

(No Model.)

2 Sheets—Sheet 1.

A. NOBLE.
RECOIL MOUNTING FOR ORDNANCE.

No. 377,326.

Patented Jan. 31, 1888.

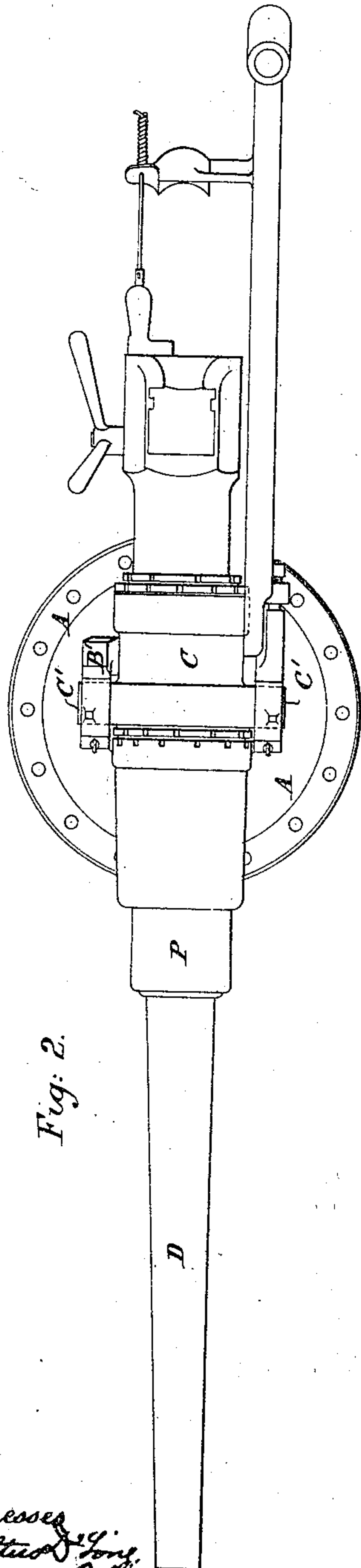


Fig. 2.

