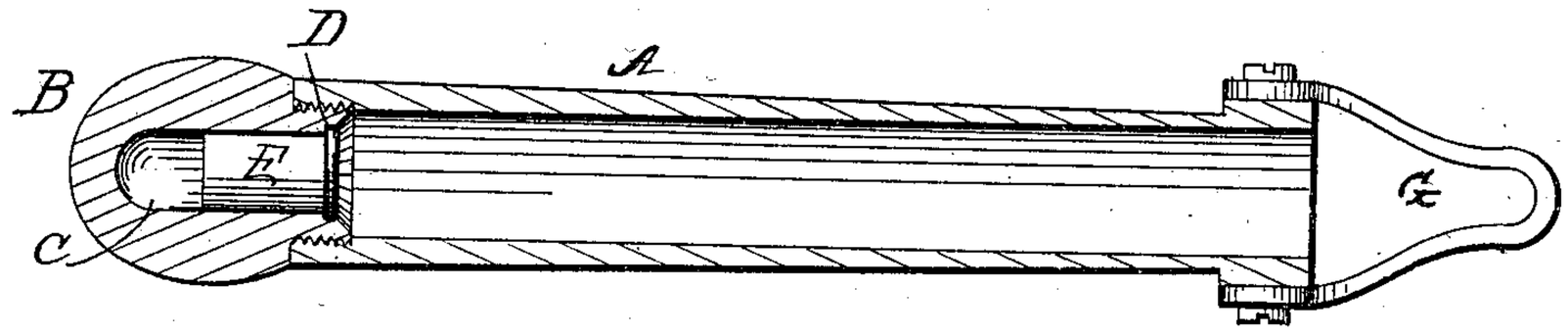
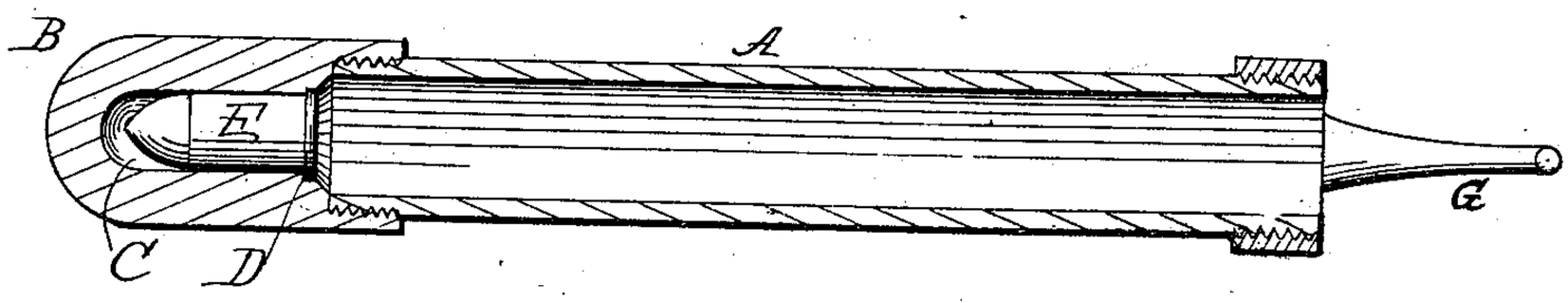


Fig 3.



Witnesses.
S. E. E. Stevens
P. C. Stevens

Inventor
Simon Ingersoll.
By his Attorney W. X. Stevens.

UNITED STATES PATENT OFFICE.

SIMON INGERSOLL, OF STAMFORD, CONN., ASSIGNOR TO NATHAN C. POND, MARSHALL O. WEST, AND ERNEST SIMONS, ALL OF PORT CHESTER, N. Y.

PROJECTILE FOR THROWING LIFE-LINES.

SPECIFICATION forming part of Letters Patent No. 348,848, dated September 7, 1886.

Application filed July 1, 1886. Serial No. 206,843. (No model.)

