No. 794,032. PATENTED JULY 4, 1905.

J. F. MEIGS & H. G. JAKOBSSON.

ADJUSTABLE BALANCING WEIGHT.

APPLICATION FILED MAR. 17, 1905.

2 SHEETS—SHEET 1.

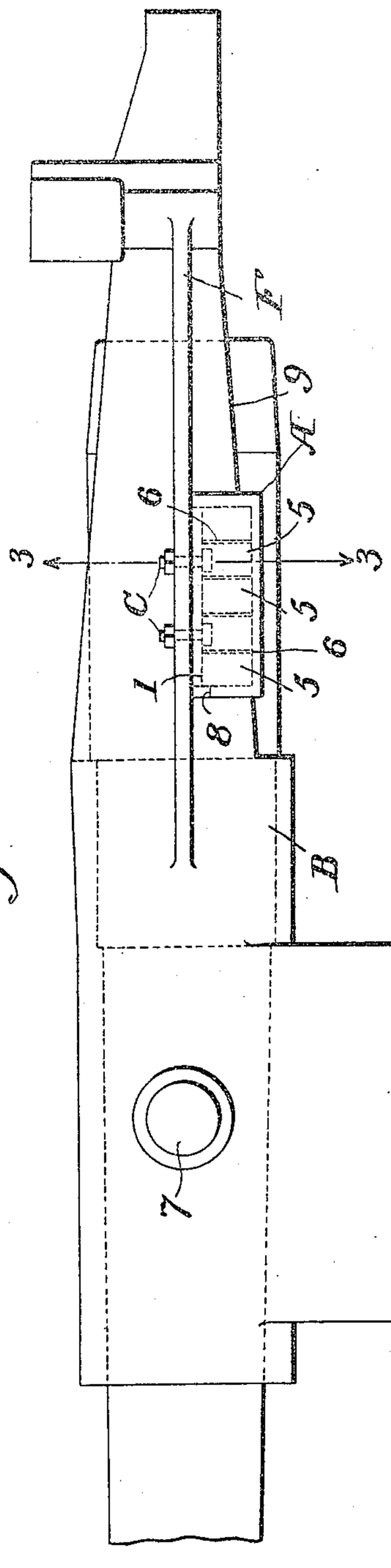

Fig. 1.

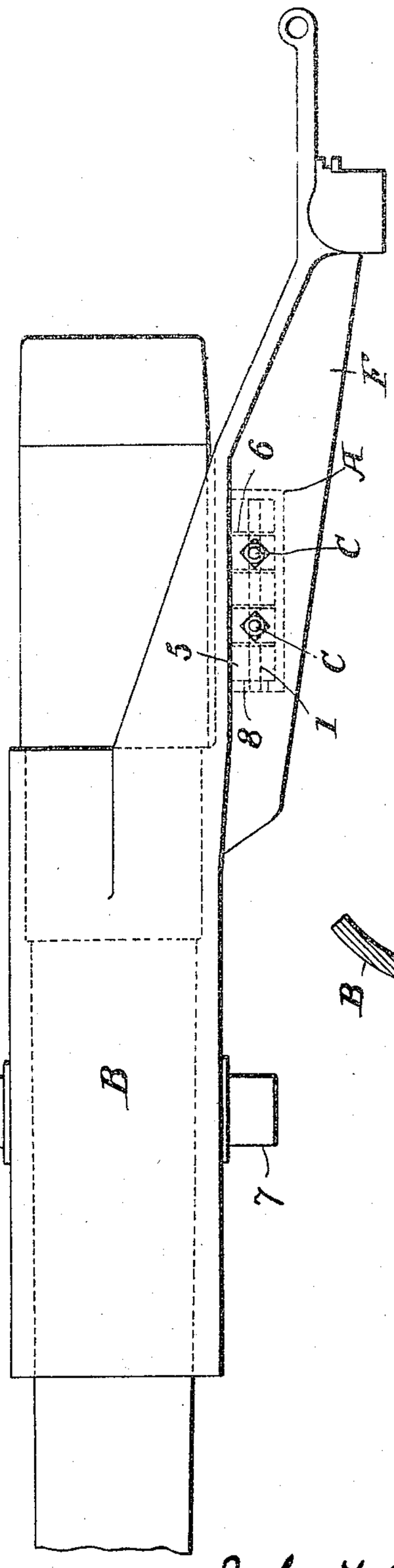

Fig. 2.

