(No Model.)

J. S. BLANKMAN.

SIGHT FOR FIRE ARMS.

No. 395,944. Patented Jan. 8, 1889.

FIG. 6.

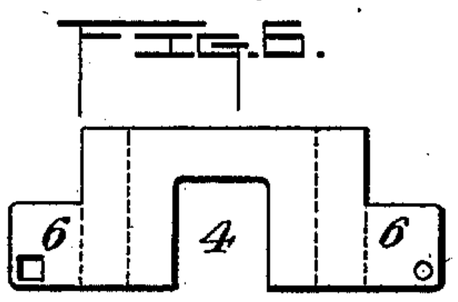


FIG. 3.

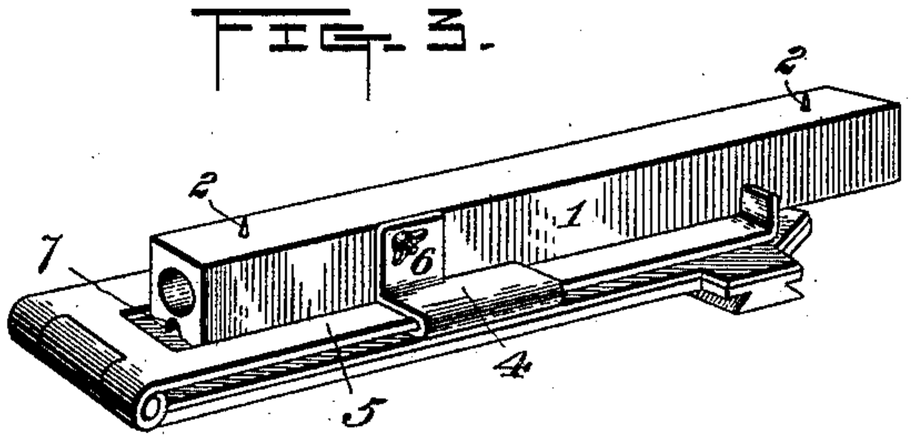


FIG. 1.

