(No Model.)

S. INGERSOLL.

GUN AND PROJECTILE FOR THROWING LIFE LINES.

No. 331,792. Patented Dec. 8, 1885.

Fig. 1.

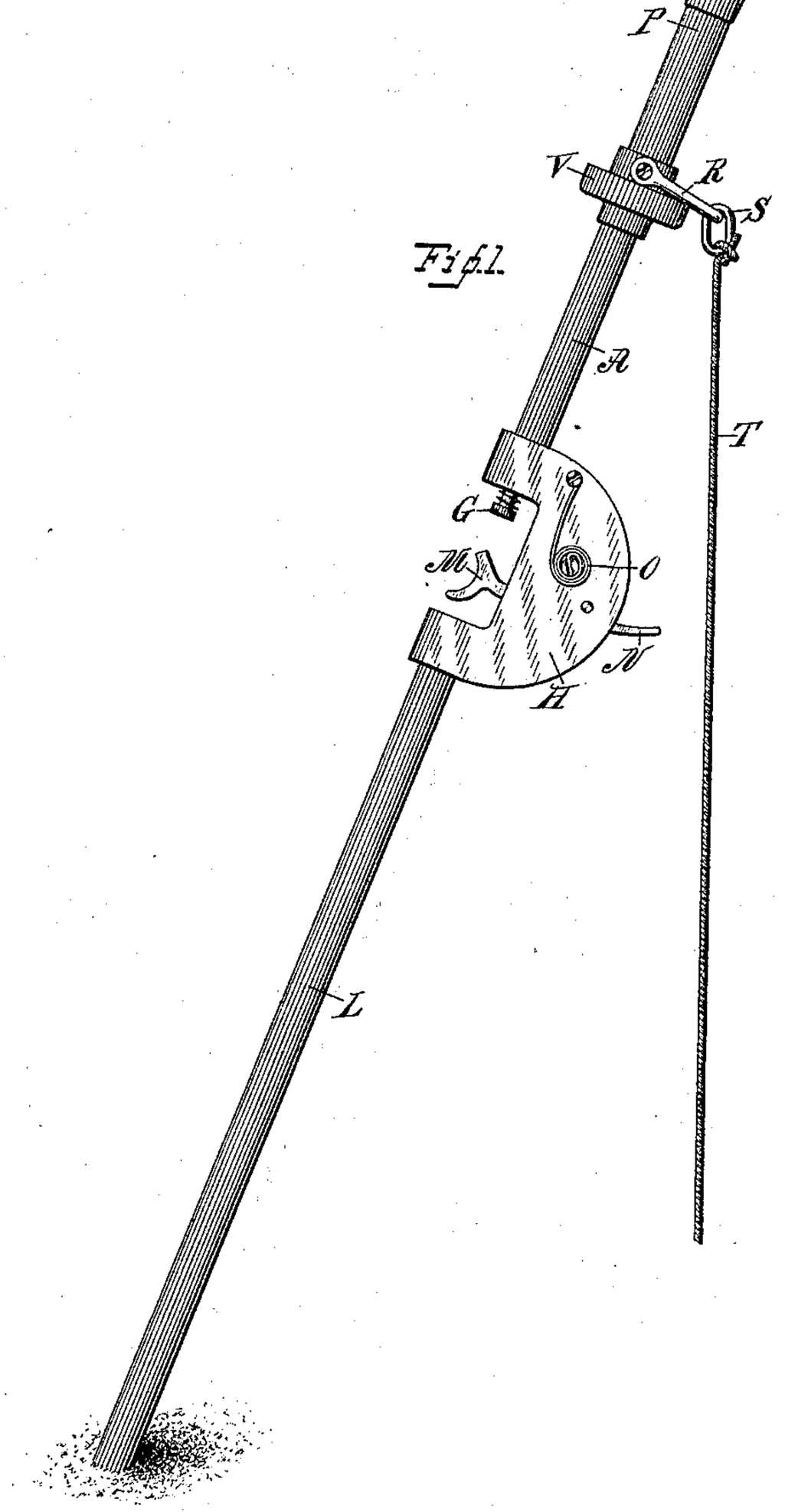
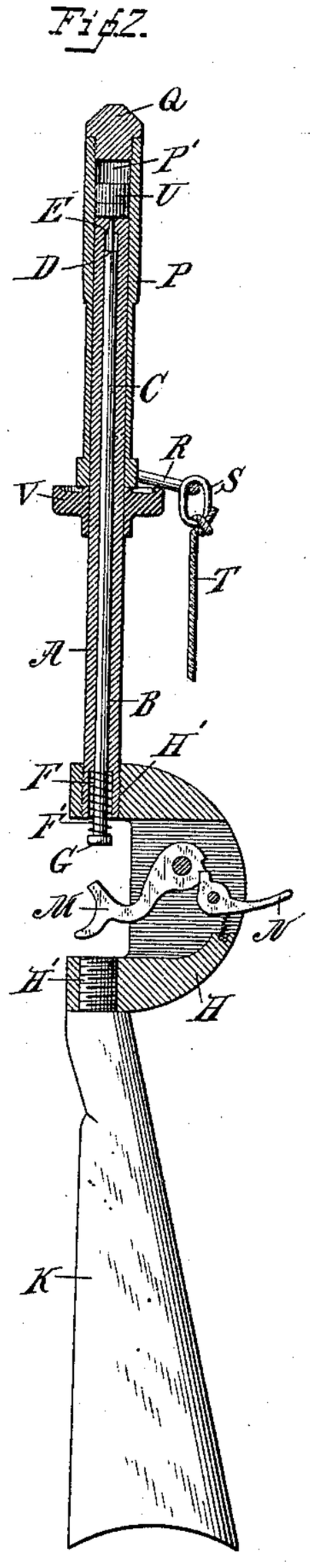


