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DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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(54) **Title:** RETICLE

(57) **Abstract:** A reticle is provided and may include a vertical line and a horizontal line cooperating to form a center-aiming point. A first plurality of indicia may be located along the vertical line and may each include two normal sides that are formed normal to the vertical line and two parallel sides that are formed parallel to the vertical line. A second plurality of indicia may be located along the horizontal line and may each include two normal sides that are formed normal to the horizontal line and two parallel sides that are formed parallel to the horizontal line.

RETICLE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Utility Application No. 5 13/719,613, filed on December 19, 2012 and U.S. Provisional Application No. 61/579,005, filed on December 22, 2011. The entire disclosures of the above applications are incorporated herein by reference.

FIELD

10 **[0002]** The present disclosure relates to optical sights and more particularly to a reticle for use with an optical sight.

BACKGROUND

15 **[0003]** This section provides background information related to the present disclosure which is not necessarily prior art.

[0004] Optical sights are conventionally used with weapons to aid a shooter in properly aligning the weapon with a target. For example, a firearm may be equipped with an optical sight to aid a shooter in properly aligning a barrel of the firearm with a desired target. The optical sight may include an optics 20 train that magnifies an image of the target and, further, may include a reticle that is overlaid on the magnified image to aid in properly aligning the firearm with the target.

[0005] Reticles are conventionally etched or otherwise printed on a component of the optical sight to allow the reticle to be visible over a magnified 25 image of a target and, further, typically include a vertical line and a horizontal line that intersect to provide a shooter with a center-aiming point. Conventional reticles may also include a series of indicia spaced along the vertical line and the horizontal line for use in estimating the range to or the size of a target.

30 **[0006]** One such prior-art reticle is a so-called Mil-Dot reticle. A Mil-Dot reticle includes a vertical line and a horizontal line that cooperate to form a center-aiming point. Conventional Mil-Dot reticles additionally include a series of solid dots evenly spaced along the vertical line and the horizontal line that may

be used by a shooter to estimate the range to or the size of a target. The dots are typically circular with centers of adjacent dots being spaced apart from one another by one milliradian (i.e., one Mil). A milliradian relates to the U.S. military variation of a unit of angle, which is approximately equal to 36 inches (i.e., one yard) at 1,000 yards or 3.6 inches at 100 yards. A shooter may utilize the foregoing information by aligning the Mils of the Mil-Dot reticle with a target of known height to estimate a range to the target. The estimated range can then be used by the shooter to compensate for both bullet drop and wind drifts and, therefore, increases the likelihood that a projectile fired from the firearm will impact the target at a desired location.

[0007] While conventional Mil-Dot reticles allow a shooter to measure the range to objects of known size, to determine the size of objects at known distances, and to compensate for both bullet drop and wind drifts at known ranges, conventional Mil-Dot reticles often obscure targets a long distances. Namely, because the Dots utilized in a conventional Mil-Dot reticle are solid and, further, because targets at long ranges often appear small even when viewed through a magnified optical sight, the solid nature of the dot used in a conventional Mil-Dot reticle can impair the view of the shooter when aligning the Mil-Dot reticle relative to the desired target. Obscuring the view of the shooter obviously impacts the shooter's ability to view the target and properly align the reticle with the target. Further, the solid Dot does not allow the shooter to estimate where a target falls within a particular Dot and therefore reduces the accuracy of an estimated range-to-target.

25

SUMMARY

[0008] This section provides a general summary of the disclosure, and is not a comprehensive disclosure of its full scope or all of its features.

[0009] A reticle is provided and may include a vertical line and a horizontal line cooperating to form a center-aiming point. A first plurality of indicia may be located along the vertical line and may each include two normal sides that are formed normal to the vertical line and two parallel sides that are formed parallel to the vertical line. A second plurality of indicia may be located along the

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horizontal line and may each include two normal sides that are formed normal to the vertical line and two parallel sides that are formed parallel to the vertical line.

[0010] In another configuration, a reticle is provided and may include a vertical line and a horizontal line cooperating to form a center-aiming point. A first plurality of indicia may be located along the vertical line and may each include two first lines that are formed normal to and intersect the vertical line and two second lines that are formed parallel to the vertical line. A second plurality of indicia may be located along the horizontal line and may each include two third lines that are formed normal to and intersect the horizontal line and two fourth lines that are formed parallel to the horizontal line.

[0011] Further areas of applicability will become apparent from the description provided herein. The description and specific examples in this summary are intended for purposes of illustration only and are not intended to limit the scope of the present disclosure.

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DRAWINGS

[0012] The drawings described herein are for illustrative purposes only of selected embodiments and not all possible implementations, and are not intended to limit the scope of the present disclosure.

