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(57) **ABSTRACT**

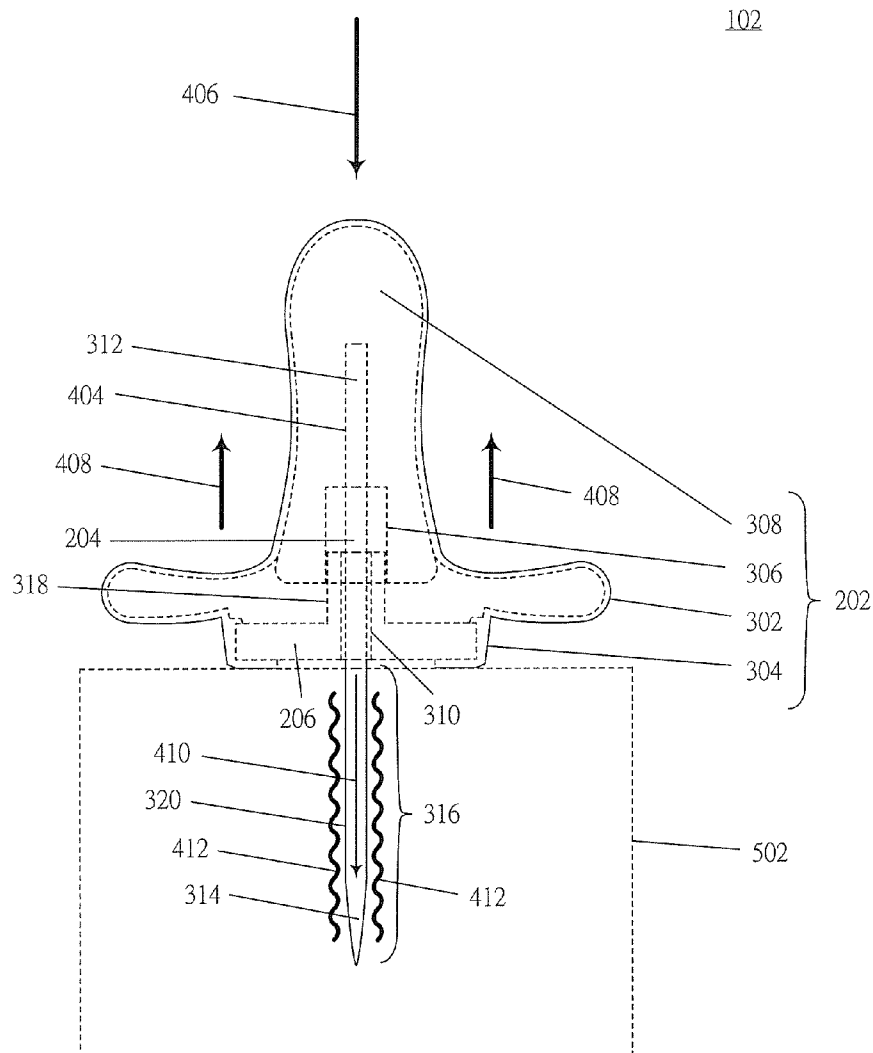
A drawing pin having functionality of drawing back automatically is provided, which includes a containing portion and a pin portion. The pin portion is disposed in the containing portion when the pin portion is at a first location, and an appropriate part of the pin portion is exposed outside the containing portion when the pin portion is at a second location. The containing portion provides a resilient force that enables the pin portion to draw back from the second location to the first location automatically when the pin portion moves from the first location to the second location.

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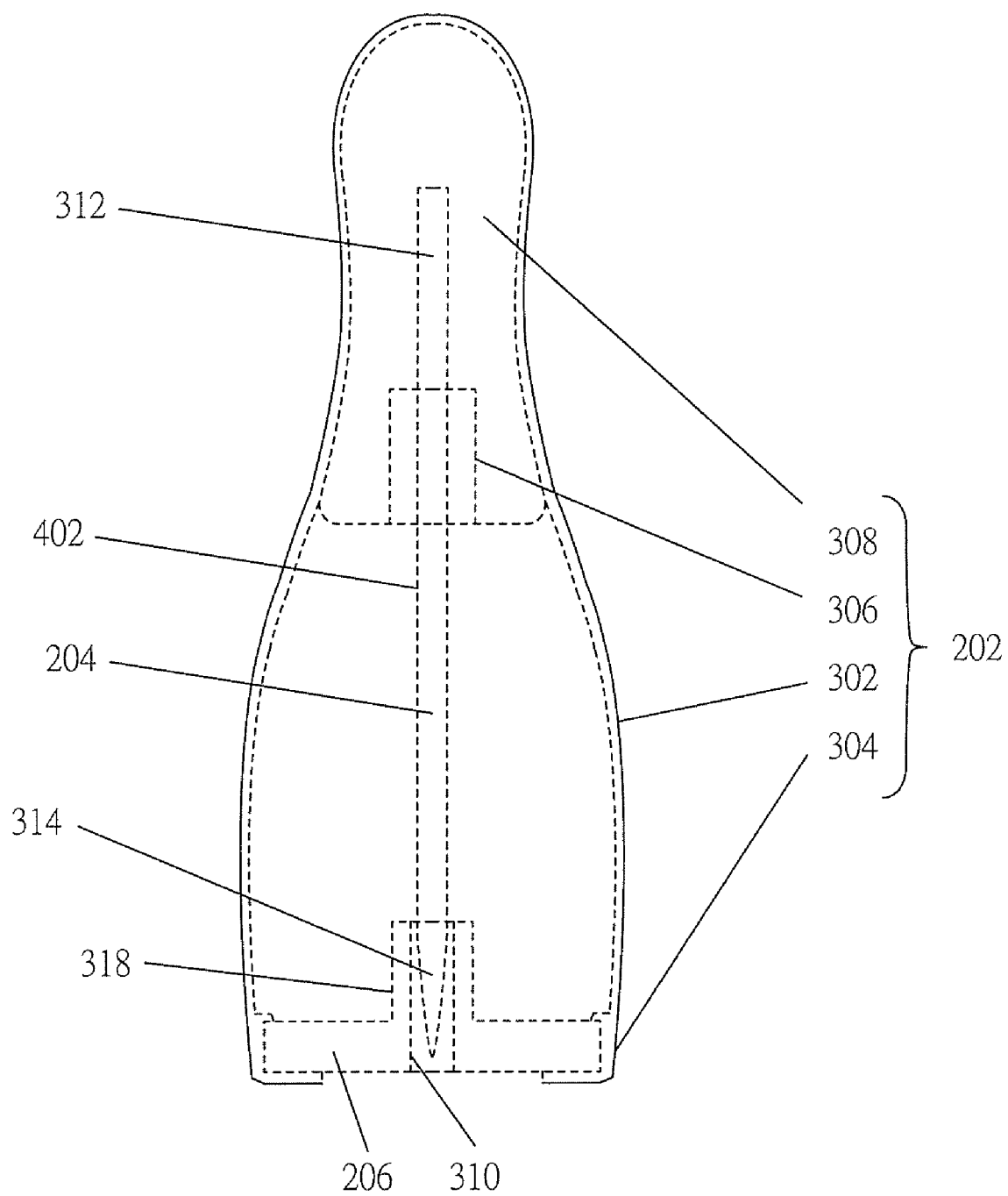


