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(54) **PERSONAL CARE SYSTEM**

**KÖRPERPFLEGESYSTEM**

**SYSTÈME DE SOINS PERSONNELS**

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## Description

### FIELD OF THE INVENTION

**[0001]** The present invention relates to personal care system and more particularly to stands for holding personal care handles.

### BACKGROUND OF THE INVENTION

**[0002]** Personal care products include dry shaving razors, wet shaving razors, tooth brushes among other types of grooming and hygiene-related implements. An example of a dry shaving razor is an electric razor, which can be used without water, soap, or shaving cream. Wet shaving razors are typically used with water and soap or shaving cream. A wet shaving razor can include a replaceable cartridge in which one or more blades are mounted in a housing. After the blades in a cartridge have become dull from use, the cartridge is discarded, and a new cartridge is replaced on the handle. Personal care products are often stored on a sink, in a medicine cabinet, or on a shelf between uses. Accordingly, personal care products must not only be kept clean and dry between uses, but should also be aesthetically pleasing when displayed on a countertop or sink.

**[0003]** Thus, it would be advantageous to provide for a personal care product that addresses one or more of these issues. Indeed, it would be advantageous to provide for a personal care product a stand for storing a personal care product in an aesthetically pleasing manner, thereby allowing a user to leave the personal care product in view between uses while the personal care product dries. It would also be advantageous to provide a personal care product that is perceived as a premium product in view of its usability, functionality, looks, among other characteristics. Other features and advantages of the invention will be apparent from the following detailed description, and from the claims.

**[0004]** US 2015/0320178 A1 discloses an assembly and method of use for a dispensable personal care product wherein the dispensing assembly includes a base having a housing having an outer surface, a first side having a container receiving feature, a second side having a substantially flat surface, and a cavity between the first side and the second side, wherein the substantially flat surface is configured for selective fixed attachment to an external mounting fixture, the assembly also including a retention member for selectively receiving and retaining a container containing the dispensable personal care product.

**[0005]** EP 3 351 138 A1 discloses a personal care product system having a personal care product stand and a handle. The handle can be docked with the personal care product stand when not in use. The position of the handle relative to the personal care product stand is maintained by a docking magnet in the handle and a docking magnet in the personal care product stand. The

handle is tilted with respect to a vertical axis and a majority of the handle is unsupported.

### SUMMARY OF THE INVENTION

**[0006]** The present disclosure fulfills the needs described above by, in one embodiment, providing a personal care system with a stand having an outer perimeter defining a handle mounting surface extending from a top surface of the stand toward a bottom surface of the stand. A handle with an elongated body mounted to the stand. At least one magnetic element retains the elongated body of the handle within the recessed handle mounting surface. A frame having a pocket retaining the magnetic element against an inner wall of the handle mounting surface is positioned within the stand. The stand comprises a base, a weight, a weight bracket retaining the weight within a pocket, one or more spacers stacked on top of the weight bracket and the weight, and a cover mounted to the base, the cover containing the weight, the weight bracket and the one or more spacers. The frame is positioned between the magnetic element and one or more of the spacers.

**[0007]** In another embodiment, a stand for a personal care product has a top surface, a bottom surface positioned on a resting plane transverse to a center axis and an outer perimeter defining handle mounting surface configured to receive a handle. The handle mounting surface extends from the top surface toward the bottom surface. A magnetic element positioned within the stand and adjacent the handle mounting surface.

**[0008]** In yet another embodiment, a stand for a personal care product having a top surface, a bottom surface positioned on a resting plane transverse to a center axis, and an outer perimeter between the top surface and the bottom surface that defines a recessed handle mounting surface configured to receive a handle. The recessed handle mounting surface extends about 50% to about 90% of a length from the top surface to the bottom surface. A magnetic element faces an inner wall of the handle mounting surface. The recessed handle mounting surface intersects the center axis at an angle of 2 degrees to 6 degrees.

### BRIEF DESCRIPTION OF THE DRAWINGS

**[0009]** The above-mentioned and other features and advantages of the present disclosure, and the manner of attaining them, will become more apparent, and the disclosure itself will be better understood by reference to the following description of nonlimiting embodiments of the disclosure taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a perspective view of an exemplary personal care system in accordance with one nonlimiting embodiment of the present disclosure.

FIG. 2 is cross sectional view of the personal care

system, taken generally along the line 2-2 of FIG. 1. FIG. 3 is an exploded view of the stand of FIGS. 1 and 2.

