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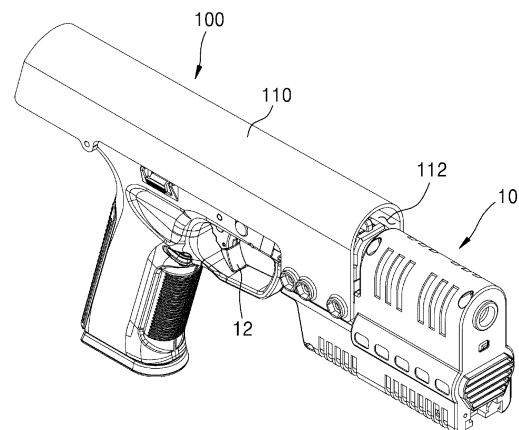
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(54) **SLIDE COVER DEVICE FOR SHOOTING GUN**

(57) Provided is a slide cover device for a shooting gun, the slide cover device including: a main body mounted on the shooting gun; and a movement hole provided in a rear portion of the main body so that a slide is movable backward, wherein the slide cover device is moved forward and backward while passing through the movement hole.

**FIG. 3**



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## Description

### TECHNICAL FIELD

**[0001]** The present disclosure relates to a slide cover device for a shooting gun, and more particularly, to a slide cover device for a shooting gun, in which a slide cover is mounted on a shooting gun, so that a user may be prevented from arbitrarily moving a slide of the shooting gun forward and backward and the user may be prevented from being injured by the slide of the shooting gun when the slide is moved forward and backward.

### BACKGROUND ART

**[0002]** Recently, with the development of multimedia technology and computer programming technology, various types of games and game tools have been developed and used due to an increased awareness of entertainment and leisure life. Shooting games give a sense of tension, excitement, and energy and are helpful in relieving stress, and thus are gaining popularity. There has been a demand for a shooting game using a gun for a shooting game to produce a more realistic situation.

**[0003]** Referring to FIG. 1, for this purpose, a shooting gun 10 includes a slide 11 that is movable forward and backward. When a trigger 12 provided in the shooting gun 10 is operated, the slide 11 is blown back (moved forward and backward), and accordingly, a user may feel like he or she actually fires a gun.

**[0004]** However, the shooting gun 10 of the related art has the following problems. The slide 11 provided in the shooting gun 10 should be moved forward and backward by the firing of the trigger 12 and should not be moved when the shooting gun 10 is not in use.

**[0005]** However, as illustrated in FIG. 2, as some users unnecessarily move the slide 11 backward when the shooting gun 10 is not in use, there is a problem in that the shooting game may not be able to proceed properly.

**[0006]** Also, when the slide 11 of the shooting gun 10 is moved backward and a bullet 1 is inserted from the outside, there is a problem in that the shooting game may be interrupted as a bullet passing point of the shooting gun 10 is blocked by the bullet 1.

**[0007]** In addition, when the slide 11 is forcibly moved forward in a state in which the bullet 1 is blocked, there is a problem in that the blocked bullet 1 may cause failures such as damage to parts or the like.

**[0008]** Moreover, when a slide of a shooting gun is moved forward and backward, there is a problem in that the user may be injured by the slide. For example, when the user puts his or her eyes close to the slide and aims the shooting gun, there is a risk that the user's eyes may be injured by a backward movement of the slide.

**[0009]** Also, there is a risk that the user's body part may be hit and injured by the backward movement of the slide, and there is also a risk that the user's body part, such as the user's finger, may be injured by being caught

in a space created in the shooting gun by a forward and backward movement of the slide.

### DESCRIPTION OF EMBODIMENTS

#### TECHNICAL PROBLEM

**[0010]** The present disclosure is to solve the problems described above, and more particularly, the present disclosure relates to a slide cover device for a shooting gun, in which a slide cover is mounted on a shooting gun so that a user may be prevented from arbitrarily moving a slide of the shooting gun forward and backward and the user may be prevented from being injured by the slide of the shooting gun when the slide is moved forward and backward.

#### SOLUTION TO PROBLEM

**[0011]** In order to solve the problems described above, a slide cover device for a shooting gun, according to the present disclosure, which is a device mounted on a shooting gun in which a slide is moved forward and backward, includes: a main body mounted on the shooting gun; and a movement hole provided in a rear portion of the main body so that the slide is movable backward, wherein the slide is moved forward and backward while passing through the movement hole.

**[0012]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, a first front sight may be provided on an upper surface of a front portion of the shooting gun, a first rear sight may be provided on an upper surface of a rear portion of the shooting gun, and, when the main body is mounted on the shooting gun, a separation space may be provided between an upper surface of the main body and the shooting gun.

**[0013]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the main body may include a maintenance hole in a shape of a hole passing through the main body.

**[0014]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the maintenance hole may include a first maintenance hole passing through an upper surface of the main body, and a second maintenance hole passing through a side surface of the main body.

**[0015]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the shooting gun may include a fixing button capable of fixing the slide backward, and the main body may include a fixing hole in a shape of a hole passing through the main body, wherein the fixing hole may cover the fixing button when the main body is mounted on the shooting gun.

**[0016]** In order to solve the problems described above, in the slide cover device for the shooting gun, according

to the present disclosure, when the main body is mounted on the shooting gun, the fixing button may not protrude from the fixing hole.

**[0017]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the main body may include a fastening hole through which a fastening screw is passable, and, when the main body is mounted on the shooting gun, the fastening hole may communicate with an assembly fastening hole formed to assemble the shooting gun.

**[0018]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the main body may include a protective cover extending rearward from the movement hole, wherein, when the slide is moved backward while passing through the movement hole, the slide may not protrude to the outside of the protective cover while being moved inside the protective cover.

**[0019]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, an air discharge hole may be provided in one surface of the protective cover, the air discharge hole communicating with the outside so that air generated when the slide is moved backward while passing through the movement hole is dischargeable to the outside.

**[0020]** In order to solve the problems described above, the slide cover device for the shooting gun, according to the present disclosure, may further include: a front sight protruding from an upper surface of a front portion of the main body; and a rear sight protruding from an upper surface of the rear portion of the main body.

**[0021]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, the main body may be mounted on the shooting gun in a state in which the first front sight and the first rear sight are removed from the shooting gun including the first front sight and the first rear sight.

**[0022]** In order to solve the problems described above, in the slide cover device for the shooting gun, according to the present disclosure, when the main body is mounted on the shooting gun, a distance from an upper surface of the shooting gun to a highest point of the front sight may be higher than a distance from the upper surface of the shooting gun to a highest point of the first front sight by a thickness  $x$  of the upper surface of the main body, and a distance from the upper surface of the shooting gun to a highest point of the rear sight may be higher than a distance from the upper surface of the shooting gun to a highest point of the first rear sight by a sum of the thickness  $x$  of the upper surface of the main body and a  $y$  value, wherein the  $y$  value may be a value ( $y=a/d * x$ ) obtained by multiplying, by the thickness  $x$  of the upper surface of the main body, a distance  $a$  between the first front sight and the first rear sight of the shooting gun with respect to a distance  $d$  from the first front sight of the shooting gun to a target point.

## ADVANTAGEOUS EFFECTS OF DISCLOSURE

**[0023]** The present disclosure relates to a slide cover device for a shooting gun, and the slide cover device for a shooting gun may prevent a user from arbitrarily moving a slide of a shooting gun forward and backward by mounting a slide cover on the shooting gun.

**[0024]** Also, according to the present disclosure, a bullet mounting chamber provided inside the shooting gun may be maintained without removing the slide cover through a maintenance hole and a fastening hole provided in a main body.

**[0025]** In addition, the present disclosure may prevent the user from being injured by a forward and backward movement of the slide as the slide cover is mounted on the shooting gun.

## BRIEF DESCRIPTION OF DRAWINGS

**[0026]**

FIG. 1 is a diagram of a shooting gun.

FIG. 2 is a diagram illustrating that a slide of a shooting gun is arbitrarily moved forward and backward by a user.

FIG. 3 is a front perspective view illustrating that a slide cover device is mounted on a shooting gun, according to an embodiment of the present disclosure.

FIG. 4 is a rear perspective view illustrating that a slide cover device is mounted on a shooting gun, according to an embodiment of the present disclosure.

FIG. 5 is an exploded perspective view of a shooting gun including a first front sight and a first rear sight, and a slide cover device mounted on the shooting gun, according to an embodiment of the present disclosure.

FIG. 6 is an exploded perspective view of a shooting gun not including a first front sight and a first rear sight, and a slide cover device mounted on the shooting gun, according to another embodiment of the present disclosure.

FIG. 7 is a perspective view of a slide cover device for a shooting gun, according to another embodiment of the present disclosure.

(a) of FIG. 8 is a side view of a slide cover device for a shooting gun, according to another embodiment of the present disclosure, and (b) of FIG. 8 is a front view of a slide cover device for a shooting gun, according to another embodiment of the present disclosure.

(a) of FIG. 9 is a diagram of a shooting gun in a state in which a first front sight and a first rear sight are removed, and (b) of FIG. 9 is a diagram illustrating that a slide cover device for a shooting gun is mounted on the shooting gun of (a) of FIG. 9, according to another embodiment of the present disclosure.

FIG. 10 is a diagram of a state in which a slide is moved backward through a movement hole of a main body, according to another embodiment of the present disclosure.

(a), (b), and (c) of FIG. 11 are diagrams of a method of adjusting a height of a rear sight with respect to a front sight, according to another embodiment of the present disclosure.

(a) of FIG. 12 is a perspective view illustrating that a protective cover is provided in a main body, according to another embodiment of the present disclosure, and (b) of FIG. 12 is a bottom perspective view illustrating that a protective cover is provided in a main body, according to another embodiment of the present disclosure.

(a) of FIG. 13 is a diagram illustrating that a main body including a protective cover is mounted on a shooting gun, according to another embodiment of the present disclosure, and (b) of FIG. 13 is a diagram illustrating that a slide is moved backward after a main body including a protective cover is mounted on a shooting gun, according to another embodiment of the present disclosure.

#### MODE OF DISCLOSURE

**[0027]** Hereinafter, embodiments of the present disclosure will be described in detail with reference to the accompanying drawings. The embodiments of the present disclosure are provided to more completely explain the present disclosure to those of ordinary skill in the art. As the present disclosure allows for various changes and numerous embodiments, particular embodiments will be illustrated in the drawings and described in detail. However, this is not intended to limit the present disclosure to particular modes of practice, and it will be understood that all changes, equivalents, and substitutes that do not depart from the spirit and technical scope of the present disclosure are encompassed in the present disclosure. Like reference numerals are used for like components to describe each drawing. In the accompanying drawings, the dimensions of structures are enlarged or reduced than their actual sizes for clarity of the present disclosure.

