



US 20140224847A1

(19) **United States**
(12) **Patent Application Publication**
Miller

(10) **Pub. No.: US 2014/0224847 A1**
(43) **Pub. Date: Aug. 14, 2014**

(54) **HOLSTER**

Publication Classification

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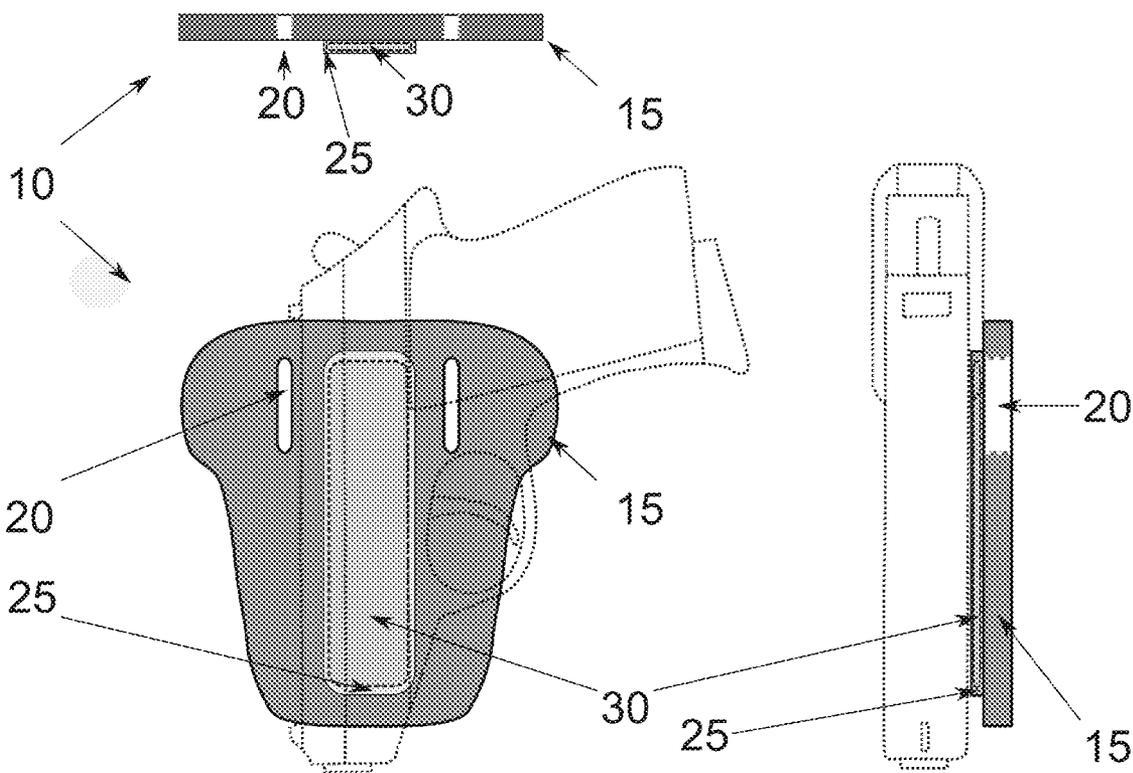
(51) **Int. Cl.**
F41C 33/04 (2006.01)
(52) **U.S. Cl.**
CPC *F41C 33/04* (2013.01)
USPC **224/183**

(21) Appl. No.: **13/765,775**

(57) **ABSTRACT**

(22) Filed: **Feb. 13, 2013**

A firearm holster using a magnet to secure the firearm on or within the holster.



