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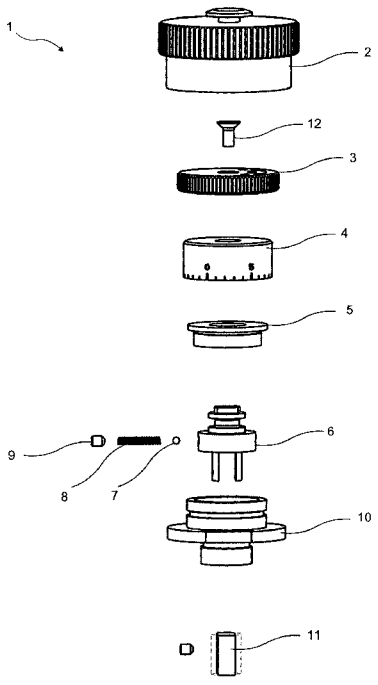
*[Continued on nextpage]*

**(54) Title:** AN ADJUSTMENT ASSEMBLY FOR SIGHTING DEVICES

Figure 1




**(57) Abstract:** The present invention relates to an adjustment assembly for sighting devices (1) that enables to take sight at the desired point by allowing reticle movement at day and night vision optical sighting devices. An adjustment assembly for sighting devices (1) comprises at least one body (10) in which the shaft (9) is positioned, at least one ball (6) which enables the shaft (9) to perform step by step rotational movement within the body (10), at least one spring (7) which is located between the shaft (9) and the body (10), at least one headless screw (8) which is placed on the spring (7), and at least one pusher (11) which can move linearly in connection with the shaft (9).

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# DESCRIPTION

# AN ADJUSTMENT ASSEMBLY FOR SIGHTING DEVICES

## Field of the Invention

The present invention relates to an adjustment assembly for sighting devices that enable to take sight at the desired point by allowing reticle movement at day and night vision optical sighting devices.

## Background of the Invention

In the state of the art, the day and night vision optical sighting devices do not allow to take sight at the desired point by allowing reticle movement. In the prior art, ability to shift the reticle when shooting at different distances is not provided.

The United States patent document no. US201 1242650, an application in the state of the art, discloses a multi-function adjustment knob used in a rifle scope. The adjustment knob performs adjustment by means of two members. The invention carries out windage, elevation and parallax adjustments via a single adjustment knob. The said invention resembles the invention titled "An Adjustment Assembly for Sighting Devices" in terms of adjustability of the sighting device. However, the invention titled "An Adjustment Assembly for Sighting Devices" is more advanced in terms of its embodiment and other advantages.

The United States patent document no. US2008236018, an application in the state of the art, discloses an adjustment mechanism for devices such as binoculars. The said invention resembles the invention titled "An Adjustment Assembly for Sighting Devices" in terms of reticle shifting, and windage and elevation adjustment.

**Summary of the Invention**

The objective of the present invention is to provide an adjustment assembly which enables to zero (sighting-in) the sighting device with respect to the weapon.

Another objective of the present invention is to provide an adjustment assembly for sighting devices which enables to provide suitable adjustment to the ballistic path for the shooting.

A further objective of the present invention is to provide an adjustment assembly for sighting devices which enables the suitable correction to be provided to the ballistic path for the shooting to be seen on the drum.

**Detailed Description of the Invention**

An adjustment assembly for sighting devices developed to fulfill the objective of the present invention is illustrated in the accompanying figure wherein

FIGURE 1 is the schematic view of the adjustment assembly for sighting devices.

The components in the figures are assigned reference numerals as follows:

1. Adjustment assembly
2. Protective cover
3. Drum
4. Indicator ring
5. Shaft cover
6. Ball
7. Spring
8. Headless screw
9. Shaft

10. Body
11. Pusher
12. Drum fixing screw

An adjustment assembly for sighting devices (1) of the prevent invention comprises

- at least one protective cover (2) which forms the outermost layer and is resistant to external factors,
- at least one drum (3) which can rotate around itself and is circular,
- at least one indicator ring (4) which enables to perform zeroing and which is encompassed by the indicator label,
- a drum fixing screw (12) which enables the drum to rotate around itself,
- at least one shaft (9) which converts circular movement to linear movement and has two rectangular protrusions on the lower part thereof,
- at least one shaft cover (5) which is placed on the shaft (9),
- at least one body (10) in which the shaft (9) is positioned,
- at least one ball (6) which enables the shaft (9) to perform step by step rotational movement within the body (10),
- at least one spring (7) which is located between the shaft (9) and the body (10),
- at least one headless screw (8) which is placed on the spring (7),
- at least one pusher (11) which can move linearly in connection with the shaft (9).

