

B. SVISTOUNOFF.
ORDNANCE SIGHTING DEVICE.
APPLICATION FILED NOV. 4, 1911.

1,058,272.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.

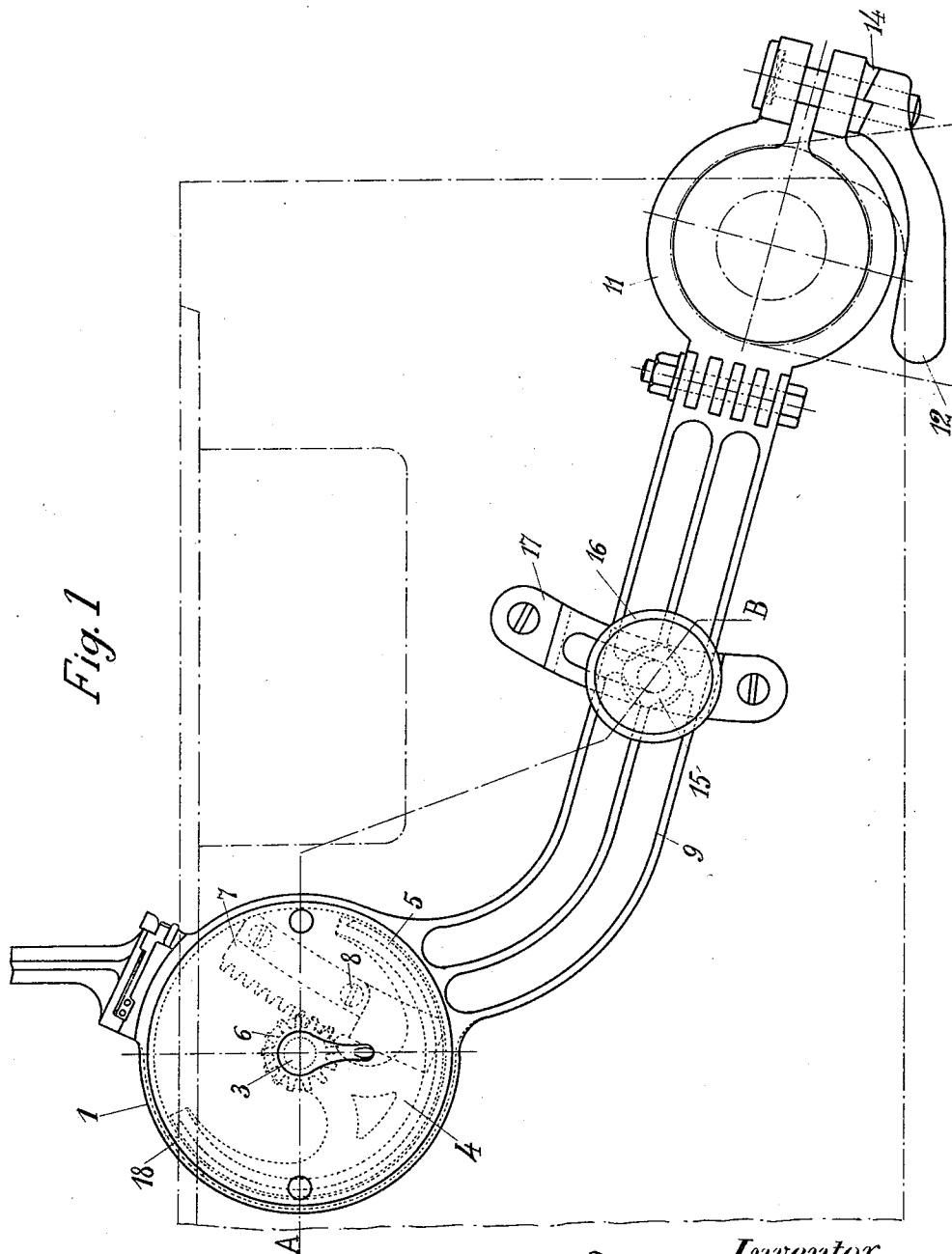


Fig. 1

Witnesses.
Nathaniel G. Noonan.
Joseph F. Sullivan.

Inventor
Boris Svistounoff
by E. Brodyson Malenko
Attorney.

1494

2P

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BORIS SVISTOUNOFF, OF ST. PETERSBURG, RUSSIA.

ORDNANCE SIGHTING DEVICE.

1,058,272.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed November 4, 1911. Serial No. 658,538.

To all whom it may concern:

Be it known that I, BORIS SVISTOUNOFF, a subject of the Czar of Russia, and residing at Woskressenskaia Quai No. 30, St. Petersburg, Russia, have invented certain new and useful Improvements in Ordnance Sighting Devices, of which the following is a specification.

This invention relates to the sighting and range finding devices of ordnance and more particularly to devices of the type known as "constant sighting line", in which the sighting line on adjustment of the range is not moved and is consequently independent of the angle of elevation, in distinction to the previously known independent sighting line which is displaced only parallel to itself.

The object of the present invention is to provide an improved device adjusting itself automatically to a given range, in which the constant sighting line is retained.