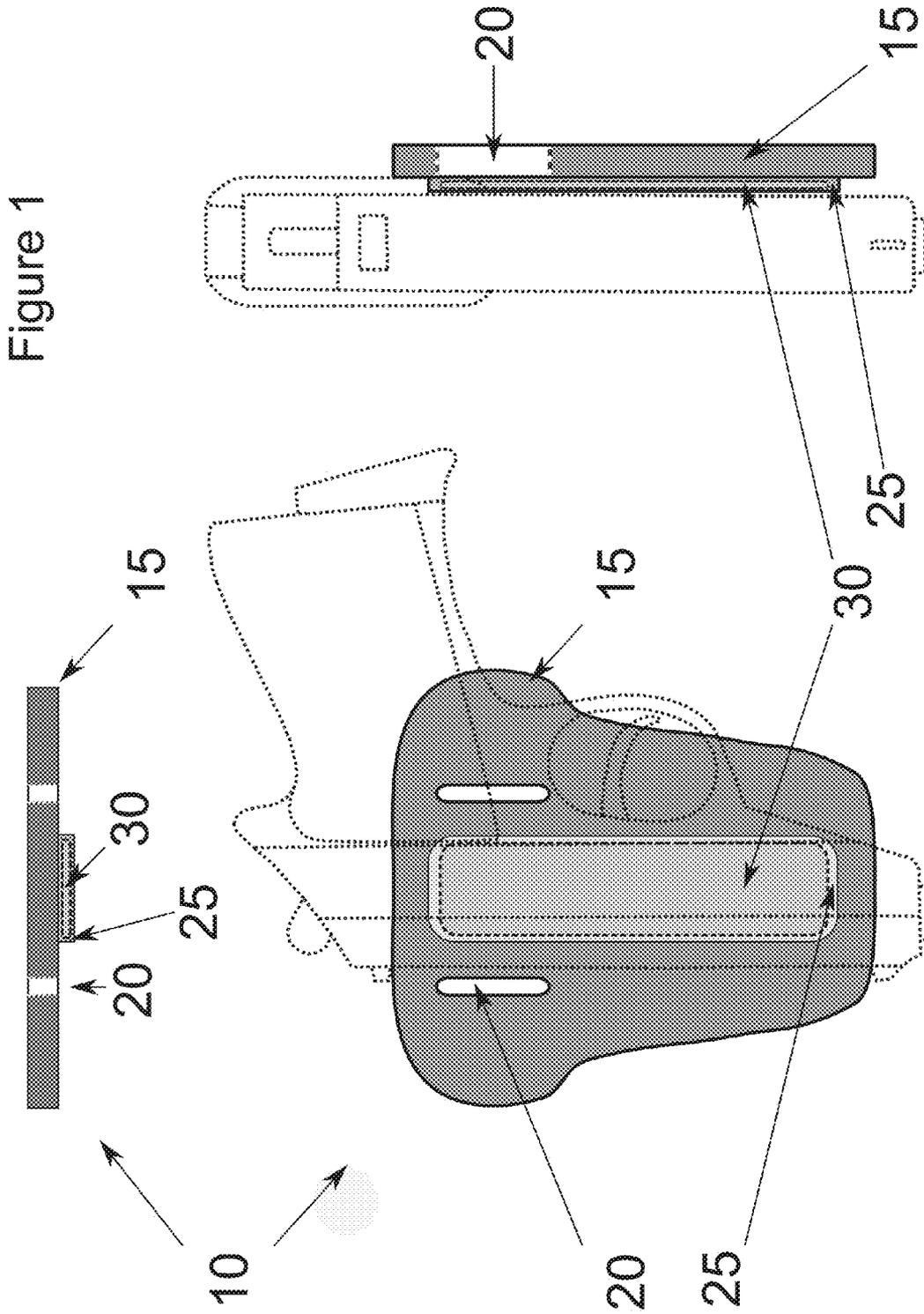
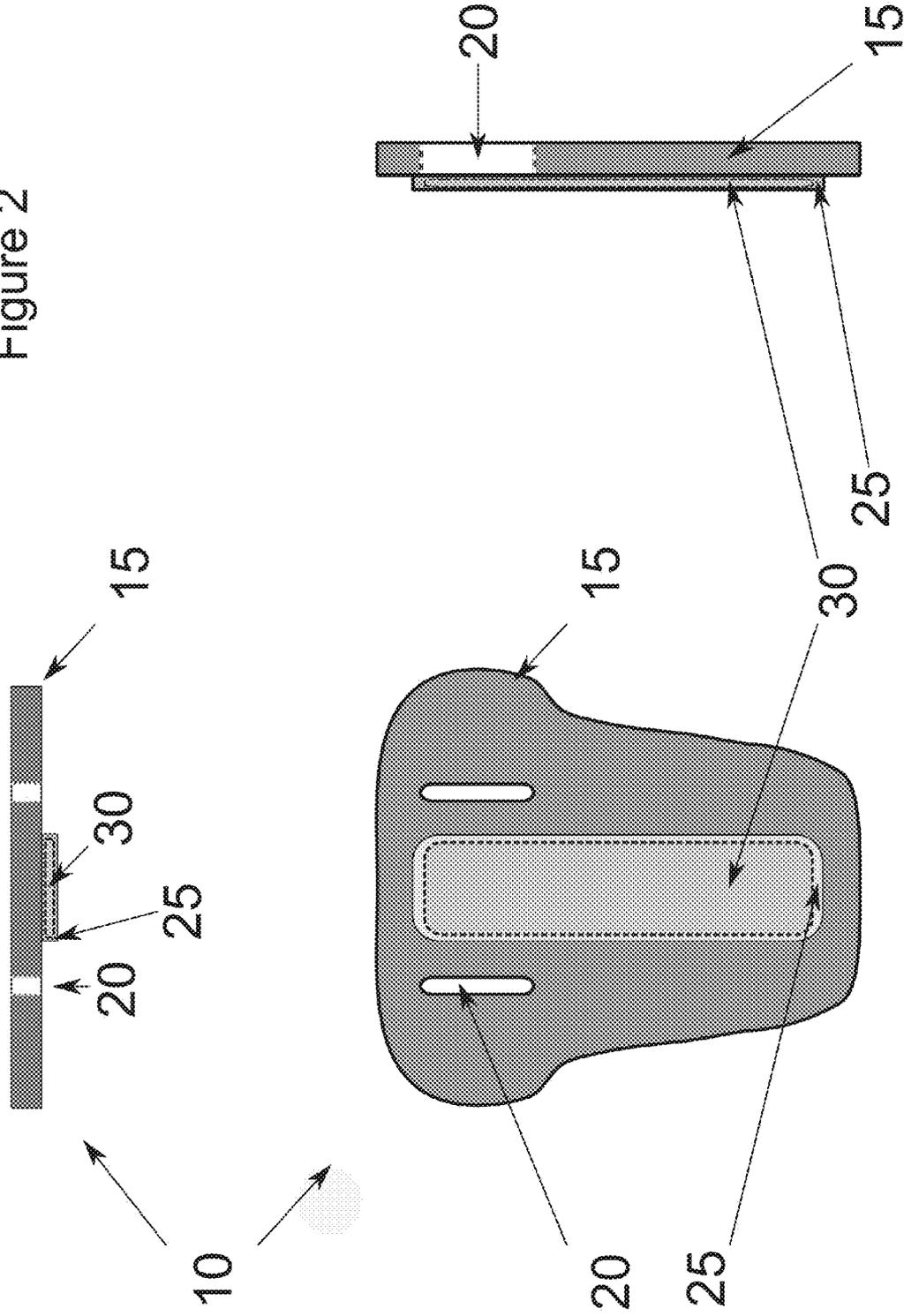
