33-248. OR 1,376,992 SR

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A. AMIGUES.

SIGHTING APPARATUS FOR FIREARMS AND PARTICULARLY FOR MACHINE GUNS.

APPLICATION FILED MAR. 5, 1918.

1,376,992.

Patented May 3, 1921.

3 SHEETS—SHEET 1.

Fig.2.

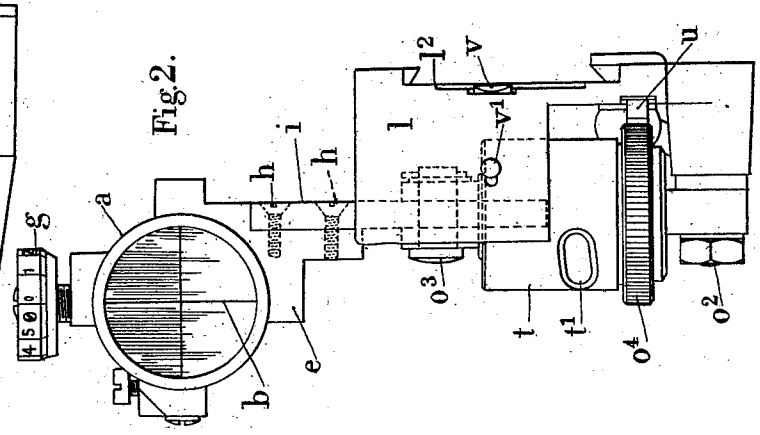
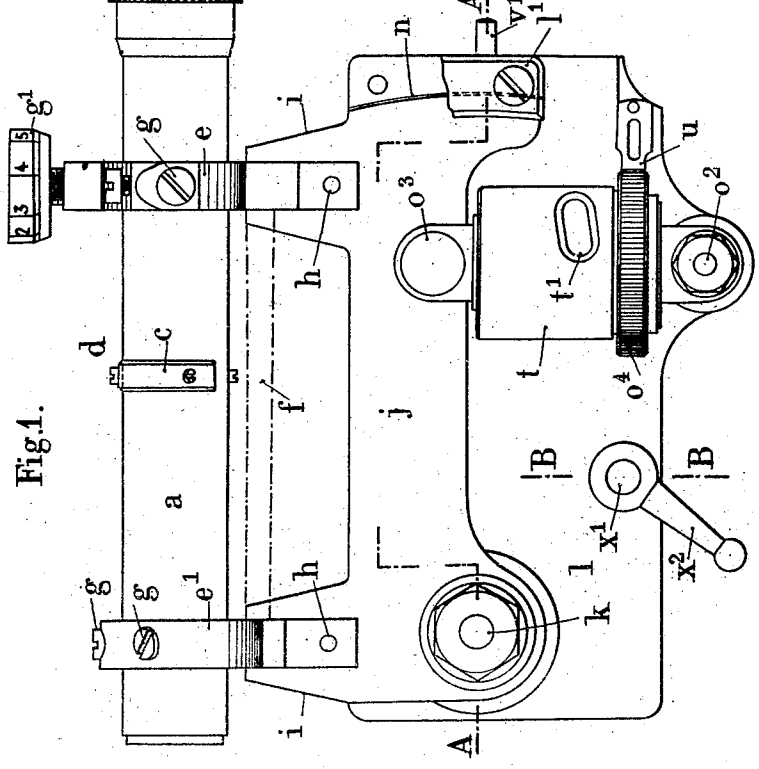


Fig.1.



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3 SHEETS—SHEET 2.

Fig.6.

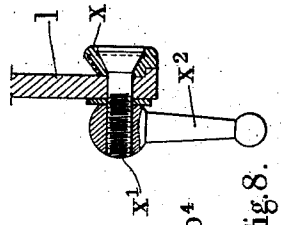


Fig.8.

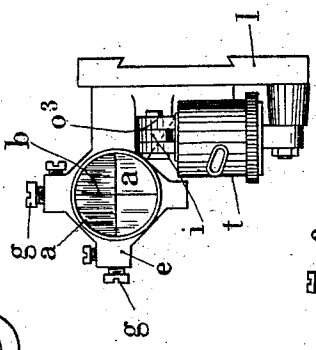


Fig.5.

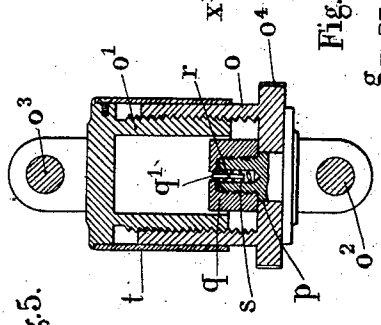


Fig.7.