#### DETAILED DESCRIPTION OF THE INVENTION

**[0010]** The present disclosure provides for personal care systems having a handle and a stand for docking the handle when not in use. Various nonlimiting embodiments of the present disclosure will now be described to provide an overall understanding of the principles of the function, design, and operation of the personal care product systems. One or more examples of these non-limiting embodiments are illustrated in the accompanying drawings. Those of ordinary skill in the art will understand that the methods described herein and illustrated in the accompanying drawings are nonlimiting example embodiments and that the scope of the various nonlimiting embodiments of the present disclosure are defined solely by the claims. The features illustrated or described in connection with one nonlimiting embodiment may be combined with the features of other nonlimiting embodiments. Such modifications and variations are intended to be included within the scope of the present disclosure.

**[0011]** Referring now to FIG. 1, a perspective view of an exemplary personal care system 10 is depicted in accordance with one nonlimiting embodiment of the present disclosure. The personal care system 10 may include a personal care product 12 having a handle 14 that is docked to a stand 16. While the handle 14 is shown as a manual wet shaving razor, such depiction is for illustrative purposes only. Other examples of personal consumer products that can be docked to the stand 16 may include, without limitation, dry razors, epilators or other hair cutting and/or epilating household devices, trimmers, personal groomers, toothbrushes, hair removal devices, and so forth. Further, while a shaving razor cartridge 18 having one or more blades 24 is depicted as being coupled to a proximal end 20 of the handle 14, in other embodiments the handle 14 may additionally or alternatively include other types of grooming devices, such as perforated shaving foils, rotary cutters, oscillating cutters, trimmers, and so forth. Accordingly, the handle 14 with the depicted shaving razor cartridge 18 is for illustrative purposes only and is not intended to limit the disclosure to any particular configuration of the handle 14, the personal care product system 10, or the shaving razor cartridge 18. In certain embodiments, the handle 14 may include one or more powered elements, such as fluid pumps, motors, sensors, vibrating or oscillating components, heating elements, and so forth.

**[0012]** As used herein, the term handle 14 is to refer to the personal grooming device that can be stored in the stand 14, including any attachable components, such as the shaving razor cartridge 18. While the handle 14 is shown to have an elongated body 22 that is generally cylindrical, this disclosure is not so limited. Instead, the elongated body 22 can be any suitable shape, size, or

configuration and is the portion of the handle 14 that is held by the user during use of the personal care product 12 (e.g., gripping portion). The shaving razor cartridge 18 (or other type of attachment or fixed implement) may be fixedly or pivotably mounted to the handle 14, depending on the overall desired cost and performance. The shaving razor cartridge 18 may be permanently attached or removably mounted to the handle 14. The shaving razor cartridge 18 may include one or more blades 24, or other grooming instruments. As will be explained in greater detail below, the handle 14 may comprise ferromagnetic materials, such as steel, iron, nickel or cobalt.

**[0013]** The handle 14 is shown in a docked position in FIG. 1. While in the docked position, at least a portion of a first end portion 26 of the handle 14 can be temporarily secured to the stand 16, as described in more detail below. The stand 16 may have an outer perimeter 28 defining a handle mounting surface 30 (e.g., a recess) that extends from a top surface 32 toward a bottom surface 34 of the stand 16 that is configured to receive at least a portion of the elongated body 22 (i.e., the first end portion 26 of handle 14). The handle mounting surface 30 may extend about 50% to about 90% of a length from the top surface 32 to the bottom surface 34 of the stand 16. The outer perimeter may be generally transverse to the top surface 32 and the bottom surface 34. Although the stand 16 is illustrated as being generally cylindrical, it is understood that other shapes may be used, including non-rounded shapes (e.g., cubes, rectangular prisms and triangular prisms), rounded shapes (e.g., cones and spheres) and combinations thereof.

**[0014]** Referring to FIG. 2, a cross sectional view of the personal care system 10 is illustrated. The bottom surface 34 of the stand 16 may lay on a resting plane 36 that is generally transverse to a center axis "A1" of the stand 16. The stand resting plane 36 shown in FIG. 2 depicts a flat surface that the stand 16 can rest on, such as a shelf, tabletop, sink, etc. As is to be appreciated, the stand 16 can also include feet or other nubs which contact the resting plane 36 defined by the flat surface. A distal end 40 of the handle 14 may be spaced apart from the resting plane 36 providing an illusion that the handle 14 is levitating. For example, the distal end 40 of the handle 14 may be spaced apart from the resting plane 36 by a horizontal distance of about 1.0mm to about 10mm, and more preferable about 4mm to about 6mm, which may allow water to run off the handle 14 and not collected by the stand 16. Accordingly, the stand 16 is easier to clean and keep clean between uses. The handle mounting surface 30 may extend along a support plane 38 that is not parallel to the center axis A1 of the stand 16. In certain embodiments, the center axis A1 may intersect the support plane 38 at an included angle  $\alpha$  of about 2 degrees to 6 degrees. If the included angle  $\alpha$  is too small, the handle 14 may fall off the stand 16. However, if the included angle  $\alpha$  is too large, the handle 14 may not appear to be levitating. The handle 14 may have core 35 that extends generally parallel to the support

plane 38 when the handle 14 is retained within the handle mounting surface 30 of the stand 14.