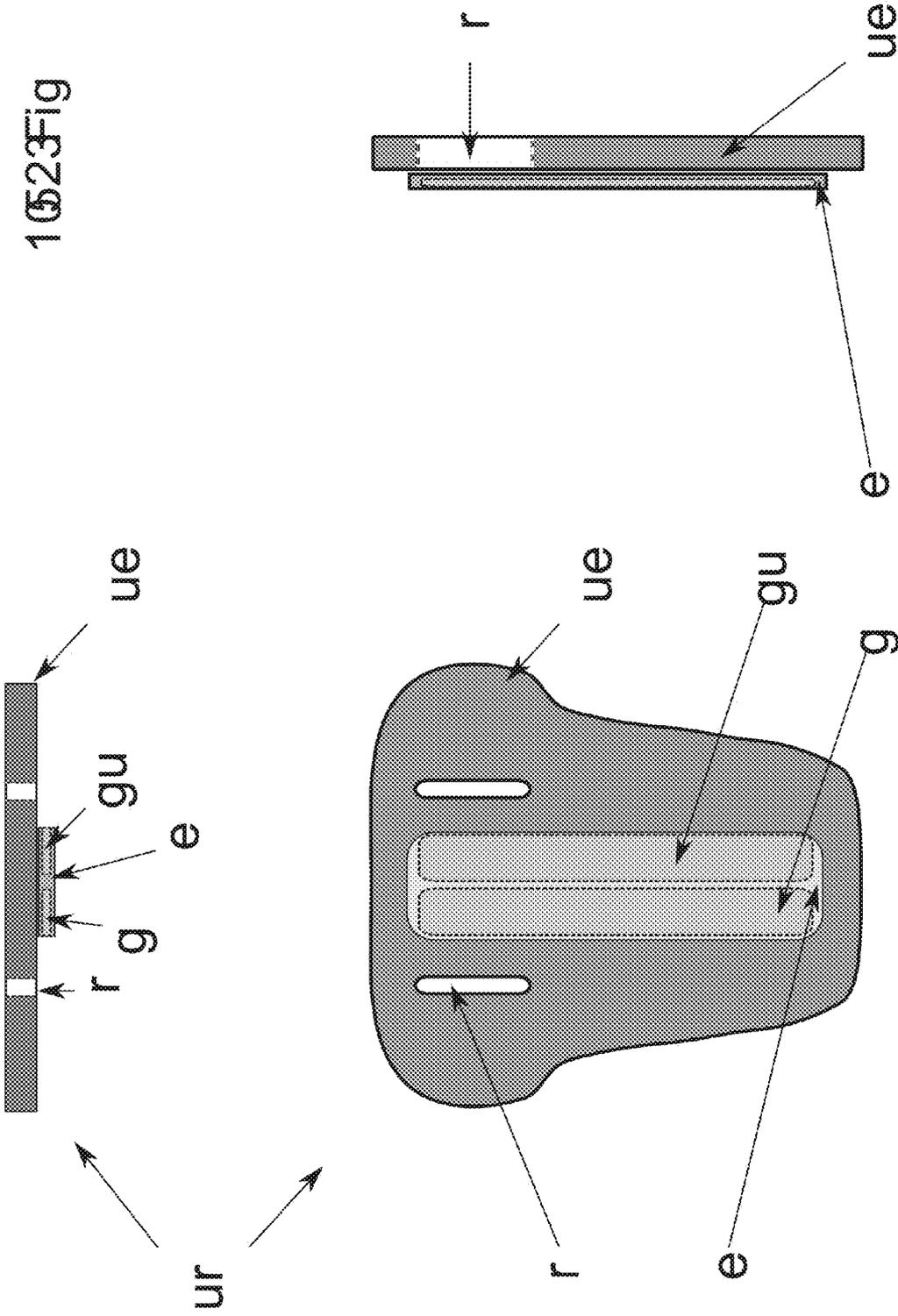
