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(54) Title: STRIKER FIRED PISTOL

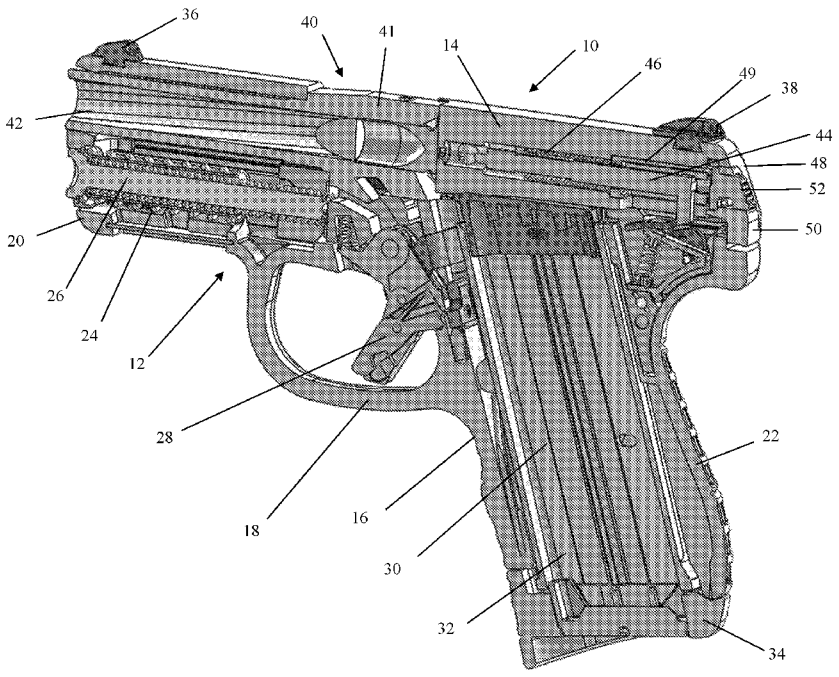

Fig. 1

(57) Abstract: A pistol having a frame and a slide assembly slideably coupled to the frame is disclosed. The slide assembly includes a plate including a housing and a button slideably coupled to the slide assembly near a rear of the pistol. The plate further includes a bearing surface for contacting the frame to limit the forward travel of the slide relative to the frame.

[Continued on next page]

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Striker Fired Pistol

Background

The present disclosure relates to striker fired pistols. In particular, the present disclosure relates to a striker fired pistol having a removable cover plate.

Striker fired pistols are typically characterized in that they have a firing pin or striker coupled to a striker spring. The striker sprint(spring?) may be completely or partially compressed by the action of the slide in loading a round of ammunition into the chamber. The striker spring is released during the act of pulling the trigger. This is in contrast to hammer filed pistols that release a hammer spring which urges the hammer forward to strike the firing pin or transfer plate.

Striker fired pistols typically house the striker in a slide. The striker may be retained in the slide by a cover plate positioned at the rear of the slide. On conventional striker fired pistols, the cover plate remains in its position on the slide as the slide is removed from the frame. This configuration, in combination with the design of the fire control parts of these conventional pistols means that the striker must be released on an empty chamber prior to disassembly. Typically, a user would render the pistol safe by unloading it, dry firing the pistol, then removing the slide. To remove the slide, a retainer positioned in the frame forward of the trigger pivot pin us moved, such as by sliding it downward, away from the barrel, against the urging of a spring. The retainer, when up, interferes with one or more features of the slide or barrel assembly to prevent the slide from moving forward of its firing position.

Requiring the user to dry fire the pistol to disassemble it has resulted in accidental shootings and injuries. These can occur when the user forgets to cycle the pistol to remove the round from the chamber, cycles the action prior to removing the magazine, or simply neglects to unload the pistol.

Accordingly there is a need for an improved, striker fired pistol that can be disassembled without dry firing the pistol.

Brief Description of the Drawings

Fig. 1 is a cutaway view of a pistol according to the present invention.

Fig. 2 is a rear, side, elevation view of the pistol of Fig. 1.

Fig. 3 is a partial cutaway view of the pistol of Fig. 1.