The invention consists in an improved sighting device for ordnance, particularly machine guns and the like, in which after the device has been sighted on a given target the line of sight remains perfectly fixed for any elevation which the gun may be given.

The invention also consists in a sighting device of the above type comprising a lever adjustably clamped at its fulcrum end to the frame carriage of the gun and terminating at the other end in a circular box carrying the sighting arrangement proper and in which is rotatably mounted on a central spindle an arc member carrying a range scale graduated to correspond to the elevation angle, the range scale being moved by means of a toothed wheel attached thereto and engaging with a rack sector fixed on the gun or breech thereof whereby the range is indicated at an inspection opening or index while retaining a constant sighting line.

In using the improved device the optical or sighting device proper is directed on the given target with a constant sighting line. If the target is at a distance greater than can be included by the working sphere of the constant sighting line the cannon or machine gun must be given an elevation corresponding to the range by means of the elevating mechanism, which elevation is automatically indicated on the range scale, while the sighting line itself remains constant and immovable during both increase and decrease of the angle of elevation.

One constructional form of the improved device is shown by way of example in the accompanying drawings in which;

Figure 1 is a side elevation of the elevation indicating device on the breech of a machine gun. Fig. 2 is an end elevation from the view point of the gunner, and Fig. 3 is a section of Fig. 1 on the line A—B.

The improved device consists of a round box 1 within which is a central spindle 3 on which is keyed an arc member 4 carrying a range scale 5 which parts can rotate inside the box along with the spindle. The boss 2 of the arc member has an extension in the form of a toothed wheel 6 which engages with a rack sector 7 screwed on the breech of the machine gun or the body of the cannon. The box 1 is formed on the end of a lever 9 fulcrumed on a horizontal cylindric member 10 which is attached in suitable manner to the boss of the tripod or support of the gun. The lever 9 can be clamped to the boss of the tripod or support of the machine gun by screwing up the split ring 11 by means of a handle 12 and a nut 14 with oblique bearing surfaces. By this clamping device the entire device can be made to form a single piece with the tripod of the gun and remain in this position independent of the angle of elevation given to the gun. The optical or sighting device proper is fitted in a groove 13 on the top of the box 1 so that it remains when trained on the given target immovable after clamping the split ring 11.

The lever 9 is formed with recesses and stiffening webs and a cast boss 15, as shown in Figs. 1 and 3, to effect saving in weight. The boss 15 receives an adjusting screw 16 and is provided with a suitably tapped hole for the same.

The whole device is attached to the right side of the breech of the machine gun and is curved so as not to interfere with the cartridge band. The lever is fixed in position by the adjusting screw 16 and a slotted sector 17 and receives a limited motion owing to the engagement of the rack sector 7 with the toothed wheel 6 rotating freely on the spindle 3.

The device works in the following manner: The optical or sighting arrangement proper is trained upon the given target, the range scale 4 indicating the range at the inspection opening 18 which range corresponds to the angle of elevation of the

constant sighting device. The split ring 11 is then clamped on the cylindric member 10 by means of the handle 12 whereby the device is firmly connected to the framework or carriage of the gun. The wing nut 16 must be unscrewed to allow the motion of the lever 9 inside the sector 17. If, for example, the target is more remote than the range corresponding to the constant elevation adjusting device, the gun must be given an angle of elevation corresponding to the given range. For this purpose the elevating device must be actuated whereby the body or the base of the gun is lowered and the rack sector 7 attached to the said gun rotates the toothed wheel 6 and thus moves the range scale 4 attached to the latter, the device meanwhile remaining in unaltered position owing to its being firmly clamped on the tripod or support of the gun. The range is then indicated on the range scale at the inspection opening 18.

The displacement of the range scale 4 in the circular box 1 is always proportional to the change in the angle of elevation of the gun and the optical or sighting arrangement proper, fixed in the groove 13 along with the entire device remains fixed for all angles of elevation and is always directed on the target.

From the above description it is obvious that the principle of the constant sighting line referred to at the commencement of the description has been adhered to. The application of the principle of the constant or immovable sighting line to elevation ad-

justing devices is believed to be completely new.

A special advantage of the present invention lies in its greater simplicity compared with the inventions according to British Letters Patent Nos. 14679/10 and 1129/11 relating to the same type of devices.

The simple and very reliable means for connecting the device to the support or tripod of the gun guarantees rapidity of operation.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:—

In an ordnance sighting device, a lever adjustably clamped at its fulcrum end to a gun part, a circular box at the other end of the lever supporting the sighting arrangement, a central spindle in the box, an arc member carrying a range scale rotatably mounted on the spindle, graduations on the range scale corresponding to the angle of elevation, a toothed wheel attached to the arc member, a rack sector meshing with the wheel and attached to a gun part, an inspection opening or index at which the range is indicated, a clamping nut and screw on the lever, and a slotted sector cooperating therewith on the gun.

In testimony whereof I have affixed my signature in presence of two witnesses.

BORIS SVISTOUNOFF.

Witnesses:

H. A. LOVIAGUINE,
A. M. AGLITZKY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."