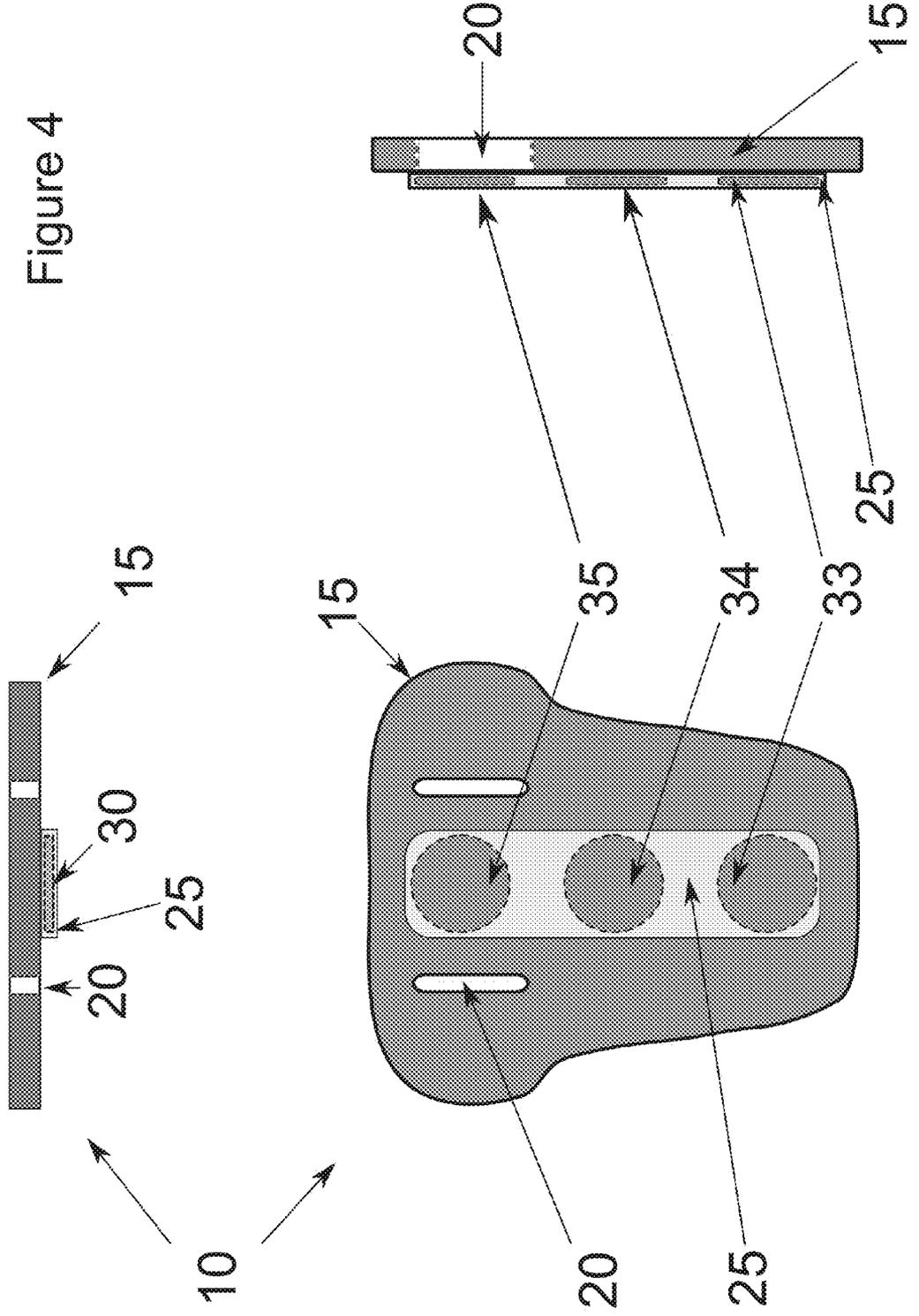
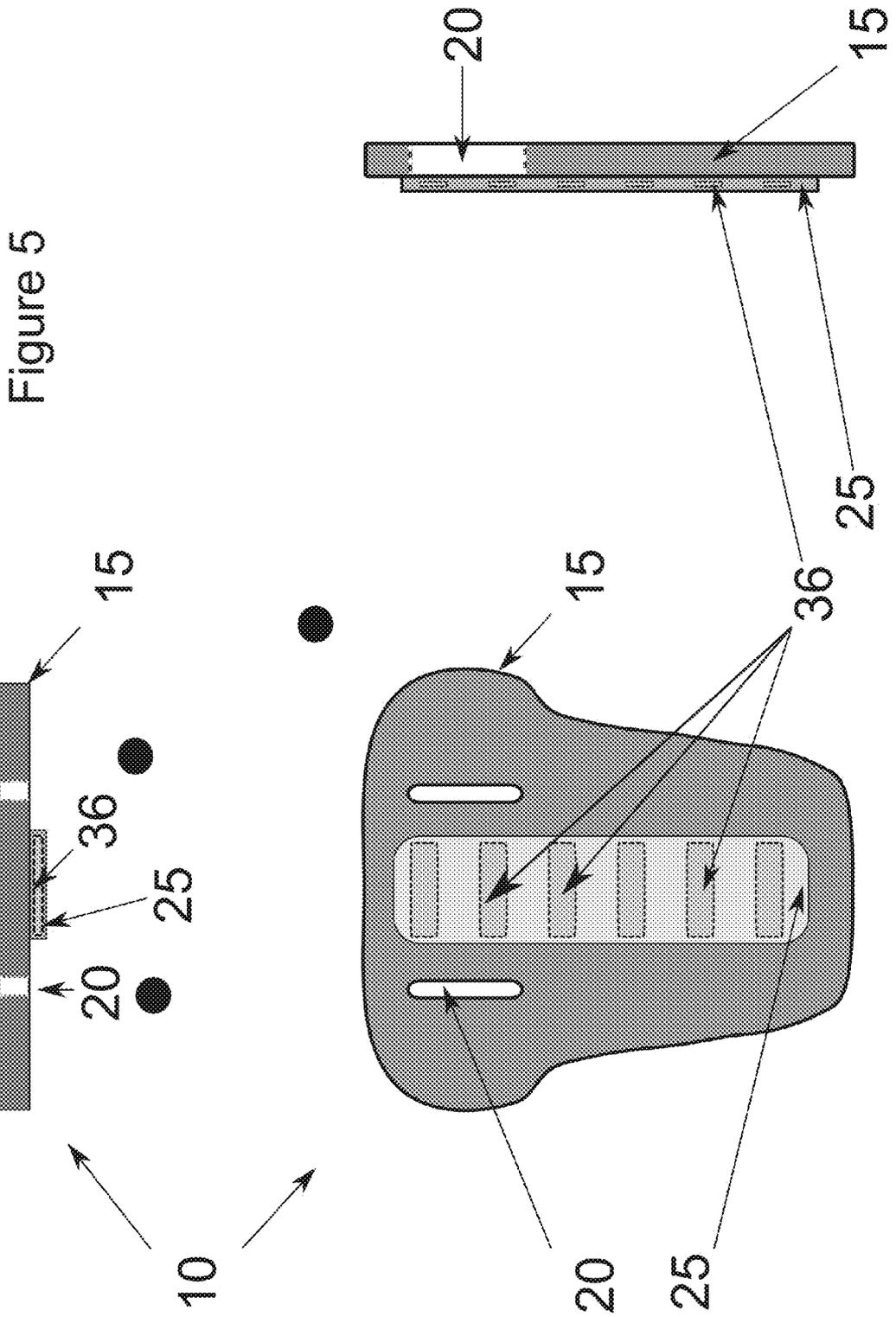


