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3,381,380

SIGHT RETICLES

Filed June 24, 1966

Fig. 1

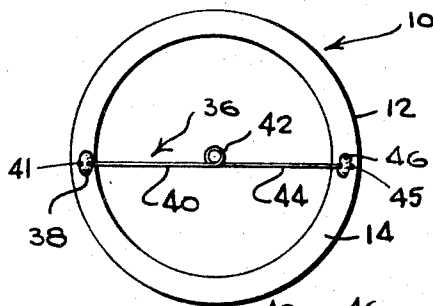


Fig. 2

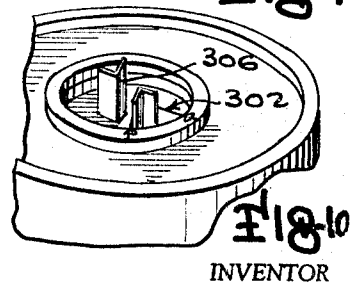
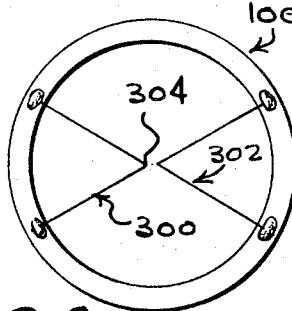
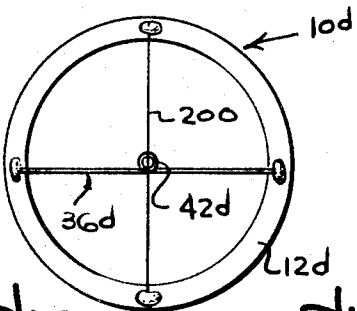
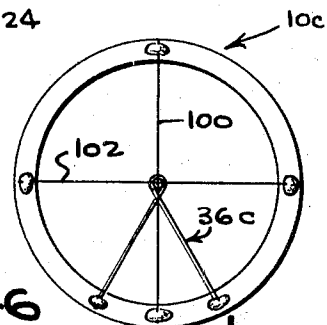
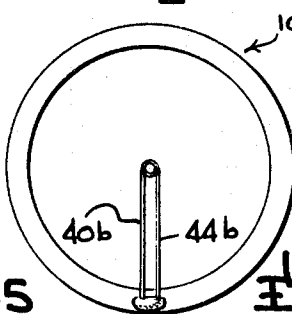
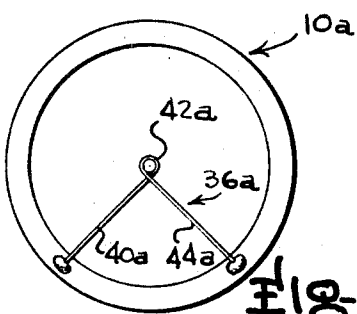
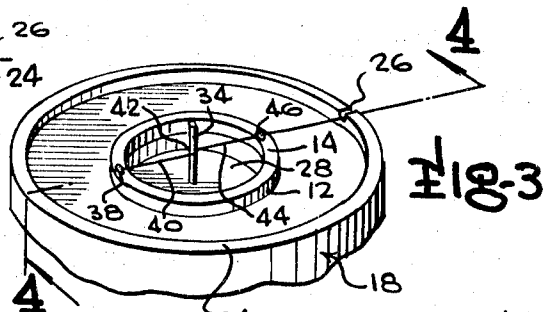
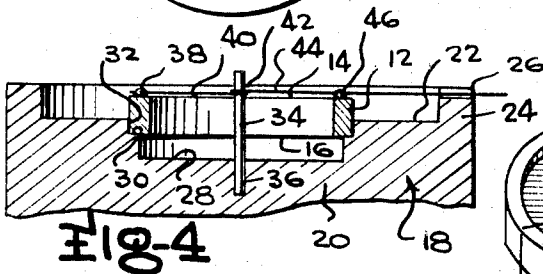
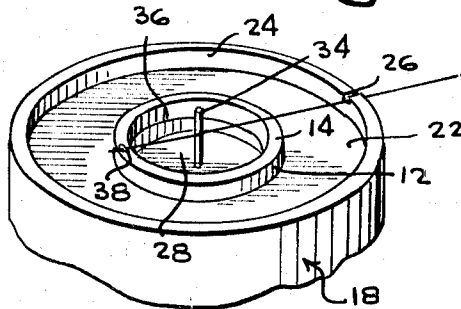


Fig. 8

Fig. 9

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3,381,380

SIGHT RETICLES

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3 Claims. (Cl. 33—50)

ABSTRACT OF THE DISCLOSURE

A reticle for a telescopic sighting device in which a strand of sighting material is attached to a reticle ring and is looped or bent at its center to provide a point of aim indicia.

This invention is in the field of telescopic sighting devices and pertains to reticles. More particularly, the invention concerns itself with novel and unique forms of sighting reticles formed or bent wire, or the like.

In the sighting device art it is often desirable to provide a point of aim indication means as an adjunct to an optical system. The customary forms of such point of aim indication means includes crossed devices, posts, dots, series of lines, and the like, formed either of thin strands of material or by etching of the optical system. A principal objective of the present invention is to widen the range of available forms of the point of aim indication means by supplying the concept of indicia comprising wire-like strands bent to desired configurations.