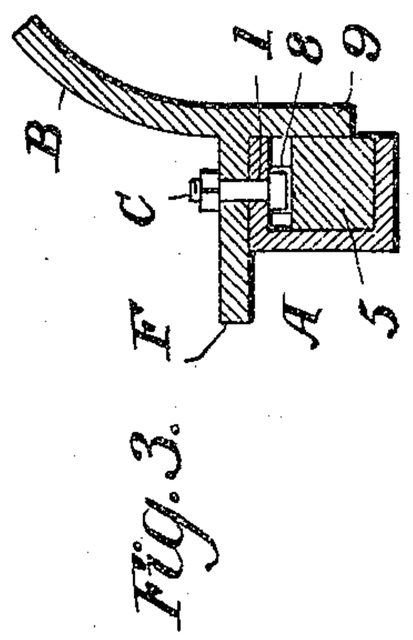

Fig. 3.

Witnesses
J. G. Stinkel
Wm. Gilman Jr.

Inventors
John F. Meigs
Herman G. Jakobsson
by Foster, Freeman & Watson
Attorneys

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2 SHEETS—SHEET 2.

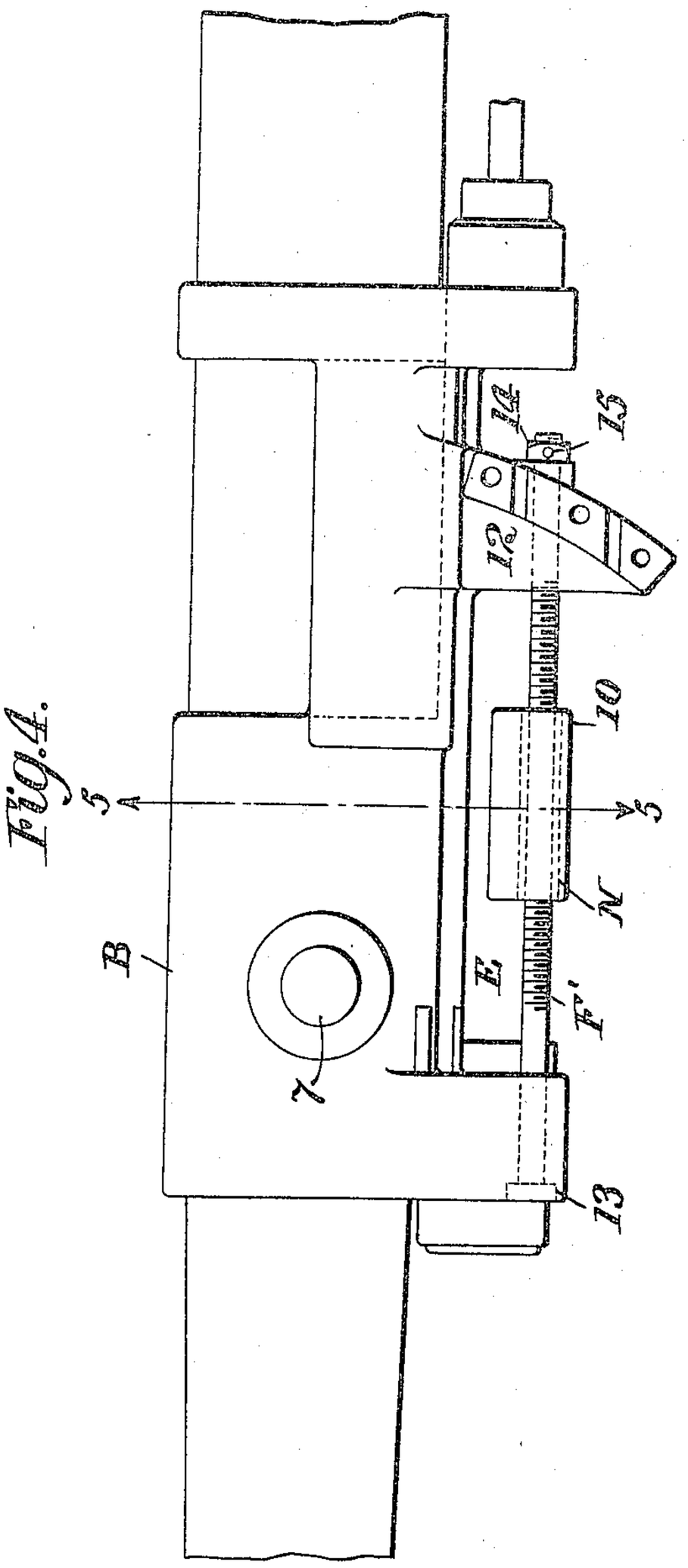

Fig. 4.

