(No Model.) 2 Sheets—Sheet 1.

A. NOBLE.

CARRIAGE OR MOUNTING FOR QUICK FIRING GUNS.

No. 413,241. Patented Oct. 22, 1889.

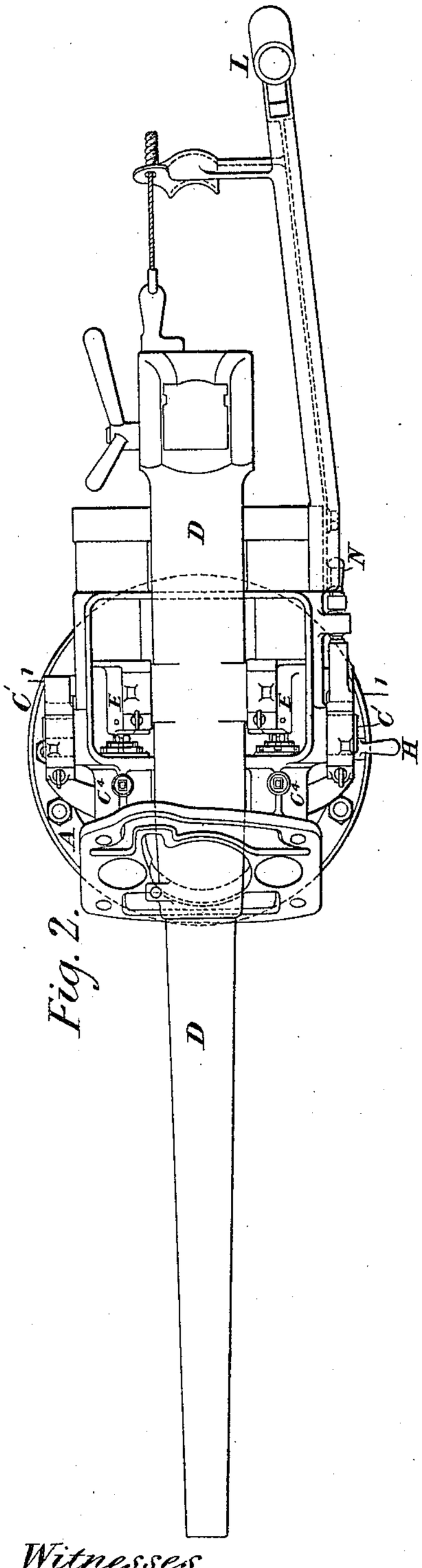

Fig. 2.