[0013] FIG. 1 is a perspective view of a firearm incorporating an optical sight in accordance with the principles of the present disclosure;

[0014] FIG. 2 is a front view of a reticle in accordance with the principles of the present disclosure for use with the optical sight of FIG. 1;

[0015] FIG. 3 is a detailed view of a portion of the reticle of FIG. 2;

[0016] FIG. 4 is a detailed view of a portion of the reticle of FIG. 3; and

[0017] FIG. 5 is a detailed view of a portion of the reticle of FIG. 3.

[0018] Corresponding reference numerals indicate corresponding parts throughout the several views of the drawings.

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DETAILED DESCRIPTION

[0019] Example embodiments will now be described more fully with reference to the accompanying drawings.

[0020] Example embodiments are provided so that this disclosure will be thorough, and will fully convey the scope to those who are skilled in the art. Numerous specific details are set forth such as examples of specific components, devices, and methods, to provide a thorough understanding of embodiments of the present disclosure. It will be apparent to those skilled in the art that specific details need not be employed, that example embodiments may be embodied in many different forms and that neither should be construed to limit the scope of the disclosure. In some example embodiments, well-known processes, well-known device structures, and well-known technologies are not described in detail.

[0021] The terminology used herein is for the purpose of describing particular example embodiments only and is not intended to be limiting. As used herein, the singular forms "a," "an," and "the" may be intended to include the plural forms as well, unless the context clearly indicates otherwise. The terms "comprises," "comprising," "including," and "having," are inclusive and therefore specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof. The method steps, processes, and operations described herein are not to be construed as necessarily requiring their performance in the particular order discussed or illustrated, unless specifically identified as an order of performance. It is also to be understood that additional or alternative steps may be employed.

[0022] When an element or layer is referred to as being "on," "engaged to," "connected to," or "coupled to" another element or layer, it may be directly on, engaged, connected or coupled to the other element or layer, or intervening elements or layers may be present. In contrast, when an element is referred to as being "directly on," "directly engaged to," "directly connected to," or "directly coupled to" another element or layer, there may be no intervening elements or layers present. Other words used to describe the relationship between elements should be interpreted in a like fashion (e.g., "between" versus "directly between," "adjacent" versus "directly adjacent," etc.). As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items.

[0023] Although the terms first, second, third, etc. may be used herein to describe various elements, components, regions, layers and/or sections, these elements, components, regions, layers and/or sections should not be limited by these terms. These terms may be only used to distinguish one element, component, region, layer or section from another region, layer or section. Terms such as "first," "second," and other numerical terms when used herein do not imply a sequence or order unless clearly indicated by the context. Thus, a first element, component, region, layer or section discussed below could be termed a second element, component, region, layer or section without departing from the teachings of the example embodiments.

[0024] Spatially relative terms, such as "inner," "outer," "beneath," "below," "lower," "above," "upper," and the like, may be used herein for ease of description to describe one element or feature's relationship to another element(s) or feature(s) as illustrated in the figures. Spatially relative terms may be intended to encompass different orientations of the device in use or operation in addition to the orientation depicted in the figures. For example, if the device in the figures is turned over, elements described as "below" or "beneath" other elements or features would then be oriented "above" the other elements or features. Thus, the example term "below" can encompass both an orientation of above and below. The device may be otherwise oriented (rotated 90 degrees or at other orientations) and the spatially relative descriptors used herein interpreted accordingly.

[0025] With reference to the figures, an optical sight 10 for use with a firearm 12 is provided. The optical sight 10 may include an optics train 14 that displays a reticle 16 (FIGS. 2 and 3) at an eyepiece 18 of the optical sight 10. The reticle 16 may be used to align the optical sight 10 and, thus, the firearm 12, relative to a target (not shown) to increase the likelihood that a projectile fired from the firearm 12 impacts the target at a desired location.

[0026] With particular reference to FIGS. 2-5, the reticle 16 may include a vertical line 20 and a horizontal line 22 that cooperate to provide the reticle 16 with a center-aiming point 24. Specifically, the vertical line 20 intersects the horizontal line 22 at the center-aiming point 24 such that the vertical line 20 and

horizontal line 22 are perpendicular to one another and the center-aiming point 24 is located at a center of the eyepiece 18. As shown in FIG. 2, positioning the center-aiming point 24 at a center of the eyepiece 18 essentially divides the eyepiece 18 into four equal segments 26, 28, 30, 32, each bound by a portion of the vertical line 20, the horizontal line 22, and an outer perimeter of the eyepiece 18.