**[0028]** Terms used herein are only used to describe particular embodiments and are not intended to limit the scope of the present disclosure. The singular forms "a," "an," and "the" as used herein are intended to include the plural forms as well unless the context clearly indicates otherwise. It will be understood that terms such as "include" or "comprise" as used herein specify the presence of stated features, numbers, steps, operations, components, parts, and combinations thereof, but do not preclude in advance the presence or addition of one or more other features, numbers, steps, operations, components, parts, combinations thereof.

**[0029]** Also, such terms as "first" and "second" may be used to describe various components, but such components should not be limited by those terms. The afore-

mentioned terms may be used to distinguish one component from another. For example, without departing from the scope of the present disclosure, a first component may be referred to as a second component, and similarly, a second component may be referred to as a first component.

**[0030]** It will be understood that when a component is referred to as being "connected" or "coupled" to another component, it may be directly connected or coupled to the other component, or intervening components may exist between the component and the other component. On the other hand, it will be understood that when a component is referred as being "directly connected" or "directly coupled" to another component, intervening components may not exist between the component and the other component.

**[0031]** Unless otherwise defined, all terms used herein including technical or scientific terms have the same meanings as commonly understood by those of ordinary skill in the art to which the present disclosure pertain. Terms such as those defined in commonly used dictionaries should be interpreted as having meanings consistent with the meanings in the context of the related art, and should not be interpreted in an idealized or overly formal sense, unless explicitly defined in the present disclosure.

**[0032]** The present disclosure relates to a slide cover device for a shooting gun, and relates to a slide cover device for a shooting gun, in which a slide cover is mounted on a shooting gun, so that a user may be prevented from arbitrarily moving a slide of the shooting gun forward and backward and the user may be prevented from being injured by the slide of the shooting gun when the slide is moved forward and backward. Hereinafter, embodiments of the present disclosure will be described with reference to the accompanying drawings.

**[0033]** Referring to FIGS. 3 and 4, according to an embodiment of the present disclosure, a shooting gun 10 may be an airsoft gun that fires a bullet by using compressed gas. The shooting gun 10 includes a slide 11 that is movable forward and backward. When a trigger 12 provided in the shooting gun 10 is operated, the slide 11 is blown back (moved forward and backward), and accordingly, a user may feel like he or she actually fires a gun.

**[0034]** The shooting gun 10 includes a supply hose capable of supplying a bullet to the shooting gun 10, and the bullet may be supplied to a bullet mounting chamber of the shooting gun 10 through the supply hose. The bullets supplied to the bullet mounting chamber may be fired by the force of compressed gas.

**[0035]** However, the shooting gun 10 according to the embodiments of the present disclosure is not limited to firing a bullet. The shooting gun 10 may not fire a bullet but may discharge air, a laser beam, or the like. Even when the shooting gun 10 does not fire a bullet, the shooting gun 10 may include the slide 11 that is movable forward and backward.

**[0036]** When a trigger 12 provided in the shooting gun 10 is operated, the slide 11 is blown back (moved forward and backward), and accordingly, the user may feel like he or she actually fires a gun even though a bullet is not fired.

**[0037]** The shooting gun 10 provided in the shooting gun 10 should be moved forward and backward by the firing of the trigger 12 and should not be moved when the shooting gun 10 is not in use. However, as some users unnecessarily move the slide 11 backward when the shooting gun 10 is not in use, there is a problem in that a shooting game may not be able to proceed properly.

**[0038]** Moreover, when the slide 11 of the shooting gun 10 is moved forward and backward, there is a problem in that the user may be injured by the slide 11. For example, when the user aims the shooting gun 10 with his or her eyes, there is a risk that the user's eye may be injured by a backward movement of the slide 11, and there is also a risk that the user's body part may be hit and injured by the backward movement of the slide 11.

**[0039]** In addition, there is also a risk that the user's body part, such as the user's finger, may be injured by being caught in a space created in the shooting gun 10, such as the bullet mounting chamber, by a forward and backward movement of the slide 11.

**[0040]** According to an embodiment of the present disclosure, a slide cover device 100 for a shooting gun is provided to prevent the problems described above, and may be mounted on the shooting gun 10. According to an embodiment of the present disclosure, the slide cover device 100 for the shooting gun includes a main body 110 and a movement hole 111.

**[0041]** Referring to FIGS. 3 and 4, the main body 110 may be mounted on the shooting gun 10, and may be mounted on the shooting gun 10 by covering the slide 11 of the shooting gun 10.

**[0042]** The main body 110 may be a housing having a space in which the slide 11 may extend in a longitudinal direction and be mounted on the shooting gun 10. Because the slide 11 of the shooting gun 10 is covered by the main body 110, the user may be prevented from arbitrarily adjusting the slide 11 to cause the slide 11 of the shooting gun 10 to be arbitrarily moved forward and backward.

**[0043]** Also, because the slide 11 of the shooting gun 10 is covered by the main body 110, the user may be prevented from being injured by being hit by the slide 11 when the slide 11 is moved forward and backward.

**[0044]** In detail, because the slide 11 of the shooting gun 10 is covered by the main body 110, the user may not be able to access a driver in which the slide 11 moves, and accordingly, the user may be prevented from being injured by the forward and backward movement of the slide 11.

**[0045]** In addition, because the main body 110 covers the slide 11 of the shooting gun 10, the user may be prevented from getting his or her body part, such as a

finger, injured by being caught in a space created in the shooting gun 10, such as the bullet mounting chamber, by the forward and backward movement of the slide 11.

**[0046]** The movement hole 111 is provided in a rear portion of the main body 110. The main body 110 is provided to prevent the user from arbitrarily adjusting the slide 11 but should allow the slide 11 to be blown back (moved forward and backward) by a force generated by the firing.

**[0047]** That is, the main body 110 should allow the slide 11 to be moved forward and backward by the force generated by the firing while preventing the slide 11 from being moved forward and backward by an external force.

**[0048]** Referring to FIG. 4, the movement hole 111 is provided for the purpose described above, and when the shooting gun 10 is fired, the slide 11 may be moved forward and backward while passing through the movement hole 111.

**[0049]** In this case, a front portion of the main body 110 refers to a direction in which the muzzle of the shooting gun 10 is arranged, and a rear portion of the main body 110 refers to a direction opposite to the direction in which the muzzle of the shooting gun 10 is arranged.

**[0050]** The main body 110 may have various shapes as long as the main body 110 covering the slide 11 of the shooting gun 10 prevents the user from arbitrarily moving the slide 11 forward and backward and allows the slide 11 to be moved forward and backward through the movement hole 111 when the shooting gun 10 is fired.

**[0051]** Referring to FIG. 5, according to an embodiment of the present disclosure, a first front sight 20 may be provided on an upper surface of a front portion of the shooting gun 10, and a first rear sight 30 may be provided on an upper surface of a rear portion of the shooting gun 10.

**[0052]** The first front sight 20 and the first rear sight 30 may be sights for the user to aim at a target point. In detail, the first front sight 20 may be provided in the front portion of the shooting gun 10, and the first rear sight 30 may be provided in the rear portion of the shooting gun 10.

**[0053]** The user pulls the trigger by adjusting positions of the first front sight 20 and the first rear sight 30 so that the first front sight 20, the first rear sight 30, and the target point are arranged in a parallel line.

**[0054]** Referring to FIGS. 3 and 5, when the main body 110 is mounted on the shooting gun 10, a separation space 112 may be provided between an upper surface of the main body 110 and the shooting gun 10. As described above, the shooting gun 10 may include the first front sight 20 and the first rear sight 30.

**[0055]** When the main body 110 is mounted on the shooting gun 10, in order to prevent interference from occurring between the main body 110 and the first front sight 20 and the first rear sight 30, the separation space 112 may be provided between the upper surface of the main body 110 and the shooting gun 10.

**[0056]** However, the present disclosure is not limited thereto, and as illustrated in FIG. 6, the shooting gun 10

may not include the first front sight 20 and the first rear sight 30. When the shooting gun 10 discharges a laser beam or air rather than a bullet, the first front sight 20 and the first rear sight 30 may not be necessary. Accordingly, the shooting gun 10 may not include the first front sight 20 and the first rear sight 30.

**[0057]** According to another embodiment of the present disclosure, the slide cover device 100 for the shooting gun may further include a front sight 120 and a rear sight 130 provided in the main body 110.

**[0058]** Referring to FIG. 7 and (a) and (b) of FIG. 8, the main body 110 may be mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed from the shooting gun 10 including the first front sight 20 and the first rear sight 30.

**[0059]** When the shooting gun 10 includes the first front sight 20 and the first rear sight 30, the main body 110 is not mounted due to the first front sight 20 and the first rear sight 30.

**[0060]** Accordingly, the main body 110 may be mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed from the shooting gun 10.

**[0061]** In this case, when the main body 110 is mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed, it may mean that a process of removing the first front sight 20 and the first rear sight 30 from the shooting gun 10 is performed.

**[0062]** The main body 110 is mounted on the shooting gun 10 in which the first front sight 20 and the first rear sight 30 are not formed (the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed), and the process of removing the first front sight 20 and the first rear sight 30 from the shooting gun 10 is not necessarily performed.

**[0063]** As described above, according to an embodiment of the present disclosure, in the slide cover device 100 for the shooting gun, the first front sight 20 and the first rear sight 30 are provided in the shooting gun 10 and the front sight 120 and the rear sight 130 may not be provided in the main body 110. Alternatively, the first front sight 20 and the first rear sight 30 may not be provided in the shooting gun 10 and the front sight 120 and the rear sight 130 may be provided in the main body 110.

**[0064]** Also, as illustrated in FIG. 4, the first front sight 20 and the first rear sight 30 may not be provided in the shooting gun 10 and the front sight 120 and the rear sight 130 may not be provided in the main body 110.

**[0065]** Referring to (a) and (b) of FIG. 9, the main body 110 may include a maintenance hole 140 in the shape of a hole passing through the main body 110. Referring to FIG. 2, the shooting gun 10 may include a bullet mounting chamber 40 exposed when the slide 11 is moved backward.

**[0066]** The maintenance hole 140 may cover the bullet mounting chamber 40 when the main body 110 is mounted on the shooting gun 10. The maintenance hole 140

is open in the shape of a hole. Accordingly, when the slide 11 is moved backward, the bullet mounting chamber 40 may be checked through the maintenance hole 140.

**[0067]** When the slide 11 is moved backward, the shooting gun 10 may be maintained while removing the bullet 1 and foreign materials inside the bullet mounting chamber 40 through the maintenance hole 140.

**[0068]** Referring to (b) of FIG. 9, the maintenance hole 140 may include a first maintenance hole 141 and a second maintenance hole 142, the first maintenance hole 141 passing through an upper surface of the maintenance hole 140, and the second maintenance hole 142 passing through a side surface of the maintenance hole 140.