Witnesses
Baltus J. Long
Lloyd B. Light

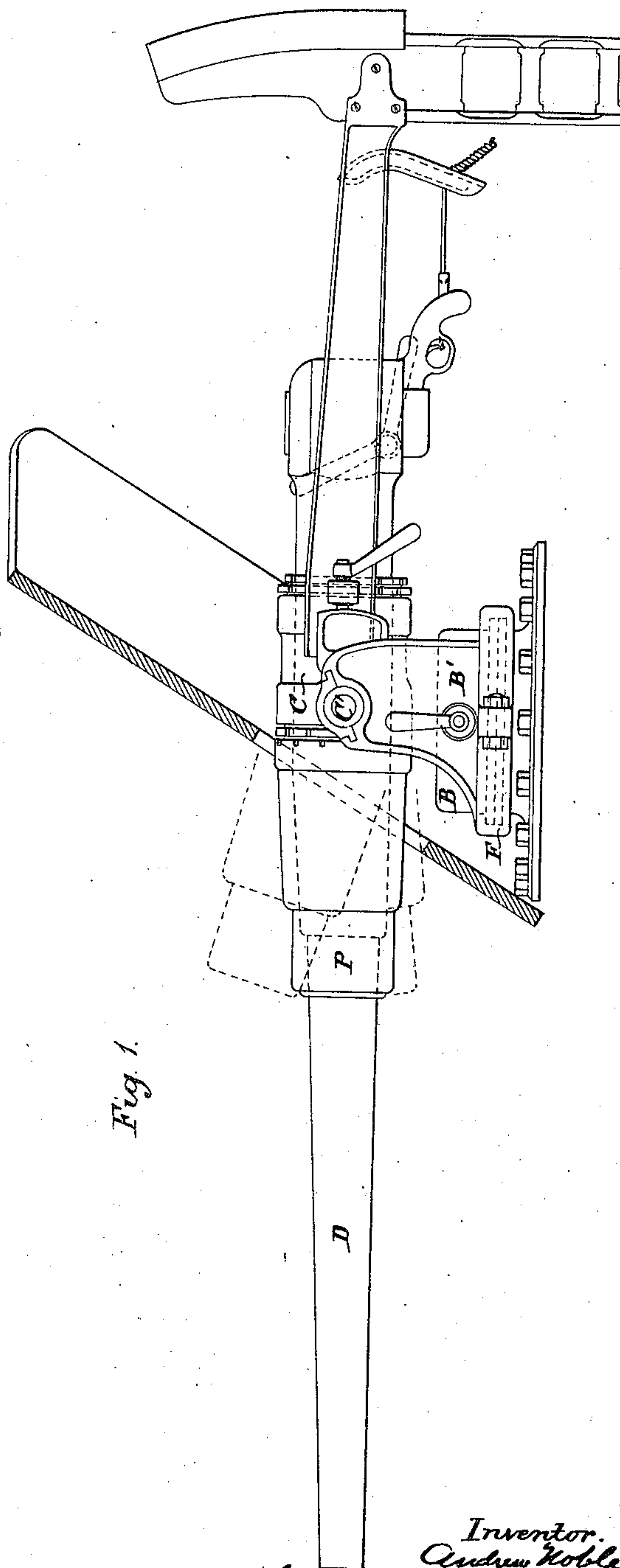


Fig. 1.

Inventor.
Andrew Noble
by his attys
Baldwin Hopkins & Weston

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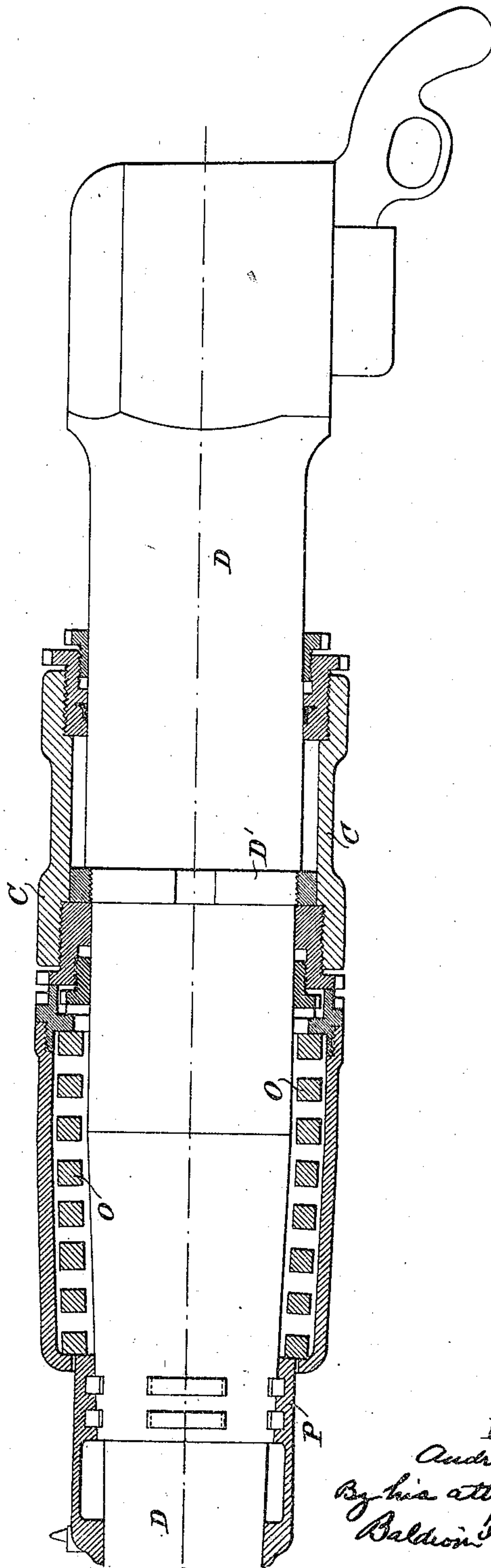
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Fig. 3.