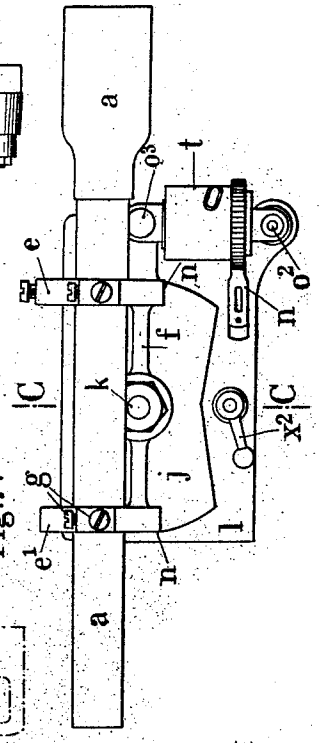


Fig.3.

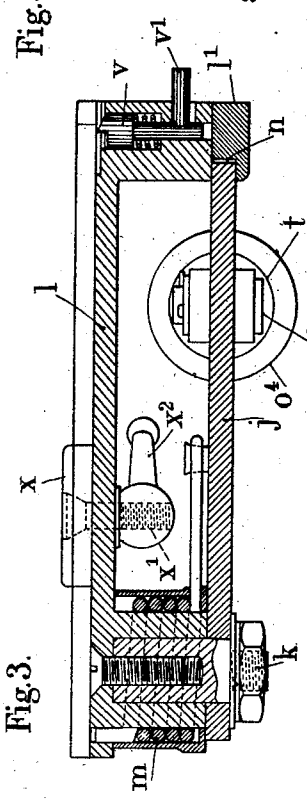


Fig.4.

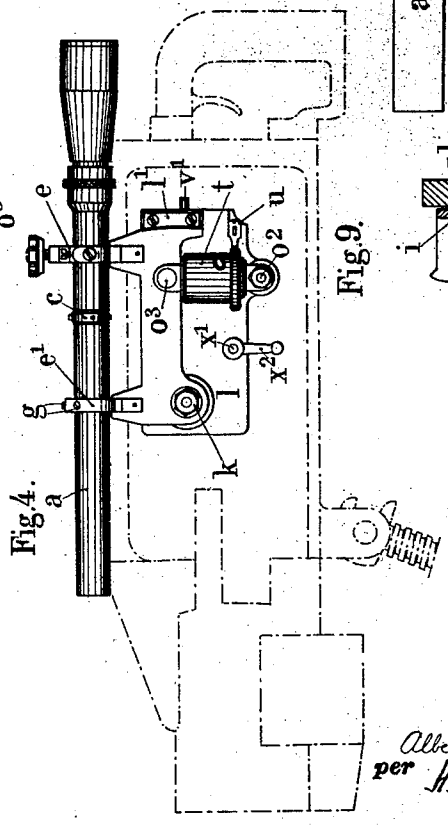
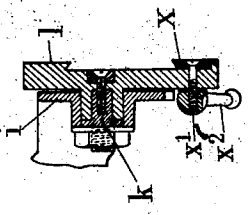


Fig.9.



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33. GEOMETRICAL INSTRUMENTS.

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APPLICATION FILED MAR. 5, 1918.

1,376,992.

Patented May 3, 1921.

3 SHEETS—SHEET 3.

Fig. 11.

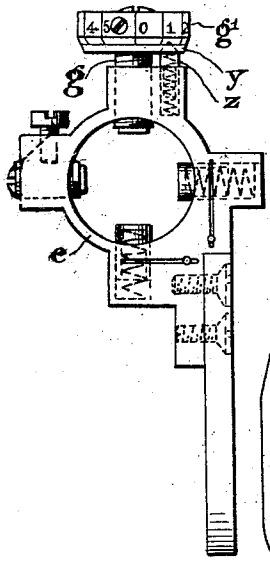
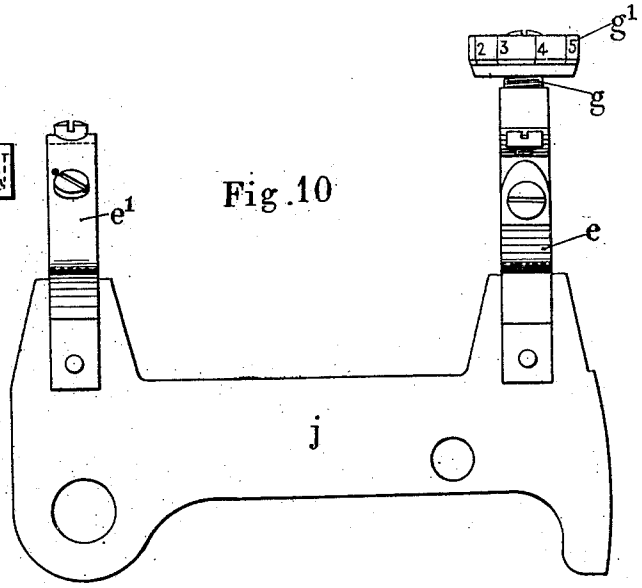


Fig. 10



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33. GEOMETRICAL INSTRUMENTS. Draftman

UNITED STATES PATENT OFFICE.