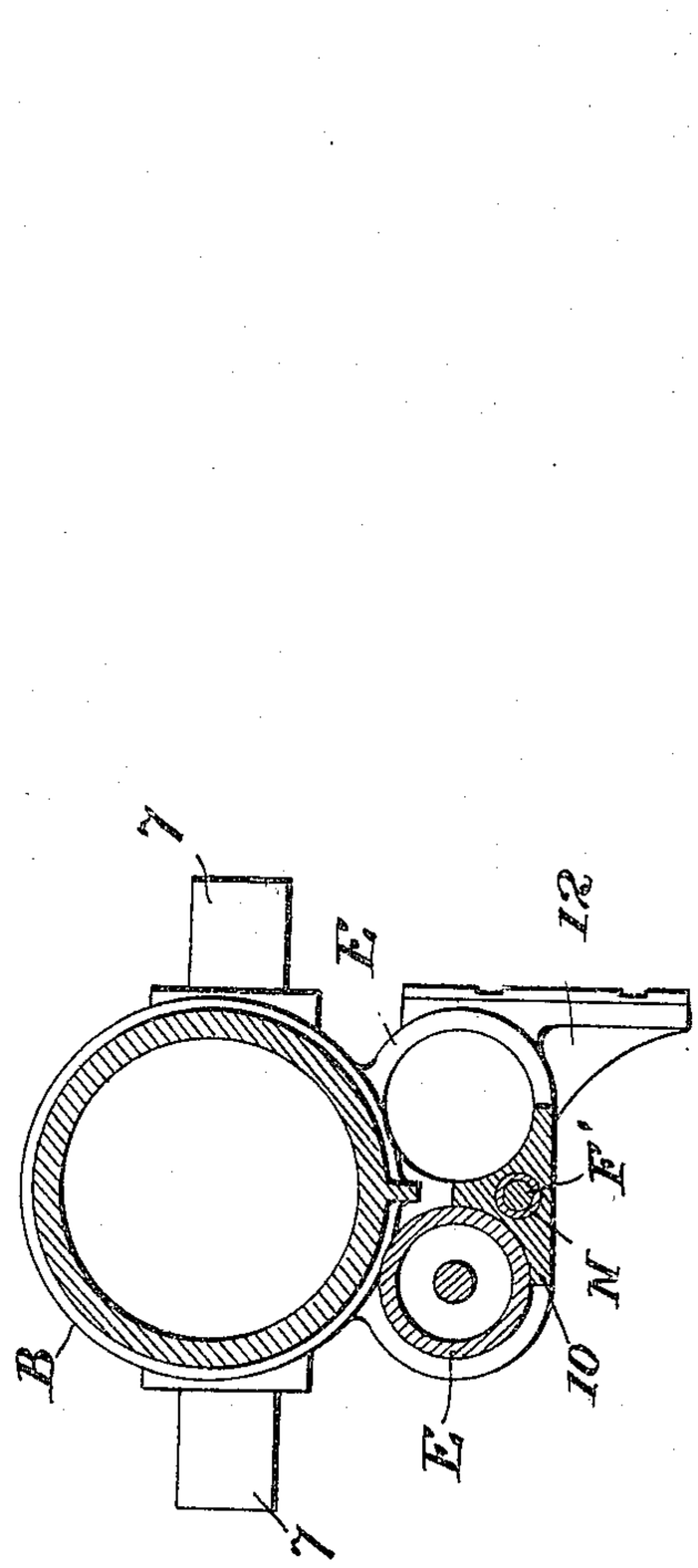

Fig. 5.

Witnesses
J. J. Stinkel
A. M. Gillman, Jr.

Inventors
John F. Meigs
by Herman G. Jakobsson
Foster, Freeman & Watson
Attorneys

PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO & P'T'G.CO. NEW YORK

No. 794,032. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

JOHN F. MEIGS, OF SOUTH BETHLEHEM, AND HERMAN G. JAKOBSSON, OF BETHLEHEM, PENNSYLVANIA, ASSIGNORS TO BETHLEHEM STEEL COMPANY, OF SOUTH BETHLEHEM, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

ADJUSTABLE BALANCING-WEIGHT.

SPECIFICATION forming part of Letters Patent No. 794,032, dated July 4, 1905.