**[0015]** In certain embodiments, less than 60% of a bottom surface of the distal end 40 of the handle 14 may be supported by the stand 16 (e.g., about 30% to about 60% of the distal end of the handle 14 is supported by the stand 16), which may allow water to efficiently run off the handle 14 and not collected by the stand 16. Furthermore, the handle 14 may appear suspended above the resting plane 36, thus creating a more aesthetically pleasing design execution. As shown in FIGS. 2 and 3, the handle mounting surface 30 may be curved in a first direction (e.g., a valley) with a distal end portion 42 curved in two directions to partially support the distal end portion 40 of the handle 14. In certain embodiments, handle mounting surface 30 may have a first radius of 5 degrees to 15 degrees and a second radius of 5 degrees to 15 degrees.

**[0016]** The handle mounting surface 30 may be a recess, for example, a partial capsule subtraction from a cylinder. The distal end portion 42 of the recessed handle mounting surface 30 may have be partially subtracted hemisphere. For example, the partially subtracted hemisphere end portion may be subtracted greater than 40% (in more than one direction). The distal end 40 of the handle 14 may have a radius that is partially supported by the distal end portion 42 of the handle mounting surface 30, (e.g., the partially subtracted hemispherical end 44). The radius of the distal end 40 of the handle 14 may be similar to the radius of the distal end portion 42. For example, the distal end of the handle 40 may have a first radius of 5 degrees to 15 degrees and a second radius of 5 degrees to 15 degrees.

**[0017]** Referring to FIGS. 2 and 3, at least one magnetic element 46 positioned within the stand 16 to retain the handle 14 against the stand 14 (i.e., within the handle mounting surface 30). For example, the handle 14 may slide off the stand if the magnetic element 46 was removed (e.g., no magnetic force). At least a portion of the elongated body 22 may comprise a material that is attracted to the magnetic element 46. For example, the handle 14 may have an inner core 35 (e.g., located within the elongated body 22) that is attracted to the magnetic element 46 of the stand 16. The distal end portion 42 of the handle 14 may facilitate locating the handle 14 in the proper position with the handle mounting surface 30 enabling the handle 14 to be properly held in place by the magnetic element 46. When the handle 14 is being docked, the elongated body 22 may be placed in contact with the handle mounting surface 30, such that the core 35 of the handle 14 is proximate to the magnetic element 46 of the stand 16. Once in this position, the magnetic attraction between the magnetic element 46 and the core 35 maintains the titled position of the handle 14 relative to the stand 16 to overcome the gravitational force acting upon on the handle 14. The handle 14 can remain in this position until the user lifts the handle 14 off the stand 16. The position of the magnetic element 46 and the geometry of the handle mounting surface 30 may allow the

handle 14 to be removed in two or more directions. For example, the handle 14 may be removed from the stand by applying a force F1 in a first direction or a force F2 in a second direction generally transverse to F1.

**[0018]** A frame 48 having a pocket 50 is positioned within the stand 16. The pocket 50 retains the magnetic element 46 against an inner wall 52 of the handle mounting surface 30. The stand 16 may include a base 54 with one or more weights 56. For example, one or more of the weights 56 may be positioned within a cavity 58 of the base 54 (e.g., contacting an inner top surface 55 of the base 54). The positioning of the weight 56 toward a bottom of the base 54 (e.g., within the cavity 58) lowers the center of gravity of the stand 16, thus making it less likely to tip over. The positioning of a significant amount of weight in the base 54 itself may also help lower the center of gravity of the stand 16, thus preventing the stand 16 from tipping over as the handle 14 is mounted to the stand 16. The weight 56 may comprise heavy materials such as steel, iron, zinc, nickel or combinations thereof. For example, the weight 56 may comprise over 25% of the overall weight of the stand 14 (e.g., about 25% to about 50%). The base may also comprise more than 25% of the overall weight of the stand 14 (e.g., about 25% to about 50%). A weight bracket 60 is configured to retain the weight 56 within a pocket 62. One or more spacers 64, 66 and 68 are stacked on top of the weight bracket 60 and the weight 56. The frame 48 is positioned between the magnetic element 46 and one or more of the spacers 64, 66, 68. A cover 70 is mounted to the base 54 to contain the weight 56, weight bracket 60 and spacers 64, 66, and 68. The cover 70 and/or the base 54 may define the handle mounting surface 30. The base 42 may define the distal end portion 42 of the handle mounting surface 30. The spacers 64, 66 and 68 may eliminate extra space between the base 54 and the cover 70 thus preventing components from moving around after assembly. One or more fasteners 72, 74, 76 may extend into a bottom surface 78 of the base 54 and into the cover 70, thus securing the base 54 to the cover 70. A ring 80 may be mounted to the bottom surface 78 of the base 54 to cover the fasteners 72, 74, 76. The ring 80 may comprise a low durometer material (such as silicone, rubber, thermoplastic elastomer) to prevent the stand 16 from sliding on a resting surface such as a sink or countertop.