An adjustment assembly for sighting devices (1) has a design that is compatible with night vision cameras (A341 and A361). It allows to give correction for windage and elevation for night vision cameras (A341 and A361). An adjustment assembly for sighting devices (1), which has a protective cover (2), enables to take sight at the desired point quickly by means of the indicator ring (4) provided thereon.

There is provided a protective cover (2) on the upper part of the adjustment assembly for sighting devices (1). The protective cover (2) protects the drum (3)

against external factors (impact, hitting). The drum (3) is located between the protective cover (2) and the indicator ring (4). There is a circular space in the center of the drum (3). The said drum (3) can also perform circular movement.

The drum (3) and the indicator ring (4), which can be rotated around themselves, are connected to each other. The indicator ring (4) is circular. When the drum (3) rotates, the indicator ring (4) that it is connected with also performs rotational movement.

An indicator label is placed over the outer perimeter of the indicator ring (4). Zeroing is performed for the shooting by means of the indicator label, which preferably comprises millimetric scaling thereon, and thereby determined targets can be shot quickly. There is a shaft cover (5) located below the indicator ring (4).

A shaft (9) is positioned below the shaft cover (5). The shaft (9) converts circular movement to linear movement. The shaft (9) performs rotational movement within the body (10). The body (10) is circular and has a circular protrusion on the center thereof. The ball (6) located between the shaft (9) and the body (10) enables the shaft (9) to perform rotational movement step by step.

There are recesses between the shaft (9) and the body (10) large enough for the ball (6) to fit in. When the shaft (9) rotates, the ball (6) fits into a recess corresponding to each step. When the ball (6) fits into a recess, the user will hear a click sound. Thus the user will be able to zero his sight and make needed ballistic corrections for the target and the probability of hit will increase.

The pusher (11) connected to the shaft (9) moves linearly. The pusher (11) is positioned at the farthermost point of the ballistic assembly (1). The pusher (11) is preferably in the form of a rectangular prism. Depending on the rotation movement of the shaft (9), the pusher (11) moves linearly either forward or backward.

Within the framework of this basic concept, it is possible to develop various embodiments of the inventive adjustment assembly for sighting devices (1). The invention can not be limited to the examples described herein and it is essentially as defined in the claims.

## CLAIMS

**1.** An adjustment assembly for sighting devices (1) **comprising**

- at least one protective cover (2) which forms the outermost layer and is resistant to external factors,
- at least one shaft cover (5) which is placed on the shaft (9),
- at least one body (10) in which the shaft (9) is positioned,
- at least one ball (6) which enables the shaft (9) to perform step by step rotational movement within the body (10),
- at least one spring (7) which is located between the shaft (9) and the body (10),
- at least one headless screw (8) which is placed on the spring (7),
- at least one pusher (11) which can move linearly in connection with the shaft (9), and **characterized by**
- at least one indicator ring (4) which enables to perform zeroing and which is encompassed by the indicator label,
- at least one drum (3) which can rotate around itself and is circular,
- at least one shaft (9) which converts circular movement to linear movement and has two rectangular protrusions on the lower part thereof,
- a drum fixing screw (12) which enables the drum to rotate around itself.

**2.** An adjustment assembly for sighting devices (1) according to Claim 1, **characterized by** the fixing screw (12) which is placed between the drum (3) and the protective cover (2).

**3.** An adjustment assembly for sighting devices (1) according to Claim 1, **characterized by** the protective cover (2) which protects the drum (3) against external factors (impact, hitting).

**4.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the drum (3) which is positioned on the indicator ring (4) and which can be rotated around itself.

**5.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the pusher (11) which is connected to the shaft (9) and moves linearly.

**6.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the indicator ring (4) which, when the drum (3) that it is connected with rotates, performs rotational movement.

7. An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the indicator ring (4), which comprises an indicator label that preferably includes millimetric scaling thereon.

**8.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the shaft cover (5) located below the indicator ring (4).

**9.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the shaft (9) positioned below the shaft cover (5).

**10.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the body (10) which is circular and has a circular protrusion on the center thereof.

