E. G. LATTA.

SIGHTS FOR FIRE-ARMS.

No. 181,530. Patented Aug. 29, 1876.

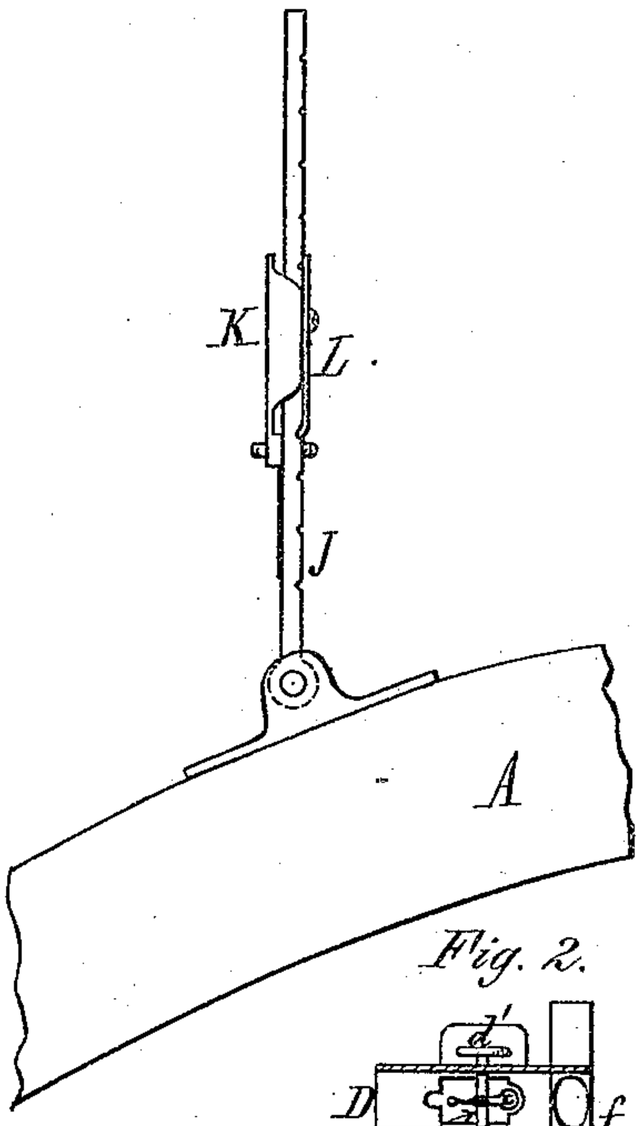


Fig. 1.

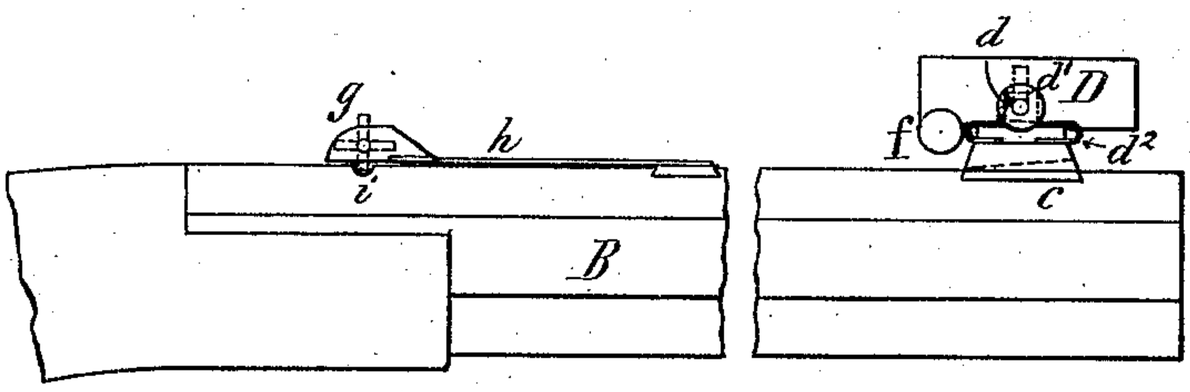


Fig. 2.

Fig. 3.

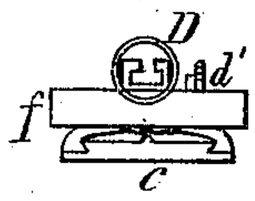


Fig. 4.

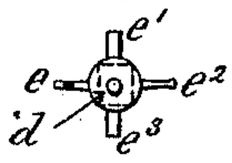


Fig. 8.

