

J. P. Schenkl.

Shell Fuse.

N^o 2491.

Patented Oct. 15, 1861

33495.

Fig. 1.

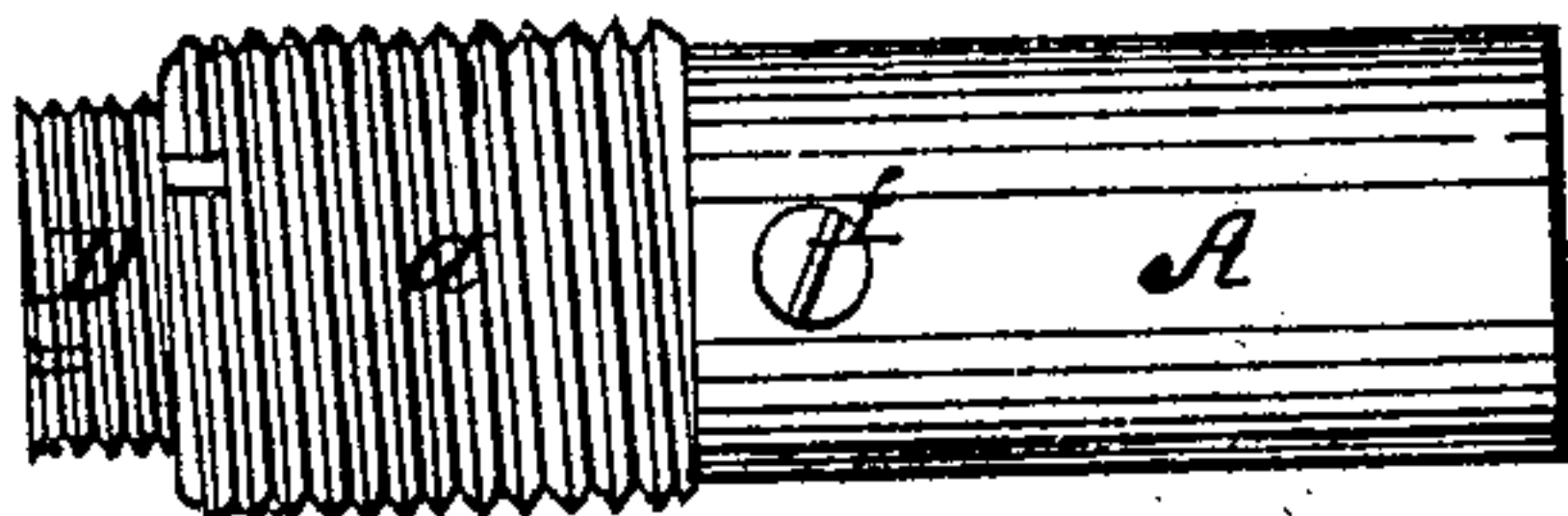


Fig. 2.