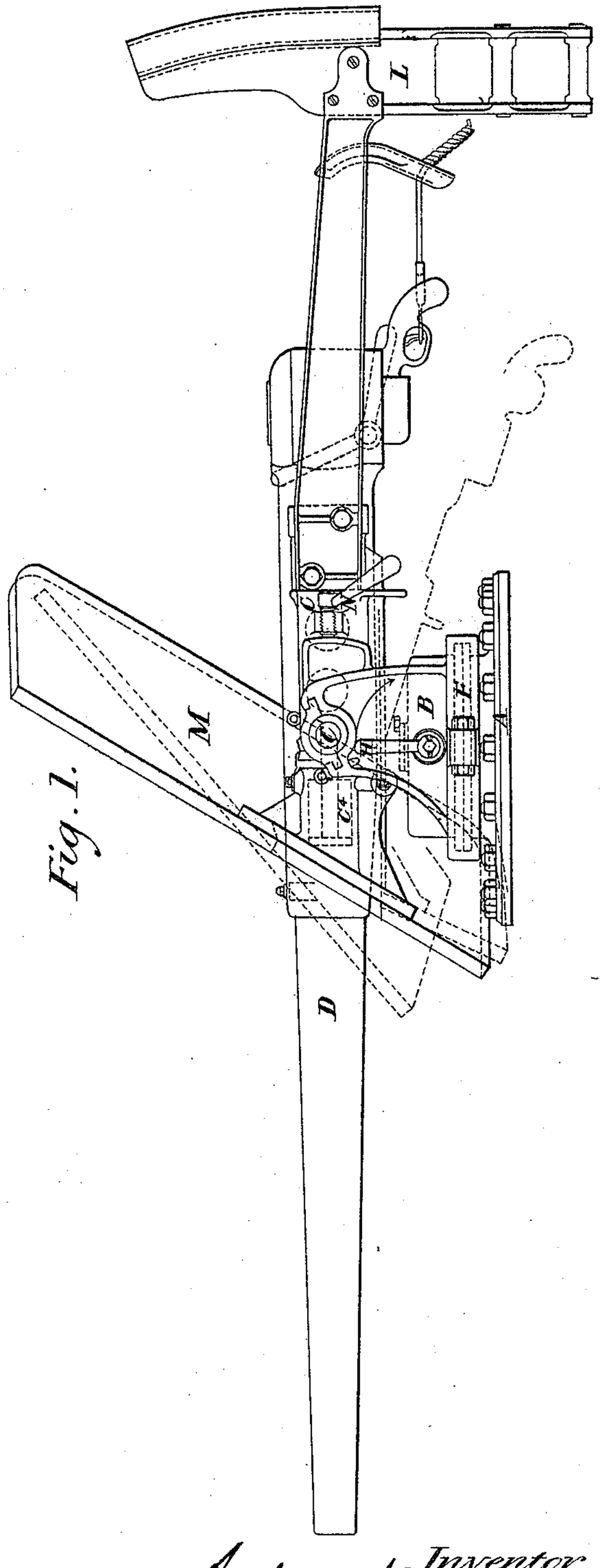

Fig. 1.

Witnesses
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

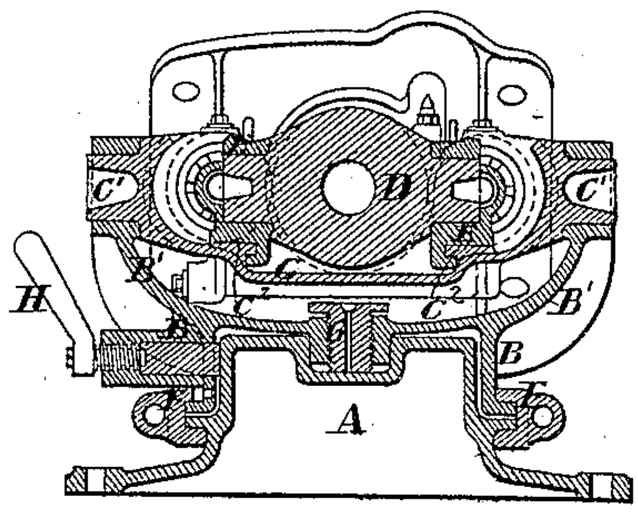


Fig. 3.

