H. BORCHARDT.
Gun-Sight.

No. 197,319. Patented Nov. 20, 1877.

Figure 1.

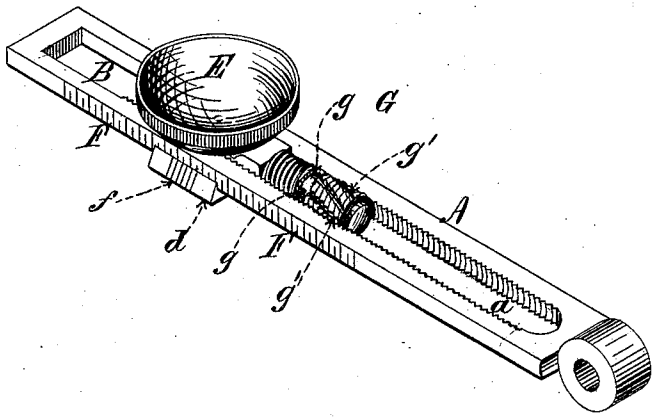
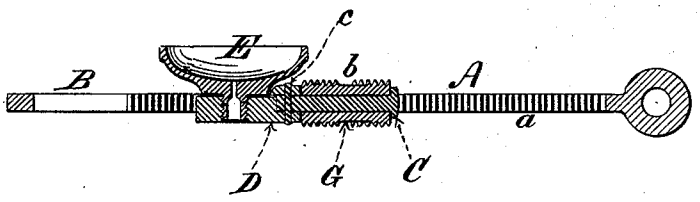


Figure 2.



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UNITED STATES PATENT OFFICE.

HUGO BORCHARDT, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN GUN-SIGHTS.

Specification forming part of Letters Patent No. **197,319**, dated November 20, 1877; application filed October 27, 1877.

To all whom it may concern:

Be it known that I, HUGO BORCHARDT, of Bridgeport, Connecticut, have invented certain Improvements in Rear Rifle-Sights, of which the following is a specification:

It is the object of my invention to simplify the construction of rear sights for rifles, to increase their strength and their capacity of delicate adjustment, and to facilitate their operation.

My invention consists in attaching the impelling-screw to the center of the slide upon which the peep-cup is affixed, and in forming the female thread for the impelling-screw upon the inner sides of the slot in the pivoted leaf. By this mode of construction I obtain a long nut which affords ample engagement for the impelling-screw, and I am enabled to have my impelling-screw act directly upon the center of the mass which is to be made to slide up and down upon the leaf.

I provide the slide with V-shaped flanges upon its sides, to enable it to embrace the outer edges of the leaf, and also to present a plane surface, forming an obtuse angle with and inclined toward the edge of the leaf.

My scale-marks are drawn transversely across the edge of the leaf, and also across the inclined surface of the flange, and their relative positions are thus made readily observable.

In connection with the side scale, and in order to afford the facility for nice adjustment of the sight, I form a scale upon my impelling-screw. This consists of equidistant marks drawn longitudinally, or nearly longitudinally, upon some part of the periphery of the screw. A portion of the periphery of the screw is turned down, to afford a smooth surface for receiving a series of figures to indicate divisions of the circular scale.

For example, if I make the thread of my impelling-screw forty to the inch, and make twenty-five divisions upon its periphery, each time that the screw is turned one division the slide will be moved one one-thousandth of an inch, and this slight movement will be easily distinguishable and controllable.

It will thus be seen that my impelling-screw not only affords the means of moving the slide up and down, but a means of measuring such movement with the most delicate accuracy.

The accompanying drawings are as follows: Figure 1 is an isometrical perspective of a rear rifle-sight containing my improvements, and Fig. 2 a central longitudinal section thereof.

Referring to the drawings, it will be seen that the ordinary slotted leaf A of a pivoted back sight has a female screw-thread, *a*, cut upon the sides of the slot, from the lower end of the slot to a point, say, three-fourths of an inch from the upper end of the slot, the upper portion of the slot B being widened to allow the impelling-screw *b* to be placed in position to engage the female thread on the lower portions of the sides of the slot.

The impelling-screw is a tube with a male thread upon its periphery, and is mounted upon a headed stem, C, the tail of which is secured to the center of the slide D by the pin *c*.

The slide is provided with the usual central aperture, to receive the tubular stem of the peep-cup E. The slide is wider than the leaf, and is provided with flanges *d d*, which embrace the edges of the leaf. The sides of the slide are inclined inward, and each flange is thus brought to a sharp edge upon the edge of the leaf.

The usual transverse marks are engraved upon the edge of the leaf constituting the scale F, and transverse marks *f* are also engraved upon the inclined outer side of the flange *d*.

As the scale-marks upon the flange overlap those upon the edge of the leaf, observation of the relative positions of the two systems of marks is greatly facilitated.

It will be seen that the central portion of the impelling-screw is turned down, and affords a smooth cylindrical surface, G, which is divided into a series of equal parts by the marks *g*, drawn parallel to the axes of the screw. There are five of these marks, and immediately adjoining them, respectively, are impressed the figures 0, 5, 10, 15, and 20. The figures affixed to each mark indicate the number of subdivisions of the circle between that mark from left to right and the zero-mark. These subdivisions are respectively indicated by the diagonal marks *g'*, drawn across the periphery of that portion of the impelling-screw which is used as a thumb-piece. They are purposely drawn diagonally, for greater convenience in

observing their position relatively to the edges of the slot, and they are drawn across a portion of the impelling-screw thread instead of being drawn upon a smooth cylindrical portion of the screw, because they assist in imparting a rough surface to the portion of the screw to which the thumb and finger are applied for the purpose of turning it, and also because it is desirable to utilize all the available space in a longitudinal direction for the screw itself.

It will, of course, be understood that, instead of a tubular impelling-screw mounted upon a headed pivot, the screw may be made solid, and be affixed to the slide by a collar and socket-joint;. but the construction shown in the drawings is more simple and substantial.

I claim as my invention in a rear rifle-sight, and substantially as herein described, and for the purposes herein set forth—

1. A slotted leaf provided with female screw-threads formed upon the two opposite sides of the slot, in combination with a centrally-placed impelling-screw connected with or operating to move the slide.

2. An impelling-screw connected with and operating the slide of a gun-sight, provided with a thumb-piece formed by cutting the equidistant grooves, representing the division-lines of a scale, across a portion of the thread of such screw.

3. A slide for a rear rifle-sight provided with sharp-edged side flanges for embracing the leaf, and affording upon the outer side of either flange a plane surface inclined toward the edge of the leaf, and terminating in the central portion thereof, whereby the relative positions of the usual scale-marks on the edge of the leaf and on the inclined surface of the flange, respectively, are made readily observable.

HUGO BORCHARDT.

Witnesses:
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