

A. F. POTTER.
Gun Carriage.

No. 107,099.

Patented Sept. 6, 1870.

Fig. 1.

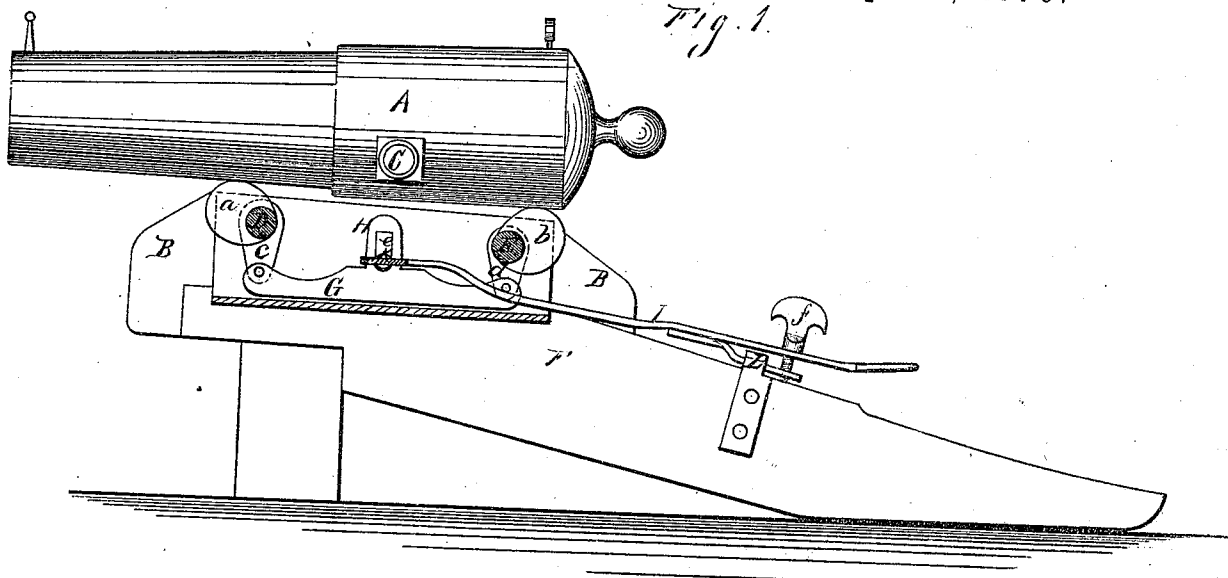
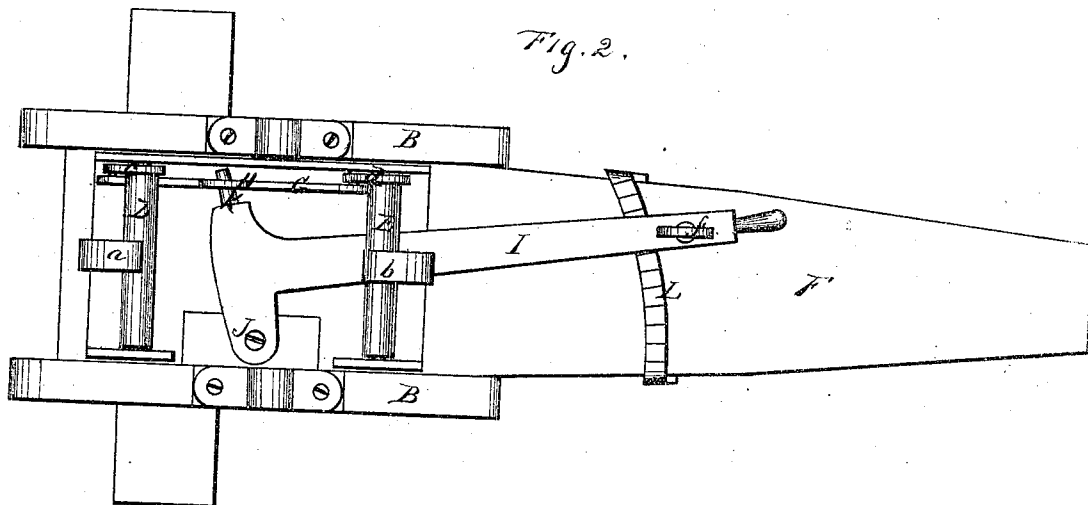


Fig. 2.