Fig. 4 is an exploded, elevation view of the slide plate of the pistol of Fig. 1.

Fig. 5 is a color photograph of a pistol according to the present invention.

Fig. 6 is another color photograph of the pistol of Fig. 5.

Detailed Description of the Drawings

Referring to the drawings, a striker fired pistol 10 has a frame 12 and a slide 14. Frame 12 includes grip frame 16, trigger guard 18, and dust cover 20. Grip frame 16 may be provided with a back strap 22 that is contoured to fit a user's grip. In some embodiments, the back strap 22 may be removable and replaceable so that one of a variety of back strap configurations can be selected based on a particular user's hand size and grip.

Dust cover 20 houses a recoil spring 24 that partially surrounds a guide rod 26. Recoil spring 24 may be a single coil spring or a dual spring as shown. Trigger 28 extends through an opening in frame 12 and into trigger guard 18.

Grip frame 16 defines a cavity configured to receive a magazine 30. Magazine 30 includes a magazine body 32 and a base plate 34. Slide 14 includes front sight 36 and a rear sight 38. Each of front sight 36 and rear sight 38 may be a separate component fitted to slide by a dovetail or other means, or sights 36 and 38 may be machined as part of slide 14. Slide 14 includes an ejection port 40 which exposes chamber 41 of barrel assembly 42 when the slide is in battery. Slide 14 also houses striker 44, striker spring 46, and striker sleeve 49. When assembled, and the pistol 10 is ready to fire, striker 44 may be retained towards the rear by a sear or other component such that striker spring 46 is partially compressed between the rear face of a protrusion on striker 44 and a front face of striker sleeve 49.

A cover plate 50 is provided proximate to the rear of slide 14. In some embodiments, slide 14 may include portion 48 which partially surrounds and receives portions of striker plate 50. Striker plate 50 includes an opening through which button 52 extends. Pin 54, shown as a roll pin, restricts the forward motion of button 52 to retain button 52 within striker plate 50. Striker plate 50 further includes a lower portion 56 which has a front face 58. Button 52 includes an extension 60 having a rear face 71 that stops on face 62 of cover plate 50. Protrusion 64 extends outwardly and is at least partially received into a slot in slide 14 when cover plate 50 in inserted. In use, striker spring 46 biases striker sleeve 49 rearward against button 52. With button 52 towards the rear, striker sleeve 49 is partially received into a cavity in cover plate 50 that is defined, at least in part, by interior face 72 of locking portion 70 of cover plate 50. This results in a configuration in

which striker sleeve 49 partially interferes with interior face 72 and prevents striker plate 50 from sliding downward.

When striker plate 50 is assembled with slide 14 and coupled to frame 12, front face 58 contacts a vertical face 66 of tang portion 68. The interference of front face 58 with vertical face 66 prevents slide 14 from moving forward of the position shown when slide 14 is assembled onto frame 12 with striker plate 50 in place. To disassemble pistol 10, a user may pull slide 14 to the rear and lock it in that position by pushing slide stop 86 up to interface with slide stop notch 88 in slide 14. With slide 14 locked to the rear, the user may depress button 52 to move striker sleeve 49 forward and compressing striker spring 46. At a point where striker sleeve 49 no longer interferes with interior face 72, striker plate 50 may be removed from slide 14 by sliding striker plate 50 downward to remove protrusion 64 from the corresponding slot in slide 14. Once striker plate 50 is removed, slide 14 may be moved forward on frame 12, past the firing position, and removed from frame 12. This eliminates the need for a takedown feature forward of the trigger pivot pin 90 common on existing striker fired pistols.

Cover plate 50 includes button 52 that is received into cover plate housing 74. Cover plate housing 74 includes lower portion 56 which has front face 58. An opening is defined by inner surface 72 and receives button 52. When assembled, button 52 is retained by Pin 54. Pin 54 is inserted through aperture 76, through area 77 located along the underside of button 52, and through aperture 78 to capture and retain button 52 in cover plate housing 74.

