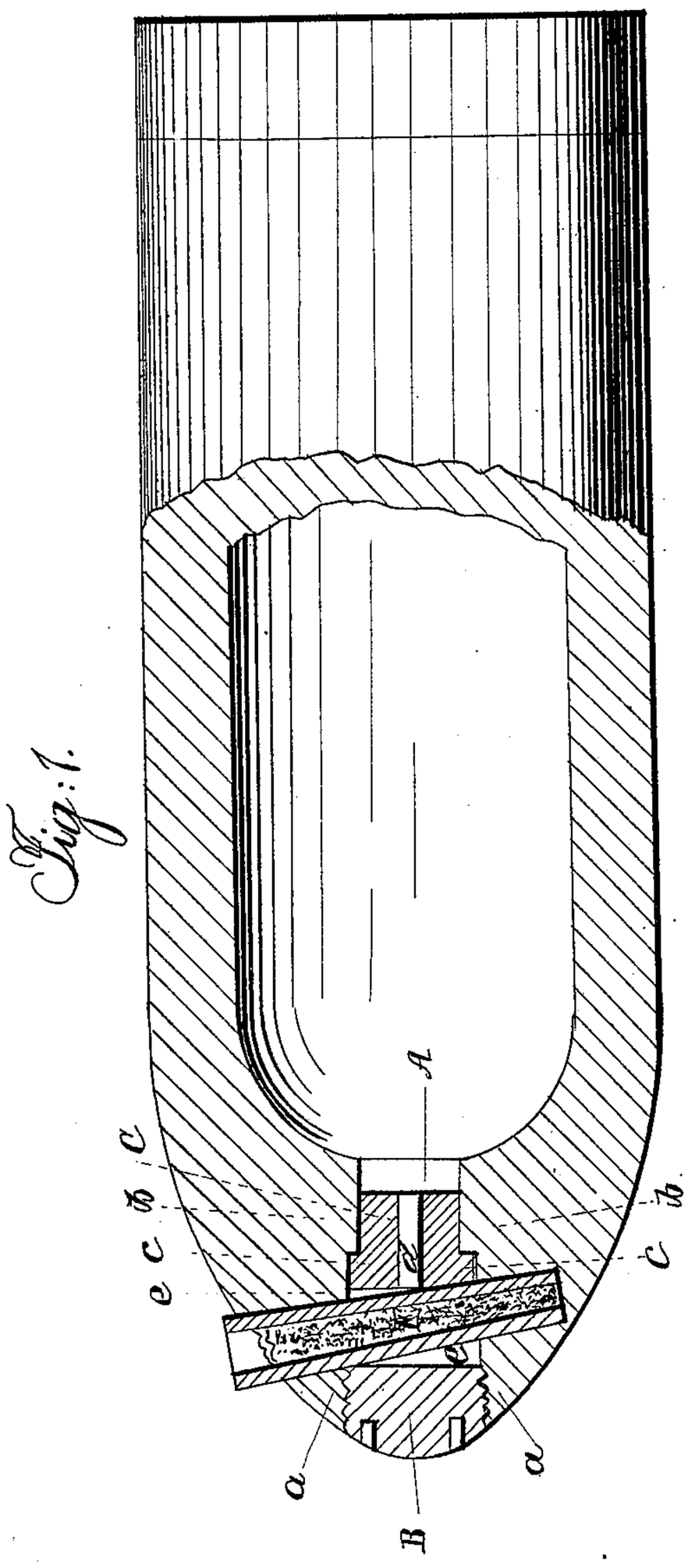
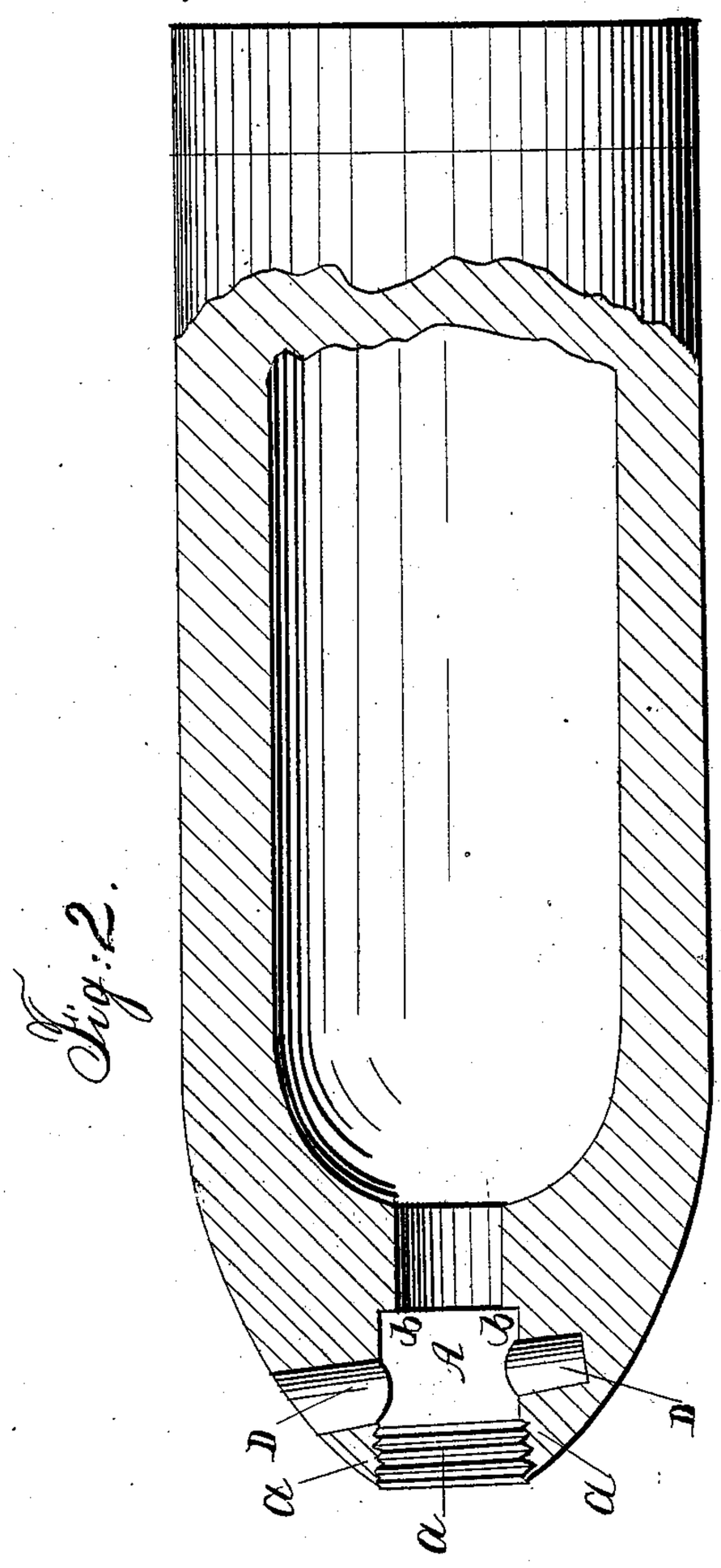
R. P. PARROTT.