ALBERT AMIGUES, OF PARIS, FRANCE.

SIGHTING APPARATUS FOR FIREARMS, AND PARTICULARLY FOR MACHINE-GUNS.

1,376,992. Specification of Letters Patent. Patented May 3, 1921.

Application filed March 5, 1918. Serial No. 220,616.

To all whom it may concern:

Be it known that I, ALBERT AMIGUES, of 7 Avenue Matignon, Paris, France, engineer, have invented Improvements in or Relating to Sighting Apparatus for Firearms, and Particularly for Machine-Guns, of which the following is a full, clear, and exact description.

The present invention relates to sighting apparatus for fire arms and in particular for machine guns, its object being to provide an apparatus so constructed as to permit of aiming with any usual or preferred back sight for machine guns without any derangement being able to occur in consequence of the vibrations arising from the firing of the gun.

Preferred embodiments of this invention are described hereunder in reference to the accompanying drawing, in which:

Figure 1 is a side elevation of this sighting apparatus.

Fig. 2 is an elevation from the side of the rear part of the machine gun.

Fig. 3 is a sectional plan on the line A—A of Fig. 1.

Fig. 4 shows this apparatus applied to the left hand side of a machine gun.

Fig. 5 is a detail view in section of the device for controlling the telescope-carrier.

Fig. 6 is a detail view in section on the line B—B of Fig. 1 of the device for fixing the apparatus on to the intermediate piece which is rigidly attached to the machine gun.

Fig. 7 shows a side elevation of a modification of this apparatus.

Fig. 8 is a front view of this modification from the side of the rear part of the machine gun.

Fig. 9 is a sectional elevation on the line C—C of Fig. 7.

Fig. 10 is a side view of the telescope-carrier provided with its two collars, the back collar being provided with a device for correcting the displacements due to the heating of the barrel during firing.

Fig. 11 is an end view corresponding to Fig. 10.

As shown in Figs. 1 to 6, the telescope a forming part of this apparatus presents a reticle b, the two cross lines of which are adjustable in orientation. With this end in view the ring carrying these two lines may be rotated by means of an external ring c which is then fixed rigidly by means of a set screw d.

The telescope a is mounted in two collars e e', constituting two supports which may or may not be united to one another by a cross bar f and which are provided with adjusting screws g which enable this telescope to be adjusted both horizontally and vertically.

The collars e e' are each fixed by means of two screws h on to lugs i surmounting the telescope-carrier j.

The telescope-carrier j, arranged vertically, is capable of pivoting forward about a pivot k fixed into the frame l. A coil spring m (Fig. 3), hooked at one end on to the frame and at the other end on to the telescope-carrier, keeps the latter in adjusted position and precludes any play in the apparatus.

On the side opposite to the pivot k the extremity of the telescope-carrier has a loose frictional fit in a groove n (Fig. 1) in the form of a sector forming a guide and cut in a projection l' rigidly attached to the frame. This groove guides the telescope-carrier during its displacements, at the same time preventing it from taking any lateral play with respect to the machine gun during firing.

The vertical displacements of the telescope-carrier j, that is to say its swinging movements about the pivot k, are obtained by means of a controlling device comprising two sleeves o o' (Fig. 5) screwed into each other. The sleeve o is mounted loose on the frame l by means of a pin o^2 forming a pivot, while the other sleeve o' is mounted on the telescope-carrier by means of another pin o^3 also forming a pivot. The loose sleeve o comprises a milled edge o^4 enabling it to be rotated with the fingers about a bush p forming part of the device for attachment to the frame. This sleeve is held on its bush p, at the same time remaining loose thereon, by means of a nut q screwed on to this bush and locked by means of a small T-piece r pushed by a coil spring s into the slot q' of this nut. In order to withdraw the nut q all that is necessary is first of all to push away the T-piece by means of a screw-driver and to keep this T-piece pushed away during the unscrewing of this nut.

The sleeve o', mounted on the telescope-carrier, is virtually integral with a drum t provided with an opening t' bearing a reference mark, while the periphery of the loose sleeve o is graduated. This graduation indicates the vertical displacement of the telescope.

A spring pawl u, the nose of which is engaged in the milling o^4 of the loose drum, holds the latter in adjusted position.

The frame l, that fits on to the machine gun, has a dovetailed groove l^2, which engages on an intermediate piece of the same shape virtually integral with the machine gun. The arrangement of this intermediate piece will vary, of course, according to the type of machine gun on which this apparatus is to be fitted.