[0027] The vertical line 20 may include a series of indicia 34 positioned at spaced intervals along the vertical line 20. The indicia 34 may be evenly spaced apart from one another such that the distance between centers of adjacent indicia 34 is equal to one miliradian (i.e., "Mil"). Spacing adjacent centers of adjacent indicia 34 one Mil apart from one another allows a shooter to measure the range to objects of known size and to determine the size of objects at known distances. For example, one Mil is approximately equal to thirty-six (36) inches or one (1) yard at one thousand (1000) yards and is approximately equal to 3.6 inches at one-hundred (100) yards. A shooter may use the foregoing information by aligning a target with the indicia 34 disposed along the vertical line 20 to estimate the range to an object of known size or to determine the size (i.e., height) of a target at a known distance.

[0028] The indicia 34 may include an aiming point 36 and a pair of alignment marks 38 (FIG. 4). In addition, the indicia 34 may be formed by a first line 40 and a second line 42 that are formed perpendicular to the vertical line 20. The first line 40 and the second line 42 may each interrupt the vertical line 20 and may be connected to one another by a third line 44 and a fourth line 46, whereby the third line 44 and the fourth line 46 are perpendicular to the first line 40 and the second line 42 and are parallel to the vertical line 20. As shown in FIG. 4, the first line 40, the second line 42, the third line 44, and the fourth line 46 cooperate to provide the indicia 34 with a square shape. Further, because the indicia 34 are formed from lines 40, 42, 44, 46, each indicia 34 is hollow, thereby allowing a shooter to see through each indicia 34 in an area bounded by the first line 40, the second line 42, the third line 44, and the fourth line 46. In other words, a shooter may view a target through the indicia 34 and may line up a target within an area

bounded by the first line 40, the second line 42, the third line 44, and the fourth line 46.

[0029] The aiming point 36 may be centrally located within the indicia 34 such that the aiming point 36 is equally spaced from each of the first line 40, the second line 42, the third line 44, and the fourth line 46. The alignment marks 38 may be positioned along the third line 44 and the fourth line 46 such that the alignment marks 38 are aligned with the aiming point 36 and with one another. Namely, the alignment marks 38 may be positioned such that the alignment marks 38 are coplanar with the aiming point 36. Regardless of the position of the alignment marks 36 along the third line 44 and the fourth line 46, each alignment mark 38 extends from respective ones of the third line 44 and the fourth line 46 such that the alignment marks 38 are perpendicular to the third line 44 and the fourth line 46. Because the alignment marks 38 are perpendicular to the third line 44 and the fourth line 46, the alignment marks 38 are likewise perpendicular to the vertical line 20 and are parallel to the first line 40 and the second line 42.

[0030] Centrally locating the aiming point 36 within the indicia 34 provides a shooter with the ability to visually separate each indicia 34 into a top half 48 and a bottom half 50. The top half 48 of the indicia 34 is an area within each indicia 34 generally between the alignment point 36 and the first line 40 and the bottom half 50 is an area within each indicia 34 generally between the aiming point 36 and the second line 42 (FIG. 4). While the aiming point 36 could be any geometrical shape such as, for example, a circle, a diamond, a square, or a rectangle, providing the aiming point 36 with a top surface and a bottom surface that are substantially planar and parallel to the first line 40 and the second line 42 allows a shooter to more accurately segregate the indicia 34 into the top half 48 and the bottom half 50 during use and facilitates the overall use of the reticle 16. For example, if the aiming point 36 is square or rectangular, a shooter can more easily align a target within the top half 48 or within the bottom half 50 of the indicia 34 and can rely on the planar surfaces of the aiming point 36 when leveling the firearm 12. Likewise, providing the alignment marks 38 with a square or rectangular shape allows a shooter to easily align a target with the planar surfaces of the aiming point 36.

[0031] The vertical line 20 may also include a series of hash marks 52 in addition to the spaced-apart indicia 34. The hash marks 52 may be disposed between adjacent indicia 34 such that each hash mark 52 is evenly spaced from the aiming points 36 of adjacent indicia 34. Evenly spacing the hash marks 52 in the foregoing manner necessarily requires that the hash marks 52 are spaced apart from one another along the vertical line 20 such that the distance between adjacent hash marks 52 equals one Mil. As such, the distance between the aiming point 36 of the indicia 34 and an adjacent hash mark 52 is equal to 0.5 Mil.

[0032] With particular reference to FIGS. 3 and 5, the horizontal line 22 is shown to include a series of indicia 54. The indicia 54 are evenly spaced along the horizontal line 22 such that the centers of adjacent indicia 54 are separated by a distance equal to one Mil. As with the indicia 34, one Mil is approximately equal to thirty-six (36) inches or one (1) yard at one thousand (1000) yards and is approximately equal to 3.6 inches at one-hundred (100) yards. A shooter may use the foregoing information by aligning a target with the indicia 54 disposed along the horizontal line 22 to estimate the range to an object of known size or to determine the size (i.e., width) of a target at a known distance.