As seen in the figures, button 52 has a contact surface 80 of a generally trapezoidal shape. Contact surface 80 may include ridges, stippling, or other texturing to provide a user purchase or to quickly identify button 52. The trapezoidal shape provides a base 82 which interfaces with

channels 84 in cover plate housing 74. This prevents rotation of button 52 about a longitudinal axis.

What is Claimed is:

1. A pistol comprising:

a frame;

a slide assembly slideably coupled to the frame, the slide assembly comprising;

a plate including a housing and a button slideably coupled to the slide assembly near a rear of the pistol; and

the plate further includes a bearing surface for contacting the frame to limit the forward travel of the slide relative to the frame.

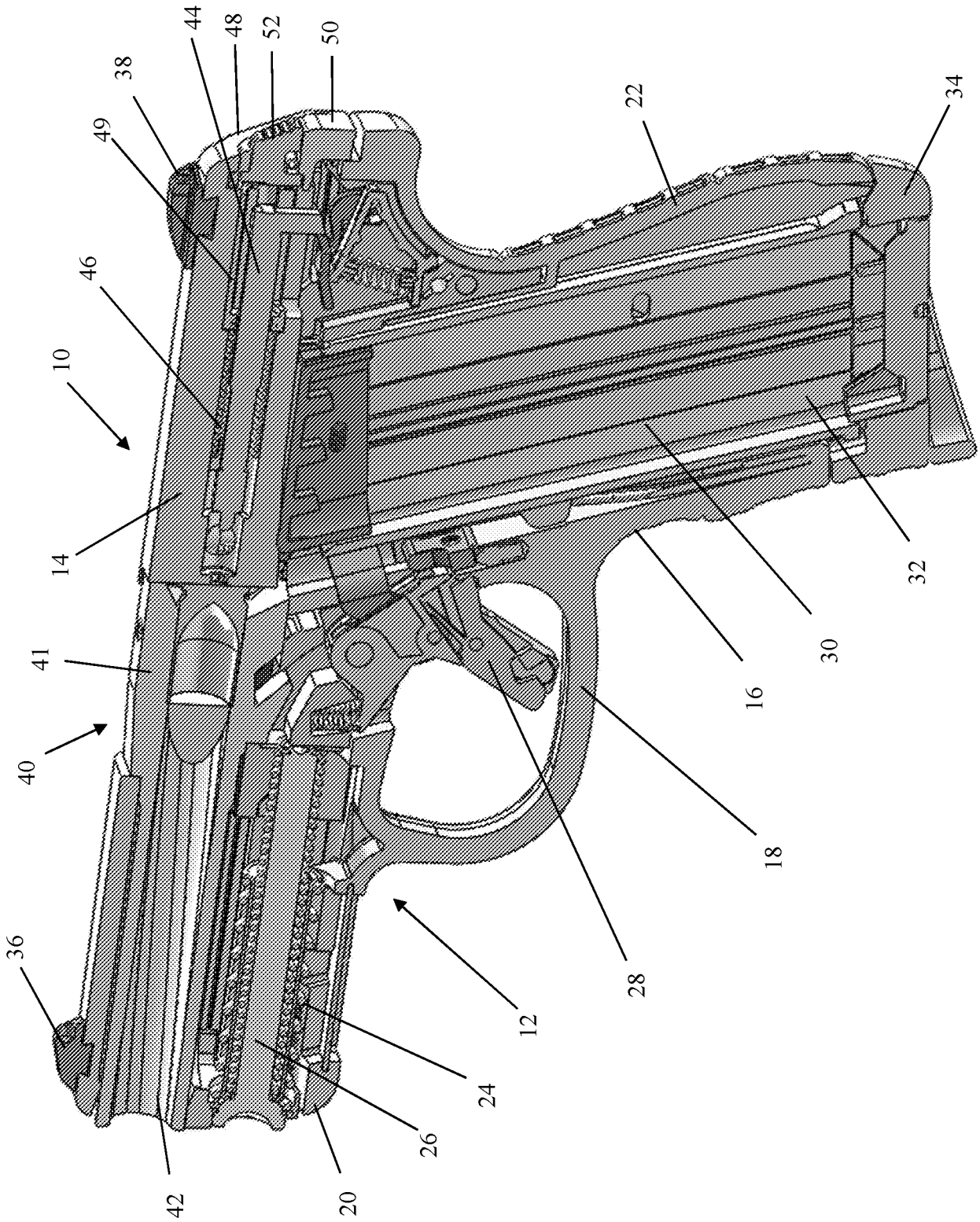

Fig. 1

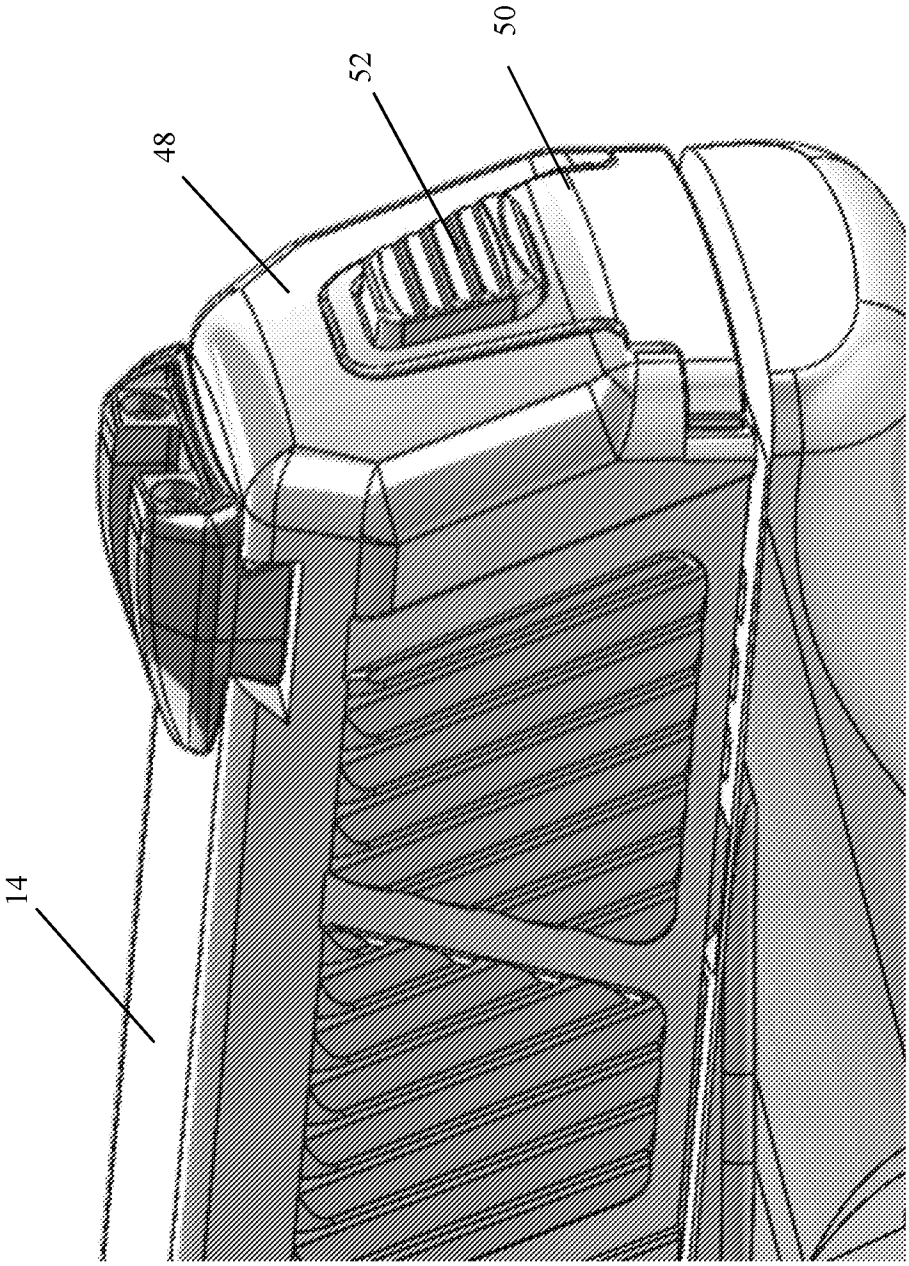

Fig. 2

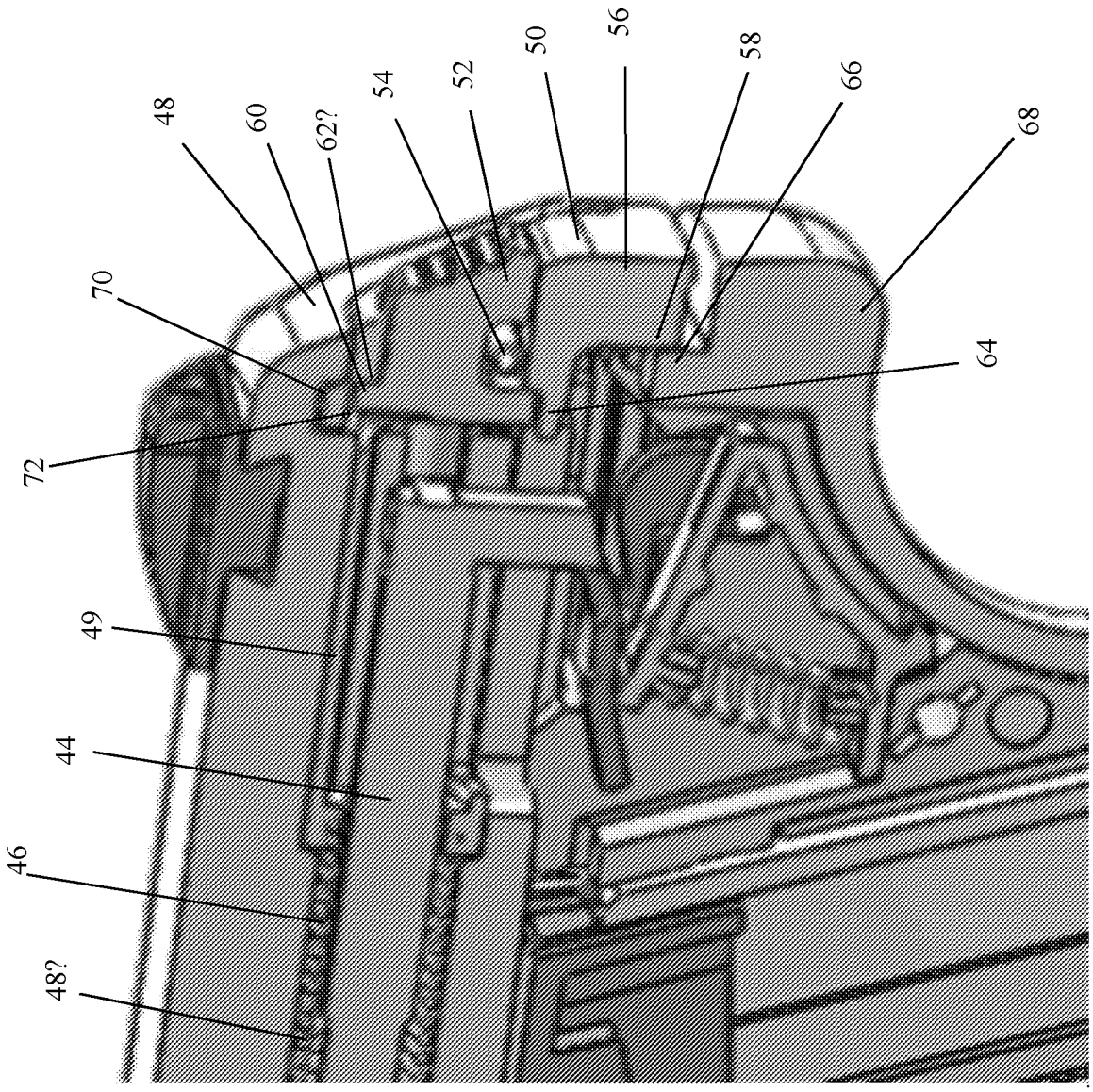

Fig. 3

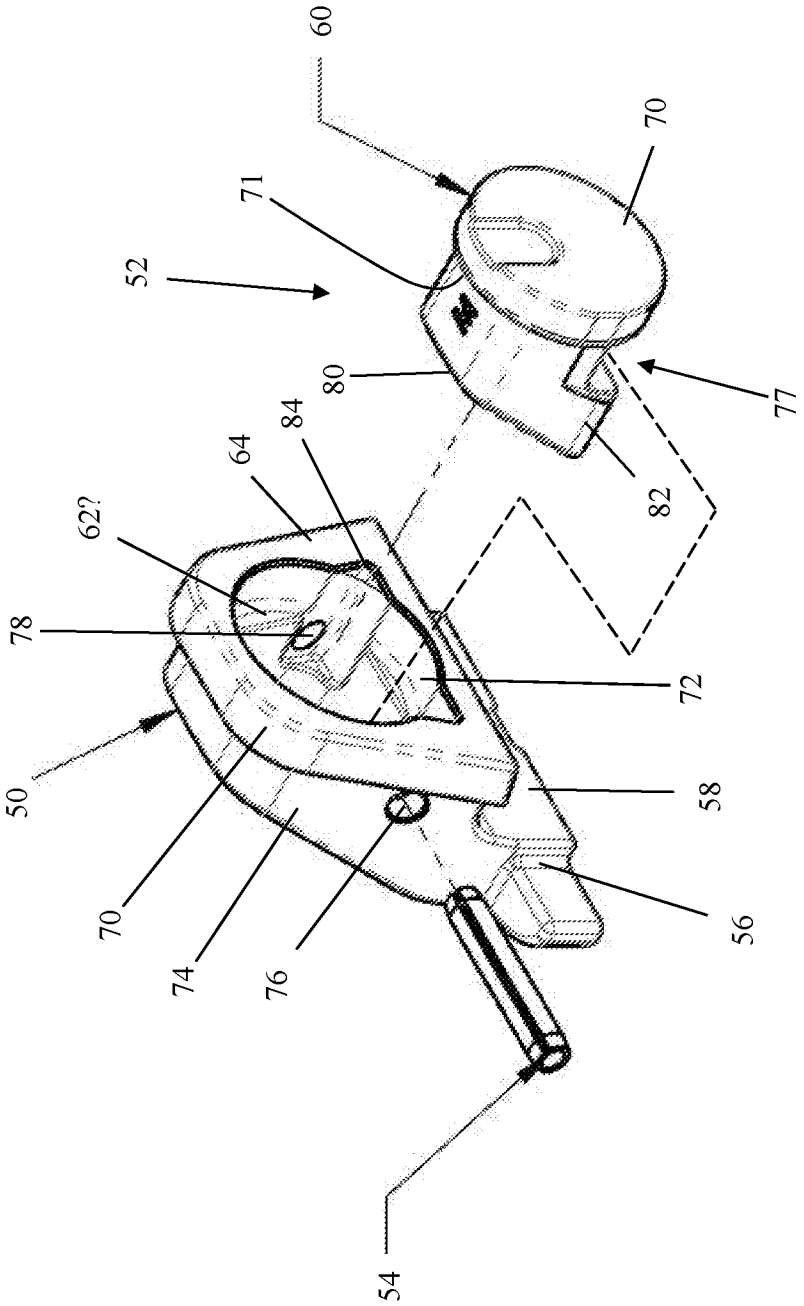

Fig. 4

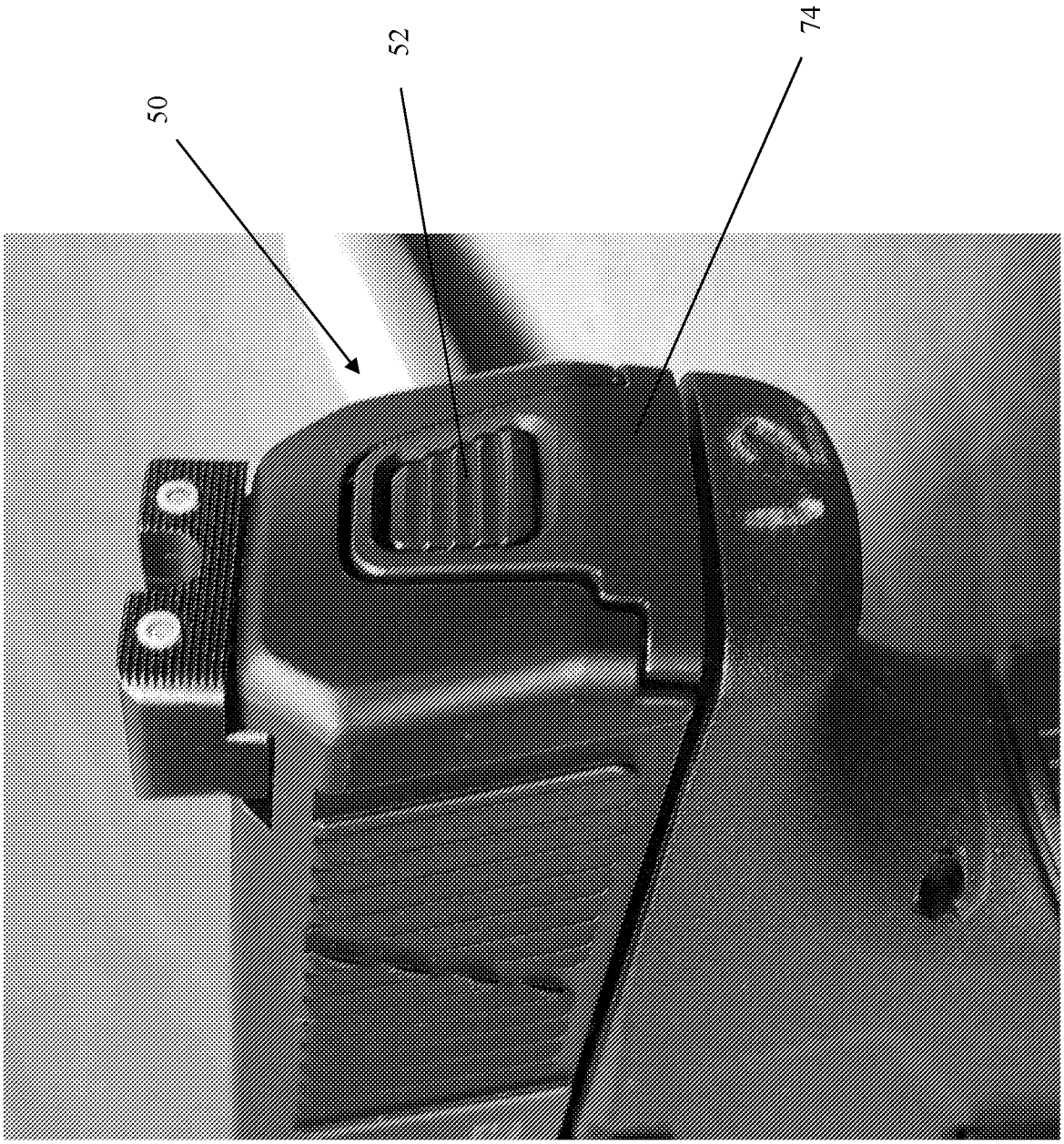

Fig. 5

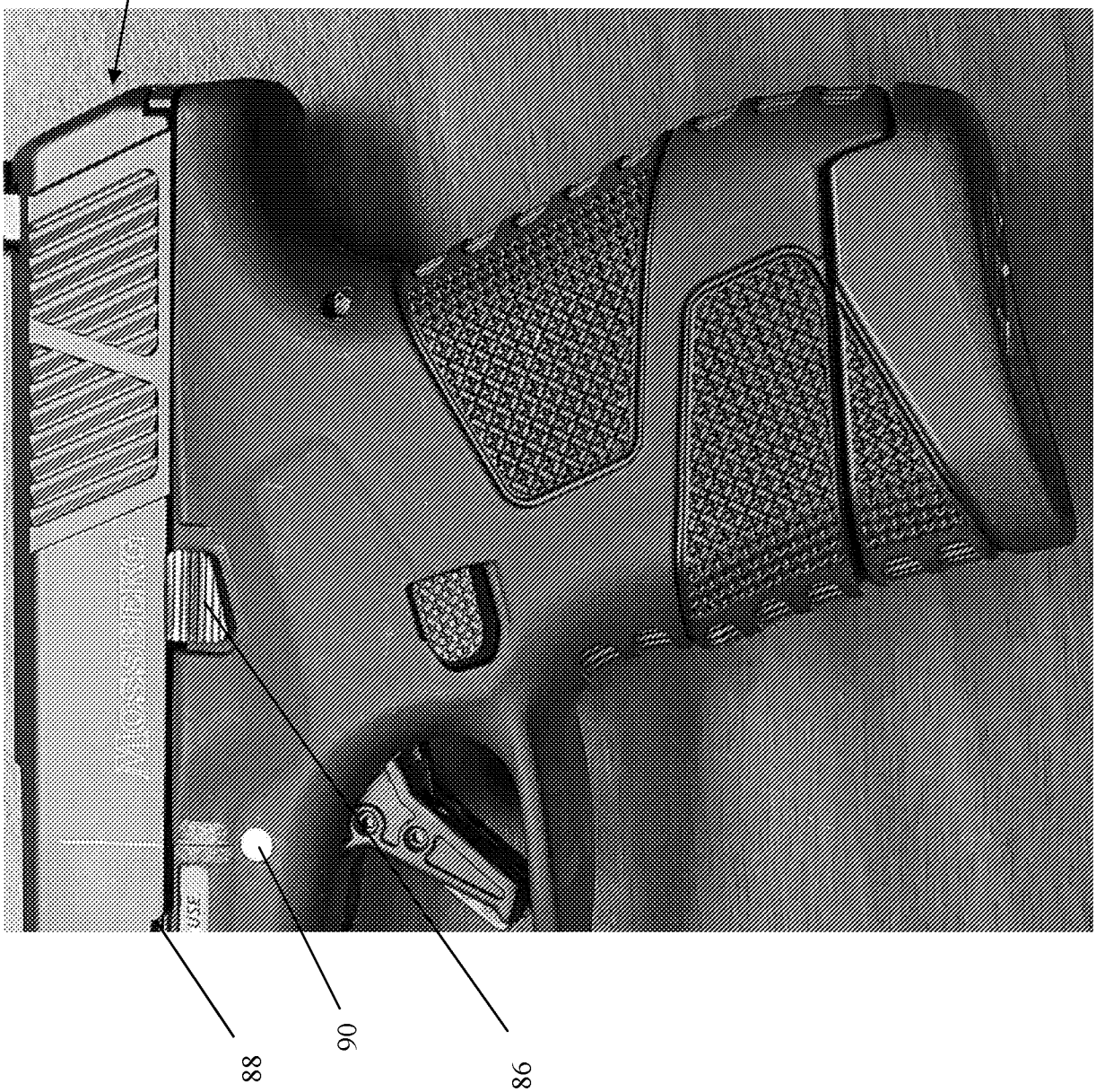

Fig. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 19/68724

A. CLASSIFICATION OF SUBJECT MATTER

IPC - F41C 27/00, F41A 17/64, F41A 17/72, F41A 9/53 (2020.01)

CPC - F41A 17/64, F41A 17/72, F41A 9/53

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)
See Search History document

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2017/0211901 A1 (Strike Industries) 27 July 2017 (27.07.2017), entire document, especially Fig. 1B, 2A-2B, 5A-5F, para [0043], [0045], [0047]	1
A	US 8,528,242 B2 (Green et al.) 10 September 2013 (10.09.2013), entire document	1
A	US 2015/0184966 A1 (Beck) 2 July 2015 (02.07.2015), enitre document	1
A	US 8.468,734 B2 (Meller et al.) 25 June 2013 (25.06.2013), entire document	1
A	US 8,028,454 B1 (Pontillo II) 4 October 2011 (04.10.2011), entire document	1
A	US 5,913,666 A (Perkins) 22 June 1999 (22.06.1999), entire document	1

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"D" document cited by the applicant in the international application
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
6 April 2020	05 MAY 2020
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