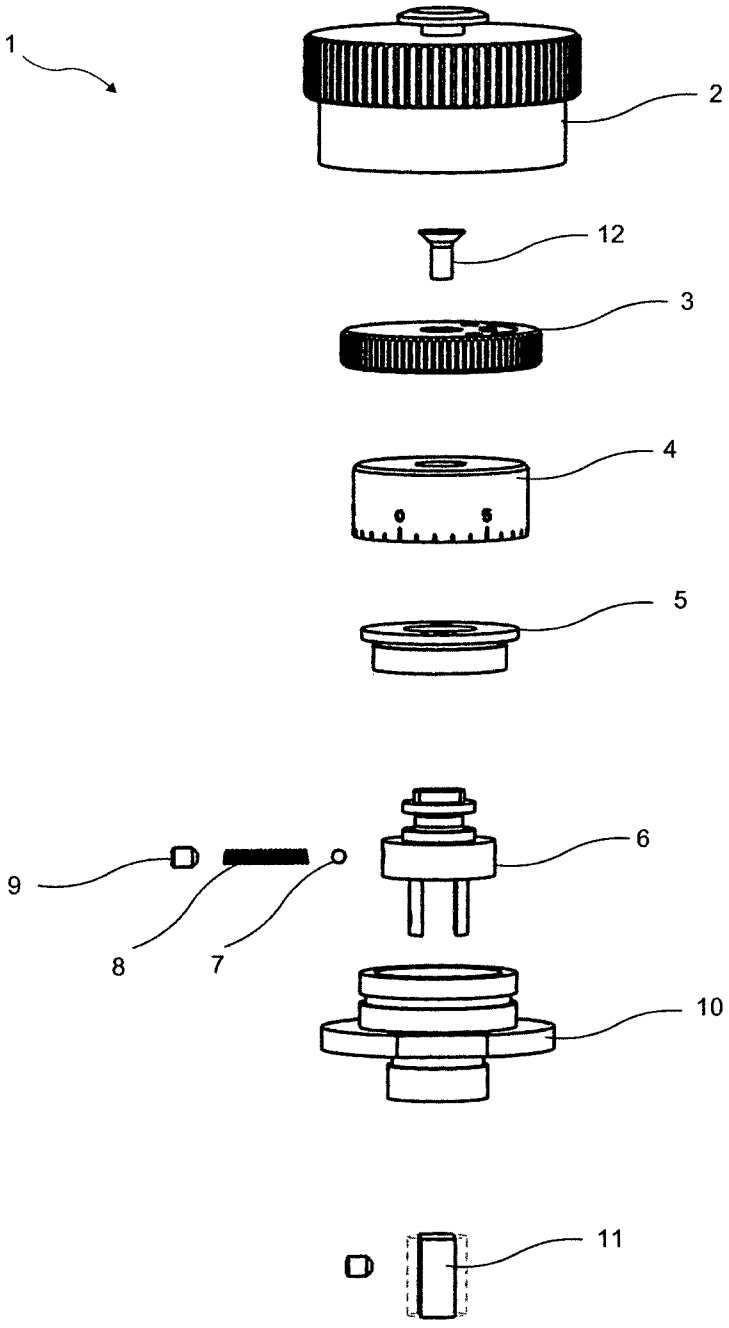
**11.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the ball (6) which is located between the shaft (9) and the body (10), and which enables the shaft (9) to perform rotational movement step by step.

**12.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the ball (6) for which there are recesses between the shaft (9) and the body (10) large enough for it to fit in.

**13.** An adjustment assembly for sighting devices (1) according to any one of the preceding claims, **characterized by** the ball (6) which produces a click sound when it fits into the recess.

**Figure 1**





# INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2013/050065

A. CLASSIFICATION OF SUBJECT MATTER
INV. F41G1/18 F41G1/38
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
F41G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| Y | CN 201 780 052 U (ZHUHAI CITY CHUNQIU OPTIC INSTR CO LTD)<br>30 March 2011 (2011-03-30)<br>abstract<br>paragraph [0001]<br>paragraph [0012]<br>paragraph [0018]<br>figures 1-2<br>figures 3-4 | 1-13 |
| | --- | |
| Y | US 2006/268433 Al (THOMAS MITCHELL [US] )<br>30 November 2006 (2006-11-30)<br>abstract<br>paragraph [0105]<br>figures 18-20 | 1-13 |
| | --- | |

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

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| Date of the actual completion of the international search | Date of mailing of the international search report |
|---|---|
| 10 Apri l 2013 | 24/04/2013 |

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| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016 | Lahousse, Al exandre |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB2013/050065

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---|---|---|
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| | | WO 2007089579 A2 | 09-08-2007 |