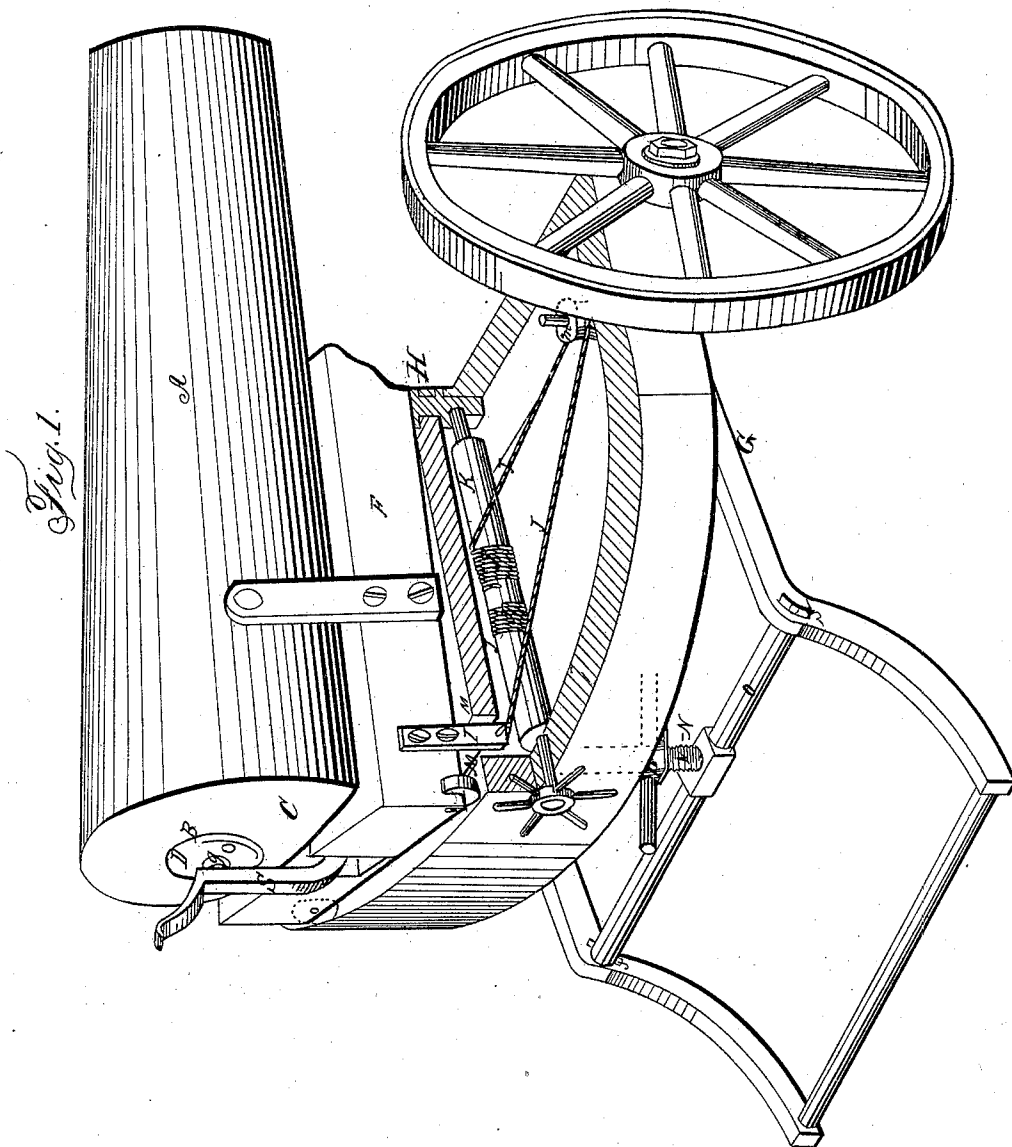


T. FOWLDS.
Locks for Ordnance.

No. 35,148.

