Feb. 16, 1954 R. FLANAGAN 2,669,024

FOLDING BORE SIGHT

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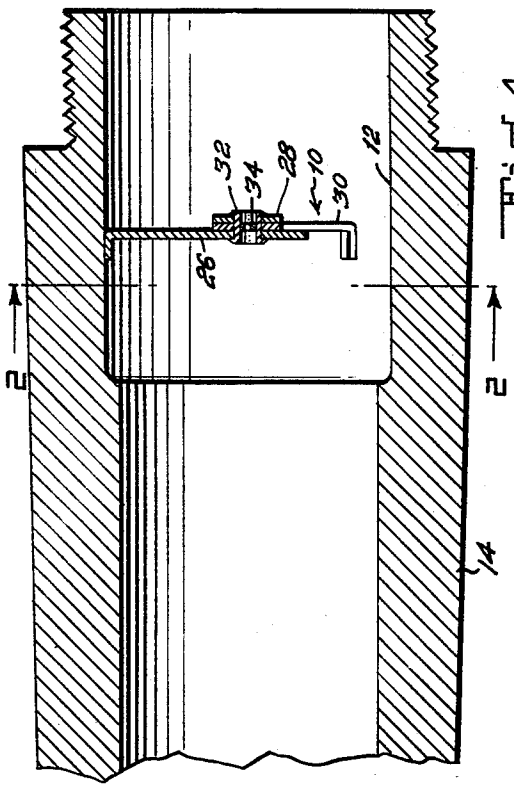


Fig. 1.

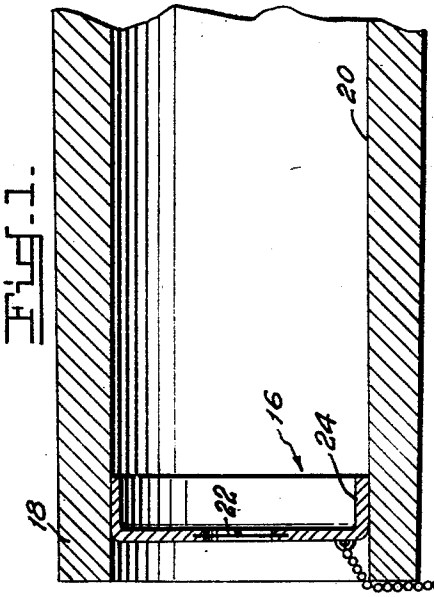


Fig. 2

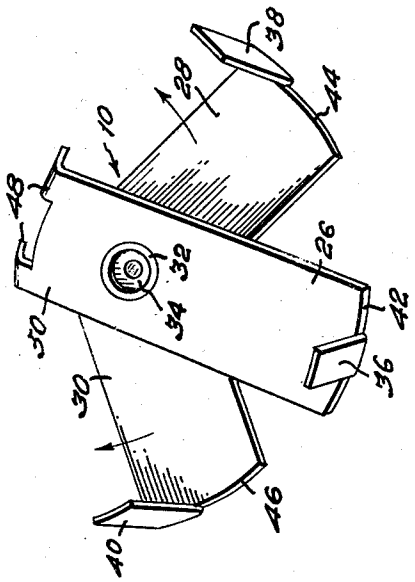


Fig. 4.

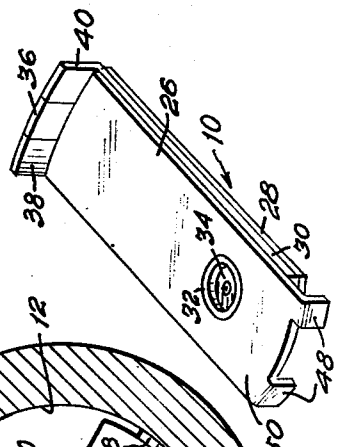
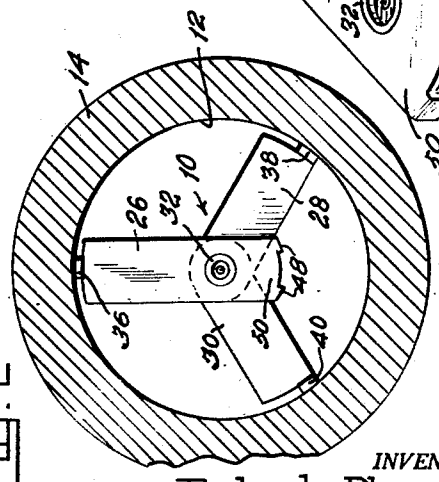


Fig. 3.



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FOLDING BORE SIGHT

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6 Claims. (Cl. 33—46)

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1

The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to bore sights for cannon, rocket launchers and the like. The primary object of the invention is to provide an easily portable folding bore sight for insertion in the breech of the weapon and employed in conjunction with a reticle device mounted on the muzzle, whereby the regularly provided weapon sights can be adjusted to proper relation with the axis of the bore.

Another object of this invention is to provide a bore sight which is very easy to mount in operative position and which requires no adjustment.

Another object of the invention is to provide a bore sight which can be used with many different types of complementary sights at the other end of the barrel being tested and adjusted.