[0033] Each indicia 54 may include an aiming point 56 as well as a pair of alignment marks 58 and may be formed by a first line 60 and a second line 62 that extend perpendicular to and interrupt the horizontal line 22. The first line 60 and the second line 62 may be attached to one another by a third line 64 and a fourth line 66 that extend perpendicular to the first line 60 and the second line 62 and extend parallel to the horizontal line 22.

[0034] As described and as shown in FIG. 5, the first line 60, the second line 62, the third line 64, and the fourth line 66 cooperate to provide the indicia 54 with a square shape. Further, because the indicia 54 are formed by lines 60, 62, 64, 66, each indicia 54 is hollow, thereby allowing a shooter to see through the indicia 54. In other words, a shooter may view a target through the indicia 54 and may line up a target within an area bounded by the first line 60, the second line 62, the third line 64, and the fourth line 66.

[0035] The aiming point 56 may be centrally located within the indicia 54 in an area bounded by the first line 60, the second line 62, the third line 64, and the fourth line 66. As such, the aiming point 56 may be located within each indicia 54 such that the aiming point 56 is evenly spaced from the first line 60, the second line 62, the third line 64, and the fourth line 66.

[0036] The aiming point 56 may include virtually any geometric shape such as, for example, a circle, a triangle, a square, or a rectangle. However, forming the aiming point 56 from a shape having substantially flat surfaces that are parallel to the respective lines 60, 62, 64, 66 of the indicia 54 allows a shooter to easily separate each indicia 54 into a left half 68 and a right half 70. For example, if the aiming point 56 is formed from a square, the aiming point 56 includes outer surfaces that are respectively parallel to the first line 60, the second line 62, the third line 64, and the fourth line 66. Positioning the aiming point 56 such that the aiming point 56 is centrally located within the indicia 54 and, further, forming the aiming point 56 from a square, allows a shooter to easily segment the indicia 54 into a left half 68 and a right half 70.

[0037] The alignment marks 58 may be used in conjunction with the aiming point 56 to further aid a shooter in aligning the indicia 54 with a target. For example, the alignment marks 58 may be aligned with the aiming point 56 such that the alignment marks 58 and aiming point 56 are disposed within the same plane. As such, the alignment marks 58 may be used to additionally aid a shooter in segmenting the indicia 54 into the left half 68 and the right half 70. The alignment marks 58 are respectively associated with the third line 64 and the fourth line 66 and extend from the third line 64 and the fourth line 66 such that the alignment marks 58 are perpendicular to the third line 64 and the fourth line 66.

[0038] As with the vertical line 20, the horizontal line 22 may include a series of hash marks 72 that are evenly spaced along the horizontal line 22. The hash marks 72 may be spaced apart from one another such that adjacent hash marks 72 are separated by one Mil. Further, the hash marks 72 may be located along the horizontal line 22 such that each hash mark 72 is spaced apart from the aiming point 56 of an adjacent indicia 54 by 0.5 Mil. As described, the hash marks 72 are equally spaced apart from one another and, therefore, are equally

spaced apart from adjacent indicia 54. As a result, a hash mark 72 located between a pair of indicia 54 is equally spaced from the aiming point 56 of the adjacent indicia 54 and, therefore, are spaced apart from the aiming point 56 of adjacent indicia 54 by 0.5 Mil.

5 **[0039]** With continued reference to FIGS. 3-5, operation of the optical sight 10 and reticle 16 will be described in detail. The reticle 16 may be used to aid a shooter in aligning the optical sight 10 and, thus, the firearm 12, relative to a desired target. In one configuration, the shooter may use the reticle 16 to determine the range to objects of known size or to determine the size of objects
10 at known distances. For example, a shooter may position the optical sight 10 such that the reticle 16 is overlaid over a target having a height approximately equal to ten (10) inches. The shooter may align the center-aiming point 24 of the reticle 16 with a base of the target and may then locate the top of the target along the vertical line 20. While operation of the reticle 16 will be described below as
15 referencing the height of a target and, thus, will be described in conjunction with the indicia 34 located along the vertical line 20, a similar operation could be performed to determine the range to a target if a width of the target is known. Such an operation would utilize the indicia 54 of the horizontal line 22 in place of the indicia 34 of the vertical line 20.

20 **[0040]** If the top of the target is aligned with the aiming point 36 of the first indicia 34 up from the center-aiming point 24, the shooter may determine that the Mil size of the target is equal to one (1). If, however, the top of the target is aligned with the second line 42 of the indicia 34, the shooter may approximate the Mil size as being less than 1 Mil or approximately 0.875 Mil. The determined
25 Mil size of the target may then be used in conjunction with the approximated height of the target (i.e., ten inches) to determine the number of yards to the target.