Patented May 6, 1862



Witnesses.
Gustavus Osterich
E. Jacob

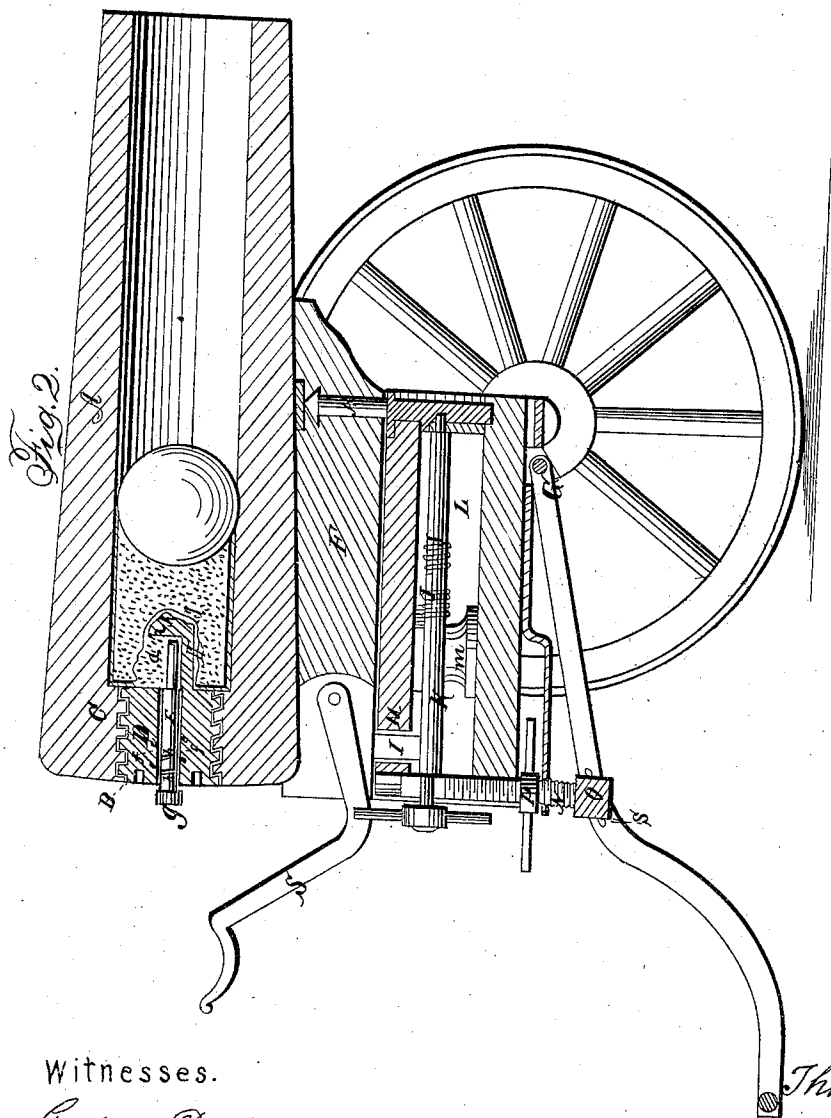
Inventor.
Thomas Fowlds
by
Mason Fenwick & Laurence

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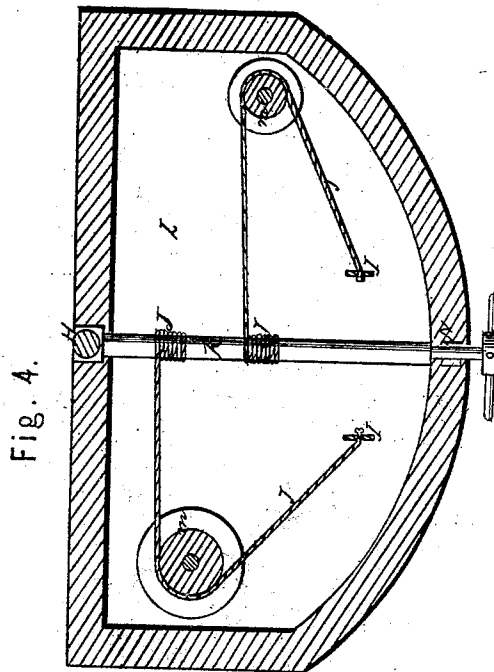
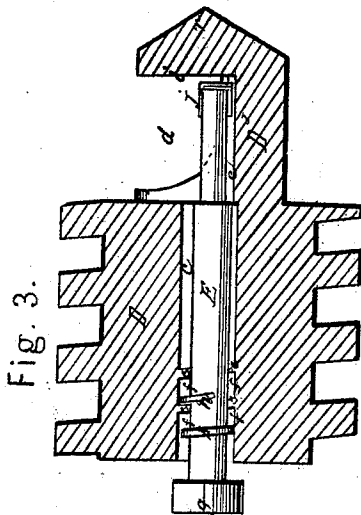
Thomas Fowlds
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Madon, Penneck & Lawrence
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UNITED STATES PATENT OFFICE.

THOMAS FOWLDS, OF TREVORTON, PENNSYLVANIA.

IMPROVEMENT IN ORDNANCE.

Specification forming part of Letters Patent No. 35,148, dated May 6, 1862.

To all whom it may concern:

Be it known that I, THOMAS FOWLDS, of Trevorton, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Improvement in Ordnance; 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 perspective view of a cannon as improved by me and mounted. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a section of the percussion breech-piece detached from the cannon. Fig. 4 is a horizontal section of the carriage on which the cannon is mounted.

The same letters of reference in the several figures of the drawings indicate corresponding parts.

The leading idea of my invention is to locate the cap-nipple within the charge-chamber of the cannon, and when so located to effect the pricking of the cartridge by means of the stem of the screw-pin in which the nipple is fitted, and also to effect the explosion of the cap and the charge by percussive action, the blow being applied outside of the chamber of the cannon. Another feature of my invention relates to the mounting and adjusting of the cannon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a muzzle-loading cannon, with a circular hole, B, of about one inch and a half diameter bored through the center of its breech C. This hole is screw-threaded, as shown at a in Fig. 2.