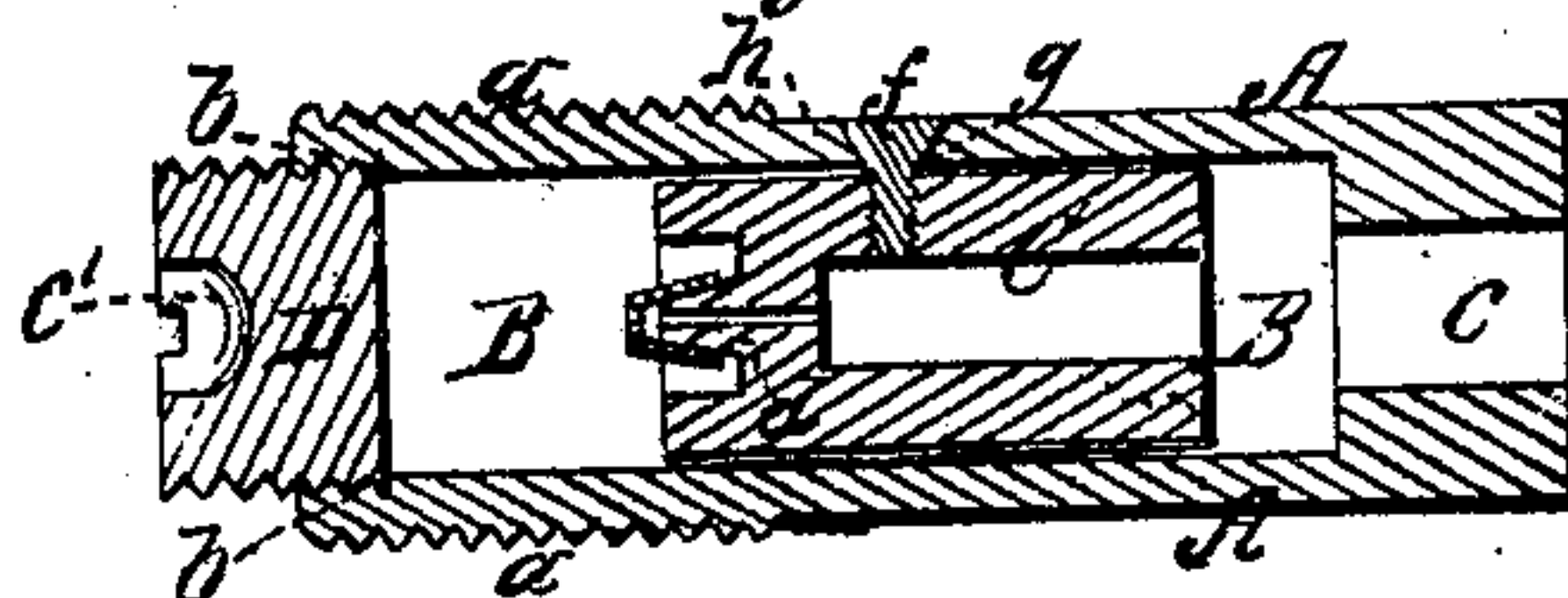


Fig. 3.



Fig. 5.

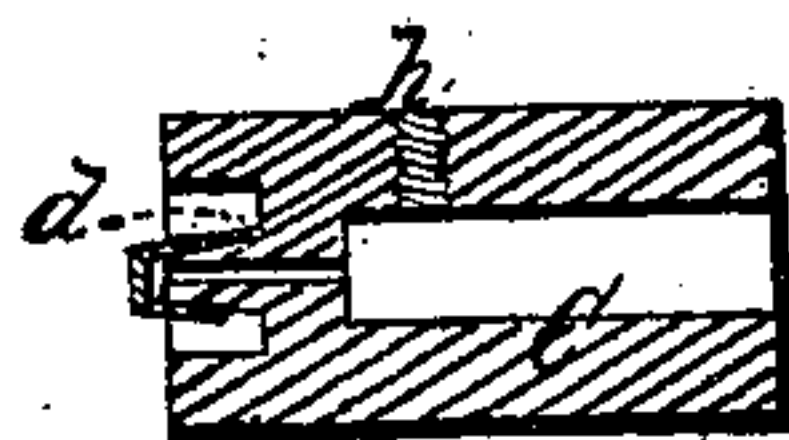


Fig. 4.



Witnesses.

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IMPROVEMENT IN SAFETY CONCUSSION-FUSE FOR EXPLOSIVE PROJECTILES.

Specification forming part of Letters Patent No. 33,495, dated October 15, 1861.

To all whom it may concern:

Be it known that I, JOHN P. SCHENKL, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in the Safety Concussion-Fuse for Projectiles to be Discharged from Ordnance; and I do declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a side elevation, and Fig. 2 a longitudinal and vertical section, of the said fuse. Figs. 3 and 4 are end views of the plug or anvil.

It is a fact well known to artillerymen and those skilled in the use of ordnance that a good and reliable fuse for a projectile or shell, one which is safe for transportation and free from defect, is a desideratum which has long existed. To supply this want has been the object of my invention, the nature of which consists in the peculiar application of the nipple or percussion-cap carrier to the inner wall of the case, so that when liberated by the explosion of the powder-charge in the piece, it shall always be left perfectly free to move in the case, and when such projectile shall strike against any hard substance or object, the force of the concussion shall cause the cap to explode and fire the powder contained in the projectile or shot.