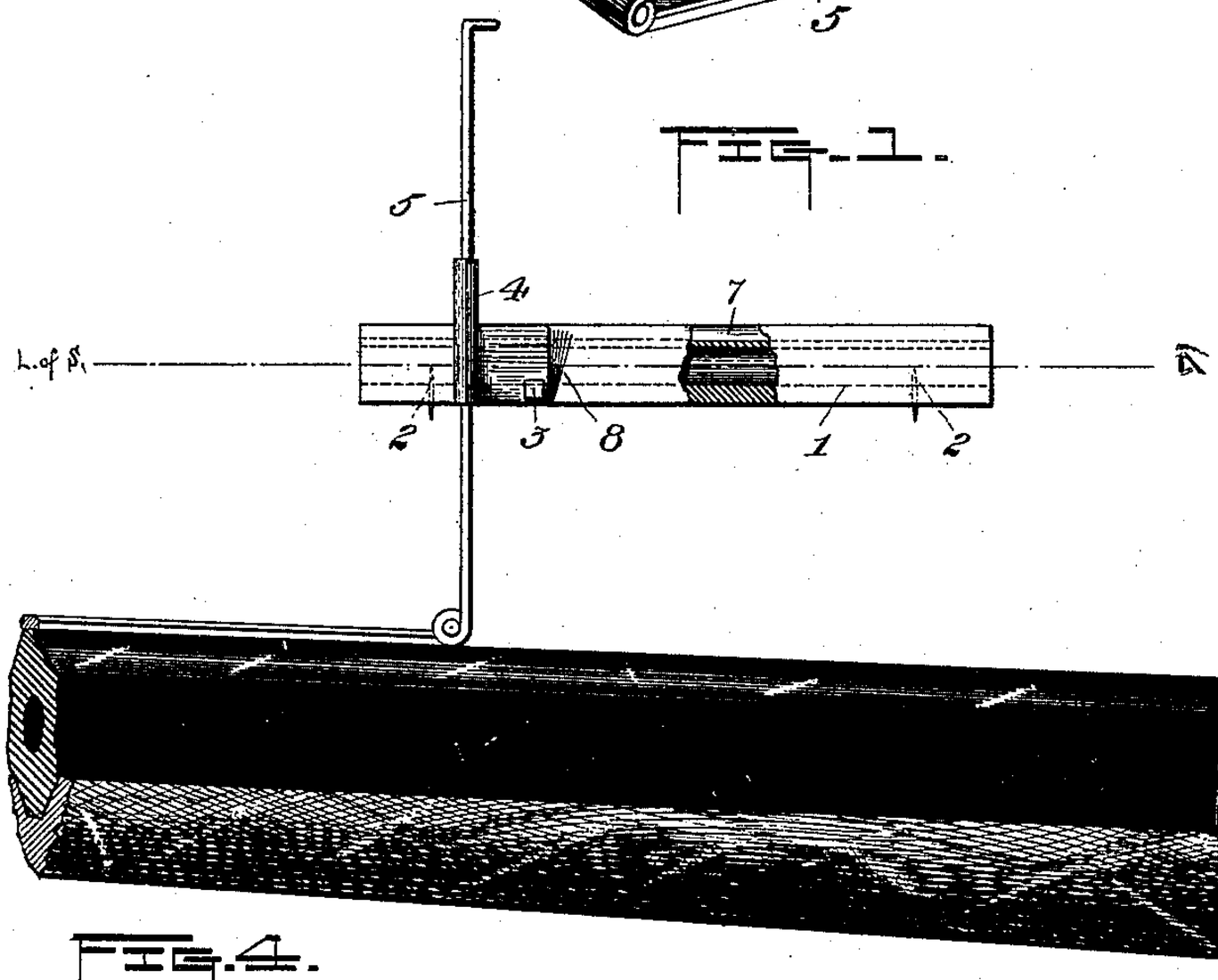


FIG. 4.

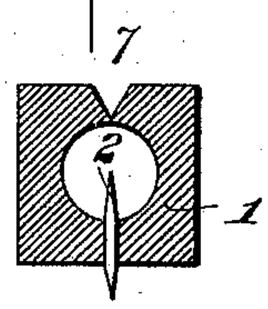


FIG. 5.

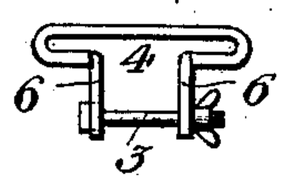
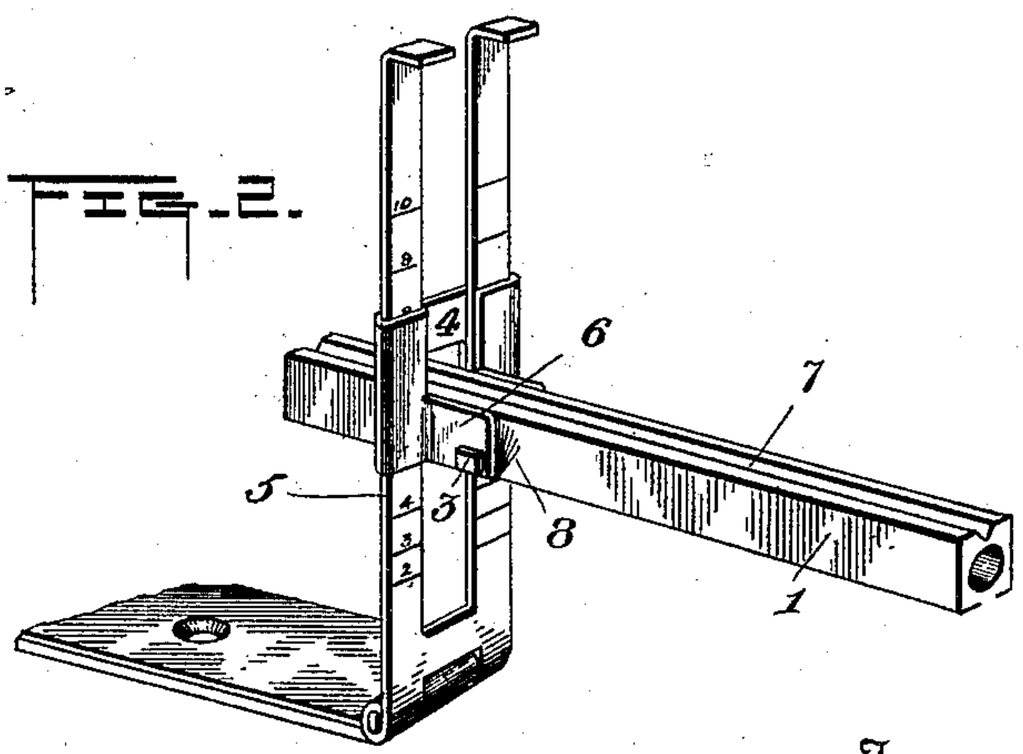


FIG. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN S. BLANKMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

SIGHT FOR FIRE-ARMS.

SPECIFICATION forming part of Letters Patent No. 395,944, dated January 8, 1889.