Fig. 2.



Witnesses,
E. C. Perkins.
E. E. Rugglee

Inventor,
Simon Ingersoll
By A. M. Wooster.
Atty.

UNITED STATES PATENT OFFICE.

SIMON INGERSOLL, OF STAMFORD, ASSIGNOR OF ONE-HALF TO ARNOLD C. HAWES, OF NOROTON, CONNECTICUT.

GUN AND PROJECTILE FOR THROWING LIFE-LINES.

SPECIFICATION forming part of Letters Patent No. 331,792, dated December 8, 1885.

Application filed July 20, 1885. Serial No. 172,035. (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 Guns and 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.

My invention has for its object to produce an entirely novel gun and projectile for throwing life-lines, harpoons, torpedoes, and other messengers. I have in fact produced an entirely novel system of throwing lines. The great difficulty with this class of guns and projectiles as heretofore constructed has been the impossibility of getting a long range with a moderate charge of powder, coupled with the impossibility of securing reasonable accuracy at any range. These two serious objections I wholly overcome by the novel construction which I will now describe, referring by letters to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation showing the breech-piece as attached to a standard, which is driven into the ground, the projectile being in place and the parts in position for firing; Fig. 2, a longitudinal section corresponding therewith, with the exception that the breech-piece is attached to a shoulder piece or stock.

The details of the construction of the gun may be varied greatly without departing from the spirit of my invention. I have illustrated simple and practical means for carrying it into effect, which I have found thoroughly satisfactory in every respect.

A indicates the tube or gun-barrel, which is provided with a central opening, B, from end to end, to receive the firing-pin C. The sizes of the central opening and the firing-pin relatively to each other are not material features of my invention, it being simply required that the firing-pin should move freely therein without unnecessary play. The outer end of the firing-pin is preferably reduced somewhat, as shown, leaving a shoulder, D, which strikes against a corresponding internal shoulder, E, to prevent the firing-pin from being thrown out or dropping out or in any manner interfering with the throwing of the projectile. At the rear end of the gun-barrel is a recess, F, which receives the coiled spring F′. This spring bears against the base of the recess and against a head, G, at the lower end of the firing-pin, and acts to hold the latter at its retracted position, as clearly shown in both figures of the drawings.