Figure 2









6 Figure

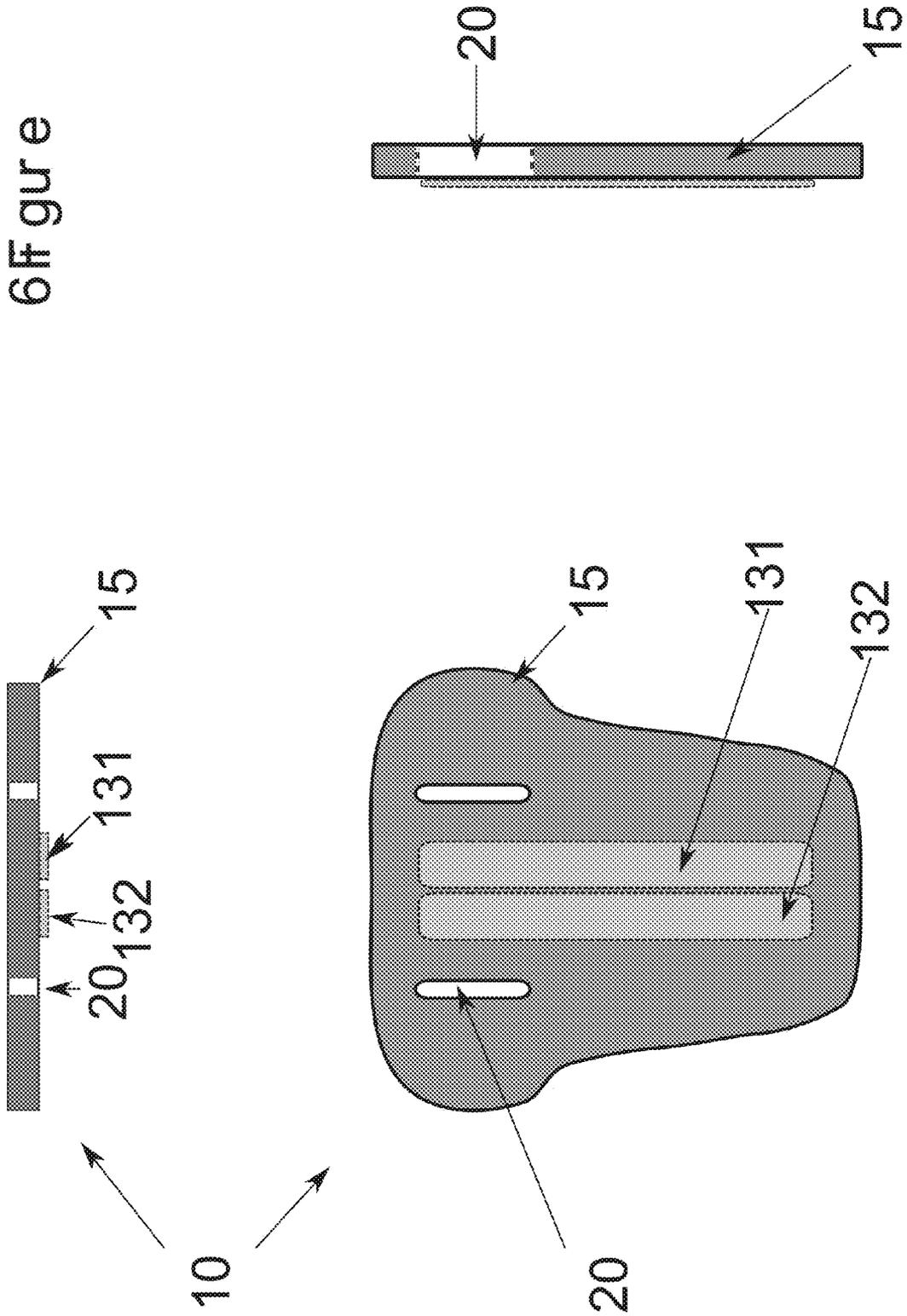