Related objectives include the provision of reticles of various forms, each such form including wire strand elements with bend portions located at or indicating a point of aim or reference thereto, the devices being attached to reticle rings at spaced apart locations.

Other and further objects and advantages of the invention will become apparent to those skilled in the art from a consideration of the following specification, when read in conjunction with the annexed drawing, in which:

FIGURE 1 is a plan view of a first form of reticle constructed and assembled in accordance with the teachings of this invention;

FIGURE 2 is a perspective view showing a reticle at an intermediate manufacturing stage;

FIGURE 3 is a view similar to FIGURE 2, showing a further manufacturing step;

FIGURE 4 is an enlarged sectional view taken substantially on the section line 4—4 of FIGURE 3, looking in the direction of the arrows;

FIGURES 5 through 8 show variant forms of reticles within the scope of the invention;

FIGURE 9 discloses a still further form of the invention; and

FIGURE 10 provides apparatus for formation of the reticle of FIGURE 9.

Referring to the drawing in more detail and initially to FIGURES 1 through 4, a typical reticle of the invention is therein shown and identified by reference numeral 10. The reticle 10 comprises a ring element 12 adapted for mounting in a telescopic sighting device, such as a sight for a firearm (not shown), the element 12 being of annular form and having opposite rim faces 14 and 16.

Practice of the invention involves a work holder 18 comprising a body block 20 with a top surface 22. A surrounding flange 24 has a shallow notch 26 therein, for a purpose appearing below. The block has a cutout central section 28 with a stepped rim forming a ledge 30. The ring 12 is seated on the ledge and is frictionally engaged by the ledge side wall 32 of the block. A vertically upstanding stem or pin 34 is secured in a bore 36 centrally located in the section 28, as shown in FIGURE 4.

In the formation of the reticles hereof, a reticle wire

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or strand 36 is first connected to the rim face 14 of a ring 12 at any random location as by applying solder or a mastic as at 38 in FIGURE 2. The work holder and ring are rotatable, and the wire 36 is extended across the ring and through the slot 26 of the flange 24—external pressure being applied to maintain a desired degree of tautness in the wire. In the first form of the invention (the reticle of FIGURE 1) shown for illustration of a method hereof, the work holder is next rotated a full 360 degrees, thus looping the wire in a circular form about the stem 34, whereby the reticle wire has a first section 40, a central loop 42, and a second section 44. A second connection of the wire to the rim face is effected at 46, and any extraneous ends of the wire are thereafter trimmed therefrom, leaving the completed reticle formed as shown in FIGURE 1. It will be observed the first section 40 terminates in an outer end 41 and the second section 44 terminates in an outer end 45. The sections have a common inner end comprising the central loop 42.

In FIGURE 5, a holder has been rotated substantially 270 degrees for connection of the wire 36a in such manner as to provide right angular relation between the portion 40a and 44a thereof with respect to the loop 42a which is maintained at the center or point of aim of the device. FIGURE 6 shows the effect of a substantially 180 degree rotation before connection wherein the portions 40b, 44b are generally parallel. The device 10c of FIGURE 7 has a pair of diametrically arranged cross hairs 100, 102 arranged in conjunction with a bent wire 36c formed from a rotation similar to but somewhat greater than that of FIGURE 5, the cross hairs overlying the wire 36c and being applied thereafter. A single cross hair 200 bisects the ring 12d shown in FIGURE 8, and the wire 36d thereof is arranged perpendicular thereto in the manner of FIGURE 1—once again with the hair 200 overlying the wire, and the loop 42d also being bisected by the cross hair.

In the case of those reticles having a loop portion, such as the loop 42, additional design features may include filling the formed annular area with an opaque or luminous compound (not shown).

In referring to the indicia hereof as of "wire," it will be understood that, in most instances, the indicia will be of extremely small dimension, typical wires being in the range of .001 to .005 inch.

Having described and illustrated several embodiments of the invention in some detail, it will be understood that these descriptions and illustrations have been offered only by way of example, and that the invention is to be limited in scope only by the appended claims.

What is claimed is:

1. In a reticle for disposition at substantially the focal plane of an optical sighting instrument, a reticle construction comprising:

- an annular reticle ring having a rim face on at least one side thereof;
- the reticle ring defining an open reticle area and being adapted for mounting at substantially said focal plane of said optical sighting device;
- a continuous strand of sighting wire having a first section with an outer end and a second section with an outer end;
- the respective outer ends of the wire sections being fixed to the rim face;
- the wire sections meeting at an intermediate, annular loop which forms their common inner end, the center of said loop being disposed in the reticle area at the desired point of aim of the sighting device; and
- the first and second sections of the wire extending from the loop to the rim face and forming an included angle therebetween.

2. The invention of claim 1, and

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at least one cross hair comprising a linear second strand of sighting material secured to the rim face at diametrically opposite positions and intersecting the loop.

3. The invention of claim 1, wherein:
the first and second sections are disposed in substantially diametric alignment across the ring.

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10 SAMUEL S. MATTHEWS, *Primary Examiner.*