Witnesses.
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ABIATHER F. POTTER, OF OAKLAND, CALIFORNIA.

Letters Patent No. 107,099, dated September 6, 1870; antedated August 27, 1870.

IMPROVEMENT IN GUN-CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, ABIATHER F. POTTER, of Oakland, county of Alameda, State of California, have invented an Improved Device for Operating Heavy Guns; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention and improvements, without further invention or experiment.

My invention relates to the training and operating of heavy guns, and more especially to a device for elevating and depressing the gun, so that any given range may be obtained and kept, the gun not requiring chocks when it is to be removed from place to place, as in the case of artillery, there being no trail-screw to be damaged by the weight of the gun, or to run down, and cause delays in again getting range.

It also has for its object the application of a graduated scale, calculated in connection with the working parts, so that, the range being known or estimated, the gun can be instantly trained upon the point with certainty.

These objects are effected by means of cams or eccentrics, mounted upon transverse shafts beneath the gun, so that, by means of a series of levers operating them, the angle of the gun can be changed.

The lever through which the power is applied moves over a graduated arc, which shows the different angles of elevation or depression from which the range, with a given charge, may be estimated, and it can be held at any point by a set-screw.

Referring to the accompanying drawing for a more complete explanation of my invention—

A is a gun, mounted upon a carriage, B, by means of trunnions, C.

Beneath the gun two strong transverse shafts, D and E, are supported by the sides of the carriage, or they may have a separate frame secured to the trail F.

These shafts have their cams *a* and *b* secured to them at such points as to be directly beneath the gun, and their shape is such that the gun rests on both, in whatever position they stand.

At one end of the shafts D and E are cranks or levers *c* and *d*, which project downward, and have their lower ends united by a bar, G.

The center of this bar is made with a projecting arm, H, which has a vertical slot, *e*, made through it.

The operating lever is in the form of a T, the shank I extending down along the trail of the gun, and one arm, J, is pivoted at the end near the side of the carriage.

The other arm, K, has its end fitted to enter the slot *e*, so that, by moving the long arm I from side to side, the arm K moves the bar G, and this, in turn, operates the crank-levers *c* and *d* back and forward, thus rotating the shafts D and E. This latter movement turns the cams *a* and *b*, and, by their action, the gun is moved on the trunnions, so as to change its angle or elevation.

An arc, L, is fixed to the trail, and the lever I is at that point made in two parts, so that one passes above and the other below the arc. The two, being united by a screw, *f*, can be clamped so as to effectually secure the gun in any desired position.

The range of the gun being ascertained at the different elevations, the arc L is marked in accordance, and, if the distance of an object is properly estimated, the gun can be accurately trained upon it, and will remain in that position as long as desired, not being liable to change, as when a trail-screw is used.

The cams, being in contact with the gun, steady it, and it will not be necessary to chock it when it is to be removed, nor will time be taken to train it again, as it always remains in the position where it is left.

When a trail-screw is used, it is allowed to run down in moving about, so that it will not be strained or subjected to the weight of the gun, which is then steadied by chocks, and, when a new position is taken up, some time is lost in again obtaining the range.

This is all avoided by the use of my apparatus, which is simple and not liable to become disarranged.

Having thus described my invention,

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

1. In a gun-carriage, the cams *a* and *b*, for adjusting the gun to the proper elevation or inclination, arranged to operate substantially as described.

2. The combination of the T-shaped lever I, crank-levers *c* and *d*, and connecting-bar G, with the shafts D and E for operating said cams, substantially as specified.

3. In combination with the operating device above claimed, the horizontal graduated arc L, substantially as and for the purpose specified.

4. The combination, with the lever I and arc L, of the clamping-screw *f*, arranged to operate substantially as described.

In witness whereof I have hereunto set my hand and seal.

ABIATHER F. POTTER. [L. S.]

Witnesses:

GEO. H. STRONG,
WM. R. BOONE.