**[0069]** The inside of the bullet mounting chamber 40 may be checked at various angles through the first maintenance hole 141 passing through the upper surface of the main body 110 and the second maintenance hole 142 passing through the side surface of the main body 110, and the bullet 1 and the foreign materials inside the bullet mounting chamber 40 may be removed at various angles.

**[0070]** Referring to (a) and (b) of FIG. 9, the main body 110 may include a fixing hole 150 in the shape of a hole passing through the main body 110. The shooting gun 10 may include a fixing button 50 capable of fixing the slide 11 backward.

**[0071]** The fixing button 50 may fix the slide 11 in a state in which the slide 11 is moved backward, as illustrated in FIG. 10. As the slide 11 is fixed in a state in which the slide 11 is moved backward, the inside of the bullet mounting chamber 40 may be checked.

**[0072]** The fixing hole 150 may cover the fixing button 50 when the main body 110 is mounted on the shooting gun 10. The fixing hole 150 is open in the shape of a hole. Accordingly, the slide 11 may be fixed backward while the fixing button 50 is operated through the fixing hole 150.

**[0073]** When the fixing button 50 is operated through the fixing hole 150, the fixing button 50 may be operated by using a tool that is insertable into the fixing hole 150. As the slide 11 is fixed backward by operating the fixing button 50 by using the tool that is insertable into the fixing hole 150, the inside of the bullet mounting chamber 40 may be maintained.

**[0074]** When the main body 110 is mounted on the shooting gun 10, the fixing button 50 may not protrude from the fixing hole 150. When the fixing button 50 protrudes outward from the fixing hole 150, there is a problem in that the user may be able to arbitrarily operate the fixing button 50.

**[0075]** Accordingly, when the main body 110 is mounted on the shooting gun 10, the fixing button 50 may not protrude from the fixing hole 150, and the fixing button 50 may operate only by using the tool that is insertable into the fixing hole 150.

**[0076]** Referring to (a) and (b) of FIG. 8, the main body 110 may include a fastening hole 160 through which a

fastening screw may pass, and the shooting gun 10 may include an assembly fastening hole 60 for assembling the shooting gun 10.

**[0077]** The assembly fastening hole 60 is provided to assemble and manufacture the shooting gun 10, and the shooting gun 10 may be manufactured by fitting the fastening screw into the assembly fastening hole 60.

**[0078]** When the main body 110 is mounted on the shooting gun 10, the fastening hole 160 may communicate with the assembly fastening hole 60 that is formed to assemble the shooting gun 10.

**[0079]** In detail, according to an embodiment of the present disclosure, the slide cover device 100 for the shooting gun may use the existing assembly fastening hole 60 formed in the shooting gun 10 to mount the main body 110 on the shooting gun 10.

**[0080]** In order to mount the main body 110 on the shooting gun 10, the fastening hole 160 communicates with the assembly fastening hole 60, and the fastening screw simultaneously passes through the fastening hole 160 and the assembly fastening hole 60. Accordingly, the shooting gun 10 may be assembled by mounting the main body 110 on the shooting gun 10.

**[0081]** When the main body 110 is mounted by using the method as described above, modifications of the shooting gun 10 may be minimized, and the main body 110 may be mounted on the shooting gun 10 without changing the design of the existing shooting gun 10.

**[0082]** In more detail, as the fastening hole 160 of the main body 110 communicates with the assembly fastening hole 60 of the shooting gun 10, the main body 110 may be mounted on the shooting gun 10 by adjusting only a length of the fastening screw without changing the design of the existing shooting gun 10.

**[0083]** According to an embodiment of the present disclosure, the main body 110 may include the front sight 120 and the rear sight 130. As described above, because the shooting gun 10 is in a state in which the first front sight 20 and the first rear sight 30 are not provided, the main body 110 may include the front sight 120 and the rear sight 130.

**[0084]** The front sight 120 protrudes from an upper surface of the front portion of the main body 110, and the rear sight 130 protrudes from an upper surface of the rear portion of the main body 110.

**[0085]** The user pulls the trigger by adjusting positions of the front sight 120 and the rear sight 130 so that the front sight 120, the rear sight 130, and the target point are arranged in a parallel line.

**[0086]** As described above, the main body 110 may be mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed from the shooting gun 10.

**[0087]** According to an embodiment of the present disclosure, when the main body 110 is mounted on the shooting gun 10, it is necessary to adjust a height of the rear sight 130 with respect to the front sight 120.

**[0088]** Referring to (a) of FIG. 11, when the shooting

gun 10 includes the first front sight 20 and the first rear sight 30, a target point 2 at which the user targets and an impact point 3 at which a bullet is fired may be equally formed (with the zero point adjusted).

**[0089]** Assuming that the first front sight 20 and the front sight 120 have the same size, shape, and height, and the first rear sight 30 and the rear sight 130 have the same size, shape, and height, when the main body 110 is mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed from the shooting gun 10, heights of the front sight 120 and the rear sight 130 are increased by a thickness  $x$  of the upper surface of the main body 110, as illustrated in (b) of FIG. 11.

**[0090]** In this case, the front sight 120 and the rear sight 130 may be arranged above the first front sight 20 and the first rear sight 30, respectively. Also, in (b) of FIG. 11, the thickness  $x$  of the upper surface of the main body 110 is illustrated as an exaggerated thickness for description, and an actual thickness  $x$  of the upper surface of the main body 110 is less than a thickness of (b) of FIG. 7.

**[0091]** Referring to (b) of FIG. 11, when the above state is reached, the target point 2 at which the user targets and the impact point 3 at which the bullet is fired may not be equally formed. Accordingly, in order to adjust this, the heights of the front sight 120 and the rear sight 130 should be adjusted.

**[0092]** In this case, the front sight 120 may have the same size, shape, and height as those of the first front sight 20, and the height of the rear sight 130 with respect to the front sight 120 may be adjusted.

**[0093]** In detail, when the main body 110 is mounted on the shooting gun 10, a distance from an upper surface of the shooting gun 10 to the highest point of the front sight 120 is higher than a distance from the upper surface of the shooting gun 10 to the highest point of the first front sight 20 by the thickness  $x$  of the upper surface of the main body 110.

**[0094]** Because the front sight 120 has the same size, shape, and height as those of the first front sight 20, the distance from the upper surface of the shooting gun 10 to the highest point of the front sight 120 may be increased only by the thickness  $x$  of the upper surface of the main body 110.

**[0095]** When the main body 110 is mounted on the shooting gun 10, the height of the rear sight 130 may be adjusted to adjust the zero point. The distance from the upper surface of the shooting gun 10 to the highest point of the rear sight 130 may be higher than the distance from the upper surface of the shooting gun 10 to the highest point of the first rear sight 30 by a sum of the thickness  $x$  of the upper surface of the main body 110 and a  $y$  value.

**[0096]** The  $y$  value is a value at which the height of the rear sight 130 is adjusted. Referring to (c) of FIG. 11, the  $y$  value may be a value ( $y=a/d \cdot x$ ) obtained by multiplying, by the thickness  $x$  of the upper surface of the main body

110, a distance a between the first front sight 20 and the first rear sight 30 of the shooting gun 10 with respect to a distance d from the first front sight 20 of the shooting gun 10 to the target point.

**[0097]** In more detail, the following proportional expression should be established so that the target point 2 and the impact point 3 are the same when the main body 110 is mounted on the shooting gun 10, as illustrated in (c) of FIG. 11. Height (x+y) by which the rear sight 130 is higher than the first rear sight 30 : Height x by which the front sight 120 is higher than the first front sight 20 = Sum (a+d) of the distance a between the first front sight 20 and the first rear sight 30 of the shooting gun 10 and the distance d from the first front sight 20 of the shooting gun 10 to the target point: Distance d from the first front sight 20 of the shooting gun 10 to the target point (Proportional expression:  $(x+y):x = (a+d):d$ )

**[0098]** Summarizing the above proportional expression, the value  $(y=a/d * x)$  may be derived. That is, the height of the rear sight 130 may be adjusted by using the thickness x of the upper surface of the main body 110, the distance a between the first front sight 20 and the first rear sight 30 of the shooting gun 10, and the distance d from the first front sight 20 of the shooting gun 10 to the target point.

**[0099]** As the height of the rear sight 130 is adjusted by using the adjustment method described above, even when the main body 110 is mounted on the shooting gun 10, the zero point may be maintained as it is.

**[0100]** In this case, when the main body 110 is mounted on the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed, it may not mean that the process of removing the first front sight 20 and the first rear sight 30 from the shooting gun 10 is performed.

**[0101]** The main body 110 is mounted on the shooting gun 10 in which the first front sight 20 and the first rear sight 30 are not formed (the shooting gun 10 in a state in which the first front sight 20 and the first rear sight 30 are removed), and the process of removing the first front sight 20 and the first rear sight 30 from the shooting gun 10 is not necessarily performed.

**[0102]** According to an embodiment of the present disclosure, as the main body 110 includes the front sight 120 and the rear sight 130, a process of separately processing and assembling the first front sight 20 and the first rear sight 30 in the shooting gun 10 may be omitted.

**[0103]** According to another embodiment of the present disclosure, the main body 110 of the slide cover device 100 for the shooting gun may include a protective cover 170 extending rearward from the movement hole 111.

**[0104]** Referring to (a) and (b) of FIG. 12, the protective cover 170 may be a housing surrounding a rear portion of the movement hole 111. As described above, when the shooting gun 10 is fired, the slide 11 is blown back and moved backward.

**[0105]** In this case, when the slide 11 is moved backward, there is a risk that the slide 11 hits the user's face. Although a cautionary note is affixed to the shooting gun 10, there is a risk that a user who pulls the trigger while bringing his or her face close to the rear portion of the main body 110 may be injured by the slide 11.

**[0106]** The protective cover 170 is provided to prevent this. Referring to (a) and (b) of FIG. 13, when the slide 11 is moved backward while passing through the movement hole 111, the slide 11 may not protrude to the outside of the protective cover 170 while being moved inside the protective cover 170. Accordingly, this may prevent the slide 11 from hitting the user when the slide 11 is moved backward.

**[0107]** In more detail, the protective cover 170 may cover the slide 11 when the slide 11 is moved backward. One side surface of the protective cover 170 may be open while communicating with the movement hole 111, and the slide 11 may be moved into the protective cover 170 through the one side surface of the protective cover 170. In this case, portions other than the one side surface of the protective cover 170 may be blocked, and the lower surface of the protective cover 170 may also be blocked.

**[0108]** Referring to (a) and (b) of FIG. 12, an air discharge hole 171 may be provided in one surface of the protective cover 170, the air discharge hole 171 communicating with the outside so that air generated when the slide 11 is moved backward while passing through the movement hole 111 may be discharged to the outside.