D is a screw-pin of the same diameter as the hole B, and screwed into the same. This pin has a small short stem, D', on its front end, said stem being pointed, as at r. The screw-pin and the stem are hollow, the passage c of the same extending from the outside end of the screw-pin D to near the pointed end of the stem, at which latter point a passage, d, running at right angles to the passage c, is cut in the stem, said latter passage communicating with the charge-chamber of the gun, as shown in Fig. 2. In the circumference of the passage c of the screw-pin a short screw, e, is cut, the width of the grooves f between the screw-

threads thereof being much greater than the width of the screw-threads which are intended to work in them.

E is what I term a "solid moving percussion-cap nipple." It is a very little longer than the depth of the passage c of the screw-pin, and of a little less diameter than the same. This nipple has its rear end enlarged into a head, g, and just a little forward of said head two or more screw-threads, h, are cut on its circumference, said threads being much narrower than the grooves f f of the screw-thread e, so as to play freely in the same. The nipple E enters the passage c, and extends to the shoulder i at the inner termination of the passage. In forcing the nipple toward the shoulder i previously to applying a blow to its headed end, several revolutions must be imparted to it in order to make its screw-threads gear with the screw-threads of the screw-pin, as shown plainly in Figs. 2 and 3. On the inner end of the nipple a percussion-cap, j, is placed just before the cannon is fired.

From the description thus far given it will be seen that if a cartridge is forced into the cannon from the muzzle end the sharp point of the stem of the screw-pin will prick the end of the cartridge and very perfectly loosen and expose the powder in the rear end thereof. It will further be seen that if a "smart" blow is applied to the headed end of the nipple it will move longitudinally a sufficient distance to explode the cap against the shoulder i of the stem of the screw-pin, the grooves f of the screw-threads e, by reason of their width, allowing of this movement of the nipple. It further will be seen that when the cap explodes its fire has a free chance, through the passage d, to communicate with the powder of the pricked cartridge, and thus produce an explosion of the charge. It should be particularly noticed here that, while the nipple has a chance to play sufficiently to explode the cap, it cannot be blown out of the cannon unless it first be stripped of its screw-threads. It should also be noticed that the cannon, by having its nipple within the charge-chamber, cannot be readily spiked by the enemy, and while this security is attained the gunners, in case of necessity for retreat and an impossibility of their taking the gun along with them existing, can, either by withdrawing the cap-nipple or the screw with nipple at-

tached, render the cannon unfit for immediate use so far as the enemy is concerned.

The cannon thus constructed is strapped on a block, F, and said block is attached at its front end to a carriage, G, by means of a vertical pivot, H, and at its rear end it connects by means of hangers I I to windlass-cords J J, said cords passing in opposite directions as they lead from the longitudinal windlass-shaft K around pulleys *m m*, and attaching to the hangers. The windlass-shafts, the cords, and the pulleys are located within a box, L, of the carriage, said box having a segment-slot, M, in its top, near the front end, for the hangers to play in as the cannon swivels or turns in the path of a horizontal circle. It will be evident that if the windlass-shaft is turned by the hand-wheel on its front end to the right the muzzle end of the cannon will be turned in the path of a horizontal circle to the left, and vice versa if the windlass-shaft is turned to the left. The simplicity of these means for swiveling the cannon over other means in use will, I think, commend their adoption.

For adjusting the carriage with the cannon upon it in the path of a vertical circle, a vertical screw, N, is projected up from a self-adjusting cross-bar, O, of the carriage, said screw being forked at its upper end, so as to pass up into the box of the carriage and on opposite sides of the windlass-shaft, as shown. On the screw an adjusting hand-nut, P, is fitted, said nut being strapped loosely to the under

side of the box of the carriage. The cross-bar of the carriage has its ends fitted in curved slots S S, so that when the box or bed of the carriage with cannon upon it is adjusted in the path of a vertical circle the tendency of it to draw the screw out of a perpendicular line shall be compensated for, and thus binding be prevented.

In order that the nipple E shall not have its screw-threads strained unduly when an explosion takes place, a strong guard or retaining device, S, is arranged to bind against it, as shown in Fig. 1, the blow to explode the cap being transmitted by said guard to the nipple.

Having thus set forth the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the narrow screw-threads *h* of the cap-nipple and the wide screw-grooves *f* of the screw-pin D with a cannon, substantially as and for the purposes set forth.

2. The combination of the sharp point *r* with a hollow screw-pin, D D', substantially as and for the purpose set forth.

3. The combination of the shoulder *i* and passage *d* with a hollow screw-pin, D D', substantially as and for the purpose set forth.

THOS. FOWLDS.

Witnesses:

GUSTAVUS DIETERICH,
L. S. WEAVER.