This frame l is secured to the intermediate piece by means of a spring locking bar v provided with a small operating knob v' (Fig. 3) and of a small clamp x gripping the edge of the intermediate piece. This clamp comprises to this end a screw-threaded shank x' (Fig. 6) passing through the frame, upon which a nut x^2 having a handle is engaged.

In the modification illustrated in Figs. 7 to 9 the pivot k of the telescope-carrier is arranged at the middle of the frame. In this case the telescope-carrier j is guided by means of two guides n, one at each end.

In certain types of machine guns, in consequence of the heating of the barrel during firing, the aiming is thrown out of adjustment.

When optical sighting apparatus is applied to these machine guns, since on the one hand the optical axis of the apparatus remains fixed during firing and on the other hand, under the action of the heating, the firing is thrown out of adjustment, it follows that the apparatus utilized then gives erroneous sighting.

In order to remedy this defect, when the type of machine guns require it, the back collar e (Fig. 10) carries a fixed index y and the vertical adjusting screw g a drum g' upon which divisions are engraved corresponding to lines engraved on the movable sight of the gun.

This arrangement makes it possible to correct the derangement of the sighting due to the heating of the barrel during continuous firing, which ordinarily lowers the firing.

A spring stop z is adapted to project into recesses in the lower face of the drum, and prevents any accidental displacement of this drum.

An antagonistic spring O brings the lever K back to its original position when the gun cools down.

The shapes, details, accessories, materials and dimensions of this sighting apparatus may of course vary without thereby in any way altering the principle of the invention set forth in the appended claims:

1. In a sighting device for fire arms, the combination of a telescope, a supporting frame adapted to be secured to a fire arm, a telescope carrier pivoted to said frame, a guiding sector on said frame at the free end of said carrier, and screw threaded means for adjusting the position of said telescope-carrier with respect to said frame.

2. In a sighting device for fire arms, the combination of a telescope, a supporting frame adapted to be secured to a fire arm, a telescope-carrier pivoted to said frame, and means for adjusting the position of said telescope-carrier with respect to said frame, said means including two sleeves in screw threaded engagement with each other and pivotally connected with said supporting frame and telescope-carrier respectively, and coöperating means on said sleeves for indicating the relative position of said frame and telescope carrier.

3. In a sighting device for fire arms, the combination of a telescope, a supporting frame adapted to be secured to a fire arm, a telescope-carrier pivoted to said frame, and means for adjusting the position of said telescope-carrier with respect to said frame, said means comprising a sleeve pivoted to said telescope-carrier, a bush pivoted to said frame, a second sleeve rotatably mounted on said bush, the two sleeves being in screw threaded engagement with each other, one sleeve being provided with graduations and the other with indicating means adapted to travel over said graduations, a milled edge integral with the rotatable sleeve, and a retaining pawl adapted to hold said edge in adjusted position.

4. In a sighting device for fire arms, the combination of a telescope, a supporting frame having an arcuate groove and adapted to be secured to a fire arm, a pivot secured to said frame, a telescope-carrier mounted on said pivot at one of its ends and adapted to engage said arcuate groove in said frame with its other end, a spring coiled around said pivot and connected at its ends with said frame and telescope-carrier respectively, and means for adjusting the position of said telescope-carrier with respect to said frame.

5. In a sighting device for fire arms, the combination of a telescope, a supporting frame adapted to be secured to a fire arm, said frame having a dovetailed groove formed therein, a spring pressed locking bar and a threaded clamp mounted in said frame and adapted to coöperate with said groove to secure said frame to the fire arm, a telescope carrier pivoted to said frame, and means for adjusting the position of said telescope-carrier with respect to said frame.

6. In a sighting device for fire arms, the combination of a telescope having a reticle and means for adjusting the cross-lines of said reticle in position, a supporting frame adapted to be secured to a fire arm, a telescope-carrier pivoted to said frame, said telescope-carrier including a pair of collars

38. GEOMETRICAL INSTRUMENT

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engaging the telescope, threaded means for adjusting the telescope in position with respect to said collars, threaded means for adjusting the telescope-carrier in position with respect to said frame, said frame being provided with an arcuate groove for guiding the free end of the carrier.

7. In a sighting device for fire arms, the combination of a telescope, a supporting frame adapted to be secured to a fire arm, a telescope-carrier pivoted to said frame, said telescope-carrier including a pair of collars engaging the telescope, threaded means in one of said collars for adjusting the vertical position of said telescope, an index coöperating with said means to indicate the position of said telescope with respect to said telescope-carrier, threaded means for adjusting the position of said telescope-carrier with respect to said frame, and an arcuate guide for the free end of the said carrier.

The foregoing specification of my improvements in or relating to sighting apparatus for fire arms and particularly for machine guns, signed by me this seventh day of February, 1918.

ALBERT AMIGUES.

Witnesses:

CHAS P. PRESSLY,

FRANÇOIS WEBER.