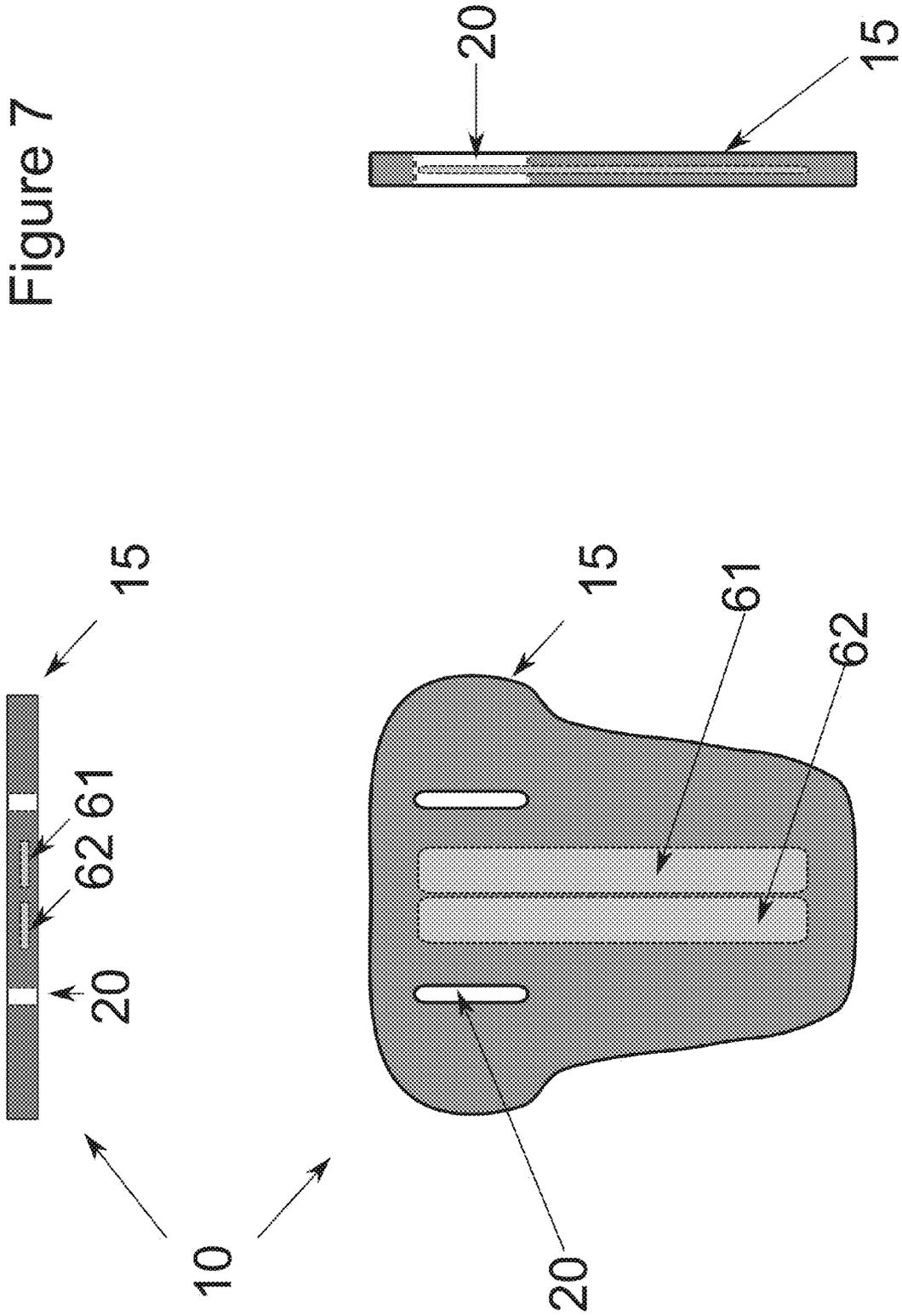
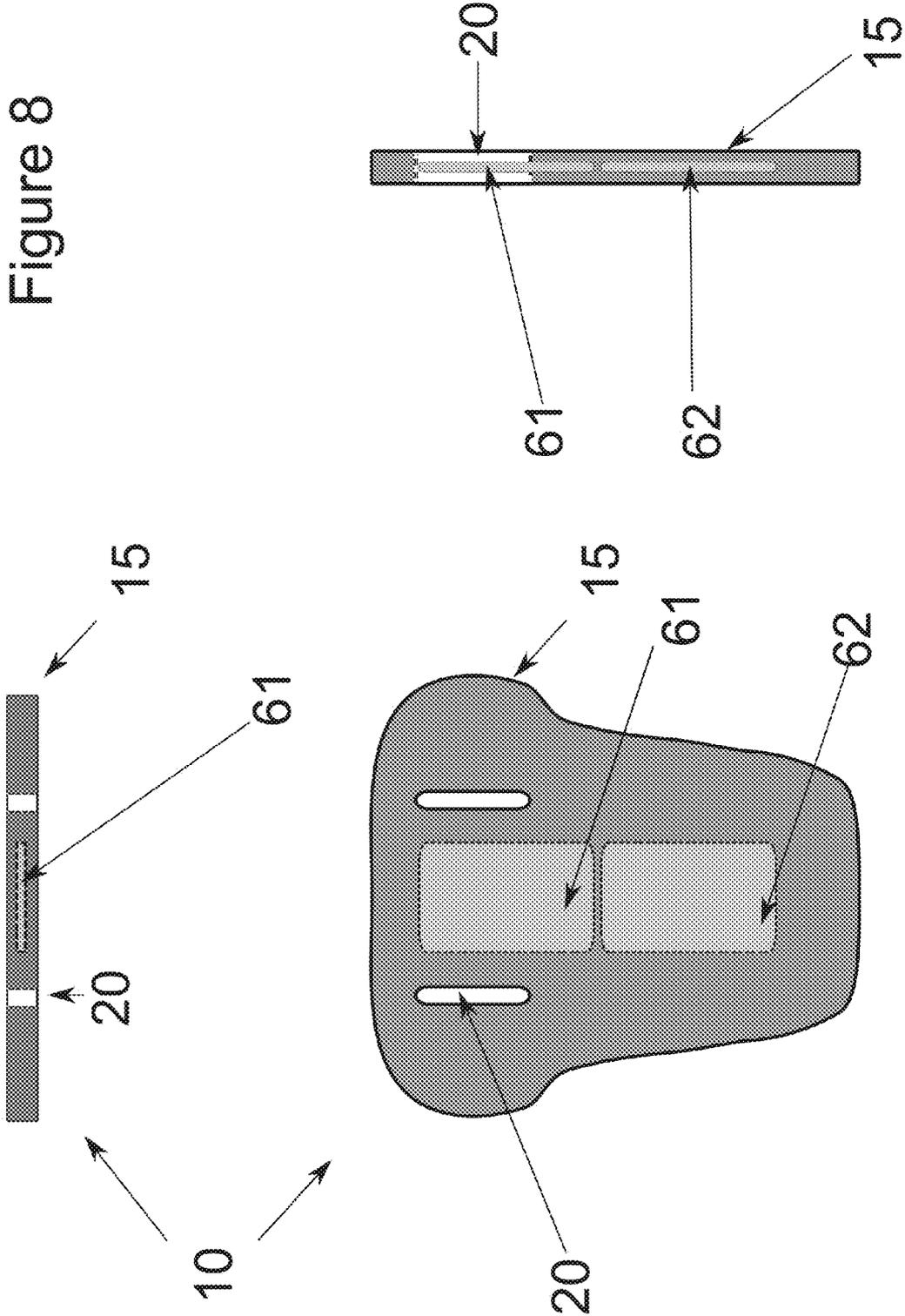


