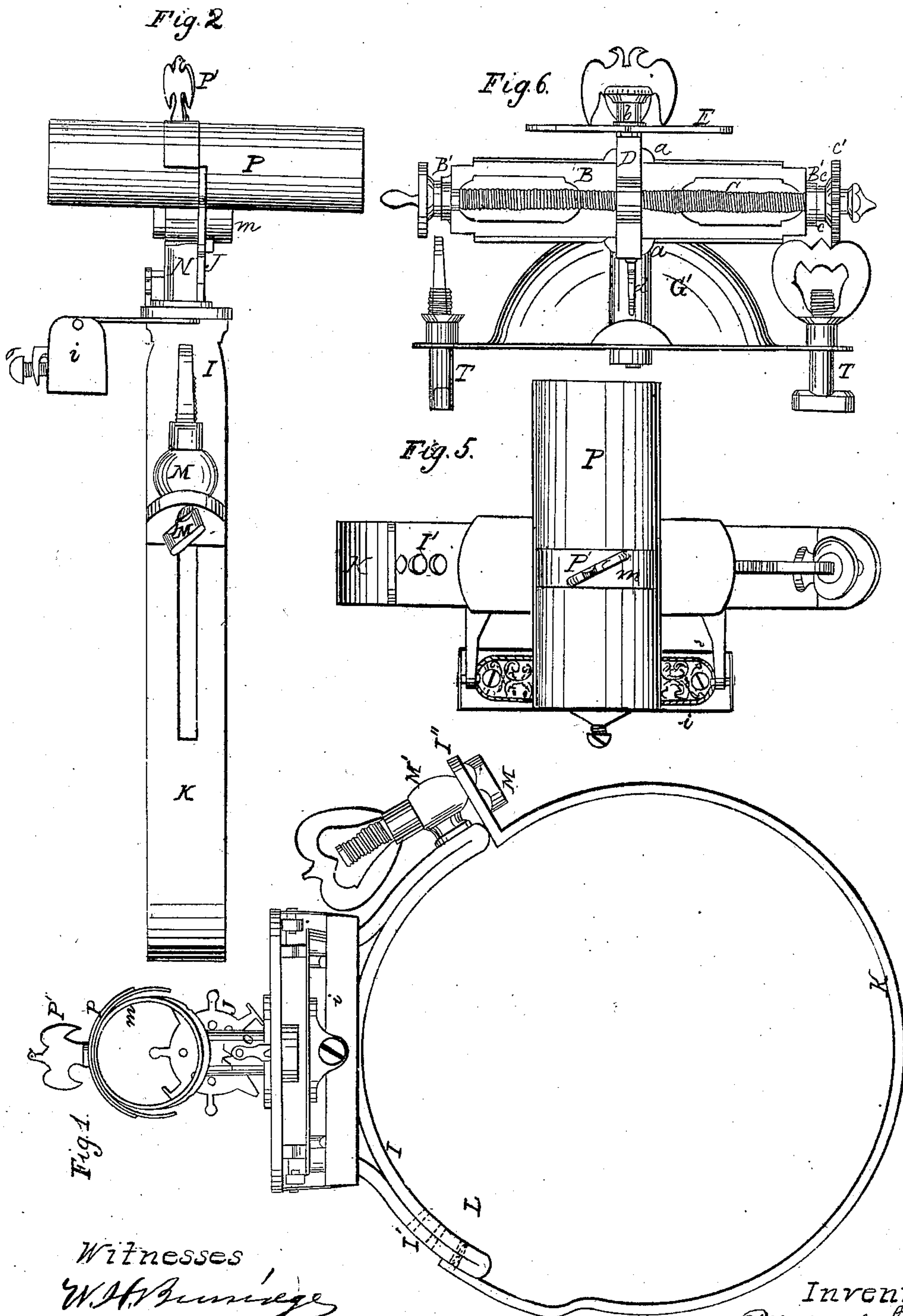


P. MALTBY.
Ordnance-Sight

No. 43,319.