**[0109]** When the shooting gun 10 is fired, the slide 11 is moved backward by a force of compressed gas. In this case, compressed gas used for firing may remain in the bullet mounting chamber.

**[0110]** When the outside is blocked by the protective cover 170, the compressed gas may not be smoothly discharged to the outside. The air discharge hole 171 is provided for this purpose and may be a hole that communicates with the outside.

**[0111]** The air discharge hole 171 is provided in one surface of the protective cover 170 and may be provided in the lower surface of the protective cover 170 (However, the present disclosure is not limited thereto, and the air discharge hole 171 may be provided in a side surface of the protective cover 170 as necessary.).

**[0112]** When the air discharge hole 171 is provided in the lower surface of the protective cover 170, the compressed gas may be discharged to the outside through the air discharge hole 171 when the shooting gun 10 is fired.

**[0113]** According to an embodiment of the present disclosure, when the main body 110 includes the protective cover 170, the rear sight 130 may be provided in the protective cover 170.

**[0114]** According to the embodiments of the present disclosure described above, the slide cover device for the shooting gun has the following effects.

**[0115]** According to the embodiments of the present disclosure, the slide cover device for the shooting gun

may prevent a user from arbitrarily moving a slide of the shooting gun forward and backward by mounting a slide cover on the shooting gun.

**[0116]** According to the embodiments of the present disclosure, the slide cover device for the shooting gun prevents the user from arbitrarily moving the slide of the shooting gun forward and backward, and thus may prevent a game from being interrupted by a passing point of the shooting gun being blocked by an external bullet, and prevent failures such as damage to parts of the shooting gun due to a blocked bullet.

**[0117]** Also, according to the embodiments of the present disclosure, the slide cover device for the shooting gun may maintain a bullet mounting chamber provided inside the shooting gun even though the slide cover is not removed through a maintenance hole and a fastening hole provided in a main body.

**[0118]** Moreover, according to the embodiments of the present disclosure, the slide cover device for the shooting gun may prevent the user from being injured by a forward and backward movement of the slide by mounting the slide cover on the shooting gun.

**[0119]** In detail, according to the embodiments of the present disclosure, the slide cover device for the shooting gun may prevent the user from being hit and injured by the slide when the slide is moved forward and backward, by mounting the slide cover on the shooting gun, and may prevent the user from getting his or her body part injured by being caught in a space created in the shooting gun by the forward and backward movement of the slide.

**[0120]** In addition, according to the embodiments of the present disclosure, the slide cover device for the shooting gun does not cause changes in a target point and an impact point even though the main body is mounted on the shooting gun, by adjusting a height of a rear sight with respect to a front sight formed in the main body.

**[0121]** Also, according to the embodiments of the present disclosure, the slide cover device for the shooting gun includes a protective cover in the main body and thus may prevent the user from being injured by a backward movement of the slide.

**[0122]** The embodiments have been disclosed in the drawings and the specification as described above. Although the embodiments have been described by using particular terms herein, the terms are used only for the purpose of explaining the technical spirit of the present disclosure, and are not used to limit the meanings or to limit the scope of the present disclosure described in the claims. Therefore, those of ordinary skill in the art will understand that various modifications and other equivalent embodiments may be made therefrom.

## Claims

1. A slide cover device for a shooting gun, which is a device mounted on a shooting gun in which a slide is moved forward and backward, the slide cover de-

vice comprising:

a main body mounted on the shooting gun; and  
a movement hole provided in a rear portion of the main body so that the slide is movable backward,  
wherein the slide is moved forward and backward while passing through the movement hole.

2. The slide cover device of claim 1, wherein a first front sight is provided on an upper surface of a front portion of the shooting gun,

a first rear sight is provided on an upper surface of a rear portion of the shooting gun, and,  
when the main body is mounted on the shooting gun, a separation space is provided between an upper surface of the main body and the shooting gun.

3. The slide cover device of claim 1, wherein the main body comprises a maintenance hole in a shape of a hole passing through the main body.

4. The slide cover device of claim 3, wherein the maintenance hole comprises

a first maintenance hole passing through an upper surface of the main body, and  
a second maintenance hole passing through a side surface of the main body.

5. The slide cover device of claim 1, wherein the shooting gun comprises a fixing button capable of fixing the slide backward, and

the main body comprises a fixing hole in a shape of a hole passing through the main body,  
wherein the fixing hole covers the fixing button when the main body is mounted on the shooting gun.

6. The slide cover device of claim 5, wherein, when the main body is mounted on the shooting gun, the fixing button does not protrude from the fixing hole.

7. The slide cover device of claim 1, wherein the main body comprises a fastening hole through which a fastening screw is passable, and,  
when the main body is mounted on the shooting gun, the fastening hole communicates with an assembly fastening hole formed to assemble the shooting gun.

8. The slide cover device of claim 1, wherein the main body comprises a protective cover extending rearward from the movement hole,  
wherein, when the slide is moved backward while passing through the movement hole, the slide does

not protrude to the outside of the protective cover while being moved inside the protective cover.

9. The slide cover device of claim 8, wherein an air discharge hole is provided in one surface of the protective cover, the air discharge hole communicating with the outside so that air generated when the slide is moved backward while passing through the movement hole is dischargeable to the outside.

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10. The slide cover device of claim 1, further comprising:

a front sight protruding from an upper surface of a front portion of the main body; and  
a rear sight protruding from an upper surface of the rear portion of the main body.

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11. The slide cover device of claim 10, wherein the main body is mounted on the shooting gun in a state in which the first front sight and the first rear sight are removed from the shooting gun comprising the first front sight and the first rear sight.

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12. The slide cover device of claim 11, wherein, when the main body is mounted on the shooting gun, a distance from an upper surface of the shooting gun to a highest point of the front sight is higher than a distance from the upper surface of the shooting gun to a highest point of the first front sight by a thickness x of the upper surface of the main body, and

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a distance from the upper surface of the shooting gun to a highest point of the rear sight is higher than a distance from the upper surface of the shooting gun to a highest point of the first rear sight by a sum of the thickness x of the upper surface of the main body and a y value, wherein the y value is a value ( $y=a/d \cdot x$ ) obtained by multiplying, by the thickness x of the upper surface of the main body, a distance a between the first front sight and the first rear sight of the shooting gun with respect to a distance d from the first front sight of the shooting gun to a target point.