Figure 7





HOLSTER

BACKGROUND

[0001] A holster is defined as a case for carrying a usually small item on the person. There are holsters for flashlights, hand tools, medical devices, firearms, etc. These various holsters are similar in that they secure the small item on the person until the item is to be used and they have a size and shape somewhat matched to the size and shape of the item. They differ in that a holster designed for a medical device is unlikely to function adequately in carrying a flashlight.

[0002] Holsters are typically customized to fit the item they are designed for. This brings us to firearm holsters. Holsters designed to carry very small firearms are unusable with large firearms because the large firearm cannot fit into the holster. Likewise, holsters designed to carry large firearms are unlikely to carry a small firearm in a manner conducive to easy retrieval. Some firearm holsters are adjustable over a range of sizes, but none is adjustable to accommodate a large range of sizes. Moreover, firearm holsters are typically expensive items. An individual with a collection of firearms needs a holster for each of the firearms. What is needed is a holster that secures the firearm, but allows convenient access, and is usable for all sizes and shapes of firearms.

SUMMARY

[0003] Various invention embodiments comprise a firearm holster comprising a magnet, wherein the firearm holster is adapted to retain a firearm by supplying a retaining force, and the magnet provides a substantial amount of the retaining force, such as greater than 50% or greater than 95%.

[0004] Various embodiments use a magnet or magnets comprising magnetized iron, Alnico iron alloys, ferrite, manganese aluminum carbide alloys, NdFeB, or SmCo.

[0005] The embodiments comprise a back plate having a surface with a magnet or magnets mounted on the front or backside of the surface or within the back plate and the back plate comprises a slot or a sleeve for receiving a strap disposed in or on the back plate. IN some embodiments, the strap is a belt.

[0006] Various embodiments of holsters comprise a strong and durable material such as ballistic nylon or leather.

BRIEF DESCRIPTION OF THE FIGURES

[0007] FIG. 1 is a plan view of an invention holster embodiment.

[0008] FIG. 2 is a plan view of another invention holster embodiment.

[0009] FIG. 3 is a plan view of another invention holster embodiment.

[0010] FIG. 4 is a plan view of another invention holster embodiment.

[0011] FIG. 5 is a plan view of another invention holster embodiment.

[0012] FIG. 6 is a plan view of another invention holster embodiment.

[0013] FIG. 7 is a plan view of another invention holster embodiment.

[0014] FIG. 8 is a plan view of another invention holster embodiment.

DETAILED DESCRIPTION

[0015] The following description of several embodiments describes non-limiting examples that further illustrate the invention. No titles of sections contained herein, including those appearing above, are limitations on the invention, but rather they are provided to structure the illustrative description of the invention that is provided by the specification.

[0016] Unless defined otherwise, all technical and scientific terms used in this document have the same meanings that one skilled in the art to which the disclosed invention pertains would ascribe to them. The singular forms “a”, “an”, and “the” include plural referents unless the context clearly indicates otherwise. Thus, for example, reference to “fluid” refers to one or more fluids, such as two or more fluids, three or more fluids, etc. Any mention of an element includes that element’s equivalents as known to those skilled in the art.

[0017] Any methods and materials similar or equivalent to those described in this document can be used in the practice or testing of the present invention. This disclosure incorporates by reference all publications mentioned in this disclosure all of the information disclosed in the publications.

[0018] This disclosure discusses publications only to facilitate describing the current invention. Their inclusion in this document is not an admission that they are effective prior art to this invention, nor does it indicate that their dates of publication or effectiveness are as printed on the document.

[0019] The features, aspects, and advantages of the invention will become more apparent from the following detailed description, appended claims, and accompanying drawings.

[0020] FIG. 1 shows a prior art firearm mounted on an invention holster 10.

[0021] FIG. 2 shows an embodiment of an invention holster 10. Holster 10 comprises a back plate 15 that has cutouts 20 (slits, slots, etc.), a magnet pouch 25, and a magnet 30. The magnet pouch 25 encases magnet 30 in this embodiment. In this figure, holster 10 is being viewed from the front or outward facing side of back plate 15. Unless otherwise noted, this arrangement in the figure applies to each of the figures.

[0022] Back plate 15 and magnet pouch 25 comprise leather, ballistic nylon, Kydex, plastic (such as polycarbonate, polyolefin, or other plastics), Kevlar, Carbon fiber, polymer-based, or any other strong and durable material. Moreover, any material typically used for constructing firearm holsters is suitable for composing back plate 15 or magnet pouch 25. Back plate 15 can be integral with magnet pouch 25 or back plate 15; back plate 15 and magnet pouch 25 can be separate pieces. Back plate 15 and magnet pouch 25 are constructed of the same material in some embodiments. In other embodiments, magnet pouch 25 and back plate 15 are constructed of different materials. In some embodiments in which magnet pouch 25 and back plate 15 are constructed of different materials, magnet pouch 25 connects to back plate 15 using stitching, riveting, gluing, stapling, or any other bonding or connecting manner as known to those of ordinary skill in the art.

[0023] Cutouts 20 are sized to accommodate mounting on a belt, on a harness, or on some other strap-type object.

[0024] Magnet 30 may comprise any magnetic material such as magnetized iron, Alnico iron alloys, ferrite, manganese aluminum carbide alloy, neodymium iron boride (Nd-FeB), samarium cobalt (SmCo), or any other magnetic material. One of ordinary skill in the art would recognize that the size of magnet 30 depends in part on the magnetic strength of the magnetic material composing magnet 30.

[0025] In operation, holster **10** mounts on the wearer's body such as on a belt. The belt laces through cutouts **20** to affix holster **10** to the belt. This mounting places holster **10** on the body in a manner similar to that of prior art holsters. As mounted, holster **10** presents magnet pouch **25** and magnet **30** flat on back plate **15** or in back plate **15** causing the magnetic field from magnet **30** to emanate outwards from the body. To this, the wearer places a prior art firearm that is held in place on holster **10** by the magnetic interaction between magnet **30** and ferromagnetic material contained within the firearm. This interaction is sufficient to allow the use of all polymer-framed firearms or at least all popular ones with invention holsters.

[0026] FIG. 3 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.), and a magnet pouch **25**. This embodiment and others like it employ a pair of magnets **31**, **32** situated vertically with respect to back plate **15**. The magnet pouch **25** encases magnet **30** in this embodiment. In this figure, the holster is being viewed from the back. Thus, this figure depicts the magnets **31**, **32** and the magnet pouch on the rear of back plate **15**. This is an alternative available to all invention embodiments. The magnet and, when present, the magnet pouch can be mounted on either side of back plate **15** in various embodiments.

[0027] FIG. 4 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.), and a magnet pouch **25**. This embodiment and others like it employ 2, 3, or more, circular magnets **33**, **34**, **35** situated vertically with respect to back plate **15**. Magnet pouch **25** encases magnet **30** in this embodiment.

[0028] FIG. 5 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.), and a magnet pouch **25**. This embodiment and others like it employ a multiplicity of magnets **36** situated vertically with respect to back plate **15**. Magnet pouch **25** encases magnet **30** in this embodiment.