To all whom it may concern:

Be it known that I, SIMON INGERSOLL, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Projectiles for Throwing Life-Lines; 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 improvements in projectiles for use in the system of throwing life-lines described in my Patent No. 331,792. In that patent a specially-constructed cartridge was required. The cartridge had to fill the bore of the projectile. It exploded directly in the barrel of the projectile and behind the joint of the body of the projectile and the cap thereof.

The object of this invention is to provide means whereby common rifle or pistol cartridges, either with or without bullets, may serve in the projectiles as the propelling force; means whereby the force of the explosion may be sustained by the cap rather than by the body of the projectile, so that a lighter projectile may be safely used; and means whereby the explosion may take place forward of the joint of the cap and body, so leakage at this joint may be prevented and other advantages be obtained.

To this end my invention consists in the construction and combination of parts forming a "projectile for throwing life-lines," as hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of one of my projectiles in position ready for use upon one of my guns adapted for the purpose. Fig. 2 is a longitudinal section of a projectile, showing a cartridge ready for use within it. Fig. 3 is a longitudinal section of a modification of the projectile.

A represents the body or barrel of the projectile.

B is the cap to be firmly screwed into the body, as shown in Fig. 2, or upon the body, as shown in Fig. 3.

C represents the cartridge seat or chamber, consisting of an aperture shaped to fit the cartridge, the said aperture or chamber being formed in the rear end of the cap B, without any outlet forward, and having a shoulder, D, for the cartridge-head to rest upon.

In order that the cartridge E may readily enter the chamber when dropped into the barrel of the projectile, I have made the mouth of the cap conical around the shoulder D. This will guide the forward end of the cartridge into the chamber, however great the difference may may be between the size of the barrel and the cartridge. This difference is a special object to be attained, for the following reason: If a very large amount of air-space be provided in the barrel, a small cartridge will produce the force required to throw the projectile, acting as much by compressing and forcing out this volume of air as by the discharge of gas, which is the product of explosion. The projectile is impelled forward by discharging from its rear end air and gas on the rocket principle, and it carries the life-line F by means of a connecting-bail, G.

The gun for discharging this projectile has been described in my former patent above referred to. It consists of a rod of iron or steel, H, easily fitting the barrel of the projectile, and is provided with any suitable breech and lock, and a long firing-pin to reach the cartridge while the latter is in its chamber, and rests against the end of the said rod of iron or steel. When the cartridge is fired, the projectile is thrown forward off from the gun, while the cartridge-shell remains pressed against the forward end of the gun until it is free of pressure, when it falls to the ground.

While common cartridges may be made for this projectile without balls, yet the balls in rifle-cartridges would do no harm, being retained in the cap of the projectile until removed after service. Another advantage of making the bore of the barrel of the projectile relatively large is that the large volume of compressed air serves as a cushion to the explosion, thereby preventing undue strain on the barrel, and gently starting the projectile from its position of rest, it prevents breaking the life-line while acquiring a speed of great velocity. By this means life-saving lines may

be thrown over burning houses or into any particular window thereof, however high it may be, with accuracy. They may also be thrown from the coast to vessels in peril, or from a vessel be thrown ashore. The projectile may also be armed with a harpoon for whaling, or with an explosive shell for warfare.

The principle of construction herein described may be adapted for a great variety of uses by men of mechanical judgment.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A projectile having a tubular body closed at its sides and forward end, and having a cartridge-chamber within its forward end terminating rearward at a shoulder within the projectile adapted to seat the flange of a cartridge, and the main portion of the body of said projectile extending rearward from the said shoulder within it, substantially as shown and described, whereby a gas-chamber is formed in the projectile to the rear of the cartridge-chamber, as and for the purpose specified.

2. The combination, in a projectile, of a tubular body and a cap removably secured to one end thereof, the said cap being provided with a cartridge-chamber and a shoulder fitted to seat the flanged head of the cartridge, substantially as shown and described.

3. The combination of a tubular body and a cap removably secured to one end thereof, the said cap being provided with a shouldered cartridge-chamber, and a conical mouth surrounding the said shoulder, substantially as shown and described.

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

SIMON INGERSOLL.

Witnesses:

JOHN E. MARSHALL,

CHAS. H. PALMER.