Shell-Fuse.

No. { 2,658, 33,662 }

Patented Nov. 5, 1861.





Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT P. PARROTT, OF COLD SPRING, NEW YORK.

IMPROVEMENT IN APPLYING FUSES TO SHELLS.

Specification forming part of Letters Patent No. **33,662**, dated November 5, 1861.

To all whom it may concern:

Be it known that I, ROBERT P. PARROTT, of Cold Spring, in the county of Putnam and State of New York, have invented a new and Improved Mode of Applying Fuses to Explosive Projectiles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of an elongated shell charged, and having its fuse applied according to my invention. Fig. 2 is a similar section of the shell without the fuse and its appendages.

This invention is more especially intended for the explosive projectiles of elongated form usually thrown from rifled cannon, and which move with the point forward; and it has for its principal object to make the fuse serve either as a "time-fuse" or a "percussion-fuse," as may be desired, the fuse employed being the paper fuse commonly used in shells, or of any other suitable kind, and the use of fulminates being dispensed with. The said invention consists in providing in the metal of the projectile, on each side of the hole commonly known as the "fuse-hole," a hole for the reception of the fuse, intersecting or meeting the first-named hole in a transverse section. In connection with this transverse hole for the reception of the fuse, I employ in the first-mentioned hole, to effect the explosion of the projectile by percussion, a movable plug, plunger, or other piece of metal suitably applied to break the fuse when the projectile strikes, so that the fire from the fuse, which is ignited by the fire of the charge of the gun, may communicate with the charge of the projectile; but this plug or piece may or may not be omitted when the fuse is to be used as a time-fuse.

To enable others skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

The aperture A at the point of the projectile, commonly known as the "fuse-hole," has a screw-thread, *a*, in its front part, for the reception of a screw-plug, B, and has a shoulder, *b*, some distance farther back, to serve as a resting-place for the flange *c*, formed on the plunger C, which is fitted to the back part of the aperture. The transverse hole D, which constitutes the principal feature of my invention, is drilled obliquely to the hole A through the metal on one side of the said hole and into the metal on the opposite side thereof. I prefer to make this hole D of taper form, and I so arrange it between the position occupied by the screw-plug B and that occupied by the plunger C that the fuse E may be inserted in it and across the hole A, as shown in Fig. 1, and that the screw-plug, when home, will just press upon the paper case of the fuse, and so secure it. The fuse E should be left protruding far enough to be ignited by the fire from the discharge of the gun. Before screwing down the plug the space *e e*, surrounding the fuse between the plug B and plunger C, should be filled with gunpowder or quick-match, for the purpose of communicating the fire of the fuse to the charge of the shell, the communication being made through a hole or holes, *d*, provided for the purpose in the plunger C. When the shell is to be exploded on striking any object, the paper case of fuse need not be perforated preparatory to its insertion in the hole D, for on the projectile being arrested the momentum which the plunger C has acquired will carry it forward against the fuse, which was ignited by the discharge of the gun, and cause it to crush and break the case thereof, and so permit the fire to reach the charge in the projectile. The tube may be crushed in the same way by the driving in of a plug occupying the position of B, dispensing with the plunger C. When the fuse is to be used as a time-fuse, its case is perforated at a suitable distance from the end for the fire to reach the charge of the shell at the proper time. In this mode of using it the plunger may be omitted, though its being allowed to remain would not be in any way detrimental to the action of the fuse.

The convenience of being enabled to use the same fuse as a time or percussion fuse will be readily appreciated; and another great advan-

tage of my invention is the safety which results from dispensing with the use of fulminates.

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

1. The combination, with an aperture leading to the interior of the shell, of a transverse hole or passage, D, for the reception of the fuse, substantially as herein described.

2. The combination, with the transversely-inserted fuse, of a plunger, C, applied and operating substantially as and for the purpose herein specified.

ROBERT P. PARROTT.

Witnesses:
G. PAULDING,
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