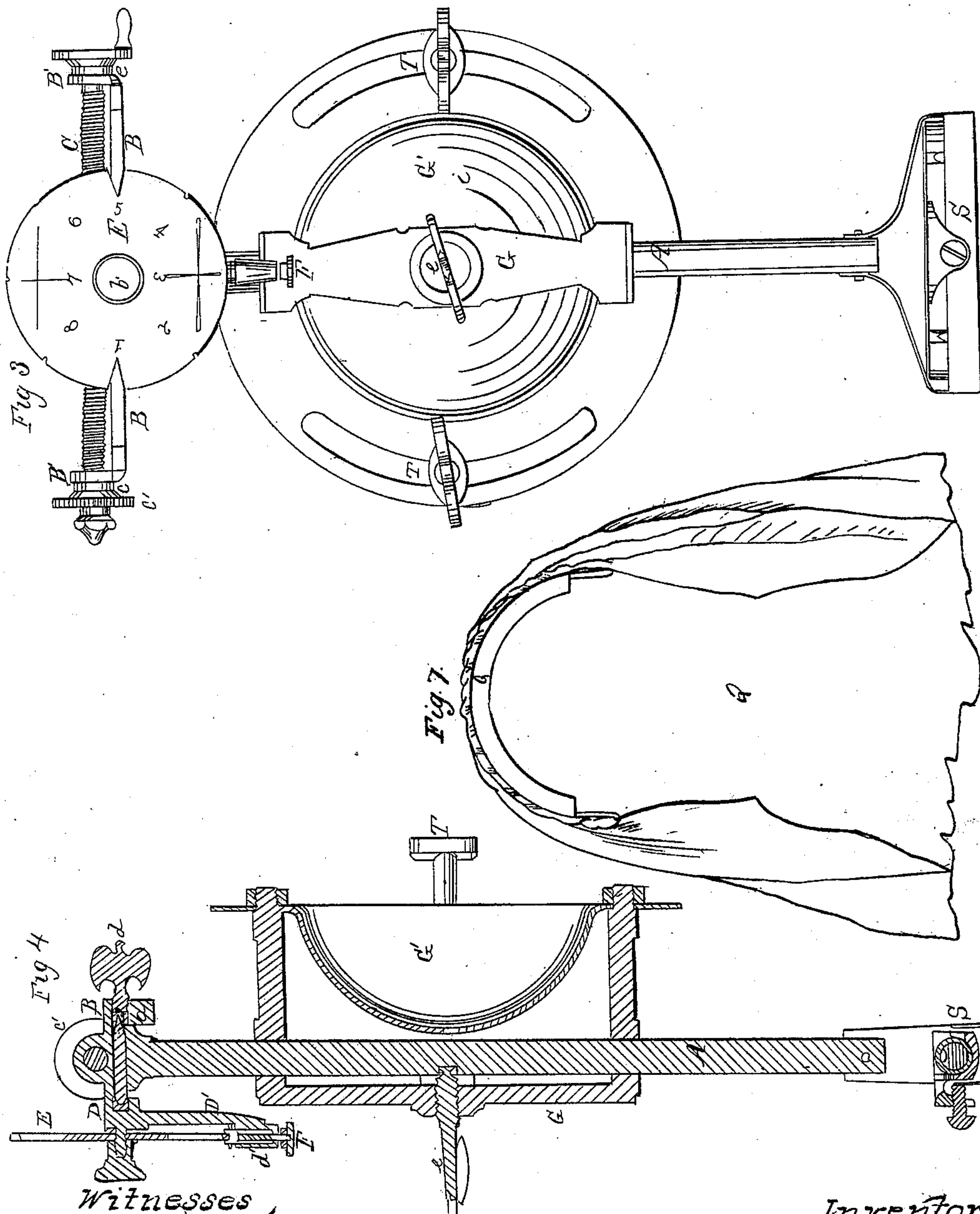
Patented June 28, 1864.



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Witnesses,
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PHILO MALTBY, OF CLEVELAND, OHIO.

IMPROVEMENT IN CANNON-SIGHTS.

Specification forming part of Letters Patent No. 43,319, dated June 28, 1864.

To all whom it may concern:

Be it known that I, PHILO MALTBY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new useful Improvements in Gun-Sights; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a front view of the forward sight. Fig. 2 is a side view of the same. Fig. 3 is a full view of the rear sight, and Fig. 4 is a vertical longitudinal section. Fig. 5 is a top view of the forward sight. Fig. 6 is a top view of the rear sight, and Fig. 7 is a view of the hood.

The nature of my invention relates to such a construction of sights for ordnance practice that the sights can be adjusted to an upright position whatever may be the position of the gun, and also to devices for adjusting the sights horizontally; and, further, to adapting sights to long or short range, bright or dark days.

The upright piece A has attached to its upper end a cross-piece, B, which is attached to the upright A at right angles thereto, and which forms the guide for the adjustment horizontally of the rear sight. This guide-piece B has a projection at each end, (shown at B',) through which a screw, C, passes. The screw C is held from an endwise motion by two collars, c, which are placed upon the screw outside of the projections B' on the guide B. The lost or slack motion of the screw is taken up by a nut, c', which is placed on the end of the screw, so as to press against the collar c.

The screw C passes through a nut which is attached to piece D or forms a part of the same.

The piece D is moved from right to left on the right-angled piece or guide B upon the upper end of the standard A. The piece D can be secured at any point to which it is adjustable by means of a set-screw, d, which presses upon the gib a, that works upon the guide B.

The sight-plate E is of a circular or disk form, and revolves upon a pin which is attached to the front side of the piece D, and is kept upon the pin by means of a thumb-nut, b. Piece D has a projection, D', which extends below the sight-plate E, and is provided with a cylindrical cavity, in which there is a

coiled spring, d', that raises a catch, F, into notches that are made in the edge of the sight-plate E. By withdrawing the catch F from a notch in the edge of the sight-plate, the plate E can be rotated, so as to be brought into the proper position any particular sight may require.

