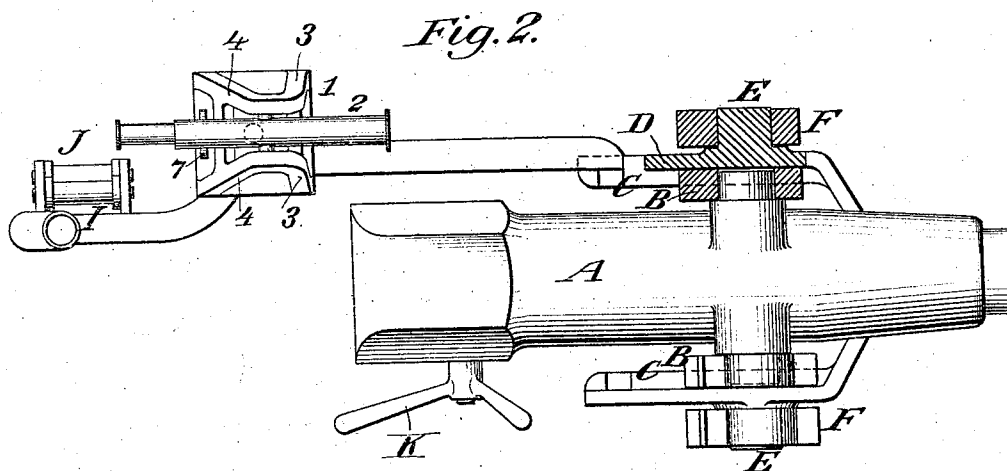
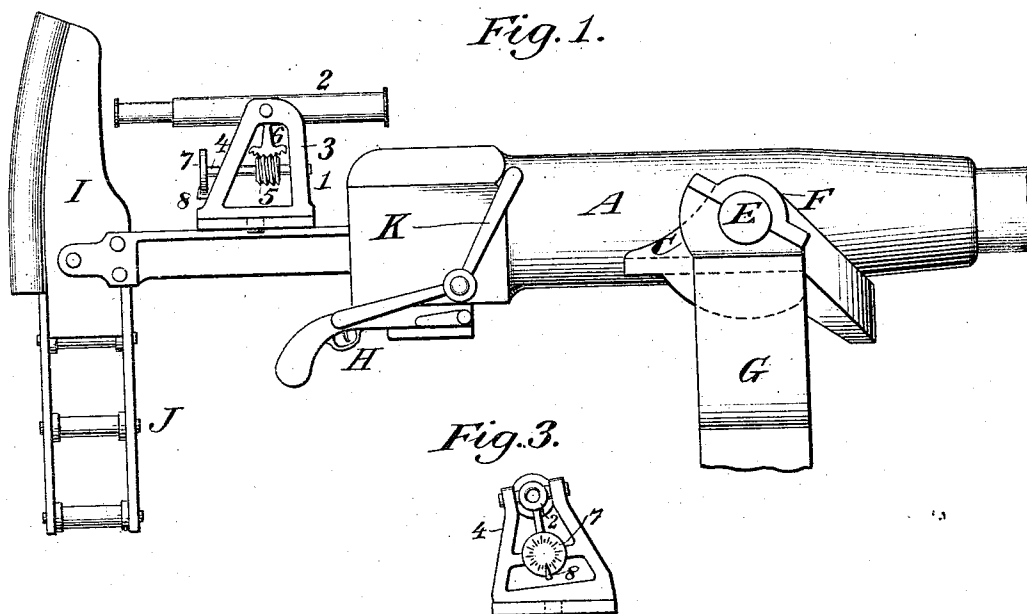


(No Model.)

B. A. FISKE.
TELESCOPIC SIGHT.

No. 558,058.

Patented Apr. 14, 1896.



Witnesses:-

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UNITED STATES PATENT OFFICE.

BRADLEY A. FISKE, OF THE UNITED STATES NAVY.

TELESCOPIC SIGHT.

SPECIFICATION forming part of Letters Patent No. 558,058, dated April 14, 1896.

Application filed May 20, 1893. Serial No. 474,873. (No model.)

To all whom it may concern:

Be it known that I, BRADLEY A. FISKE, of the United States Navy, have invented a new and useful Improvement in Telescopic Sights, of which the following is a specification.

The invention consists in the combination of a telescopic sight with that class of guns which are so arranged and constructed as always to recoil in the direction of their line of fire, and in this respect are different from guns which, whatever may be their angular position, always recoil along the plane of the deck or other support on which they rest. The so-called "quick-fire" guns now in use in all navies belong to this first-named class, and my present object is to apply my telescopic sight to this exceedingly important type of weapon.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 a plan view, of a gun mounted in a saddle and provided with my telescopic sight, it being understood that only so much of the gun and saddle is here shown as is necessary for the understanding of my invention and that the type of gun here illustrated is simply one now in ordinary use in the United States. Fig. 3 shows the arrangement of the telescope on an inclined base to allow for drift of the projectile.

Similar letters and figures of reference indicate like parts.

A is the gun, supported by its trunnions in the blocks B, which rest upon and move upon the slides C of the saddle D. The saddle D has trunnions E, which are received in bearings F of the upright standard G. The standard G may be rotated on its vertical axis, so as to train the gun in azimuth, and the saddle D turns on its trunnions E, so as to raise or lower the muzzle of the gun. K is the lever for moving the breech-block. H is the firing-trigger. I is the shoulder-piece, against which the shoulder of the operator bears, and J is a handle which he grasps in order to steady himself against the gun and to move it conveniently by the movement of his body. All of these parts being old and well known, are familiar to persons skilled in the art and need no further description.

