To all whom it may concern:

Be it known that I, DANIEL LOWERY BELL, a citizen of the Dominion of New Zealand, and residing at Pollok Settlement, Auckland, in the Provincial District of Auckland, in the Dominion of New Zealand, have invented certain new and useful Improvements in Recoil Apparatus for Ordnance, of which the following is a specification.

This invention relates to means for arresting the recoil of ordnance such as cannons of all descriptions, which recoil after being discharged and require to be restored automatically to their firing position.

This invention consists of improved means for arresting the recoil of cannons and the like, and comprises front and rear guide blocks fixed to, or integral with the gun carriage and on each side of the cannon.

Guide rods extend from the front guide blocks, pass through the rear guide blocks, and are provided with coil springs at the front and back of the rear guide blocks.

The cannon has integral front and rear lugs slidable on the guide rods.

The drawings herewith illustrate the invention and will now be referred to for the purposes of a detailed description:

Figure 1 is a sectional view on line 2—2 of Fig. 2.

Figure 2 is a plan showing an embodiment of the apparatus, and

Figure 3 is a cross sectional view on line 3—3, Fig. 1.

The front guide blocks 4, intermediate guide blocks 5, and rear guide blocks 6 are integral with the gun carriage 7, which may be of any suitable construction. Guide rods 8 extend from the front guide blocks 4 and pass through the intermediate and rear guide blocks 5 and 6.

The cannon 9 has integral front crossheads or lugs 10 and similar rear lugs 11.

The lugs 10 and 11 are slidably with the cannon on the rods 8, and said rods act as guides for the cannon during recoil and return.

Coil springs 12, 13 and 14 are located on the rods 8, the springs 12 being in compression between the lugs 10 and washers 15 movable on the said rods 8, the springs 13 being in compression between the washers 15 and the guide blocks 5, and the springs 14 being in compression between the lugs 11 and the guide blocks 6.

The block of discharge of the cannon is absorbed by the springs 12, 13 and 14, which afterward return the cannon to the firing position with the lugs 10 and 11 resting against the guide blocks 5 and 4 respectively.

What I do claim and desire to secure by Letters Patent of the United States is:

1. In an apparatus of the class described a gun carriage provided with two front guide blocks arranged opposite each other, two rear guide blocks arranged opposite each other, and two intermediate guide blocks arranged opposite each other, rods carried by said guide blocks, a cannon provided with front and rear lugs, which are slidably mounted on the rods and guided thereby, washers slidably mounted on the rods between the front lugs and intermediate guide blocks, coil springs located on the rods between the front lugs and washers and between the washers and intermediate guide blocks, and other coil springs mounted on the rods between the rear lugs and rear guide blocks.

2. The herein-described recoil apparatus, comprising a cannon having integral front and rear lugs fixed thereto, a gun carriage having integral front, intermediate and rear guide blocks, stationary rods passing through the lugs and guide blocks, springs located on the rods and between the rear guide blocks and the rear lugs and other springs located on the said rods between the forward lugs and intermediate guide blocks.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

D. L. BELL.

Witnesses:
D. A. McCONNELL,
M. HUNT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."