A last object to be mentioned specifically is to provide a bore sight which is economical and practicable to manufacture, rugged and durable, as well as completely reliable and efficient in use.

With these objects definitely in view, this invention resides in the novel construction, arrangement and combination of elements as is hereinafter described and claimed in the specification and illustrated in the drawing wherein:

Figure 1 is a longitudinal axial section of a barrel, broken to conserve drawing space, and having this bore sight mounted in the cartridge chamber and shown in vertical section, a reticle assembly in vertical section being indicated in the muzzle;

Figure 2 is a transverse section taken on line 2—2 in Figure 1;

Figure 3 is a view, in perspective, of the bore sight folded for carrying or storage; and

Figure 4 is a similar view showing the bore sight partially expanded.

In the drawing and specification similar characters of reference relate to similar or identical elements and portions.

Referring now to the drawing in detail, the bore sight, generally indicated by the numeral 10, is adapted to be located in the cartridge chamber 12, where present, or in a corresponding breech end portion of a barrel having no enlargement or chamber. The sight is used with a reticle assembly 16 fitted in the muzzle end 18 of the bore 20. The assembly 16 may be of any suitable character but the cross hairs 22 or an

2

equivalent apertured element and a carrying member 24 will probably be required. The reticle assembly 16 is mentioned herein merely to indicate the environment wherewith the subject matter of the instant invention is used.

The bore sight 10 is comprised of an elongated center plate 26 and a pair of arms 28 and 30 of equal length but shorter than said center plate, both arms being pivotally secured to an intermediate portion of the center plate 26 by a grommet 32.

The grommet 32 itself comprises an eye piece or, as illustrated, carries a centrally apertured disc 34 which functions as an eye piece, this disc 34 being pressed into the grommet or otherwise rigidly secured within the grommet by any suitable means.

The center plate has a bore engaging ear 36 and the arms 28 and 30 have similar ears 38 and 40. The ears are all equidistant from the pivot grommet 32 and the ears 38 and 40 are adjacent to the longitudinal edges of each of the arms 28 and 30. The said ears all extend beyond the corresponding ends of said plate and arms, and said ears all extend in the same sense, the ears 38 and 40 being disposed laterally of the ear 36, as illustrated in Figure 3, when the bore sight is folded. In this connection it should be noted that the end portions 42 of the center plate and the corresponding end portions 44 and 46 of the arms are all preferably rounded to facilitate the folding operation and to make the folded device slightly more compact.

Stops 48, comprising opposing lugs on an end portion 50 of the center plate 26 remote from the ear 36, serve to limit the angular movement of the arms relative to the center plate as clearly illustrated in Figure 2. An important structural feature of this invention resides in the arrangement of the stops or lugs 48 so that the center plate is maintained in vertical position after the sight is operatively located.

The operation of this invention will be clearly comprehended from a consideration of the drawing and the foregoing objects and description. In recapitulation it might be added that in inserting the bore sight into the end of a barrel, the arms 28 and 30 may be allowed to fall outwardly while the center plate is held with the ear 36 contacting the top of the bore or cartridge chamber and proper mounting of the bore sight is then automatically achieved. By sighting through the apertured disc 34 and the cross hairs 22, upon a star or some other distant object, and adjusting the weapon sights on the same object, perfect

alignment of the barrel and sights can be achieved. The ease with which the bore sight 10 can be placed in operative position, removed, and collapsed for carrying or storage will be readily appreciated.

Minor variation from the illustrated form of this invention may be resorted to as specific facilities for manufacture and use shall dictate, all within the scope of the appended claims.

I claim:

1. A bore sight comprising an elongated center plate, a pair of similar arms, a grommet pivotally securing the arms to said plate, said plate and arms having bore-engaging elements all equidistant from said grommet, the bore sight being collapsible by pivoting the arms into substantial alignment with the center plate, and means on said elongated center plate to hold the arms in operative or extended position each arm forming an obtuse angle with said center plate.

2. A bore sight according to claim 1 and wherein said means comprises stops on said center plate said stops engaging intermediate portions of the arms when extended in operative position.

3. A bore sight according to claim 2 and wherein said elements are ears extending normal to the respective arms and center plate and nesting together when the bore sight is folded.

4. A bore sight according to claim 1 and wherein said center plate includes a portion extending beyond said grommet, said means to hold the arms comprising stop lugs on said portion.

5. A bore sight comprising an elongated center plate, a pair of similar arms, a grommet pivotally securing the arms to said plate, said plate and arms having bore engaging ears at the distal ends thereof, said ears being equidistant from the said grommet, the bore sight being collapsible by rotating the said arms into alignment with the said center plate, and stops on said center plate to hold the said arms in extended position each forming an obtuse angle with said center plate.

6. A sighting device for use in the bore of a weapon comprising an elongated center plate, a pair of similar arms, a grommet pivotally securing the arms to said plate, said plate and arms having bore engaging ears at the distal ends thereof, said ears being equidistant from said grommet, said grommet comprising an eye piece for sighting through said bore, the device being collapsible by rotating the said arms into alignment with the said center plate, and stops on said center plate to hold the said arms in extended position each forming an obtuse angle with said center plate.

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