O. D. WARFIELD.

Sight for Fire-Arms.

No. 217,717. Patented July 22, 1879.

Fig. 1.

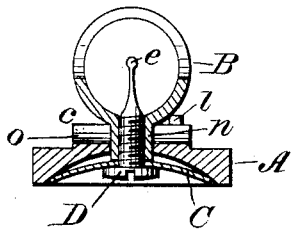


Fig. 2.

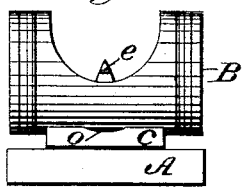
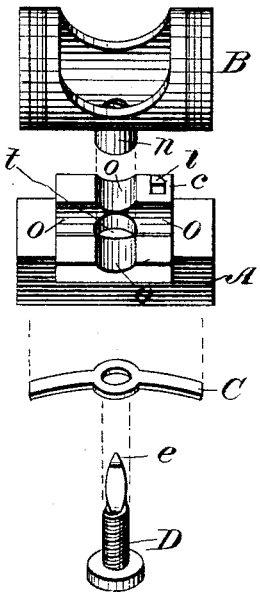


Fig. 3.



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UNITED STATES PATENT OFFICE.

OLIVER D. WARFIELD, OF CHICOPEE FALLS, MASSACHUSETTS, ASSIGNOR TO THE WINCHESTER REPEATING ARMS COMPANY, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN SIGHTS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **217,717**, dated July 22, 1879; application filed May 21, 1879.

To all whom it may concern:

Be it known that I, OLIVER D. WARFIELD, of Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented certain Improvements in Gun-Sights, of which the following is a specification.

My invention relates to that class of gun-sights denominated "combination sights," which can be changed from an open to a covered sight, or vice versa, at will; and the invention consists in arranging the tube or cover so that it can be turned around on its base in such a manner that while in one position the sight or bead is seen by looking through the tube, the same as in the ordinary covered sights, and when turned to the other position the point of the sight is exposed uncovered.

It further consists in so constructing the point of the sight that when turned one way it forms what is technically termed a "bead," and when turned the other way it will form an A-shaped or knife-edge sight, such as are ordinarily used as a front open sight on fire-arms.

It further consists in the novel construction and arrangement of the parts, whereby the sight can be readily turned and held in position, all as hereinafter more fully described.

Figure 1 is a transverse vertical section. Fig. 2 is a side elevation, representing the sight turned so as to be used as an open sight; and Fig. 3 is a perspective view of the several parts of the sight, shown detached.

In the drawings, A represents the base-plate, having its front and rear sides beveled or inclined to fit in a dovetailed groove made transversely across the top of the gun-barrel in the usual manner. On its upper surface this plate A has a portion, *c*, of rectangular form, elevated above the top of the plate A, and which may either be made separately or solid with the part A, as may be found most convenient, there being a hole, *t*, made vertically through their center, as shown in Figs. 1 and 3. Across the top of the raised portion *c* are cut two semicircular grooves, *o*, at right angles to each other, they intersecting one another at the center, where the hole *t* is, as shown in Fig. 3. In the under side of the plate A, I form an elliptical groove or recess along its center lengthwise, to form a seat for the spring C. (Shown detached in Fig. 3 and in position in Fig. 1.)

The cover or tube B, I make, as shown in Figs. 1, 2, and 3, with an opening cut transversely through its upper portion, said cut extending down about two-thirds the depth or diameter of the tube, as shown in Fig. 2, and on its under side I form a vertically-projecting tubular neck, *n*, of such a size as will fit snugly in the hole *t* of the base-plate A, as shown in Fig. 1, this tubular neck being screw-threaded on its interior. I then provide a screw, D, of proper size to fit into the neck *n*, and so cut or shape its upper end as to form the sight proper.

It will be seen by examining Fig. 1 that this point *e*, when turned in one position, constitutes the ordinary bead-sight, and that when turned one-quarter around, as represented in Figs. 2 and 3, it presents the outline of the ordinary A or knife-edge sight.