**[0019]** The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm."

**[0020]** Every document cited herein, including any cross referenced or related patent or application and any patent application or patent to which this application claims priority or benefit thereof, is hereby incorporated herein by reference in its entirety unless expressly excluded or otherwise limited. The citation of any document

is not an admission that it is prior art with respect to any invention disclosed or claimed herein or that it alone, or in any combination with any other reference or references, teaches, suggests or discloses any such invention. Further, to the extent that any meaning or definition of a term in this document conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this document shall govern.

**[0021]** While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

## Claims

### 1. A personal care system (10) comprising:

a stand (16) having an outer perimeter (28) defining a recessed handle mounting surface (30) extending from a top surface (32) of the stand toward a bottom surface (34) of the stand; and a handle (14) having an elongated body (22) mounted to the stand; wherein at least one magnetic element (46) retains the elongated body of the handle within the recessed handle mounting surface (30), **characterized in that** a frame (48) having a pocket (50) retaining the magnetic element (46) against an inner wall (52) of the handle mounting surface (30) is positioned within the stand (16), and the stand (16) comprises a base (54), a weight (56), a weight bracket (60) retaining the weight (56) within the pocket (50), one or more spacers (64, 66, 68) stacked on top of the weight bracket (60) and the weight (56), and a cover (70) mounted to the base (54), the cover (70) containing the weight (56), the weight bracket (60) and the one or more spacers (64, 66, 58), and the frame (48) is positioned between the magnetic element (46) and one or more of the spacers (64, 66, 68).

2. The personal care system (10) of claim 1 wherein the recessed handle mounting surface (30) extends along a support plane (38) that is not parallel to a center axis (A1) of the stand (16).

3. The personal care system (10) of claim 2 wherein the support plane (38) intersects the center axis (A1) of the stand (16) at an included angle ( $\alpha$ ) of 2 degrees to 6 degrees.

4. The personal care system (10) according to any one of the preceding claims wherein the bottom surface

(34) of the stand (16) lies on a resting plane (36) that is spaced apart from a distal end (40) of the handle (14).

5. The personal care system (10) of claim 4 wherein the bottom surface (34) of the stand (16) lies on a resting plane (36) that is spaced apart from the distal end (40) of the handle (14) by a distance of 1 mm to 10mm.

6. The personal care system (10) according to any one of the preceding claims wherein less than 60% of a bottom surface of the distal end (40) of the handle (14) is supported by the stand (16).

7. The personal care system (10) according to any one of the preceding claims wherein a distal end portion (42) of the handle mounting surface (30) is curved in more than one direction.

8. The personal care system (10) according to any one of the preceding claims wherein the magnetic element (46) is positioned between the inner wall (52) of the handle mounting surface (30) and the frame (48).

9. The personal care system (10) according to any one of the preceding claims wherein the handle mounting surface (30) has a partially subtracted hemispherical end.

10. The personal care system (10) of claim 9 wherein the partially subtracted hemispherical end is subtracted greater than 40%.

11. The personal care system (10) according to any one of the preceding claims wherein the handle mounting surface (30) is a curved recess.

12. The personal care system (10) according to any one of the preceding claims wherein the handle (14) has an inner core (35) attracted to the magnetic element (46).

13. The personal care system (10) according to any of the preceding claims wherein the handle mounting surface (30) extends 50% to 90% of a length from the top surface (32) to the bottom surface (34).