H is the breech-piece, which may be of any desired construction. The tube or barrel is secured to the breech-piece in any suitable manner, preferably screwed thereto, as shown in Fig. 2, a screw-thread, H′, being provided for that purpose. The breech-piece is also provided with another screw-thread, H′, adapted to receive a corresponding screw-thread upon a stock, K, or standard L, so that by simply detaching the stock or standard, whichever it may be, and attaching the other part the same gun may be fired either from the ground or from the shoulder.

M is the hammer, N the trigger, and O, Fig. 1, the mainspring. These parts may be of ordinary or of any preferred construction, not being of the essence of my invention.

P is the projectile, which forms a very important part of my invention. This projectile is provided with a central opening, P′, which corresponds in size and shape with the exterior of the tube or barrel, so that the projectile is adapted to fit closely, but freely, over the outside of the tube. The outer end of the projectile is closed, preferably by a cap, I, which is provided with a screw-thread adapted to engage the projectile in any suitable manner, for example, as shown in Fig. 2. The lower end of the projectile is provided with loop R and link S, or other suitable means for the attachment to the life-line T. I preferably use the loop and link substantially as shown in the drawings, for the reason that that construction acts to prevent the line from being thrown violently against the barrel, and possibly cut at the instant of firing.

U is the cartridge.

One marked peculiarity of my invention is that the gun itself is not loaded, but the cartridge is placed within the projectile.

The cartridges may be made either of metal or of paper with metallic heads, the primer

being placed at the center, as in ordinary center-fire cartridges.

The amount of powder used and the weight of the projectile are subject to wide variations, depending, of course, upon the use to which the gun and projectile are to be placed.

I have made numerous experiments, and have found, for example, that with a cartridge containing two and a half scruples of powder I can throw a projectile weighing from three-fourths to one and a half pound with a life-line attached through a window at a distance of from two hundred and fifty to three hundred feet. For use at life-saving stations upon the sea-coast I should use a somewhat heavier projectile with a larger charge of powder, and should of course invariably fire the gun from the ground.

In both figures I have shown a guard, V, as placed upon the gun-barrel. This is not absolutely essential, but I preferably use such a guard, as it serves as a protection against powder burning at the moment of explosion, and may also serve as a support for the projectile when it is not desired that the cartridge shall be crowded to the extreme end of the projectile—that is, up against the cap.

The operations of loading and discharging are perfectly simple, and they may be instantly performed. A cartridge is placed in the opening in the projectile, and as the latter is placed over the gun-barrel the cartridge is carried forward in the projectile. The cartridges are made to fit loosely enough so that they may be readily pushed forward, but at the same time will stay in whatever position they are placed. When the hammer is retracted, spring F′ acts to throw the firing-pin to the position shown in both figures. When the hammer is released by pulling the trigger, the mainspring causes the hammer to throw the firing-pin violently forward, which explodes the primer at the base of the cartridge.

As stated above, the firing mechanism may be widely varied without departing from the spirit of my invention, the gist of which consists in the projectile, which is adapted to fit over the tube or gun-barrel and to be thrown therefrom. The shape of this projectile, however, may be varied greatly without involving a change in principle—as for example, the projectile may be made to serve as a harpoon or a torpedo, and may be used either with or without a line.

Having thus described my invention, I claim—

1. The combination of the following instrumentalities, to wit: a tube, a projectile adapted to slip on over the tube, a cartridge adapted to slip into the projectile, and a firing-pin within the tube, adapted to be driven against the cartridge to explode it.

2. In a device for throwing life-lines, a tube and a projectile adapted to slip on over the tube and provided with devices—for example, a loop and link—for the attachment of a line, in combination with a cartridge adapted to slip into the projectile, and a firing-pin within the tube for exploding the cartridge.

3. The tube and firing mechanism—for example, a firing pin and hammer—in combination with a projectile closed at its end by a screw-cap and adapted to slip on over the tube, and a cartridge adapted to slip into the projectile and be exploded by the firing-pin.

4. The projectile having a longitudinal opening closed at its outer end and a cartridge adapted to be passed into said opening, in combination with a tube over which the projectile is adapted to pass, and which is provided with a guard, V, against which the projectile rests, and firing mechanism—for example, a pin and hammer—as shown.

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

SIMON INGERSOLL.

Witnesses:
A. M. WOOSTER,
A. B. FAIRCHILD.