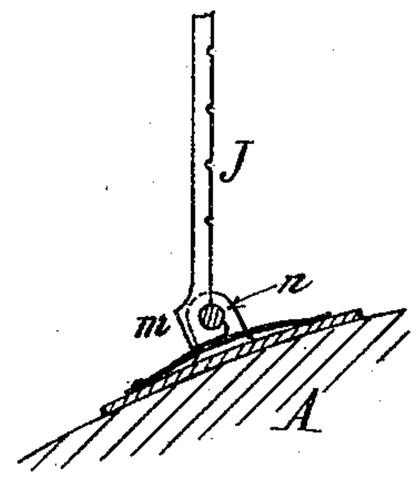


Fig. 5.

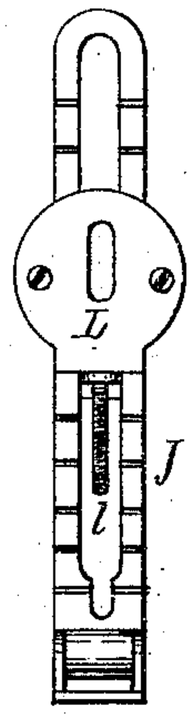


Fig. 7.

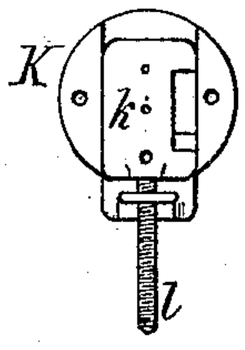
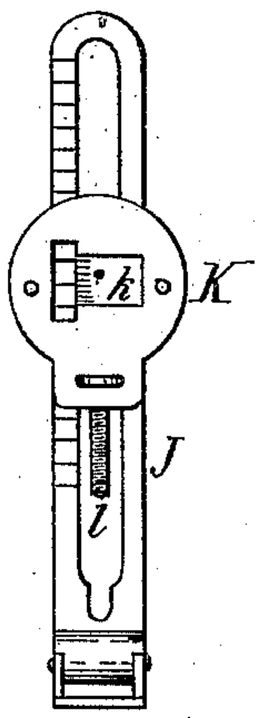


Fig. 6.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SIGHTS FOR FIRE-ARMS.

Specification forming part of Letters Patent No. **181,530**, dated August 29, 1876; application filed April 6, 1876.

To all whom it may concern:

Be it known that I, EMMIT G. LATTA, of Friendship, in the county of Allegany and State of New York, have invented certain Improvements in Gun-Sights, which improvements are fully set forth in the following specification, reference being had to the accompanying drawing.

My invention relates more particularly to that class of sights which are used on Creedmoor or long-range rifles, and are usually designated, according to their construction, as "open," "globe," and "peep" sights.

The nature of my invention will be fully understood from the following description.

In the accompanying drawing, Figure 1 is a fragmentary side elevation of a rifle provided with my improved sights. Fig. 2 is a horizontal section of the globe-sight. Fig. 3 is a rear elevation thereof. Fig. 4 is a detached side elevation of the rotating sights. Fig. 5 is a front elevation of the peep-sight. Fig. 6 is a rear elevation thereof. Fig. 7 is a front view of the eye-piece with the spring-plate removed. Fig. 8 is a detached side view of the lower end of the upright of the peep-sight.

Like letters of reference refer to like parts in each of the figures.

A represents the stock, and B the barrel, of a gun. *c* represents the open front sight, and D the tubular shade of the globe-sight, secured to the former by a dovetail slide, as clearly shown in Fig. 3, so as to be readily attached and removed. *d* represents a shaft, arranged transversely in the lower portion of the tubular shade D, and having a number of different sights, *e* e^1 e^2 e^3, secured to it, so that by properly turning the shaft *d* one of the sights will be brought into a vertical position, so as to be visible within the shade D, while the rest of the sights are hidden. Four different sights—a bead-sight, open bead-sight, caliper-sight, and bar-and-slit sight—are generally attached to the shaft, these being the sights most frequently used in target-shooting. Preferably, two opposite sights are formed in one piece with the shaft *d*, while the two remaining sights are formed in a separate piece and secured in an opening in the center of the shaft; but, if desired, all of the four sights may be made in one piece, or be separately attached to the shaft. d^1 represents a small nut or wheel secured to the end of the shaft *d*, for conveniently turning the same. It is provided with a square shoulder, resting on a spring, d^2, so as to securely hold the shaft in position, while permitting the ready adjustment thereof. If preferred, the spring and square shoulder may be arranged at the opposite end of the shaft, as shown in Fig. 2, and the end of the shaft *d* may be made square, so that it can be turned by applying an ordinary watch-key. The shade D may be so constructed that the sights can be readily removed. *f* represents a spirit-level, secured transversely to the under side of the shade D at its rear end, as clearly shown. The bubble is exposed within the shade, the latter protecting the glass of the level from the light, and preventing the bubble from reflecting light on the sights, while at the same time it protects the glass from breakage.