## Patentansprüche

### 1. Körperpflegesystem (10), umfassend:

einen Ständer (16) mit einem Außenumfang (28), der eine vertiefte Griffmontagefläche (30) definiert, die sich von einer Oberseite (32) des Ständers zu einer Unterseite (34) des Ständers

- erstreckt; und einen Griff (14) mit einem länglichen Körper (22), der an den Ständer montiert ist; wobei mindestens ein magnetisches Element (46) den langgestreckten Körper des Griffs innerhalb der vertieften Griffmontagefläche (30) hält, **dadurch gekennzeichnet, dass** ein Rahmen (48), der eine Tasche (50) aufweist, die das magnetische Element (46) gegen eine Innenwand (52) der Griffmontagefläche (30) hält, innerhalb des Ständers (16) positioniert ist, und der Ständer (16) eine Basis (54), ein Gewicht (56), einen Gewichtshalter (60), der das Gewicht (56) innerhalb der Tasche (50) hält, einen oder mehrere Abstandshalter (64, 66, 68), die auf den Gewichtshalter (60) gestapelt sind, und das Gewicht (56), und eine Abdeckung (70), die an der Basis (54) montiert ist, aufweist, wobei die Abdeckung (70) das Gewicht (56), den Gewichtshalter (60) und den einen oder die mehreren Abstandshalter (64, 66, 68) enthält, und der Rahmen (48) zwischen dem magnetischen Element (46) und einem oder mehreren der Abstandshalter (64, 66, 68) positioniert ist.
2. Körperpflegesystem (10) nach Anspruch 1, wobei sich die vertiefte Griffmontagefläche (30) entlang einer Stützebene (38) erstreckt, die nicht parallel zu einer Mittelachse (A1) des Ständers (16) ist.
  3. Körperpflegesystem (10) nach Anspruch 2, wobei die Stützebene (38) die Mittelachse (A1) des Ständers (16) in einem Spitzenwinkel ( $\alpha$ ) von 2 Grad bis 6 Grad schneidet.
  4. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei die Unterseite (34) des Ständers (16) auf einer Auflageebene (36) liegt, die von einem distalen Ende (40) des Griffs (14) beabstandet ist.
  5. Körperpflegesystem (10) nach Anspruch 4, wobei die Unterseite (34) des Ständers (16) auf einer Auflageebene (36) liegt, die von dem distalen Ende (40) des Griffs (14) um einen Abstand von 1 mm bis 10 mm beabstandet ist.
  6. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei weniger als 60 % einer Unterseite des distalen Endes (40) des Griffs (14) durch den Ständer (16) gestützt wird.
  7. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei ein distaler Endabschnitt (42) der Griffmontagefläche (30) in mehr als einer Richtung gekrümmt ist.
  8. Körperpflegesystem (10) nach einem der vorstehen-

den Ansprüche, wobei das magnetische Element (46) zwischen der Innenwand (52) der Griffmontagefläche (30) und dem Rahmen (48) positioniert ist.

9. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei die Griffmontagefläche (30) ein teilweise eingezogenes halbkugelförmiges Ende aufweist.
10. Körperpflegesystem (10) nach Anspruch 9, wobei das teilweise eingezogene halbkugelförmige Ende um mehr als 40 % eingezogen ist.
11. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei die Griffmontagefläche (30) eine gekrümmte Vertiefung ist.
12. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei der Griff (14) einen Innenkern (35) aufweist, der von dem magnetischen Element (46) angezogen wird.
13. Körperpflegesystem (10) nach einem der vorstehenden Ansprüche, wobei sich die Griffmontagefläche (30) zu 50 % bis 90 % einer Länge von der Oberseite (32) zur Unterseite (34) erstreckt.

## Revendications

1. Système de soins personnels (10) comprenant :

un support (16) ayant un périmètre externe (28) définissant une surface évidée de montage de manche (30) s'étendant à partir d'une surface supérieure (32) du support en direction d'une surface inférieure (34) du support ; et un manche (14) ayant un corps allongé (22) monté au support ; dans lequel au moins un élément magnétique (46) retient le corps allongé du manche au sein de la surface évidée de montage de manche (30), **caractérisé en ce que** un cadre (48) ayant une poche (50) retenant l'élément magnétique (46) contre une paroi interne (52) de la surface de montage de manche (30) est positionné au sein du support (16), et le support (16) comprend une base (54), un poids (56), une fixation de poids (60) retenant le poids (56) au sein de la poche (50), un ou plusieurs espaceurs (64, 66, 68) empilés au-dessus de la fixation de poids (60) et du poids (56), et un couvercle (70) monté à la base (54), le couvercle (70) contenant le poids (56), la fixation de poids (60) et le ou les espaceurs (64, 66, 68), et le cadre (48) est positionné entre l'élément magnétique (46) et un ou plusieurs des espaceurs (64, 66, 68).