Application filed March 17, 1905. Serial No. 250,657.

To all whom it may concern:

Be it known that we, JOHN F. MEIGS, a citizen of the United States, residing at South Bethlehem, and HERMAN G. JAKOBSSON, a subject of the King of Sweden, residing at Bethlehem, in the county of Northampton, State of Pennsylvania, have invented certain new and useful Improvements in Adjustable Balancing-Weights, of which the following is a specification.

This invention relates to an improvement in ordnance, and has for its object to change the balance of any gun pivotally mounted to swing vertically; and it consists in providing the gun or its attachments with a support for a weight adjustable thereon, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a gun and its saddle embodying our improvement. Fig. 2 is a plan of Fig. 1; Fig. 3, a section on the line 3 3, Fig. 1; Fig. 4, a side elevation of a gun-saddle, showing another form in which our invention may be embodied; Fig. 5, a section on the line 5 5, Fig. 4.

In the construction shown in Figs. 1 and 3 the gun is mounted upon the cradle B, provided with the usual trunnions 7, although in carrying out our invention the trunnions may be upon the gun itself. Connected with the gun or its attachments, whatever the latter may be, there is a support F, which, as shown in Figs. 1 to 3, is a flange, the said support being the means of supporting adjustably a balanced weight or weights the position of which in respect to the trunnions determines the extend to which the gun is balanced or overbalanced upon its pivots, on which it swings vertically.

In the construction of Figs. 1 to 3 there is a series of weights 5 within a case A, bolted to the support F by means of bolts C, which extend through the flange or support F and through a longitudinal slot 1 in the top of the case A, permitting the latter to be shifted longitudinally to change the balance and to be secured in position by turning the nuts of the bolts after the proper balance is obtained. The slot 1 is open at one end of the case and communicates with an opening 8 in that end to permit the case to be withdrawn without wholly removing the bolts, and the case is open at the inner side to permit the insertion and removal of the weights 5 between the partitions 6, and when the case is in place a pendent flange 9 of the frame retains the weight within the case.

In the construction shown in Figs. 4 and 5 there is a single weight 10, which conforms at its upper part to the outer form of the recoil-cylinders E E, and this weight, which is carried on a threaded sleeve N, is movable upon the support, which is in the form of a screw-shaft F, turning in said sleeve and in bearings 12 of the cradle and limited in its movement longitudinally by a head 13 and nut 14, the latter being restrained from turning by a cross-pin 15, so that the shaft F′ may be turned in the sleeve N by the application of a wrench to the nut 14 and the position of the weight thereby adjusted longitudinally in respect to the pivots of the gun.

By providing the gun with a balancing weight or weights, as described, a preponderance of weight at the breech or the muzzle and to any varying extent required may be secured to adapt the manipulation of the gun to the personal equation of the person using the same in the case of smaller arms, while with guns of larger caliber, where the elevating is done through the medium of gearing and where the balance varies in accordance with the elevation of the gun in consequence of attachments connected therewith—as, for instance, shields carried by the gun—the weight may be adjusted so as to properly balance the gun when it is in its different positions for firing. The adjustable weight also permits of the change of balance required when in target practice. A small-caliber auxiliary barrel is inserted in the gun in place of the charge. By use of the balance-weight also the assembling and mounting of the parts of the gun may be facilitated

by approximately locating the center of the trunnions without balancing and compensating for any irregularity by adjustment of the weight, so as to avoid the necessity of balancing each gun and cradle together in order to locate the center of trunnions on the cradle.

Without limiting ourselves to balance means and shifting appliances of any special construction, we claim—

1. The combination with a gun pivoted to swing in a vertical plane, of balancing means adjustable to different positions relative to the pivot of the gun, substantially as described.

2. The combination with a gun mounted to swing on trunnions, of a weight, a support for said weight, and means whereby said weight may be retained on said support in different positions in respect to the gun, substantially as set forth.

3. The combination with a gun mounted to swing on trunnions, of a weight, a support for said weight, and means whereby said weight may be shifted and retained on said support in different positions in respect to the gun, substantially as set forth.

4. The combination with a gun pivoted to swing vertically to different positions, of a screw-shaft mounted to turn in bearings connected with the gun and a weight engaging said shaft and movable longitudinally under the rotary movement of the shaft, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN F. MEIGS.
HERMAN G. JAKOBSSON.

Witnesses:
J. E. MATHEWS,
E. A. MILLER.