My telescopic sight is mounted upon a suitable shelf or ledge 1, supported upon the rearwardly-projecting arm of the saddle D, as shown in Fig. 2.

2 is a telescope supported on trunnions in the standard 3. In said standard is journaled a shaft 4, which carries a worm 5, which engages in a curved rack 6, supported on the telescope.

7 is a hand-wheel by means of which the shaft 4 may be turned and the telescope thus rotated on its trunnions. The face of the wheel 7 is marked with suitable graduations, and in proximity thereto is a pointer 8, by which means the extent of elevation or depression of the telescope can be readily adjusted.

The face of the wheel 7 may be marked at once for ranges corresponding to the angular elevations of the telescope.

It will be observed that by this construction the axis of the bore of the gun is always parallel to the slide on the saddle, or, in other words, that the relation of gun and saddle is not changed, so that for all practical purposes the upper edge of the saddle on which the telescopic sight rests may be regarded as the axis of the bore, and as the distance to which the shot will be thrown will always depend upon the angle of the axis of the bore with reference to the line of sight directed upon the object it is clear that if the line of sight be through the telescope then all that we have to consider is the angle of the telescope to its base, which is the upper edge of the saddle. Therefore the apparatus may be used in either of two ways, depending upon whether the effect of a vibrating or moving platform, such as a ship's deck at sea, is called into operation or not. Thus the operator places the telescope 2, by means of the hand-wheel 7, in a position so that its axis is parallel to its base. Then, still by means of the wheel 7, he raises the eyepiece of the telescope over an angle corresponding to the desired range. That angle will be, of course, the angle to which the gun must be elevated in order to throw its projectile over that desired range. Then he lowers the rear end of the saddle until the telescope comes on the object. As a matter of course he must then have raised the object end of the telescope, and equally of course the gun itself, over the proper angle. When the object appears on the cross-wires of the telescope the gun-trigger, is pulled.

It will be obvious that a moving or vibrating platform for the gun here plays no part.

If, however, the platform is moving—that is to say, if the vessel is rolling or pitching—then that action is brought into play in the following manner: The observer sets his telescope as before. He then, instead of actually lowering the shoulder end of the telescope, merely waits immovably until the upward roll of the ship carries the telescope upward until the object is seen through it. Then he presses the firing-trigger, as before. It will be seen that here the telescope is movable independently of the gun, but the gun is not movable independently of the telescope. Changes in elevation and depression of the gun do not produce any relative movement of the gun and telescope, so that to place the telescope parallel to the gun is easily done by simply bringing the graduation on its wheel 7 to a definite mark, after which the angle at which the telescope is laid determines, of course, the elevation angle of the gun.

Although it has been stated above that the gun is supported on the saddle to which the telescope is secured, it is to be understood that my invention comprehends also the combination of a telescope with any attachment to the gun-carriage which has motion coincident with the gun in elevation and train but which does not recoil with the gun. For instance, the telescope may be secured to a bar pivoted to a fixed part of the carriage in line with the trunnions and supported at its rear end on the breech of the gun without departing from the limits of my invention.

The drift of a projectile when fired from a rifled gun is a deviation from the line of fire to the right or the left, a right-handed rifling causing the projectile to deviate to the right and a left-handed rifling causing the projectile to deviate to the left. The distance to the right or left to which the shot is thus deviated increases with the distance to which the shot is fired, and it becomes necessary, therefore, to apply a correction, which also increases with the distance to which the shot is fired. With the ordinary sight-bar this correction is accomplished by placing the support of each sight-bar to one side of a line parallel to the bore of the gun from the front sight and by inclining it at an angle, so that the rear sight-bar as it is raised does not rise in a vertical plane, but in one at a right angle thereto.

In my present device I provide for this correction automatically by inclining the trunnions whereon the telescope 2 is supported from the horizontal, thus inclining the vertical cross-wire in the telescope in the same

way as the ordinary sight-bar is inclined to the vertical. This, as Fig. 3 shows, is easily done by simply cutting away the base of the telescope at an angle.

I claim—

1. The combination of a gun, a saddle whereon said gun slides longitudinally, a support for said saddle constructed so as to allow said saddle to be moved in a vertical plane, and a telescope or sight-bar supported upon said saddle movable on a horizontal, transverse axis and disposed with its longitudinal axis in a vertical plane parallel to that including the axis of the bore of the gun.

2. The combination of the gun A, saddle D, on which said gun slides longitudinally, support G for said gun and telescope 2 movable in standards 3 upon said saddle, substantially as described.

3. The combination of the gun A, saddle D, on which said gun slides longitudinally, support G for said gun, telescope 2 movable in standards 3 upon said saddle, and means, such as shaft 4, rack 5 and pinion 6, for adjusting said telescope, substantially as described.

4. The combination of a gun, a support therefor and a telescope on said support, the said gun and the said telescope being movable about their transverse axes and having their longitudinal axes disposed in relatively converging and approximately vertical planes: whereby the line of sight to a distant object from said telescope is corrected to allow for drift of the projectile thrown from said gun, substantially as described.

5. The combination of a gun, a support therefor and a telescope on said support, the said gun and the said telescope being movable about their transverse axes and the said telescope being supported on an inclined base: whereby the line of sight to a distant object from said telescope is corrected to allow for drift of the projectile thrown from said gun, substantially as described.

6. The combination of the gun A, saddle D, on which said gun slides longitudinally, support G for said gun, telescope 2, and inclined standards 3 upon said saddle: the angle of inclination of said standards being such as to correct the line of sight from the telescope to a distant object to allow for drift of the projectile thrown from said gun, substantially as described.

BRADLEY A. FISKE.

Witnesses:

WM. ARNOUX,
JOHN C. SANDERS.