2. Système de soins personnels (10) selon la revendication 1 dans lequel la surface évidée de montage de manche (30) s'étend le long d'un plan d'appui (38) qui n'est pas parallèle à un axe central (A1) du support (16). 5
3. Système de soins personnels (10) selon la revendication 2 dans lequel le plan d'appui (38) croise l'axe central (A1) du support (16) selon un angle inclus ( $\alpha$ ) de 2 degrés à 6 degrés. 10
4. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel la surface inférieure (34) du support (16) se trouve sur un plan de repos (36) qui est espacé d'une extrémité distale (40) du manche (14). 15
5. Système de soins personnels (10) selon la revendication 4 dans lequel la surface inférieure (34) du support (16) se trouve sur un plan de repos (36) qui est espacé de l'extrémité distale (40) du manche (14) d'une distance de 1 mm à 10 mm. 20
6. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel moins de 60 % d'une surface inférieure de l'extrémité distale (40) du manche (14) est supportée par le support (16). 25
7. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel une partie d'extrémité distale (42) de la surface de montage de manche (30) est incurvée dans plus d'une direction. 30  
35
8. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel l'élément magnétique (46) est positionné entre la paroi interne (52) de la surface de montage de manche (30) et le cadre (48). 40
9. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel la surface de montage de poignée (30) a une extrémité hémisphérique partiellement soustraite. 45
10. Système de soins personnels (10) selon la revendication 9 dans lequel l'extrémité hémisphérique partiellement soustraite est soustraite à plus de 40 %. 50
11. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel la surface de montage de poignée (30) est un évidement incurvé. 55
12. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel le manche (14) a un noyau interne (35) attiré vers l'élément magnétique (46).
13. Système de soins personnels (10) selon l'une quelconque des revendications précédentes dans lequel la surface de montage de poignée (30) s'étend sur 50 % à 90 % d'une longueur allant de la surface supérieure (32) à la surface inférieure (34).