[0041] The following equation may be used to estimate the yards to target, whereby the target size is multiplied by a constant and is then divided by
30 the Mil size. The product of the following equation provides the shooter with the estimated number of yards to the target.

$$(\text{Target Size} \times 27.778) / (\text{Mil Size}) = \text{Yards to Target}$$

[0042] The indicia 34 of the reticle 16 allow the shooter to determine the exact location of the top of the target within a respective one of the indicia 34 as well as the exact location of the width of the target within a respective one of the indicia 54. For example, if the top of the target extends into the indicia 34, the shooter can clearly see where the top of the target falls within the indicia 34, as the indicia 34 are formed from lines 40, 42, 44, 46 and are therefore hollow. In other words, the hollow nature of the indicia 34 allows the shooter to view the target within the indicia 34 and to align the target within one of the top half 48 and the bottom half 50. The shooter can then clearly determine whether the top of the target falls within the top half 48 or the bottom half 50 of the indicia 34 and, as a result, can accurately determine the Mil size of the target.

[0043] The foregoing information can be used by the shooter to compensate for both bullet drop and wind drift at known ranges by calculating a range to the target. Allowing the shooter to compensate for bullet drop and wind drift increases the likelihood that a projectile fired from the firearm 12 will impact the target at a desired location.

[0044] In addition to providing a shooter with the ability to determine a range to a target of known size and to determine a size of a target at a known distance, the reticle 16 also provides a shooter with the ability to ensure that the firearm 12 is level. Namely, because the indicia 34, 54 include surfaces 40, 64, respectively, that are parallel to ground, a shooter may utilize the indicia 34, 54 to properly align the firearm 12 and to ensure the firearm 12 is level.

[0045] The foregoing description of the embodiments has been provided for purposes of illustration and description. It is not intended to be exhaustive or to limit the disclosure. Individual elements or features of a particular embodiment are generally not limited to that particular embodiment, but, where applicable, are interchangeable and can be used in a selected embodiment, even if not specifically shown or described. The same may also be varied in many ways. Such variations are not to be regarded as a departure from the disclosure, and all such modifications are intended to be included within the scope of the disclosure.

CLAIMS

What is claimed is:

1. A reticle comprising:
 - 5 a vertical line;
 - a horizontal line intersecting said vertical line to form a central aiming point;
 - a first plurality of indicia located along said vertical line, said first plurality of indicia each including two normal sides that are formed normal to said vertical
 - 10 line and two parallel sides that are formed parallel to said vertical line; and
 - a second plurality of indicia located along said horizontal line, said second plurality of indicia each including two normal sides that are formed normal to said vertical line and two parallel sides that are formed parallel to said vertical line.
- 15 2. The reticle of Claim 1, wherein said two vertical sides of said first plurality of indicia cooperate with said two parallel sides of said first plurality of indicia to provide said first plurality of indicia with a square shape.
3. The reticle of Claim 2, wherein said square shape is hollow.
- 20 4. The reticle of Claim 3, further comprising an aiming point disposed within said square shape.
5. The reticle of Claim 4, wherein said aiming point is centrally located within
- 25 said square shape.
6. The reticle of Claim 5, further comprising alignment marks extending from said two parallel sides of said first plurality of indicia, said alignment marks extending perpendicular to said two parallel sides of said first plurality of indicia
- 30 and in the same plane as said aiming point.

7. The reticle of Claim 4, further comprising alignment marks extending from said two parallel sides of said first plurality of indicia, said alignment marks extending perpendicular to said two parallel sides of said first plurality of indicia and in the same plane as said aiming point.

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8. The reticle of Claim 1, wherein said two vertical sides of said second plurality of indicia cooperate with said two parallel sides of said second plurality of indicia to provide said second plurality of indicia with a square shape.

10 9. The reticle of Claim 8, wherein said square shape is hollow.

10. The reticle of Claim 9, further comprising an aiming point disposed within said square shape.

15 11. The reticle of Claim 10, wherein said aiming point is centrally located within said square shape.

12. The reticle of Claim 11, further comprising alignment marks extending from said two parallel sides of said second plurality of indicia, said alignment marks extending perpendicular to said two parallel sides of said second plurality of indicia and in the same plane as said aiming point.

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13. The reticle of Claim 10, further comprising alignment marks extending from said two parallel sides of said second plurality of indicia, said alignment marks extending perpendicular to said two parallel sides of said second plurality of indicia and in the same plane as said aiming point.

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14. The reticle of Claim 1, further comprising a first plurality of hash marks extending normal to said vertical line, said first plurality of hash marks disposed between adjacent ones of said first plurality of indicia.

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15. The reticle of Claim 1, further comprising a second plurality of alignment marks extending normal to said horizontal line, said second plurality of alignment marks disposed between adjacent ones of said second plurality of indicia.