The parts being thus constructed are put together by laying the spring C in its recess in the under side of plate A, then inserting the neck *n* of the tube B in the hole *t*, when the parts are fastened together by inserting the screw D and screwing it home to the position shown in Fig. 1, where, it will be observed, the spring C bears at its ends only, while the head of the screw D is drawn within the recess, so as to be entirely out of the way, and not interfere with the insertion of the base-plate in its groove in the barrel.

When thus constructed and arranged it will be seen that the neck *n* forms a pivot, which holds the tube B secure against any lateral movement or displacement in relation to the base-plate, and on which it can be turned around without changing its central axis; and that as the screw D fits snugly within this neck *n* it will be turned with the tube B, with its central axis and its point *e* always in the same vertical plane, thus securing the same line of sighting whichever way the sight may stand. The spring C, tending to draw the tube B down upon the base-plate, will hold it down in the groove *o*, thus locking it in position, whichever position it may occupy, whether transversely or longitudinally of the barrel,

and at the same time the yielding of the spring will permit the tube B to rise sufficiently to pass out of the groove *o* as it is turned from one to the other position, again drawing it down and holding it fast when it has been turned.

The screw D should be so inserted or turned as to present the bead outline when looking lengthwise through the tube B, as shown in Fig. 1, and the other form when looking through the notch or opening in the top of the tube, as shown in Fig. 2, though it is obvious its position in relation to the tube may be reversed, if desired, care being taken to make the screw D fit tight enough to insure its turning with the tube in any event.

In order to insure the bringing of the sight *e* to the exact same spot when turning the tube back after it has been moved, I provide a stop or projection, *l*, as shown in Figs. 1 and 3, which will prevent the tube from being turned entirely around, and compels its being turned back the same way it came, thus insuring the return of the point *e* to the exact position it occupied before being moved. This is of special importance in case the point *e* should not perfectly coincide with the center of the axis of rotation, as might happen either from inaccuracy in the manufacture or by being accidentally hit or otherwise displaced. If all the parts are made with perfect accuracy and kept in that condition, then it would obviously make no difference how the tube might be turned, as the point *e* would always occupy the same central position; but to provide for contingencies I prefer to use the stop.

It is obvious that the elevated portion *c* of the base-plate may be dispensed with, and the grooves *o* be cut in the top of the plate A, the only object of the elevation being to secure sufficient thickness to afford suitable bearing for the neck *n*, and room for the spring C, screw-head, and for the grooves *o* without making the whole of plate A thick and clumsy.

By this construction it will be seen that I produce a sight which is simple and strong, and that can be instantly converted from an open to a covered sight, or vice versa, and that can also be changed at will from the bead to the ordinary style of open sight, and vice versa, by merely giving it a quarter-turn.

It is also obvious that this feature of a sight changeable from a bead to an ordinary sight can be used without the tube or cover, if desired.

I am aware of the patent granted to H. B. Barber April 5, 1870, in which is shown and described a gun-sight having a rotary base-plate carrying a central point, designed to serve as a bead-sight when turned to one position, and having also two other points arranged at opposite sides of the central point, to serve as an open sight when turned to another position, and I do not claim such a sight; but,

Having thus described my invention, what I claim is—

1. The combination, in a gun-sight, of the point or sight *e* and the rotary tube or cover B, having its upper side cut away to expose the point *e* when turned transversely of the barrel, whereby the sight can be converted from a covered to an open sight, or vice versa, substantially as described.

2. The sight or point *e*, constructed and arranged to operate as described, whereby the one piece is made to serve in the twofold capacity of a bead-sight and also as a common sight by merely turning it one-quarter around, as set forth.

3. The combination of the rotary tube or cover B, having its upper side cut away to expose the point *e*, the base-plate A, provided with the grooves *o o*, the spring C, and screw D, substantially as and for the purpose set forth.

OLIVER D. WARFIELD.

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