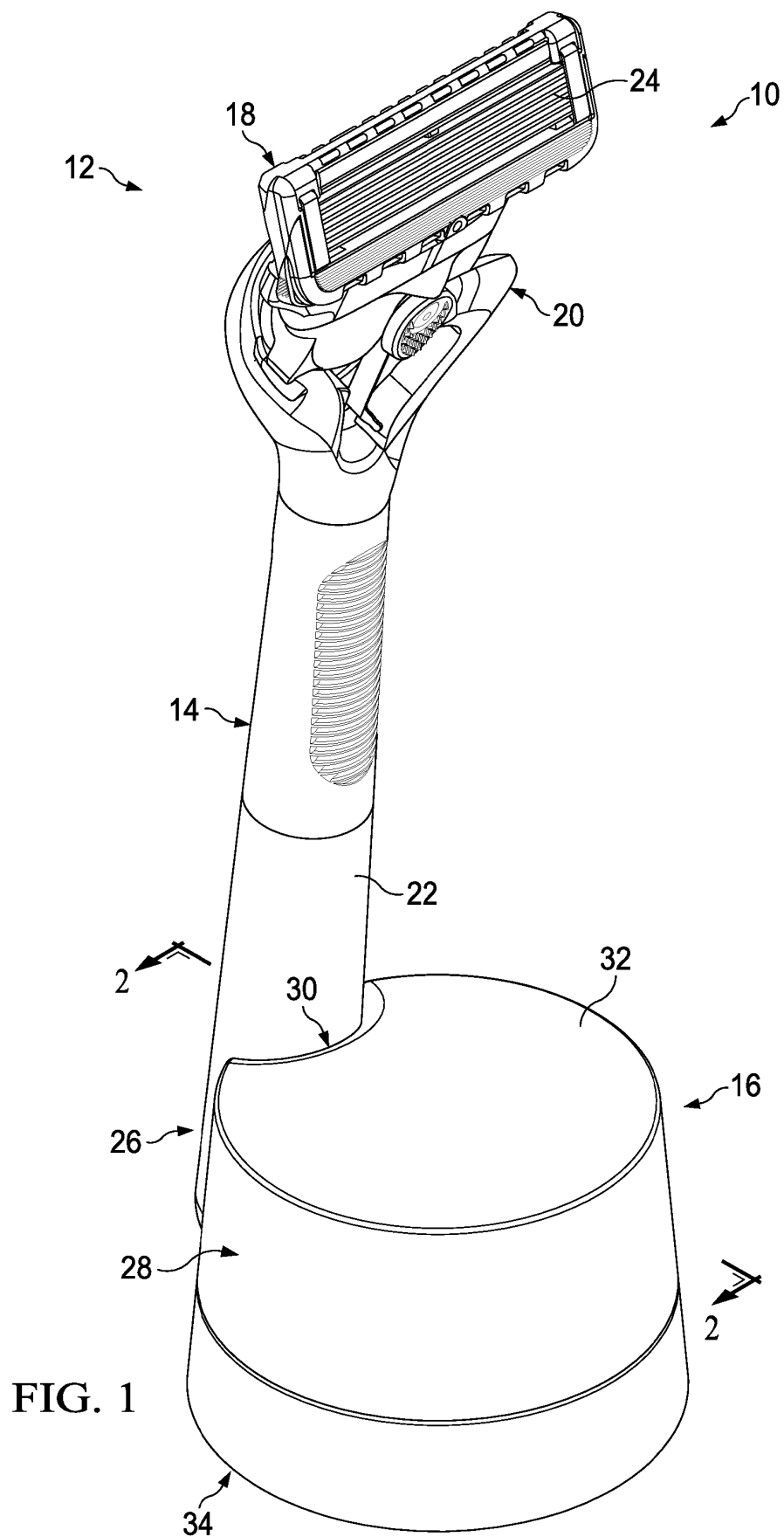
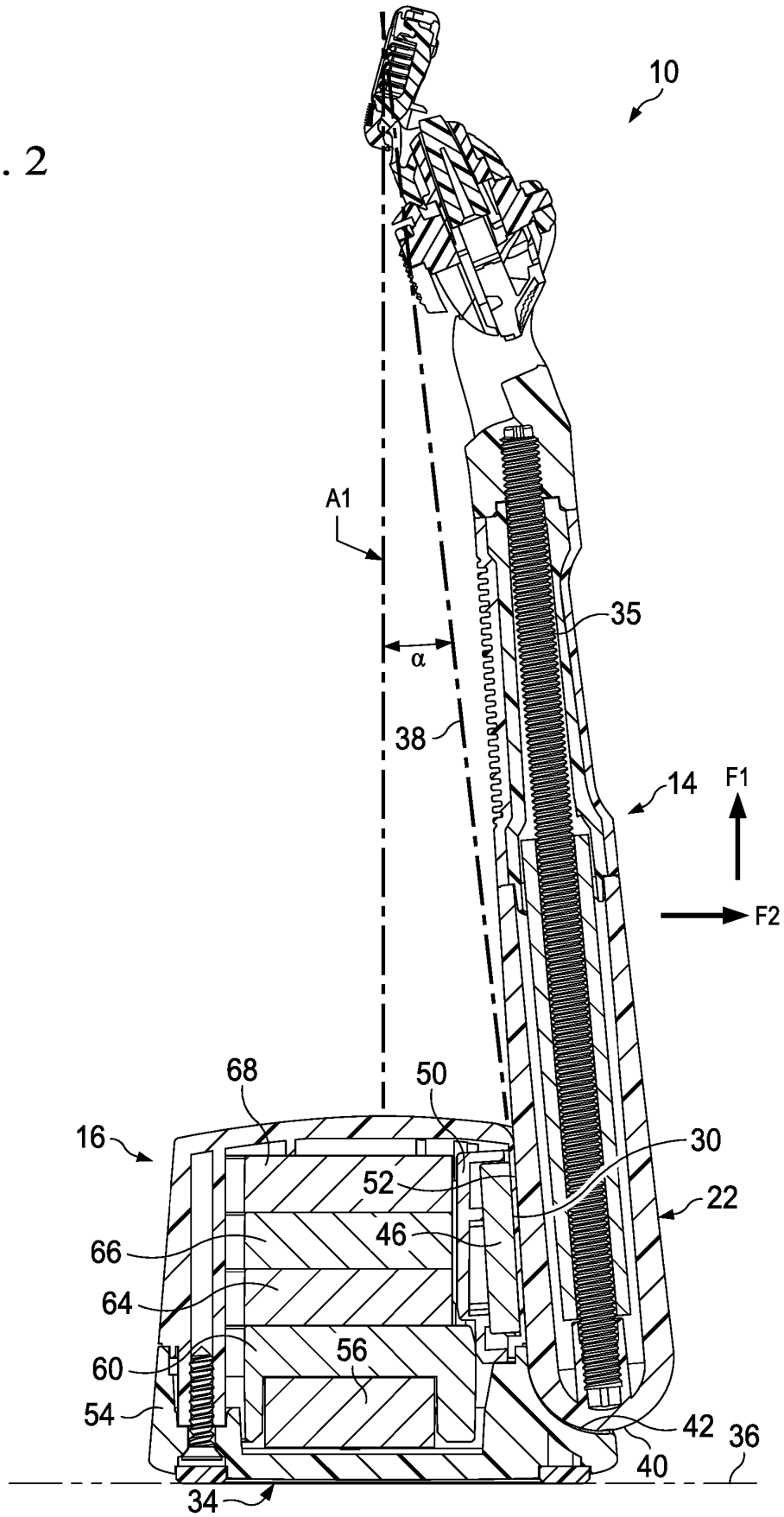