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16. A reticle comprising:

a vertical line;

a horizontal line intersecting said vertical line to form a central aiming point;

10 a first plurality of indicia located along said vertical line, said first plurality of indicia each including two first lines that are formed normal to and intersect said vertical line and two second lines that are formed parallel to said vertical line; and

15 a second plurality of indicia located along said horizontal line, said second plurality of indicia each including two third lines that are formed normal to and intersect said horizontal line and two fourth lines that are formed parallel to said horizontal line.

17. The reticle of Claim 16, wherein said first lines and said second lines cooperate to provide said first plurality of indicia with a hollow, square shape.

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18. The reticle of Claim 17, further comprising an aiming point disposed within said square shape.

25 19. The reticle of Claim 18, wherein said aiming point is centrally located within said square shape.

20. The reticle of Claim 19, further comprising alignment marks extending from said first lines, said alignment marks extending perpendicular to said first lines and in the same plane as said aiming point.

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21. The reticle of Claim 18, further comprising alignment marks extending from said first lines, said alignment marks extending perpendicular to said first lines and in the same plane as said aiming point.

5 22. The reticle of Claim 16, wherein said third lines and said fourth lines cooperate to provide said second plurality of indicia with a hollow, square shape.

23. The reticle of Claim 22, further comprising an aiming point disposed within said square shape.

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24. The reticle of Claim 23, wherein said aiming point is centrally located within said square shape.

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25. The reticle of Claim 24, further comprising alignment marks extending from said third lines, said alignment marks extending perpendicular to said third lines and in the same plane as said aiming point.

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26. The reticle of Claim 23, further comprising alignment marks extending from said third lines, said alignment marks extending perpendicular to said third lines and in the same plane as said aiming point.

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27. The reticle of Claim 16, further comprising a first plurality of hash marks extending normal to said vertical line, said first plurality of hash marks disposed between adjacent ones of said first plurality of indicia.

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28. The reticle of Claim 16, further comprising a second plurality of alignment marks extending normal to said horizontal line, said second plurality of alignment marks disposed between adjacent ones of said second plurality of indicia.