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FIG. 1

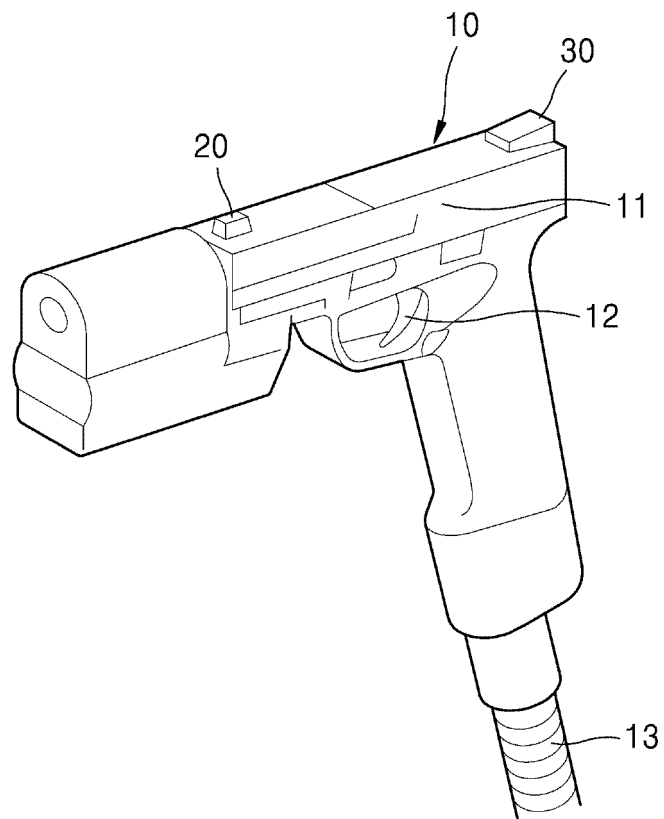


FIG. 2

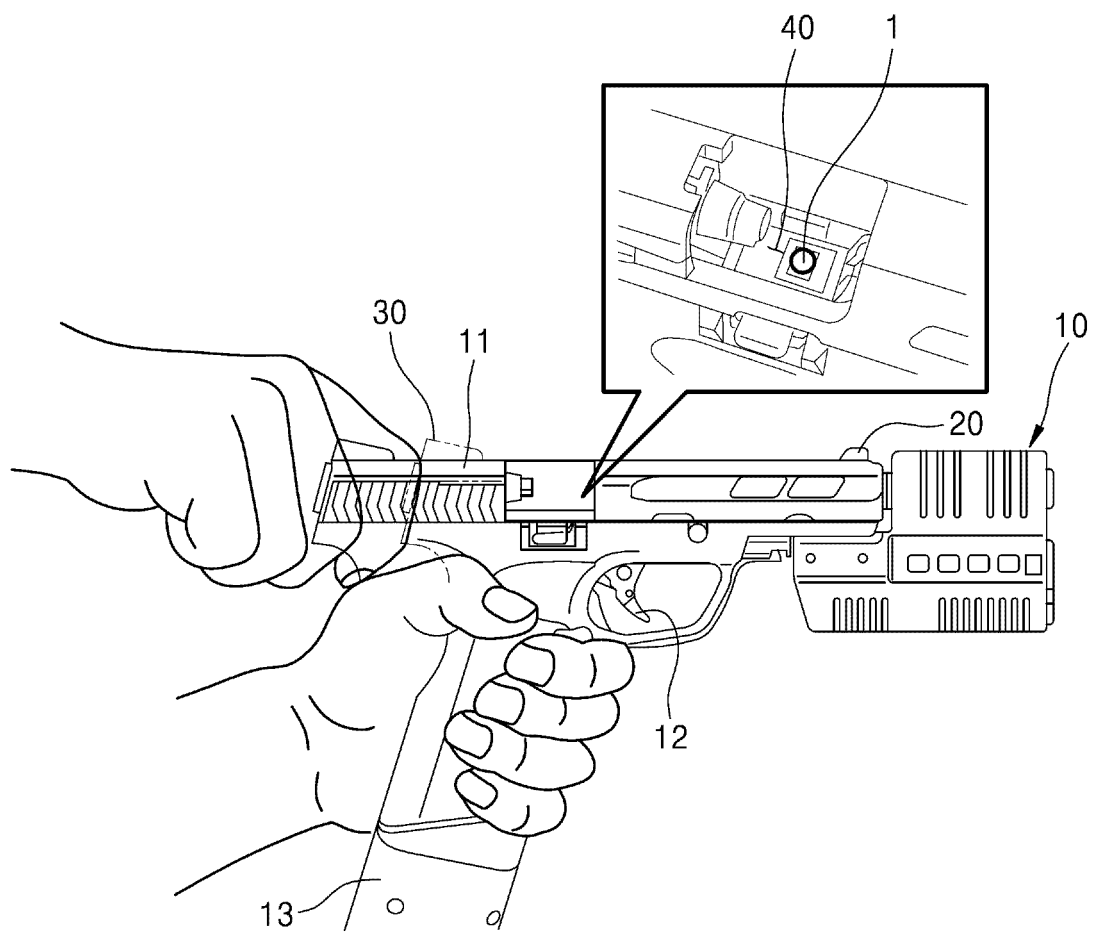


FIG. 3

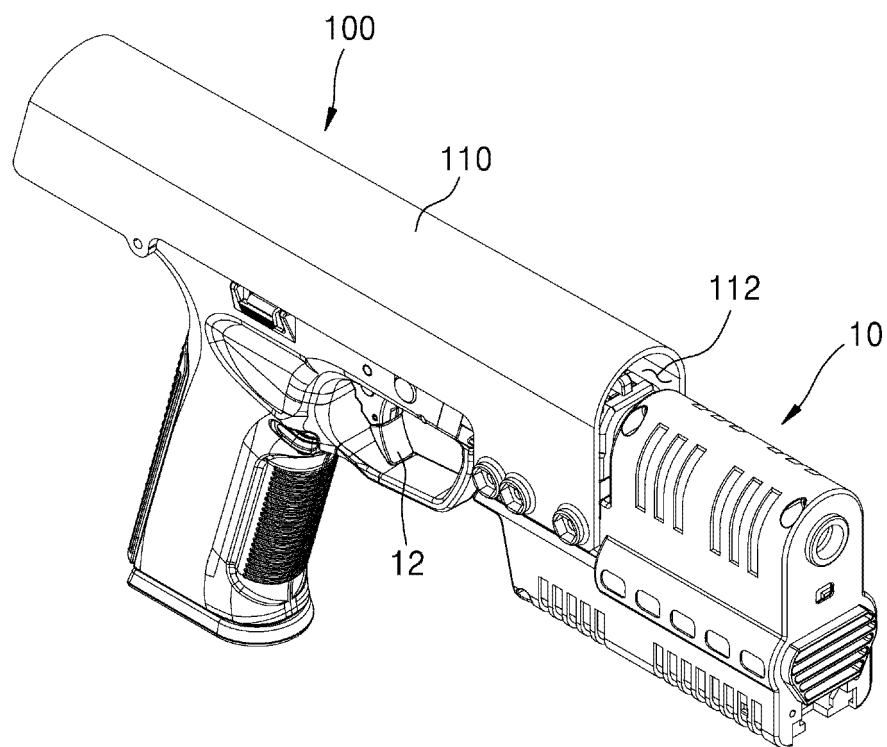


FIG. 4

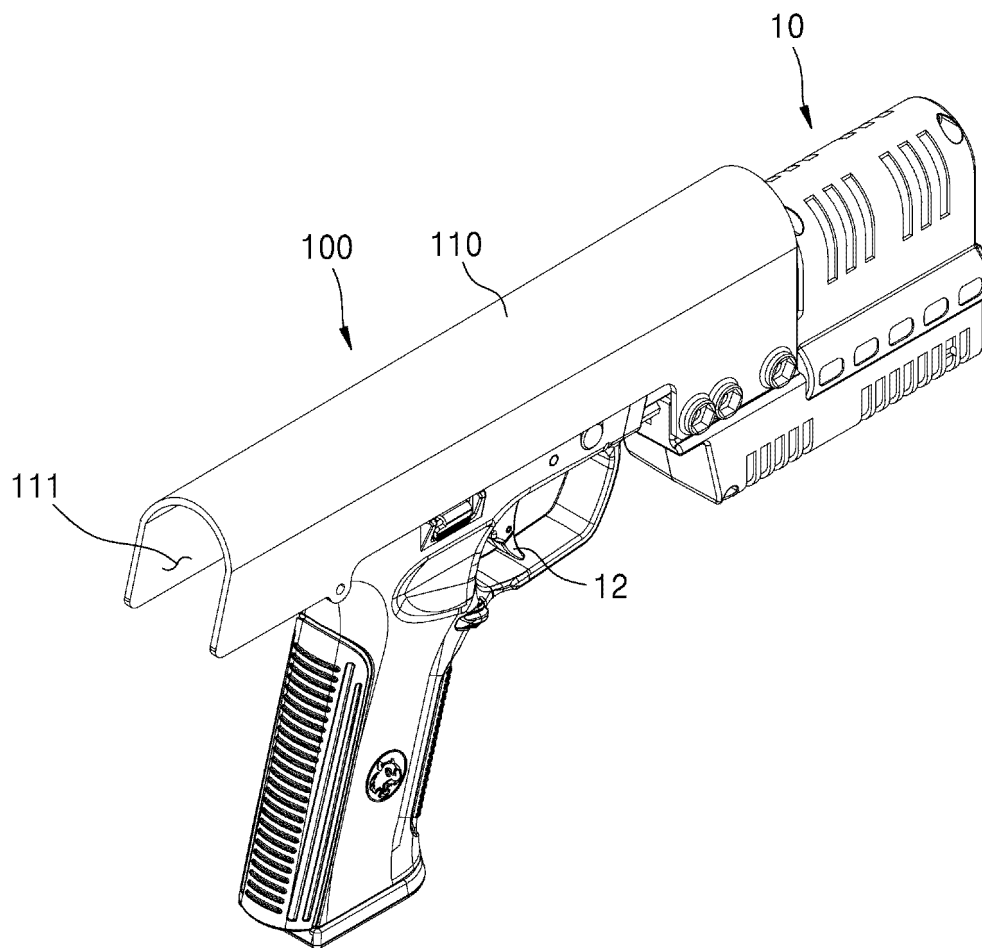


FIG. 5

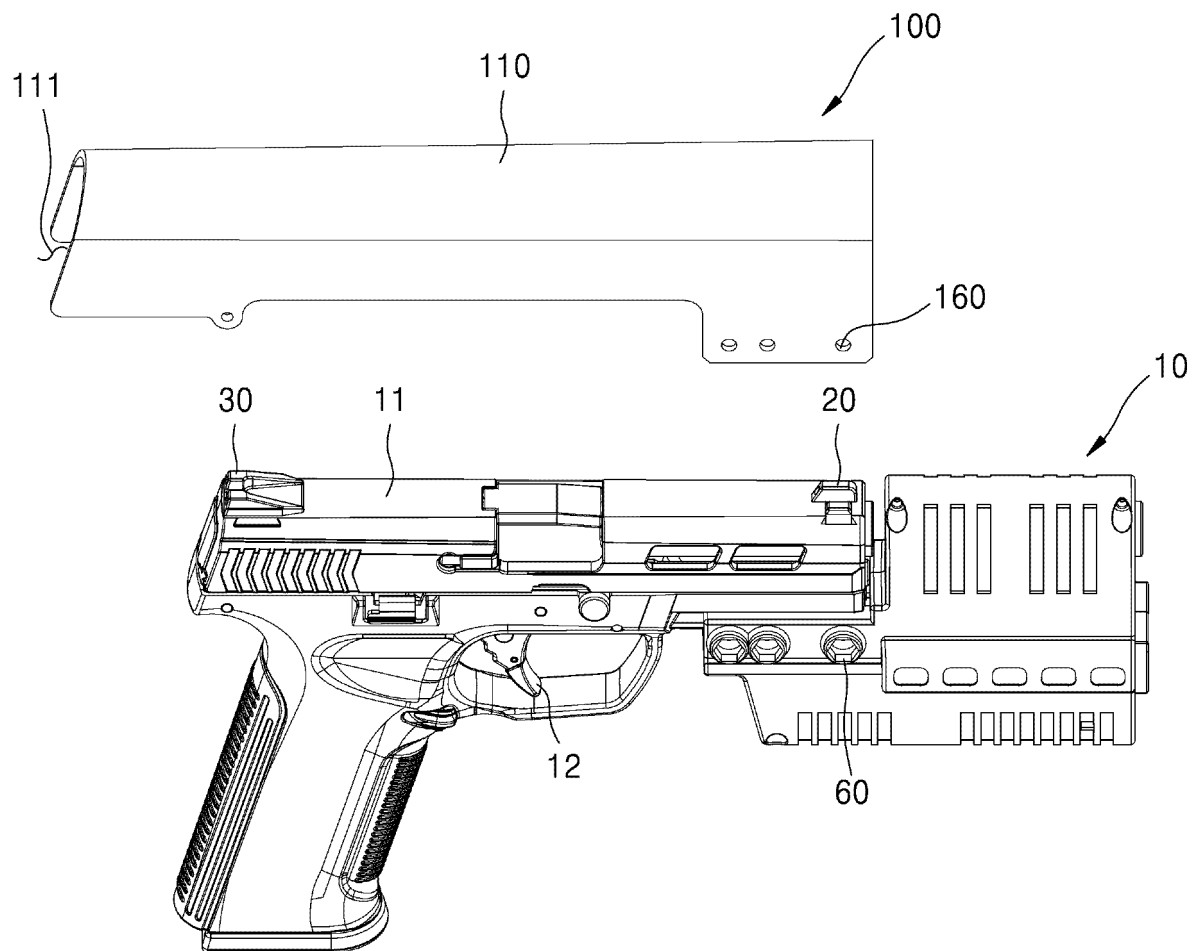


FIG. 6

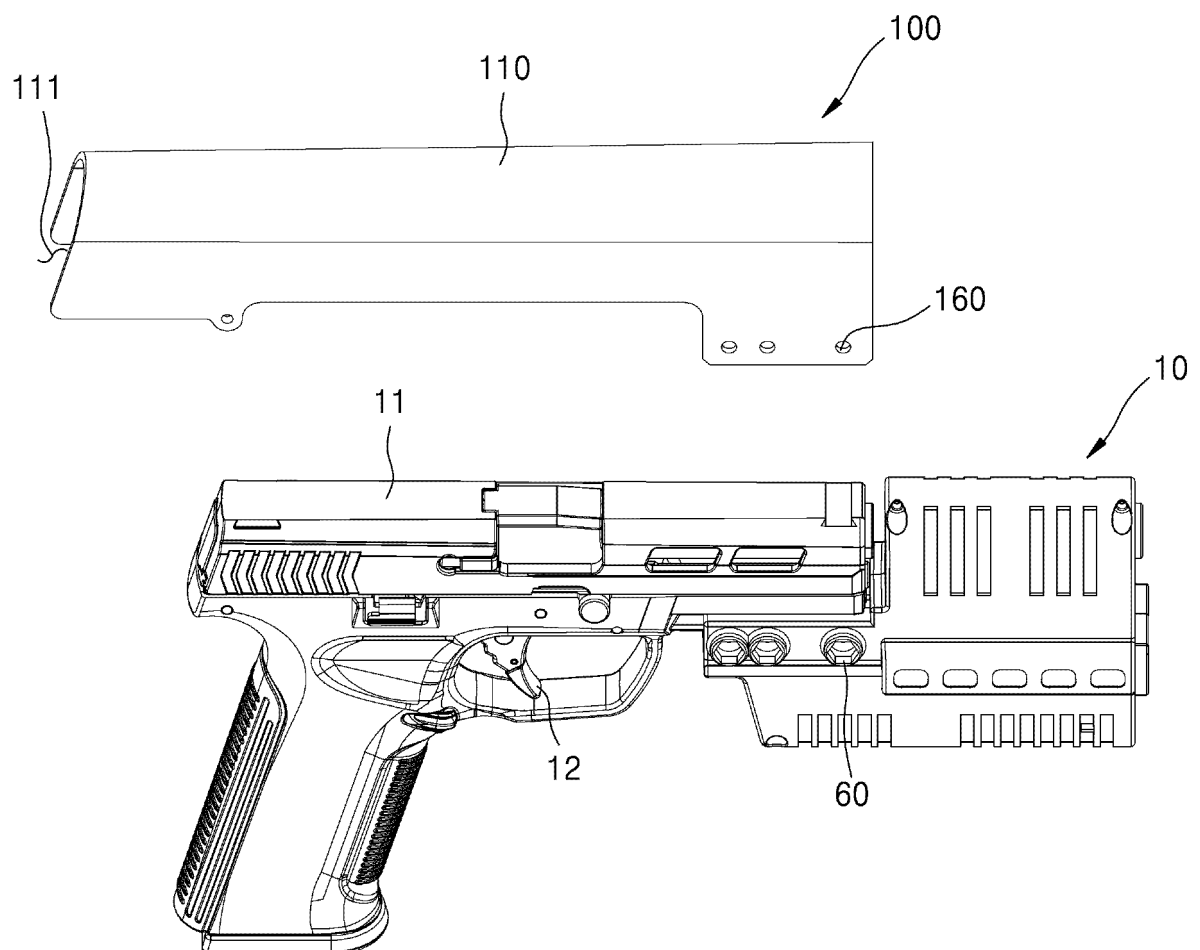


FIG. 7

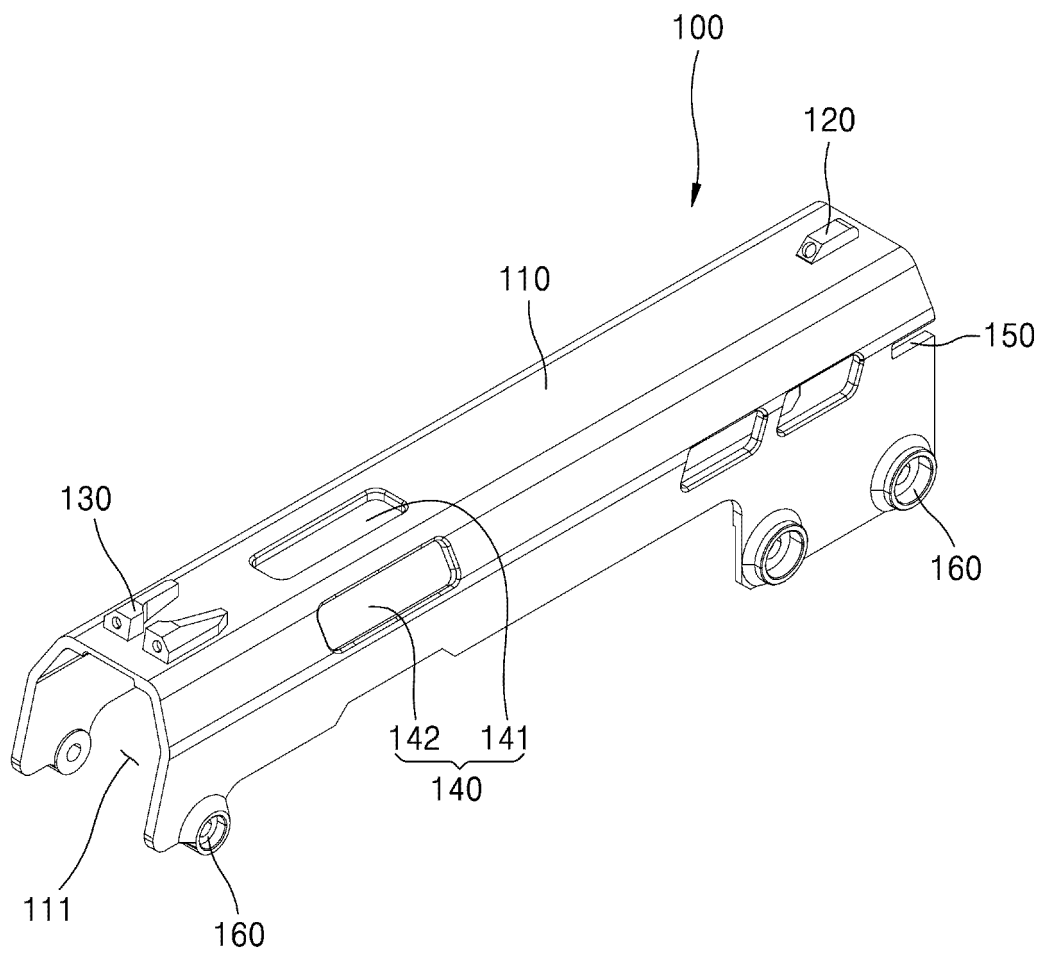


FIG. 8

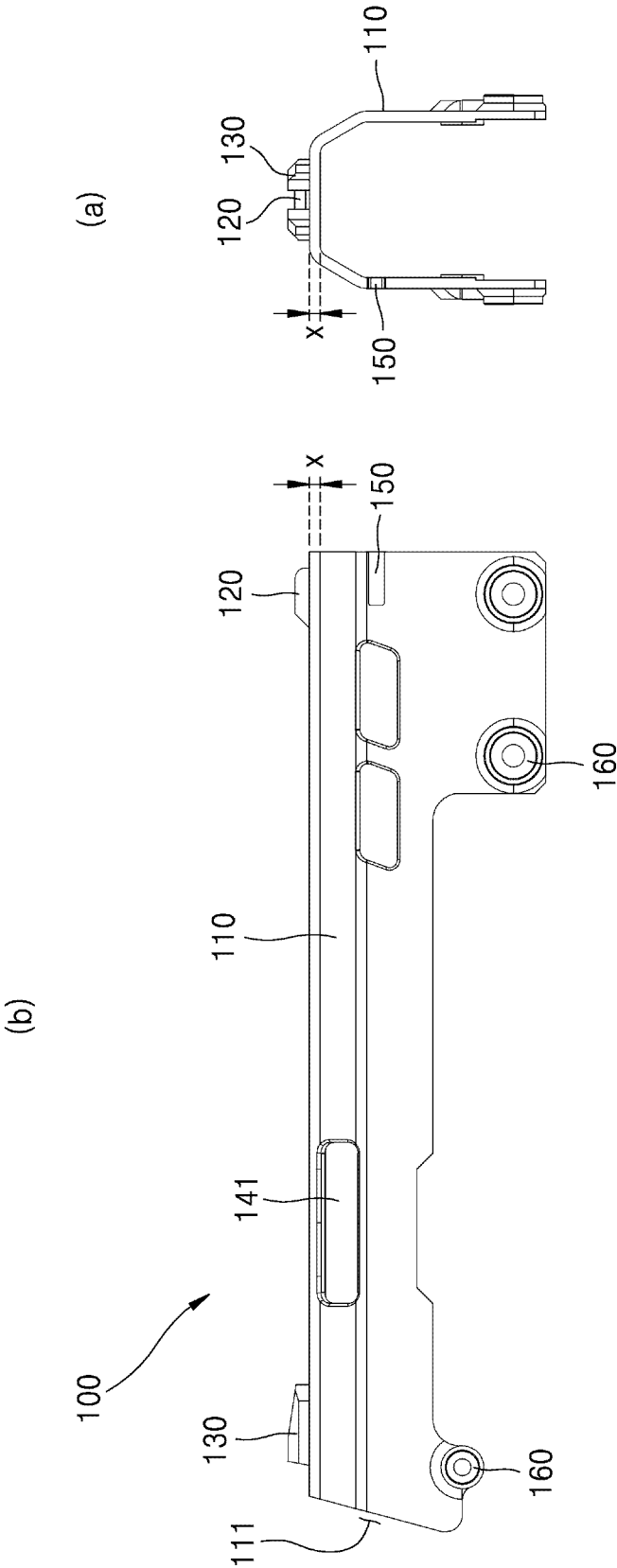


FIG. 9

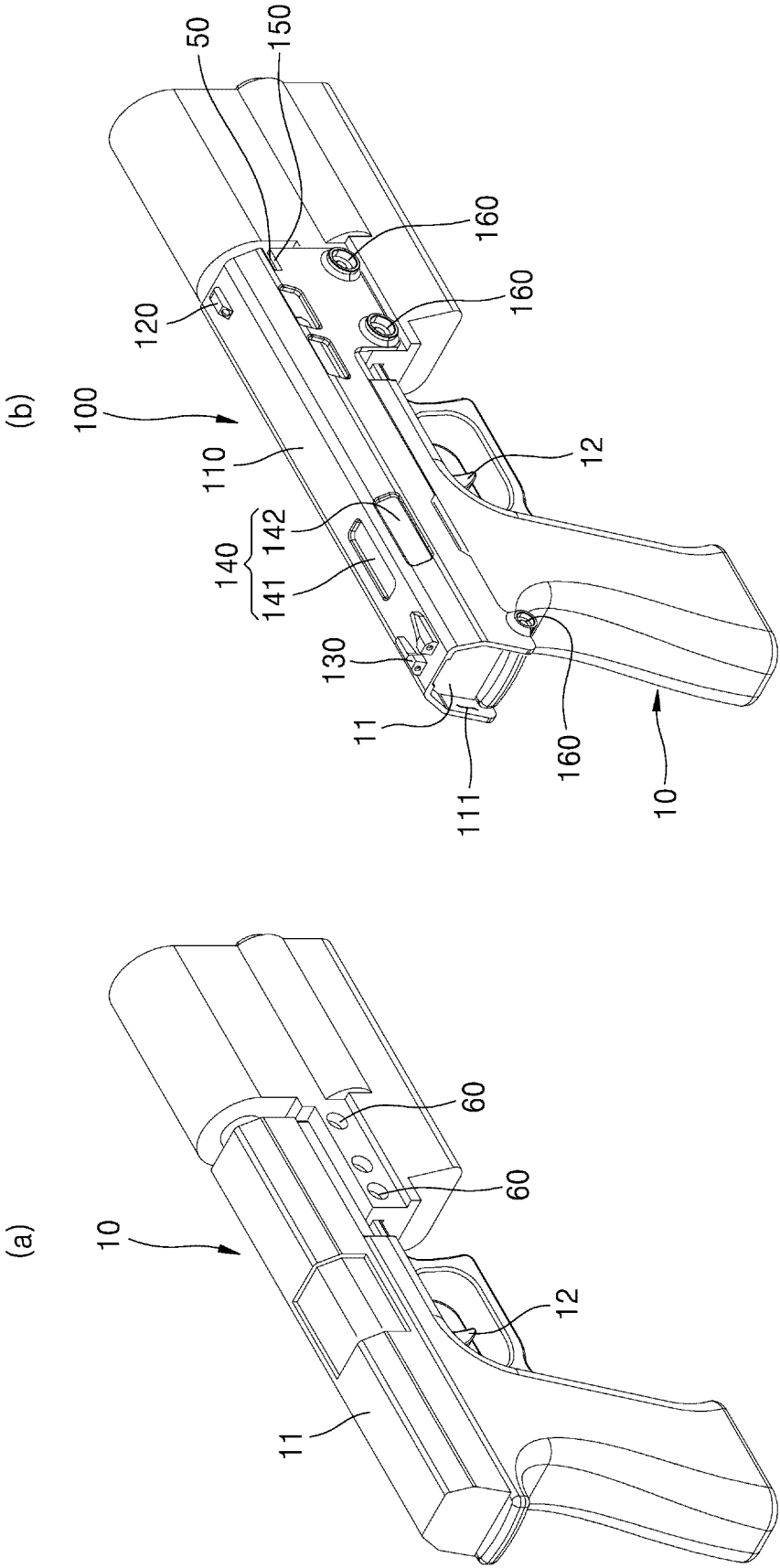


FIG. 10

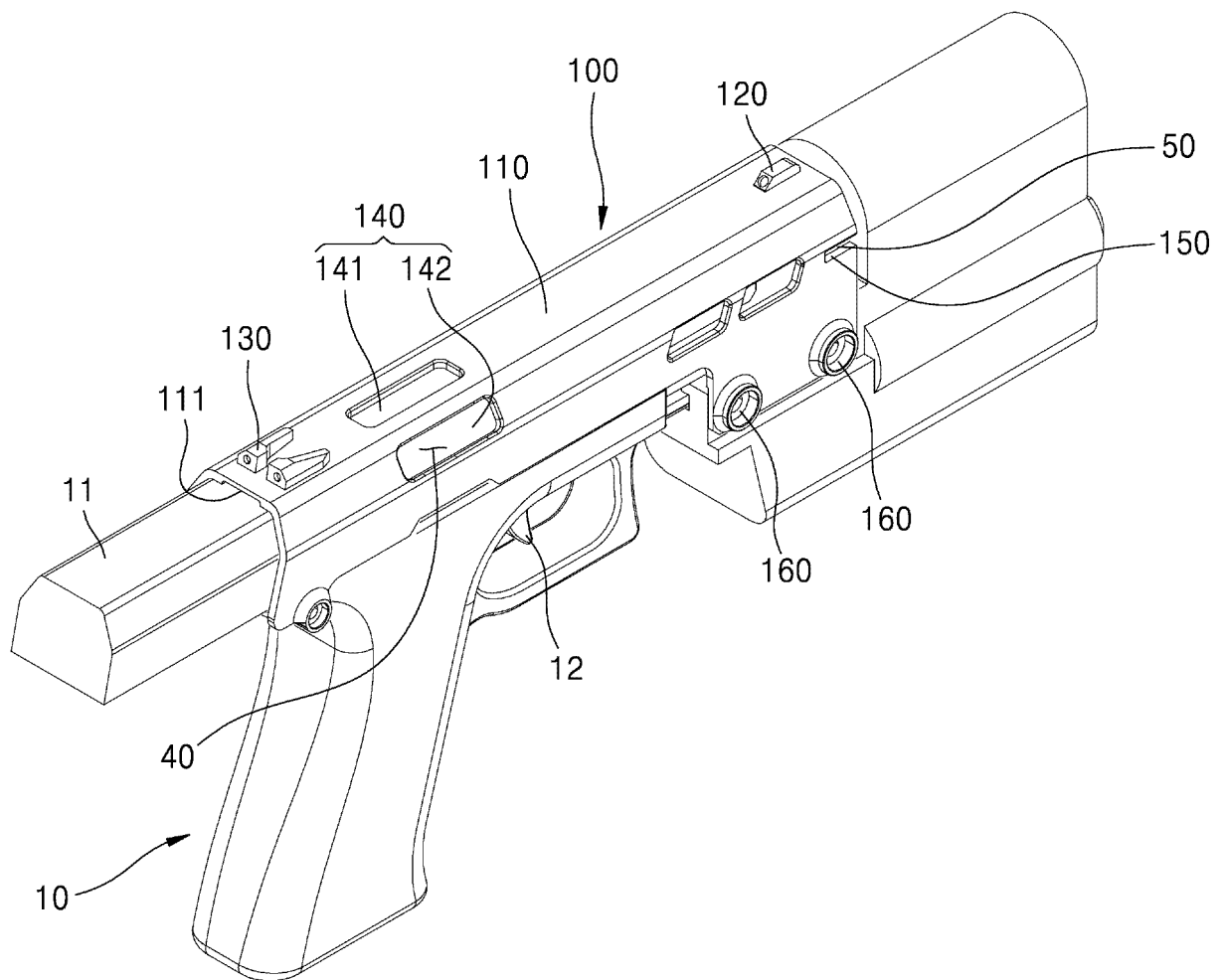


FIG. 11

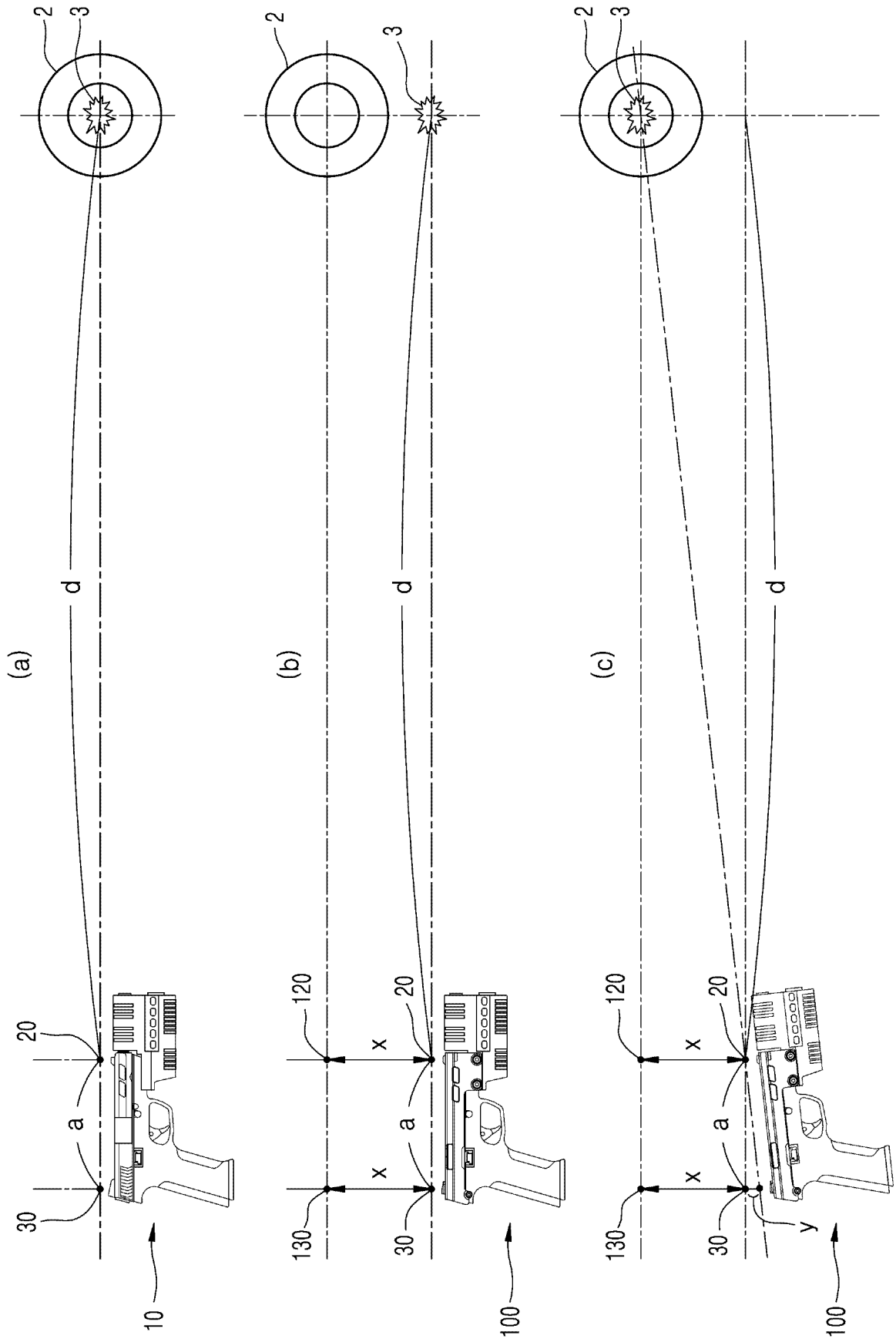


FIG. 12

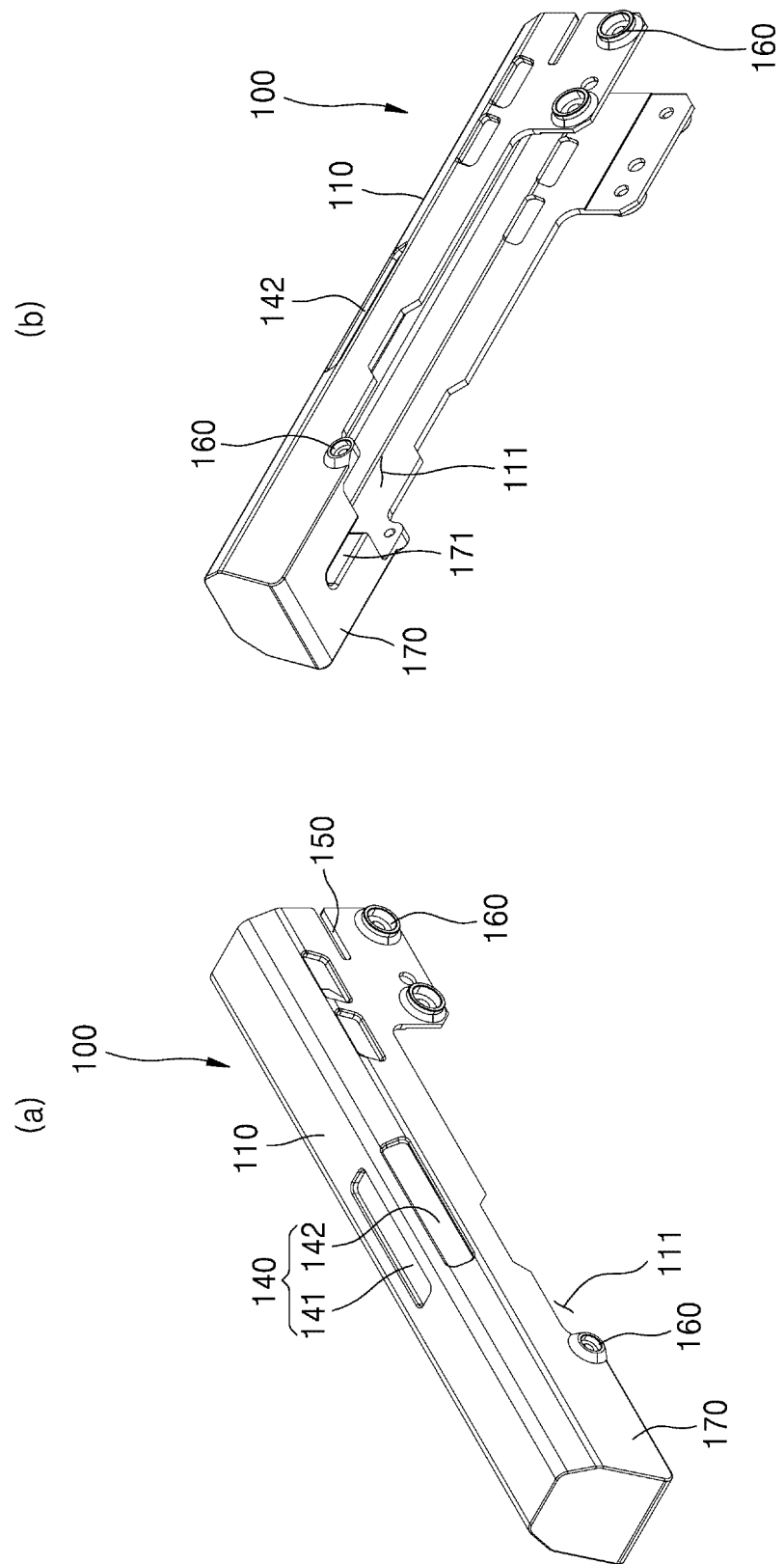
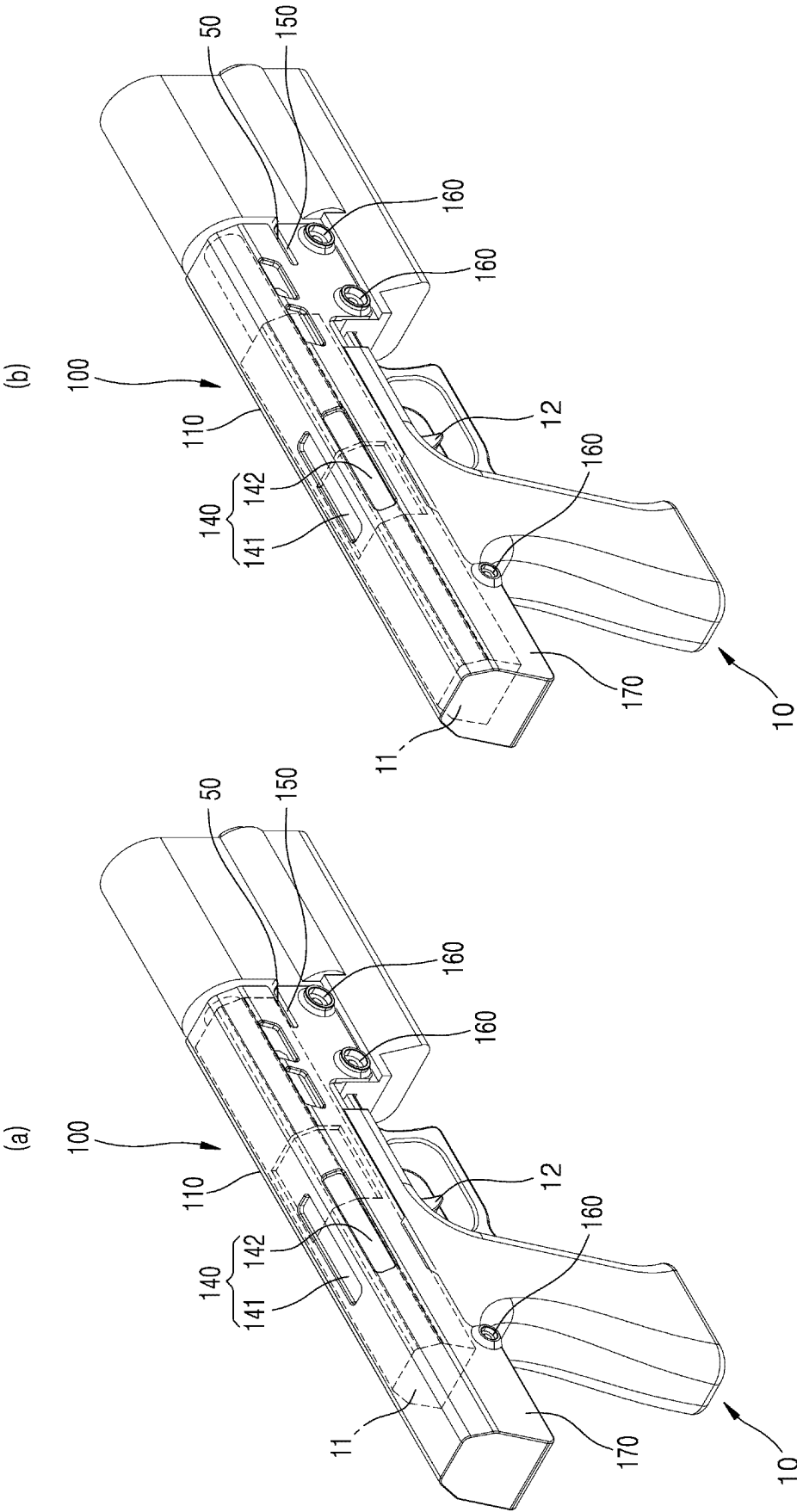


FIG. 13



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2022/000237

| <b>A. CLASSIFICATION OF SUBJECT MATTER</b><br><b>F41A 21/48(2006.01)i; F41A 9/38(2006.01)i; F41C 3/00(2006.01)i; F41A 3/66(2006.01)i</b><br><br>According to International Patent Classification (IPC) or to both national classification and IPC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |        |                                                                                                                |                             |   |                                                                                                     |            |   |                                                                                                                          |     |   |                                                                                                             |      |   |                                                                                                             |      |