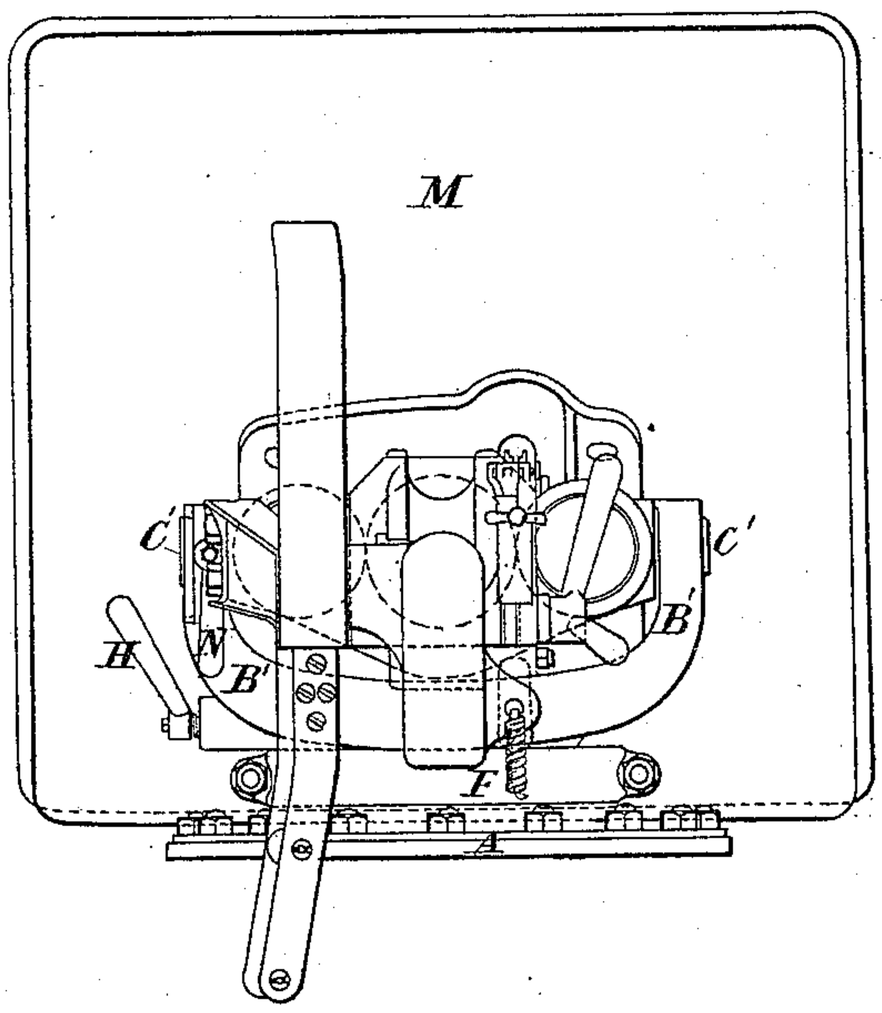
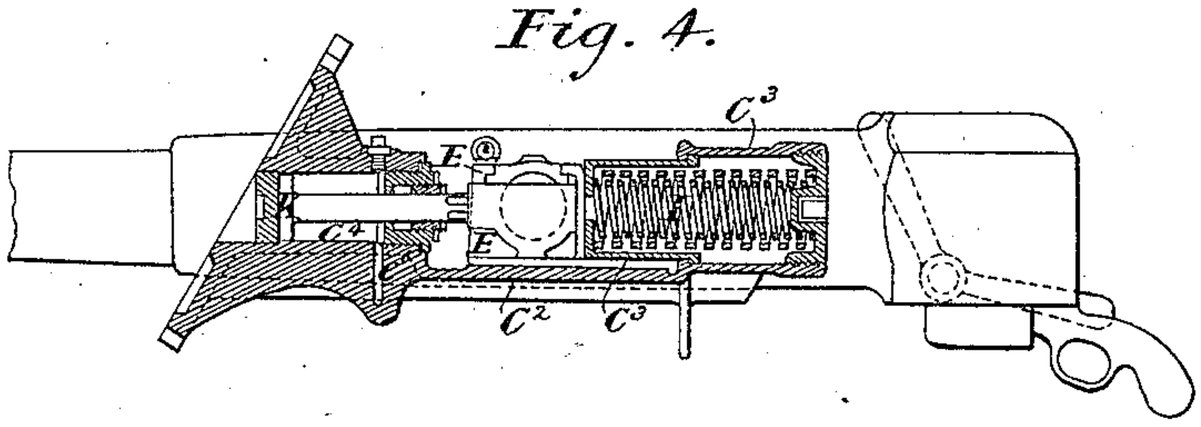


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW NOBLE, OF NEWCASTLE-UPON-TYNE, ENGLAND, ASSIGNOR TO W. G. ARMSTRONG, MITCHELL & CO., (LIMITED,) OF SAME PLACE.

CARRIAGE OR MOUNTING FOR QUICK-FIRING GUNS.

SPECIFICATION forming part of Letters Patent No. 413,241, dated October 22, 1889.

Application filed April 11, 1887. Serial No. 234,390. (No model.) Patented in England October 23, 1885, No. 12,730.

To all whom it may concern:

Be it known that I, ANDREW NOBLE, manufacturing engineer, and late captain in the Royal Artillery, of Jesmonddene House, Newcastle-upon-Tyne, England, a subject of the Queen of Great Britain, have invented certain new and useful Improvements in Carriages or Mountings for Quick-Firing Guns, (for which I have received Letters Patent in Great Britain, No. 12,730, dated October 23, 1885,) of which the following is a specification.