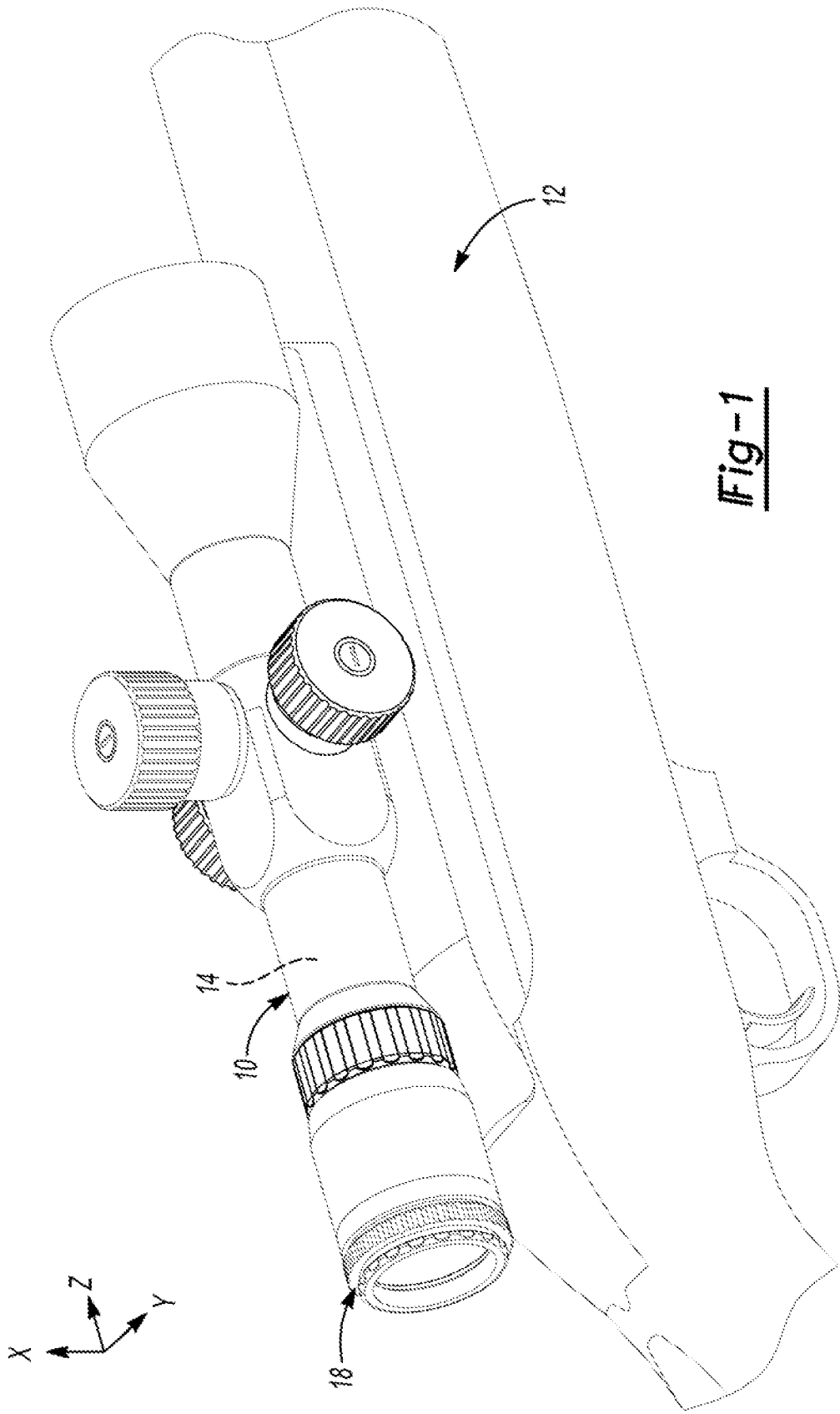


Fig-1

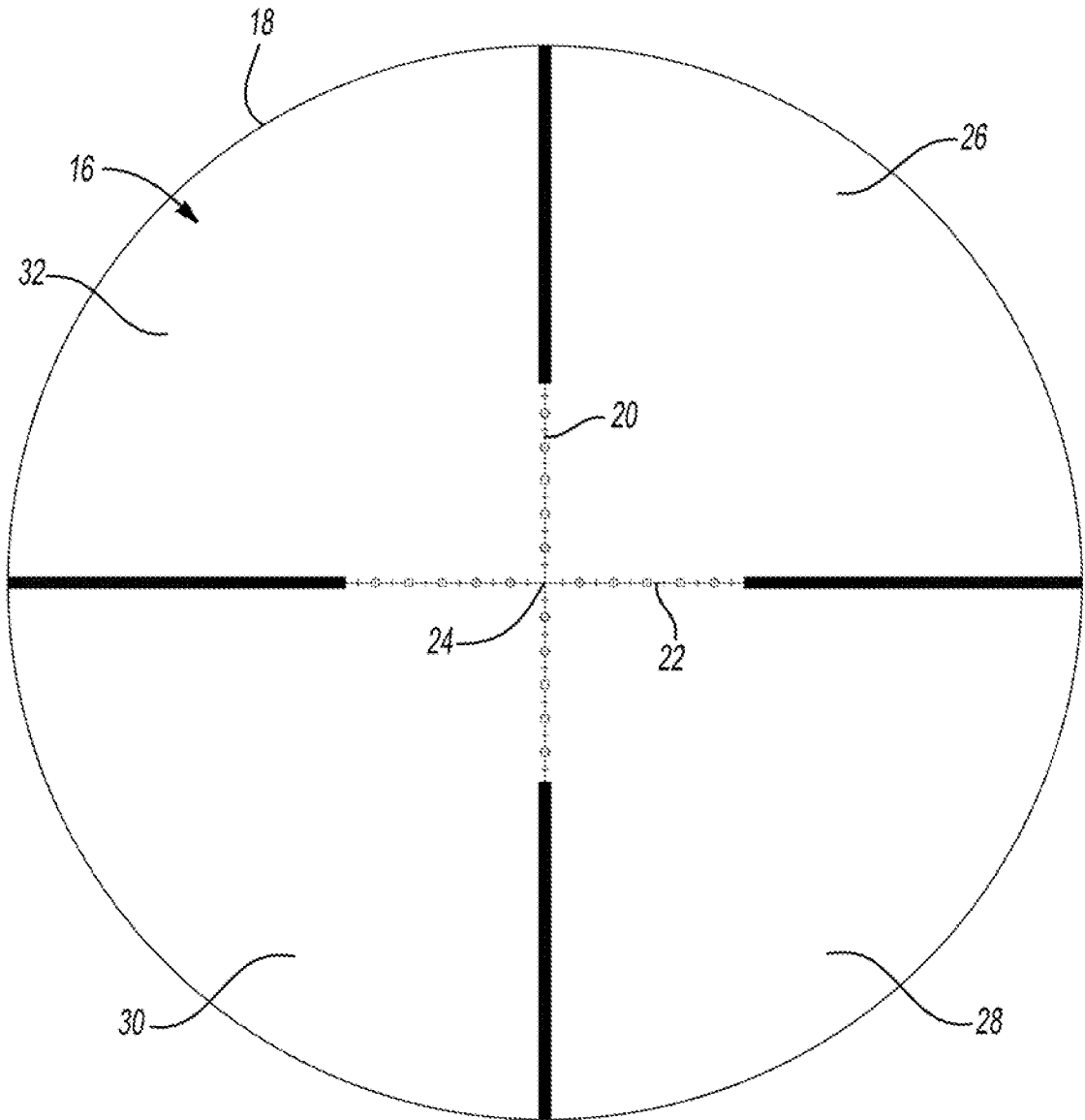


Fig-2

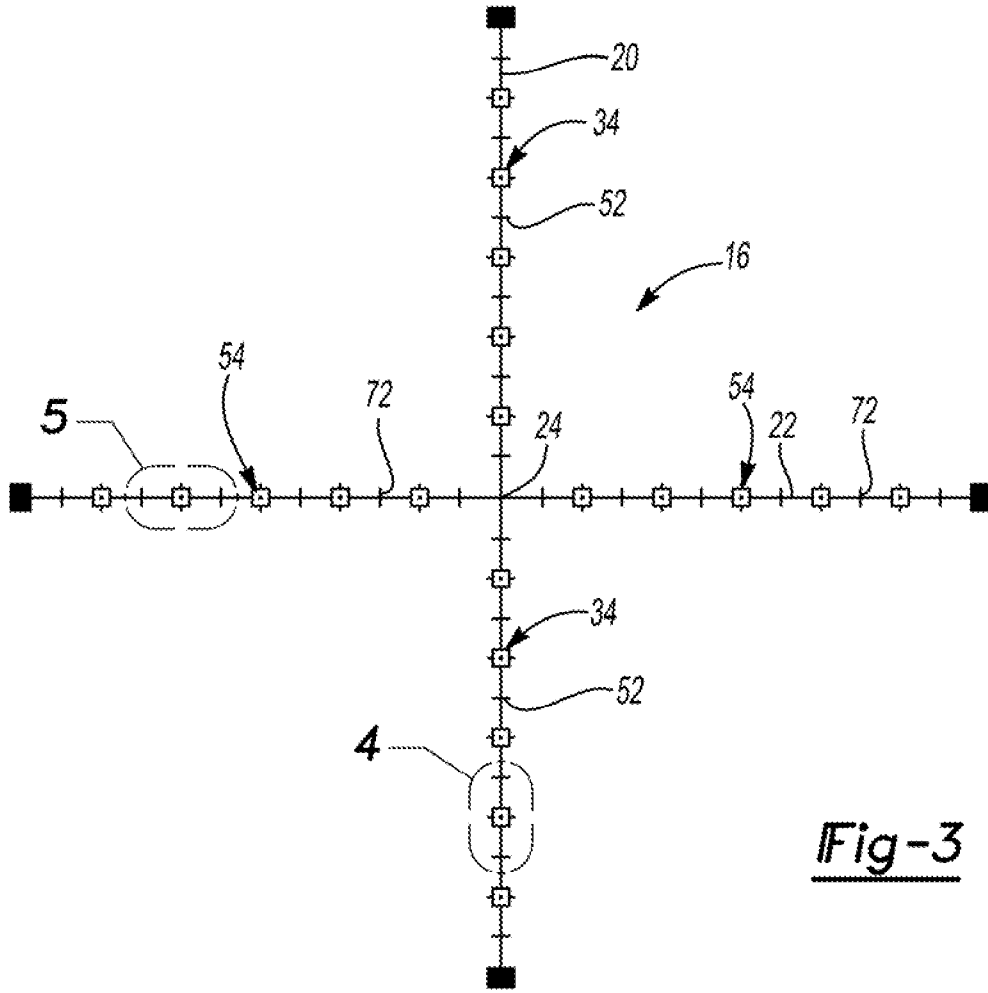