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| <b>B. FIELDS SEARCHED</b><br>Minimum documentation searched (classification system followed by classification symbols)<br>F41A 21/48(2006.01); A63F 13/04(2006.01); F41A 3/72(2006.01); F41A 33/02(2006.01); F41A 33/06(2006.01);<br>F41A 9/52(2006.01); F41B 7/08(2006.01); F41C 23/06(2006.01); F41C 33/02(2006.01)<br><br>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched<br>Korean utility models and applications for utility models: IPC as above<br>Japanese utility models and applications for utility models: IPC as above<br><br>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)<br>eKOMPASS (KIPO internal) & keywords: 총(firearm), 슬라이드(slide), 커버(cover), 프론트 사이트(front sight), 리어 사이트(rear sight)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |        |                                                                                                                |                             |   |                                                                                                     |            |   |                                                                                                                          |     |   |                                                                                                             |      |   |                                                                                                             |      |
| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y<br/>A</td> <td>JP 3628618 B2 (KONAMI CO., LTD.) 16 March 2005 (2005-03-16)<br/>See paragraphs [0079]-[0082] and figures 16-19.</td> <td>1-2,5-7,10<br/>3-4,8-9,11-12</td> </tr> <tr> <td>Y</td> <td>JP 3182451 U (LIN, Yucheng) 28 March 2013 (2013-03-28)<br/>See paragraph [0013] and figures 3 and 7.</td> <td>1-2,5-7,10</td> </tr> <tr> <td>Y</td> <td>JP 2011-153770 A (MINEBEA CO., LTD. et al.) 11 August 2011 (2011-08-11)<br/>See paragraphs [0027]-[0031] and figures 1-3.