The sights Nos. 1 and 5 are open or crotch-sights, which are used at short range and to get a quick sight. No. 3 is a coarse cross-sight, to be used in dark weather and at long range. No. 7 is also a cross-sight, but made fine, in order to be used in a very light day, when the coarser sights could not be so well used to advantage. Nos. 2, 4, 6, and 8 are globe or round sights, which vary from each other in size. All of them are countersunk on the front side of the plate, so that the opening has thin edges, and hence does not obstruct the vision.

The upright piece A passes through two projections of the piece G, and is held in the required position by means of a set-screw, e, which passes through the upright part of G. The upright A can therefore be raised and lowered at pleasure, and secured at any desired point.

The cap G' is attached to the knob of the cascabel by means of two T-head bolts, T, each one of which passes through a piece made stationary to the knob of the cascabel. Each of the stationary pieces is provided with a slot, through which the head of the bolt T passes. These T-headed bolts also pass through the semicircular slot in the flange of the cap G', the thumb-nut being on the outside of the flange, to hold the sight stationary. When the bolts are properly adjusted, the thumb-screw H can be turned and the whole device firmly secured to the gun. The whole of the rear sight can also be removed by removing the T-head bolts. By simply loosening the thumb-screws, the cap G' can be turned or rotated upon a pin placed in the end of the cascabel, in order to keep the rod A in a vertical position, and thereby preserving the proper position of the other parts attached thereto, whatever may be the position of the gun or gun-carriage.

To ascertain when the sight is vertical or perpendicular to the line of the horizon, I place a spirit-level at the bottom of the upright piece, A, as shown at S in Figs. 3 and 4.

The forward sight is represented by Figs. 1, 2, and 5. The piece I, to which the bead-sights J are attached, can be made stationary or movable, as the case may require, by means of the band K, which passes around the gun near the muzzle, and is made fast to one side of the piece I by means of a hook, L, which is on the inside of the band K, and can be placed in the different holes with which the piece I is provided, which holes are shown at I' in Fig. 5, so as to be increased or decreased in size according to the size of gun. On the other side of piece I it is made fast by means of a T-head bolt, M, which passes through a stationary arm, I'', at the end of piece K, and through a stud, M', in the piece I. The bolt can then be turned so that the head crosses the slot, and tightened or loosened by means of a thumb-screw upon the T-head bolt M. The band K can be easily taken off by loosening the thumb-screw nut and turning the bolt parallel with the slot. The pieces I and K are each supplied with a slot in order to rotate upon a rib, which is attached to and placed near the muzzle of the gun. This is for the purpose of keeping the sight vertical in case the trunnions of the gun are not horizontal.

A level is placed upon or attached to the piece in any convenient manner. In Figs. 1, 2, and 5 this spirit-level is shown, *i*, the object being to determine when the sight is plumb. The upper part of piece I is supplied with a tube, *m*, which has a slot large enough to admit the bead-plate J to revolve in. The bead-plate J revolves on a pin or bolt, which passes through its center, and is supported by the upright piece N. The bead-plate J passes up through the slot in the tube *m* to the center, and as each bead has a number corresponding to those on the sight, E; it can be revolved so as to correspond therewith, and is then held in place by means of a coiled spring and pin, O, in the standard N. In this way the numbers on the forward and rear sights can be made to correspond.

The circle or shade plate P, which covers the upper part of the tube in which the bead-plate revolves, is made to change from left to right and from right to left, and acts as a shade to the bead-sight in a light day and as a reflector in a dark day. It is held in place by means of a set-screw, P', and spring, but not so tight but that it can be easily moved by the hand when required.

The notched or open sights Nos. 1 and 5 in plate E correspond to the bead-sights Nos. 1 and 5 in plate J. Nos. 3 and 7 cross-sights on plate E correspond to bead-sights Nos. 3 and 7 on plate J. Nos. 2, 4, 6, and 8 are round or globe sights on plate E and vary in size from two to eight, and correspond to bead-sights 2, 4, 6, and 8 on plate J.

In the construction of the rear sight I contemplate any variation that may be found necessary in order to adapt it to any particular form of gun.

In Fig. 7 I have represented a hood, Q, which is made of dark-colored cloth and attached to a semicircular grooved piece of metal, Q', which sits lightly upon edge of the sight-plate E. In a bright day the gunner throws this hood over his head, thus excluding the straggling rays of light, enabling him to take a more accurate aim. This hood can be removed at pleasure.

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

1. The combination of the rotary rear sight with the rotary forward sight, each constructed in pairs and numbered as described, and used in connection with each other, as and in the manner herein set forth.

2. The herein-described method of holding the rear and forward sights in place when adjusted to corresponding numbers, as described.

3. In combination, the standard A, cross-piece B, and rear sight, E, arranged and operated as herein set forth.

4. The horizontal adjustment of the sight E by means of the screw C, and holding the same in position by means of the gib *a* and thumb-screw *d*, as specified.

5. A series of rotating rear and forward sights, when constructed and operating as described, the same being adapted to different degrees of light.

6. The cap G' and the herein-described method of attaching it to the cascabel of the gun, substantially as described.

7. The vertical adjustment of the rear sight by means of the bar G, and set-screw *e*, when arranged and operating as and for the purpose specified.

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Witnesses:

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