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Baltus D. Long.
Lloyd B. Night

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Baldwin & Weston

UNITED STATES PATENT OFFICE.

ANDREW NOBLE, OF NEWCASTLE-UPON-TYNE, ENGLAND.

RECOIL-MOUNTING FOR ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 377,326, dated January 31, 1888.

Application filed December 1, 1887. Serial No. 356,652. (No model.) Patented in England October 23, 1885, No. 12,730.

To all whom it may concern:

Be it known that I, ANDREW NOBLE, late captain in the Royal Artillery, a subject of the Queen of Great Britain, residing at Jesmond-dene House, Newcastle-upon-Tyne, England, manufacturing engineer, 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 carriage or mounting is formed of a base or suitable support, to which is pivoted a casting formed with two arms, on which are bearings receiving the trunnions of a cylinder through which the gun passes. The gun has a piston-ring fixed upon it within this cylinder, and it is of somewhat larger diameter in rear of the piston-ring than in front of it. The cylinder is charged with oil and it forms a hydraulic buffer by which the recoil of the gun is in part controlled. As before, there are passages by which the oil or liquid passes from one side of the piston to the other during recoil. A coiled spring surrounds the gun in front of the cylinder above described. It is contained in a case, and the spring abuts upon the rear part of the case, and this in turn abuts against the cylinder-cover. The fore part of the gun in front of the spring has a cap applied to it by means of a bayonet-joint. This cap abuts on the fore end of the spring, so that when the gun recoils the spring is compressed. After the recoil the spring brings back the gun to the firing position. The hydraulic buffer controls these movements.

Figure 1 of the drawings is a side elevation of a gun carriage or mounting constructed as above described. Fig. 2 is a plan view of the carriage. Fig. 3 is a longitudinal section of the parts immediately around the gun.

A is the upper part of the pivot-piece supporting the casting B, with which it is connected by a clip-ring, F. The slide-frame C is of a cylindrical form. It has trunnions C', and these are received into bearings on the arms B'. The gun D passes through the slide-frame, the interior of which forms the buffer-cylinder. The exterior of the gun within the slide-frame is cylindrical and of two diameters, and it has upon it a piston-ring, D'. The ends of the slide-frame or buffer-cylinder are closed by packed glands containing

cupped leathers fitting to the exterior of the gun and serving the double purpose of guiding the gun in its movements to and fro through the slide-frame, and of preventing escape of liquid from the buffer-cylinder.

O is a coiled spring surrounding the gun in front of the slide-frame. It is contained in a spring-box, and it abuts upon the bottom of the box, which in turn is supported by the front gland of the slide-frame.

P is a ring locked onto the gun with a bayonet-joint or divided screw. The ring P abuts against the spring O, and when the gun is fired and recoils it compresses this spring.

There are passages in the piston-ring D' by which the liquid in the buffer-cylinder is able to pass, and the dimensions of the passages regulate the speed of the gun both in recoiling and returning to the firing position.

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—

1. The combination, in a carriage or mounting for a quick-firing gun, of a slide-frame having trunnions and carried by these trunnions in bearings on a pivoted support, and a gun with cylindrical surfaces formed upon it carrying a piston-ring within a cylindrical cavity in the slide-frame, such cylindrical cavity being closed by glands at its ends filled with liquid, and serving as a hydraulic buffer to control the movement of the gun, substantially as described.

2. The combination, in a carriage or mounting for a quick-firing gun, of a slide-frame having trunnions and carried by these trunnions in bearings on a pivoted support, and a gun with cylindrical surfaces formed upon it, carrying a piston-ring within a cylindrical cavity in the slide-frame, such cylindrical cavity being closed by glands at its ends filled with liquid, and serving as a hydraulic buffer to control the movement of the gun, and a coiled spring surrounding the gun in front of the slide-frame and abutting upon a collar provided upon the gun, such spring being compressed when the gun recoils, and by its reaction bringing the gun back to the firing position, substantially as described.

A. NOBLE.

Witnesses:

WM. JOHN GREY,
Notary Public.

T. PURVIS.