The invention relates to carriages or mountings for guns to be aimed by the aid of a lever which projects to the rear and is furnished with a shoulder-rest and hand-grip by which the gunner directs the piece and the same man fires the gun when the aim has been obtained by pulling a trigger by the aid of a cord or otherwise. On a base or suitable support there is fixed a pivot-piece consisting of a hollow cylindrical casting closed at the top and bolted to the base by a flange around it at its lower end. This pivot-piece receives upon it another casting provided with two arms, on which are bearings receiving the trunnions of a slide-frame in which the gun is able to move longitudinally the distance necessary for the recoil. The pivot-piece and the casting which it supports are provided with flanges, and these are held together by a clip-ring made in two parts and bolted together at parts diametrically opposite. In the top of the pivot-piece there is a central recess cylindrical in form, and this receives a corresponding boss or pivot projecting from the under side of the upper casting. A screw-plug passes down through the boss and abuts upon the bottom of the cavity in the pivot-piece. When this plug is suitably set, the upper casting can turn freely on the lower casting or pivot-piece, moving truly and without shake. The gun can thus be trained in any desired direction, and, if desired, the upper casting can then be locked to the pivot-piece by means of a pinching-screw, which forces a block against the cylindrical side of the pivot-piece. The gun itself is provided with trunnions, and these are received into bearings which can move upon the trunnion-frame or gun-slide. The recoil is controlled by a pair of coiled springs arranged on either side in rear of these trunnion blocks or bearings and between them and abutments upon the gun-slide. From the trunnion blocks or bearings on either side a piston-rod projects forward, and it carries a piston which works in a cylinder provided to receive it in the fore part of the gun-slide. The two cylinders are connected by a passage passing transversely across the gun-slide beneath the gun to equalize the pressure in the two cylinders. There are suitable ports or passages by which, when the recoil takes place, the liquid in the cylinder passes from one side of the piston to the other, and when the recoil is spent the springs bring the gun forward again to the firing position. The gun-slide terminates in front in a face, upon which a shield of armor-plate is bolted for the protection of the gunners. The trunnions of the gun-slide are at the center of gravity of the gun and shield, so that the gunner by the aid of the shoulder-rest is able to move the whole, including the shield, when aiming. A pinching-screw is provided to lock the gun-slide to its support when desired.

In order that my said invention may be most fully understood and readily carried into effect, I will proceed to describe the drawings hereunto annexed.

In the drawings, Figure 1 is a side elevation showing a gun carriage or mounting constructed in accordance with my invention, with buffer-cylinders and recoil-springs on the slide-frame on each side of the gun. A quick-firing gun is shown in place upon the carriage. Fig. 2 is a plan of this carriage or mounting. Fig. 3 is an elevation of the gun and carriage as seen from the rear. Fig. 4 is a transverse section taken through the trunnions of the slide-frame and of the gun. Fig. 5 is a section on the line 1 1 in Fig. 2.

A A is the upper part of the pivot-piece, and B is the casting which the pivoted piece receives upon it. It has arms B′ B′, on which are bearings receiving the trunnions C′ C′ of the slide-frame C.

D is the gun. It has projections or trunnions upon it, which are received into bearing-blocks E E, and these are able to travel

along guide-surfaces C^2 C^2, provided for them on the slide-frame C.

F is a clip-ring which holds together the parts A and B, but in such manner that B can turn freely upon A.

G is a screw-plug in the part B, which can be set down into a recess in the part A, and this screw-plug can be adjusted so that while the movement of B upon A takes place with sufficient freedom it does so without shake.

H is a pinching-screw for locking the part B fast upon A to maintain the gun in position when laid upon an object for as long as may be desired.

In rear of the blocks E E a spring-box C^3 is provided. It contains coiled springs I, which are compressed when the gun recoils. The springs have an abutment upon the rear end of the spring-box, which in effect forms a part of the slide-frame C. In connection with the same frame also, and at its fore end, hydraulic buffer-cylinders C^4 are formed, one on either side. These contain pistons K, which are attached by their rods to the blocks E.

C^5 is a passage connecting the two buffer-cylinders to equalize the pressure in them.

L is a shoulder piece or stock attached to the slide-frame C. By the aid of it the gun is directed.

M is a shield fixed upon the slide-frame C and movable with it.

N is a pinching-screw for locking together the parts B and C when required to prevent change taking place in the elevation of the gun.

The breech-loading arrangement of the gun and the firing mechanism may be of any suitable construction. The gun represented by the drawings is of a well-known type.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

In a carriage or mounting for a quick-firing gun, a pivoted support carrying by trunnions a frame provided with guide-surfaces along which blocks attached to the gun slide, and provided, also, with springs in rear of the blocks, and pistons working hydraulic buffer-cylinders in front of them, substantially as described.

A. NOBLE.

Witnesses:
WM. JOHN GREY,
T. PURVIS.