The globe-sight being secured to the open front sight *c* by a dovetail slide, it is readily applied or removed without disturbing the open sight, thereby enabling either sight to be made ready for use without requiring any particular attention or nice adjustment, as heretofore required when both sights were made removable. If desired, a small set-screw may be employed to hold the globe-sight in position.

When a wind-gage is used with the globe-sight, the dovetail slide, by which the globe-sight is connected with the open sight, is arranged in line with the adjusting-screw of the wind-gage, or at right angles to the line of fire.

The open sight *c* may, however, be arranged on one side of the shaft *d*, and the latter be provided with a blank space, so that when it is turned up the line of vision through the open sight is unobstructed; or the open sight may be attached to the shaft in place of one of the sights *e* e^1 e^2 e^3, and the shade D made removable, leaving the sights in place.

Heretofore sights have been made to rotate across the sight-line; but this is objectionable, for the reason that the least play of the shaft in its bearings, resulting either from imperfect workmanship or wear, will cause the sight

in position for use to be out of the perpendicular line, or on one side of the true sight-line; hence the shot will be delivered to the right or left of the sight-line. By arranging the shaft and sights so as to rotate in the plane of the sight-line this difficulty is entirely overcome, as the sights are under all circumstances in the sight-line, and a line-shot will be delivered, even when the sight used is more or less out of the perpendicular line.

The open back sight may be composed of a number of different sights, *g*, mounted on a transverse shaft attached to the free end of a spring, *h*, secured to the upper side of the barrel B, which latter is preferably provided with a groove, *i*, in which the lower sight engages, whereby the sights are retained in place.

J represents the upright bar of the peep-sight, provided on its front sides with notches, in the usual manner. K represents the eye-piece attached to the upright, so as to slide thereon, and held in position by a spring-plate, L, arranged on the front of the upright, and engaging in the notches thereof. *k* represents a slide arranged in the eye-piece K, so as to be vertically adjustable therein. The slide *k* is provided with one or more apertures or peep-holes of various sizes, and with an opening exposing the scale on the rear side of the upright J. The slide *k* is furthermore provided with a fine scale, usually denominated a "vernier," and adjusted by means of a screw, *l*, and suitable nut, as clearly represented in Figs. 6 and 7.

The coarser vertical adjustments of the eye-piece are effected by sliding the same on the upright, and securing it by the spring L, so that the change from short to long range is speedily accomplished, which is not possible in a peep-sight adjusted solely by a screw, while the fine adjustments, intermediate of the notches in the upright J, are effected by raising and lowering the slide *k* by means of the screw *l*, thus enabling both a very quick and fine adjustment to be effected. The screw *l* being arranged between the bars of the upright is fully protected, which is not the case where simply a screw is employed for adjusting the eye-piece, as in this case the screw is arranged outside of the upright, where it is liable to be bent and broken. By employing the slide *k*, provided with a number of different apertures, the removable eye-pieces heretofore employed are dispensed with, and a more convenient and reliable sight produced. The different apertures of the slide *k* are brought in position by the same screw that regulates the elevation of the eye-piece.

In order to make the peep-sight readily removable from the gun when not required for use, I construct the lower end of the upright with a hook, *m*, passing under a cross-bar, *n*, of the base-piece, and bearing on a spring secured in the latter, whereby the upright is securely held when in a perpendicular position, or when lying flat down. The upright is preferably so arranged with reference to the hammer of a center-lock rifle that the hook cannot be detached unless the hammer is clear down on the firing-pin, and as the hammer is generally at the half-cock, there will be no danger of the upright becoming accidentally detached.

I am aware that two sights pivoted to a support so as to be alternately placed in the sight-line, by giving the sights a quarter-turn, have been in common use, and this I do not claim; but

What I claim as my invention is—

1. The combination, with the open sight *c*, of the globe-sight D *e*, connected with the sight *c* by a suitable slide, so that the globe-sight can be applied and removed without disturbing the open sight, substantially as hereinbefore set forth.

2. The combination, with the tubular shade D, of the rotating shaft *d*, sights e e^1, nut d^1, having a square shoulder, and spring d^2, substantially as and for the purpose hereinbefore set forth.

3. The combination, with the tubular shade D and suitable sight or sights, of the spirit-level *f*, arranged in the lower rear portion of the shade back of the sight, so that the bubble is prevented from reflecting light upon the sight, and the level at the same time protected against breakage, substantially as hereinbefore set forth.

4. The combination, with the upright J, eye-piece K, and spring L, of the slide *k*, provided with a vernier-scale, and adjusted vertically by a screw, *l*, for correcting the elevation of the aperture, substantially as hereinbefore set forth.

EMMIT G. LATTA.

Witnesses:
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