Application filed June 26, 1888. Serial No. 278,250. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. BLANKMAN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Gun-Sights; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of the invention is to provide means for directing the vision with speed and accuracy toward any object or mark, which means shall be suitable for use with fire-arms, and particularly for use with long-range guns and rifles. For this purpose a sight-tube which is adapted to guide the eye and to substantially shut out or exclude every object but the mark is arranged near the breech and provided with sight-pins, and is made easily adjustable with reference to variations in the direction of the arm according to differences in the range. This adjustment is effected in part by raising the sight vertically, as heretofore, and in part by a variation of the angle between the improved sight-tube and the axis of the weapon, and the various advantages of the improvement are secured by the devices hereinafter fully described, and particularly pointed out.

In the accompanying drawings, Figure 1 represents in side elevation a section of a gun stock and barrel with sight-leaf and adjustable tube. Fig. 2 is a perspective of the same parts in operative position and partly in section. Fig. 3 is a perspective view of the leaf and tube folded down. Fig. 4 represents a transverse section of the sight-tube. Fig. 5 is a plan view of the adjustable clamp that carries the sight-tube, and Fig. 6 represents a blank from which the clamp is produced.

In carrying out my invention I provide a tube, 1, from three to six or more inches in length, and place within said tube two sight-pins, 2, located in the same plane with each other and with a diameter of the bore of the tube. This tube, which may be of any desired form in cross-section as also may be its bore, is hinged near its mid-length, preferably by means of a screw or equivalent, 3, to an adjustable clamp or sliding bracket, 4, of novel form, which slide is in the present instance represented as applied to a sight-leaf, 5, of well-known form. A blank to form this slide can be stamped out of metal in form as shown in Fig. 6, which blank may be bent to produce the device represented in other figures. It is bent into shape to embrace the leaf in such manner that it can be readily moved up and down or along the same when not clamped upon it by the action of the screw 3. This screw passes through the perforated wings or arms 6 of the clamp. It is provided with a head, and may have such connection with the wings or arms of the clamp as not to turn in its bearings. It is screw-threaded at the end opposite the head to receive a thumb-nut, by turning which the elastic wings of the slide can be compressed upon the tube, and those portions of the slide which embrace the leaf are also by the same operation compressed upon and made to firmly hold to said leaf. This slide, as is obvious, can be arranged to be used with either end uppermost, and its particular form could also be varied to adapt it to other sight-supports. It can also be entirely omitted and the sight-tube journaled or hinged directly to the barrel, or to a base similar to an ordinary sight-base secured in the barrel. The sight-leaf illustrated is very suitable for use with my improved sight-tube, which can be applied without difficulty to such as are already in common use, the clamp being easily fitted to the leaf and the tube folding down when not in use between the branches of the leaf and out of the way.

On a side (preferably the upper side) of the tube which is near the breech of the gun and secured in any suitable manner is provided a channel, 7, which may be of any form in cross-section, and the use of which will be hereinafter described. On the side of the tube adjacent to the outer extremity of one or both wings of the clamp is placed a scale, as at 8, so arranged that the edge of the wing constitutes an index. The marks of this scale indicate the proper angles to which the tube must be adjusted to maintain the direction of its base toward the mark when the direction of the bore of the gun is varied to obviate the

effect of gravity upon the projectile having a large trajectory. The scale, if continued forward of the vertical line, as represented, would furnish means of adjusting the upward direction of the gun to shoot an object out of sight, provided its distance and vertical plane were known.

In operation, when the range is comparatively small—for example, about one hundred yards for a rifle or five hundred yards for a cannon—the sight-tube can be used in the folded position of the leaf indicated in Fig. 3, the sight-pins 2 projecting through the wall of the tube, as shown. For a greater distance, if the leaf represented is used, it is opened and the tube adjusted vertically by means of the slide 4, and the tube turned on its support 3 to adjust its direction to point to the distant mark when the muzzle of the gun is raised to secure the desired trajectory. The tube being in proper relative position the thumb-nut may be turned to tighten the clamp. The eye is directed through the tube and to the mark, and when the sight-pins within the tube are brought in line with the eye and the mark the aim is perfected. Sight-pins are used instead of the pin and notch heretofore in common use on gun-barrels, for the reason that the walls of the notch together with the pin would obstruct the vision too much, though my improvement could be used with a sight-notch in the tube.

The tube is located forward of the breech and conveniently near the eye of the marksman, and the transverse diameter of its bore can be made quite small—for example, from about one-eighth to three-eighths of an inch—without interfering with the vision. For long-range guns a greater diameter may be desirable. The rings and sight-protectors heretofore placed near the muzzle and the short sight-protectors located near the breech have been so large in size and short in length as not themselves to act as sights, since they afforded a view of a large field and admitted widely-divergent rays of light. My tube being about three inches or more in length and placed near the eye and reduced in diameter would serve as a sight without the points, though the use of the latter is preferred, as they enable the marksman to take aim more speedily and with a nicer accuracy. The diameter of the bore of the tube may be varied, as desired, but it is usually made for use on rifles much smaller than the sight-protectors heretofore employed.