FIG. 2



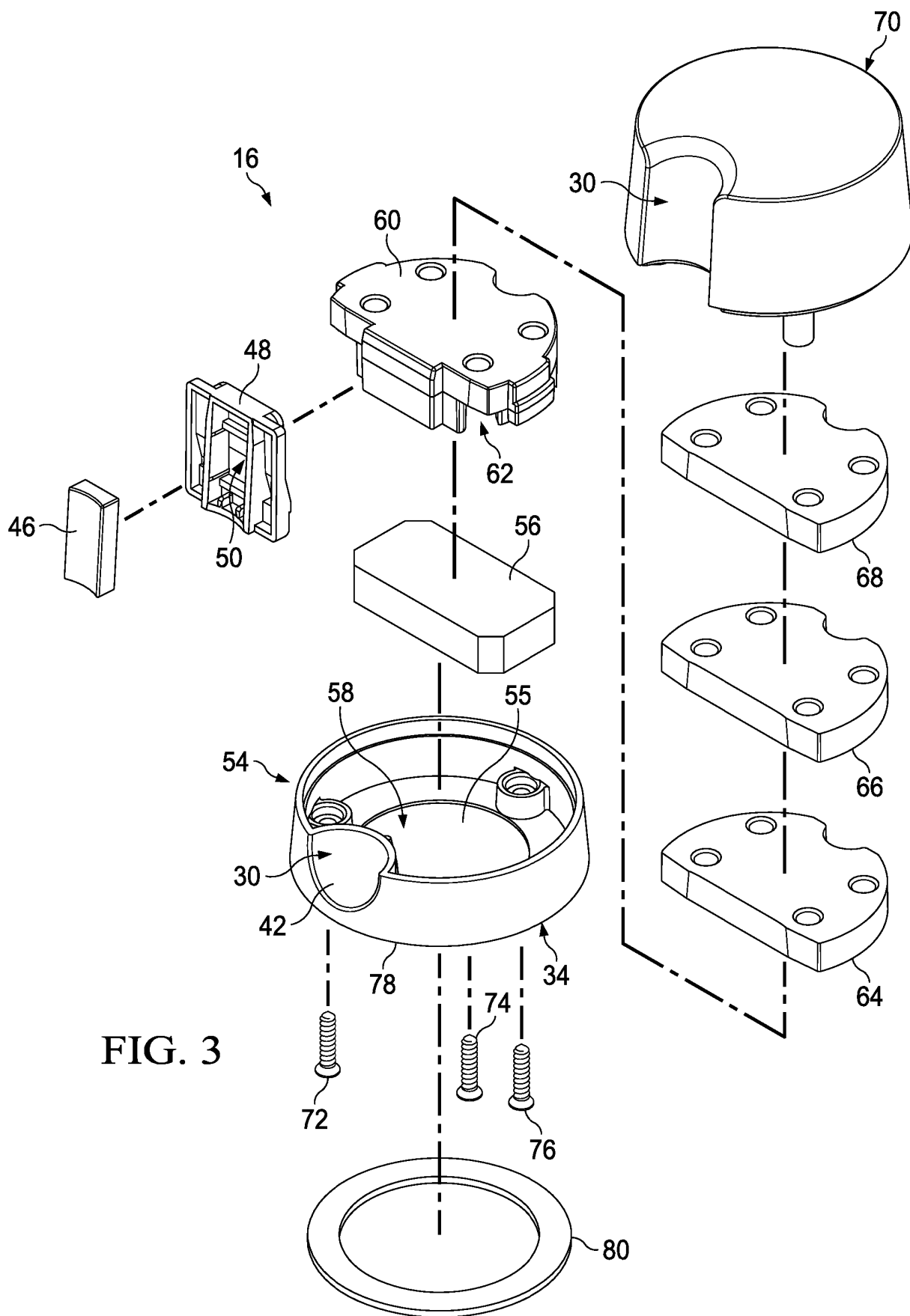


FIG. 3

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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