Fig-3

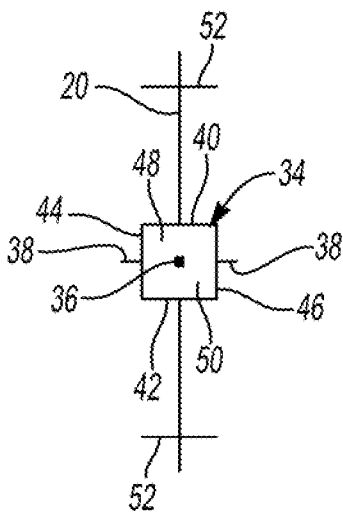


Fig-4

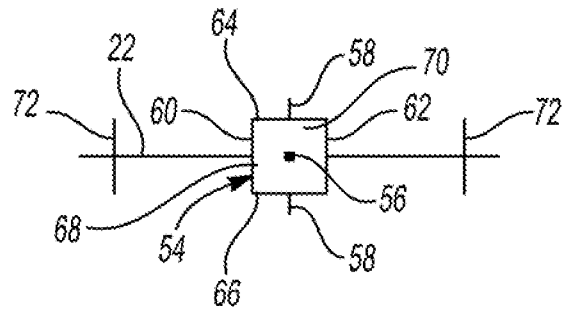


Fig-5