In the drawings, A denotes the body of the fuse, which is of a cylindrical form, and has a male screw, *a*, cut upon one end thereof. This screw is intended to screw into a female screw formed in the head of the projectile. Within the said body, a chamber, B, is formed for reception of the nipple-carrier C, one end of such chamber having a female screw, *b*, cut on its inner surface, the said screw receiving an abutting plug or anvil, D, as shown in the drawings. The other end of the said chamber communicates with a passage, *c*, extending through the body and opening into the powder-charge of the projectile. The said nipple-carrier is of cylindrical shape, and has a nipple or projection, *d*, formed on or applied to one of its ends, as seen in Fig. 5, which denotes a longitudinal section of the said nipple-carrier. This nipple-carrier is made of a diameter somewhat smaller than the bore of the chamber, so that it may slide easily in the said chamber when detached from the walls of the case or body

A by the discharge of the projectile from a piece of ordnance. This nipple-carrier is maintained in its position, prior to being discharged, by means of a screw, *f*, which passes down through a hole, *g*, formed through the case A, and into another hole, *h*, formed transversely through the nipple-carrier, as seen in the drawings. The hole or passage *h* has a female screw on its inner surface, the same operating in conjunction with the screw *f* to retain the nipple carrier or striker in close contact with one side of the wall of the chamber, so as to prevent any explosion during either transportation of the projectile or a fall of it upon the ground or other object; and, besides, in order to prevent all liability of discharge of the fuse during transportation, I form a cylindrical chamber, *e*, in one end of the plug or block D, such chamber having a diameter and depth considerably larger than those of the percussion-cap, so that should the nipple-carrier by any accident become disengaged from the case and be forced forward such cap could not strike against the block and be exploded. When ready for use, the smooth face of the block should be placed inward. Furthermore, the hole *g* is countersunk through the case A, which receives the head of the said screw *f*, so that the screw may not only be readily cut off by the force of the explosion, but be sheared off even with the surface of the striker or nipple-carrier, thus leaving the latter free to move in the case A.

I am aware that the general idea of securing the striker in position so that it shall only be liberated by the force of the explosion acting against a projectile is not new; but the method heretofore adopted to secure this result, as in the Armstrong concussion-fuse, is to pass a pin through both the walls of the case and the nipple carrier or striker. But this method is seriously defective, as I have found by practical experience, for the pin not being always cut off even with the surface of the nipple carrier or striker and the bore of the case, its ends project therefrom, and catching upon each other prevent or impede the forward movement of the striker, and of course often prevent the explosion of the projectile. My invention completely obviates this difficulty, as the screw used by me passes through but one wall of the case and into the striker, and as the nipple or percussion carrier is

drawn closely up against the wall of the case by the screw, when such nipple-carrier is liberated by the force of the powder-charge in the piece, such screw is certain to be cut off even with the bore of the case A and the surface of the nipple or percussion carrier, and thus leaves the latter perfectly free to move in the case, and causes the cap placed upon the nipple to be exploded when the projectile, after being discharged, strikes against any hard body or material.

My improved fuse, after being charged, is intended to be screwed into the head of a projectile. In charging the said fuse, the bore of the nipple-carrier is to be filled with powder and firmly pressed in, and next a cap is to be placed upon the nipple, and the said passage c, which communicates with the powder of the projectile, is to be supplied with powder and

properly secured, and, finally, the said nipple-carrier is to be secured in close contact with the bore of the case by means of the screw f, in manner as set forth.

I claim—

Securing the nipple-carrier to one side of the inner wall of the case by means of a screw, and so countersinking the hole made through the case for the reception of such screw, as to form a sharp cutting-edge, whereby the said screw shall be cut off smooth with the inner surface of the case and the outer surface of the nipple-carrier, in manner and under circumstances as set forth.

JOHN P. SCHENKL.

Witnesses:

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