The groove 7 enables the marksman to take a preliminary aim at or immediately prior to the instant when he finally perfects his aim through the bore of the tube. In some lights or in partial darkness the groove can be used exclusively in taking aim with good practical effect. It is obvious that the sight-pins could be extended through the tube into view in the groove, if desired, and my improvement contemplates such a construction when wide grooves are employed.

I have described my device as suitable for use with fire-arms; but it is obvious that it can be used with any gun or instrument which requires means to aid in taking aim or directing the vision, and, as before stated, the particular dimensions named are not essential, as these may be varied according to circumstances. The sight-tube, however, must be more than a mere ring having a length not greater than its diameter.

It is further obvious that the form of the clamp can be easily varied to fit various leaves or sight-supports, and that the particular clamp illustrated can be readily applied to the inclined spring-leaf now in common use, which leaf or sight-support usually has one end secured to the gun, and is provided with means for elevating the other end, which latter carries the sight, the leaf being made elastic; and it is further obvious that the slide may be so fitted to its support as to enable the clamping-nut to be dispensed with without departure from the invention in other particulars; and, finally, the details of my device may be varied in unimportant particulars by mechanics without departure from the invention. This tube may be made angular or curved in cross-section either as to its body or its bore, and the angles of the body, if it be so made, can be chamfered.

Heretofore telescopes have been combined with fire-arms to magnify to the vision of the marksman the object aimed at, and such telescopes have been made adjustable about journal-bearings to adapt them to different ranges. Such a telescopic tube combined with a gun is not of my invention. I use an open tube for the purpose of enabling the marksman to speedily narrow his field of vision and direct his sight, the tube being adapted for distances such that magnifying-glasses are not only not required but would tend to defeat my purpose, which, as stated, is to narrow the field of sight and confine the vision rather than to magnify said field, and thus extend the apparent range of vision. My claim herein, therefore, is limited to an open tube having its interior free from lenses or other objects, except that when desired sight-points or equivalents may be used.

I am aware that a block having a small aperture or "peep-sight" resembling a pin-hole has been combined with a sight-leaf by means of a hollow screw-threaded extension and milled nut. Such device does not comprise an open tube according to the present improvement. The hollow extension above described was provided with a large bore that could not narrow the field of vision because that was too much restricted by the peep-sight to permit the extension to have that function. Such extension is, therefore, not an open sight-tube. I desire to be understood as limiting my claim in this respect to a tube having a bore of substantially-uniform diameter, and to exclude from such claims a block or piece provided with a peep-hole

and with an extension having an enlarged bore.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. In combination with a gun, an open sight-tube of substantially uniform bore secured to the gun to narrow the field of sight and direct the vision, substantially as set forth.

2. For use with a gun, a sight-tube having a groove in its external wall parallel with the bore of the tube, substantially as set forth.

3. For use with a gun, an open sight-tube having in its bore two sight-pins, the bore having a practically uniform diameter, substantially as set forth.

4. A sight-tube having two sight-pins in its bore and two sight-pins on its exterior, substantially as set forth.

5. An open sight-tube journaled to move about a journal or support and in a vertical plane, in combination with a sight-leaf and with a vertically-adjustable clamp, whereby the tube and its bearings can be moved up or down on the leaf, substantially as set forth.

6. An open sight-tube having journal-bearings in a clamp, the journal having a screw-threaded thumb-nut, the elastic clamp, and the leaf, all combined substantially as set forth, whereby the clamp can be made to firmly hold both the tube and the leaf.

7. The open sight-tube journaled in the folding or hinged support and said support adapted to be attached to a gun, in combination with the gun, substantially as set forth.

8. The clamp to support the sight-tube upon the leaf or equivalent part of a gun, adapted to embrace the leaf and provided with wings having bearings for the journals of a sight-tube, in combination with said tube, substantially as set forth.

9. An elastic sheet-metal clamp provided with perforated wings or extensions, combined with a sight-tube and journal and a sight-leaf or equivalent, substantially as set forth.

10. An open sight-tube adjustable about its bearings, provided on its exterior surface with a graduated scale of angles, in combination with an index, substantially as set forth.

11. A sight-tube adjustable about its bearings and provided with a graduated scale of angles, combined with a clamp which constitutes an index, substantially as set forth.

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

JOHN S. BLANKMAN.

Witnesses:
FLORENCE DAVIES,
BENJ. R. CATLIN.