</td> <td>5-6</td> </tr> <tr> <td>A</td> <td>KR 10-2011-0108863 A (BAEK, Jong Kuk) 06 October 2011 (2011-10-06)<br/>See paragraph [0058] and figures 1-4.</td> <td>1-12</td> </tr> <tr> <td>A</td> <td>US 2017-0307317 A1 (BOZZO, Nathan David) 26 October 2017 (2017-10-26)<br/>See paragraph [0020] and figure 2.</td> <td>1-12</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Relevant to claim No. | Y<br>A | JP 3628618 B2 (KONAMI CO., LTD.) 16 March 2005 (2005-03-16)<br>See paragraphs [0079]-[0082] and figures 16-19. | 1-2,5-7,10<br>3-4,8-9,11-12 | Y | JP 3182451 U (LIN, Yucheng) 28 March 2013 (2013-03-28)<br>See paragraph [0013] and figures 3 and 7. | 1-2,5-7,10 | Y | JP 2011-153770 A (MINEBEA CO., LTD. et al.) 11 August 2011 (2011-08-11)<br>See paragraphs [0027]-[0031] and figures 1-3. | 5-6 | A | KR 10-2011-0108863 A (BAEK, Jong Kuk) 06 October 2011 (2011-10-06)<br>See paragraph [0058] and figures 1-4. | 1-12 | A | US 2017-0307317 A1 (BOZZO, Nathan David) 26 October 2017 (2017-10-26)<br>See paragraph [0020] and figure 2. | 1-12 |
| Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Relevant to claim No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |        |                                                                                                                |                             |   |                                                                                                     |            |   |                                                                                                                          |     |   |                                                                                                             |      |   |                                                                                                             |      |
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| <input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |        |                                                                                                                |                             |   |                                                                                                     |            |   |                                                                                                                          |     |   |                                                                                                             |      |   |                                                                                                             |      |
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| Date of the actual completion of the international search<br><b>11 May 2022</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Date of mailing of the international search report<br><b>11 May 2022</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |        |                                                                                                                |                             |   |                                                                                                     |            |   |                                                                                                                          |     |   |                                                                                                             |      |   |                                                                                                             |      |
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**INTERNATIONAL SEARCH REPORT**  
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