K. VÖLLER AND O. GRAUHEDING.

SIGHTING DEVICE FOR GUNS.

APPLICATION FILED OCT. 8, 1913.

1,413,207. Patented Apr. 18, 1922.

2 SHEETS—SHEET 1.

Fig. 3.

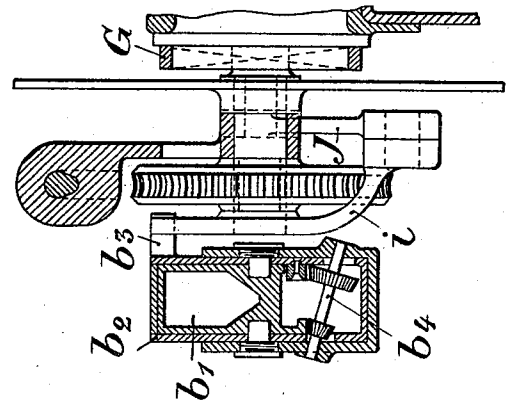


Fig. 1.

WITNESSES

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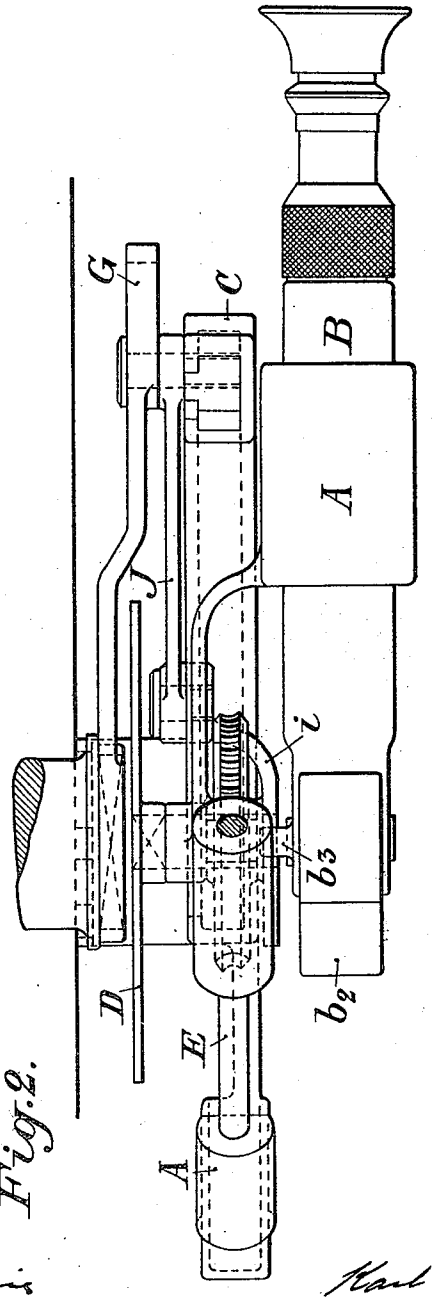


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

KARL VÖLLER AND OSKAR GRAUHEDING, OF DUSSELDORF, GERMANY, ASSIGNORS TO RHEINISCHE METALLWAAREN- UND MASCHINENFABRIK, OF DUSSELDORF-DER-ENDORF, GERMANY, A CORPORATION OF GERMANY.

SIGHTING DEVICE FOR GUNS.

1,413,207. Specification of Letters Patent. Patented Apr. 18, 1922.

Application filed October 8, 1913. Serial No. 794,127.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that we, KARL VÖLLER, engineer, a subject of the German Emperor, residing at Dusseldorf, 12 Scharnhorststrasse, Germany, and OSKAR GRAUHEDING, engineer, a subject of the German Emperor, residing at Dusseldorf, 26 Fischerstrasse, Germany, have invented certain new and useful Improvements in Sighting Devices for Guns; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to a sighting device for guns for firing at elevated targets, in which the angle of elevation is automatically varied according to the angle of site of the target, when after the sighting device has been adjusted to the range, the gun barrel is elevated until the line of sight is trained on the target.

In known sighting devices of this kind the telescope, or other sighting device, assumes a position when the gun is elevated, which, under certain conditions, places the eye-piece very inconveniently for the use of the gun-layer.

This disadvantage is removed in a simple manner by the present invention, which does not require any variation in the position of the eye-piece by hand, by the arrangement in which the telescope itself is not moved when the adjustment for the range is made or when the barrel is set to the angle of elevation, but the adjustment is transmitted to a prism placed in front of the telescope.

A construction of the invention is shown in the accompanying drawings in which Fig. 1 is a side elevation, Fig. 2 is a plan view from above and Fig. 3 is a section on line 3—3 of Fig. 1.

The sight carrier A is rigidly connected with the gun carriage or other part which does not participate in the adjustment for elevation, and serves as a support for a telescope B and a curved piece C which is designed to automatically reduce the angle of elevation as the angle of site increases, when, after the sighting device has been adjusted to the range, the gun barrel is elevated until the line of sight is trained on the target. As shown and described in an application for Letters Patent filed by Emil Muller, Serial No. 608,915, the curved piece C is pivoted at a on the sight carrier and may be swung about its pivot by a worm b of the driving shaft E which engages a segmental gear on the piece C. A disc D having graduations for different ranges is concentrically journaled in the sight carrier in front of the trunnion and is operated by a worm c on the shaft E, movement of the disc and the curved piece C being simultaneously effected by turning a hand wheel F on the end of the shaft.

A rearwardly projecting arm G rigidly secured to the trunnion has at its outer end a radial slot in which engages the pin of a block H which is designed to slide in a groove in the piece C. Fulcrumed on the pin of block H, between it and the arm G is a link J, the other end of such link being pivoted to the downwardly projecting arm of a two armed lever i, the other arm of the lever i being connected to a projection b^3 of a movable casing b^2 supported by the carrier A. Within this casing is journaled a prism b' which lies in front of the telescope B and is designed to be moved relatively thereto.

As the curved piece C is adjusted to the range indicated on the disc D, its turning movement is communicated to the link J through the sliding block H causing the lever i to turn on its pivot and to effect rotation of the casing b^2, which, in turn, transmits motion to the prism b' through the reducing gearing b^4. This reducing gearing causes the prism to be moved at only half the angular velocity since the angle by reflection is doubled.

We claim as our invention—

1. In combination with a pivotally mounted gun barrel, a sighting device comprising a fixed portion and a movable prism, a casing for said prism, means for moving said casing, means actuated by said casing for effecting a relative movement of said prism, and a connection between said casing moving means and said gun for adjusting said prism as the gun barrel is raised.

2. In combination with a pivotally mounted gun barrel, a sighting device comprising a fixed portion and a movable prism, a pivoted casing in which said prism is journaled, means for moving said casing about its pivot, motion translating means connecting said casing and prism, and a connection between said casing moving means and said gun for automatically adjusting said prism according to the range and angle of site as the barrel is elevated after the range has been set.

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

KARL VÖLLER. [L. S.]
OSKAR GRAUHEDING. [L. S.]

Witnesses:
HELEN NUFER,
ALBERT NUFER.