[0029] FIG. 6 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.). This embodiment and others like it employ a pair of magnets **131**, **132** but any other magnet arrangement will function in invention holsters **10**. For embodiments without a magnet pouch, magnets **131**, **132** are mounted to back plate **15** using a mounting method such as gluing or another method known to those of ordinary skill in the art. In some of these embodiments or in other embodiments, the magnet is coated with material that prevents direct contact between the magnet surface and the firearm surface.

[0030] FIG. 7 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.), and a magnets **61**, **62**. In this embodiment, magnets **61**, **62** are embedded into back plate **15**. This embodiment and other like it present a substantially flat surface upon which the firearm sits.

[0031] FIG. 8 shows an embodiment of an invention holster **10**. Holster **10** comprises a back plate **15** that has cutouts **20** (slits, slots, etc.), and a magnets **61**, **62**. In this embodiment, magnets **61**, **62** are embedded into back plate **15**. The magnets in this figure show yet another arrangement of magnets useful in this invention. This embodiment and other like it present a substantially flat surface upon which the firearm sits.

[0032] While various magnet arrangements have been shown in the described embodiments, one of ordinary skill in the art will recognize that the specific arrangement of magnets can be varied to virtually any conceivable arrangement.

[0033] Various embodiments of the invention partially affix the firearm to the holster using a magnet. The term partially affix means that the magnet provides a substantial amount of the force needed to retain the firearm on the holster, but it need not provide all of the force. In various embodiments, the magnet provides 50% or greater, 75% or greater, 95% or greater, or 99% or greater of the force needed to retain the firearm on the holster. The force needed to retain the firearm on the holster is defined as the force necessary to remove the firearm from the holster. That is, the force needed to draw the firearm from or move it off the back plate. The magnet can be chosen to provide some of that force or all of that force. For instance, the magnet can be chosen such that it pulls the firearm against the back plate firmly enough that the friction between the firearm and the back plate retain the firearm in place against the force of gravity. The magnet can be chosen so that it supplies more or much more pulling force so that the user can select how firmly they would like the gun to be held. For instance, lower holding power may favor faster drawing of the firearm, while higher holding power may favor higher security against unwanted removal.

[0034] In some embodiments, a magnet sits on a prior art holster and provides a substantial amount of the force needed to affix or retain the firearm within the holster.

[0035] While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that changes and modifications can be made without departing from the embodiments of this invention in its broader aspects and, therefore, the appended claims are to encompass within their scope all such changes and modifications as fall within the true, intended, explained, disclose, and understood scope and spirit of this invention's multitudinous embodiments and alternative descriptions.

[0036] Additionally, various embodiments have been described above. For convenience's sake, combinations of aspects composing invention embodiments have been listed in such a way that one of ordinary skill in the art may read them exclusive of each other when they are not necessarily intended to be exclusive. But a recitation of an aspect for one embodiment is meant to disclose its use in all embodiments in which that aspect can be incorporated without undue experimentation. In like manner, a recitation of an aspect as composing part of an embodiment is a tacit recognition that a supplementary embodiment exists that specifically excludes that aspect. All patents, test procedures, and other documents cited in this specification are fully incorporated by reference to the extent that this material is consistent with this specification and for all jurisdictions in which such incorporation is permitted.

[0037] Moreover, some embodiments recite ranges. When this is done, it is meant to disclose the ranges as a range, and to disclose each and every point within the range, including end points. For those embodiments that disclose a specific value or condition for an aspect, supplementary embodiments exist that are otherwise identical, but that specifically exclude the value or the conditions for the aspect.

What is claimed is:

1. A firearm holster comprising a magnet, wherein the firearm holster is adapted to retain a firearm by supplying a retaining force, and wherein a magnet provides a substantial amount of the retaining force.
2. The holster of claim 1 wherein a magnet provides 50% or more of the retaining force.

3. The holster of claim **1** wherein a magnet provides 95% or more of the retaining force.

4. The holster of claim **3** wherein the magnet comprises magnetized iron, Alnico iron alloys, ferrite, manganese aluminum carbide alloys, NdFeB, or SmCo.

5. The holster of claim **4** wherein the magnet comprises NdFeB.

6. The holster of claim **5** comprising at least two magnets.

7. The holster of claim **6** further comprising a back plate having a surface, and a slot or a sleeve for receiving a strap disposed in or on the back plate.

8. The holster of claim **7** wherein the strap is a belt.

9. The holster of claim **8** wherein a magnet is disposed on the surface.

10. The holster of claim **9** wherein the holster comprises a strong and durable material.

11. The holster of claim **10** wherein the strong and durable material is ballistic nylon.

12. The holster of claim **11** wherein the strong and durable material is leather.

13. The holster of claim **8** wherein a magnet is disposed beneath the surface.

14. The holster of claim **13** wherein the holster comprises a strong and durable material.

15. The holster of claim **14** wherein the strong and durable material is ballistic nylon.

16. The holster of claim **15** wherein the strong and durable material is leather.

17. The holster of claim **1** wherein the magnet comprises NdFeB.

18. The holster of claim **2** further comprising a back plate having a surface a slot or a sleeve for receiving a strap disposed in or on the back plate

wherein the strap is a belt and wherein the magnet comprises NdFeB.

19. The holster of claim **3** further comprising a back plate having a surface a slot or a sleeve for receiving a strap disposed in or on the back plate

wherein the strap is a belt and a magnet is disposed beneath the surface.

20. A firearm holster comprising a magnet, a back plate having a surface, and a slot or a sleeve disposed in or on the back plate wherein the firearm holster is adapted to retain a firearm by supplying a retaining force, wherein the magnet comprises NdFeB, provides 95% or more of the retaining force, and is disposed beneath the surface, wherein the slot or sleeve is for receiving a belt, and wherein the back plate, slot, or sleeve comprise a strong and durable material.

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