FIG.1

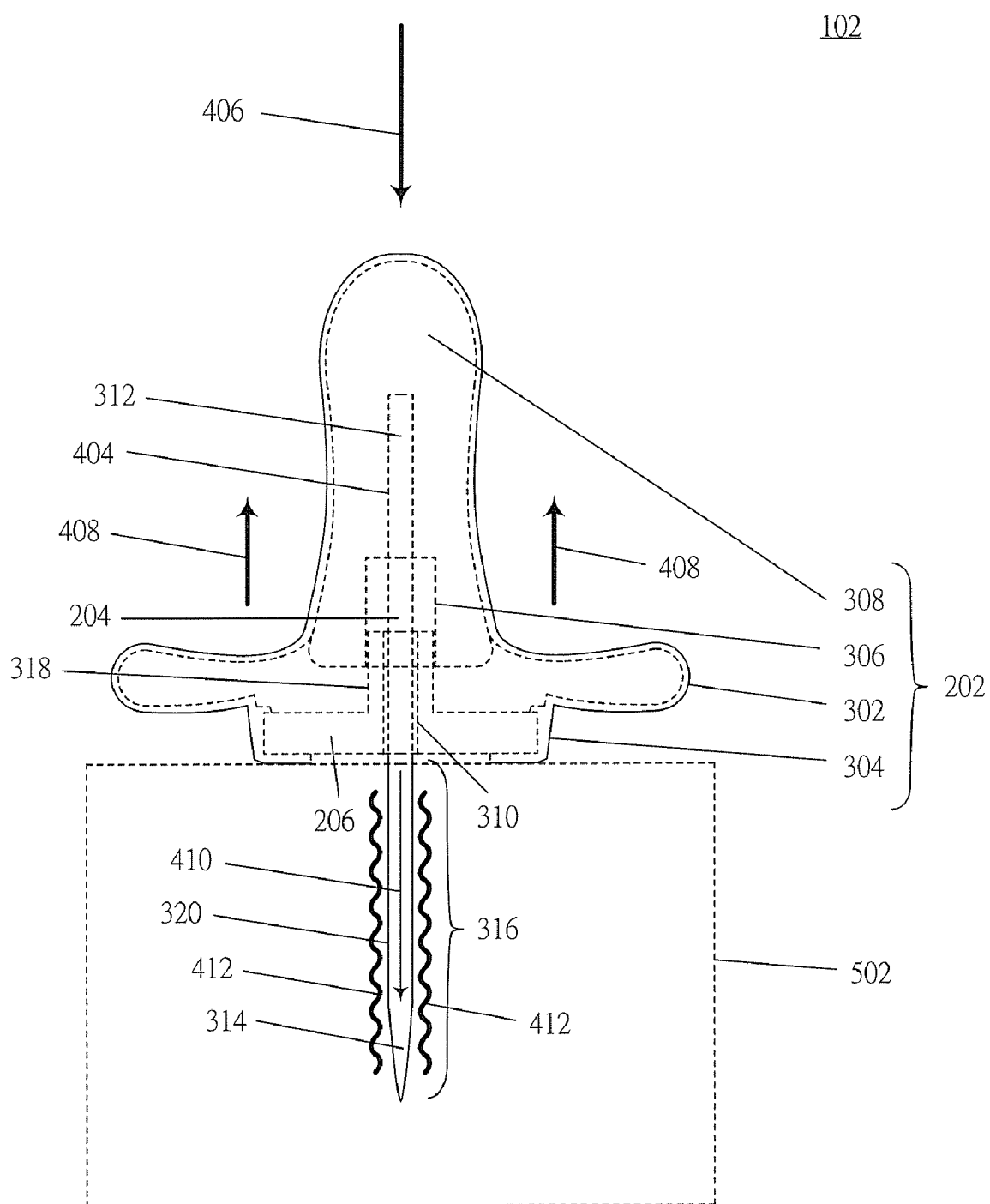


FIG.2

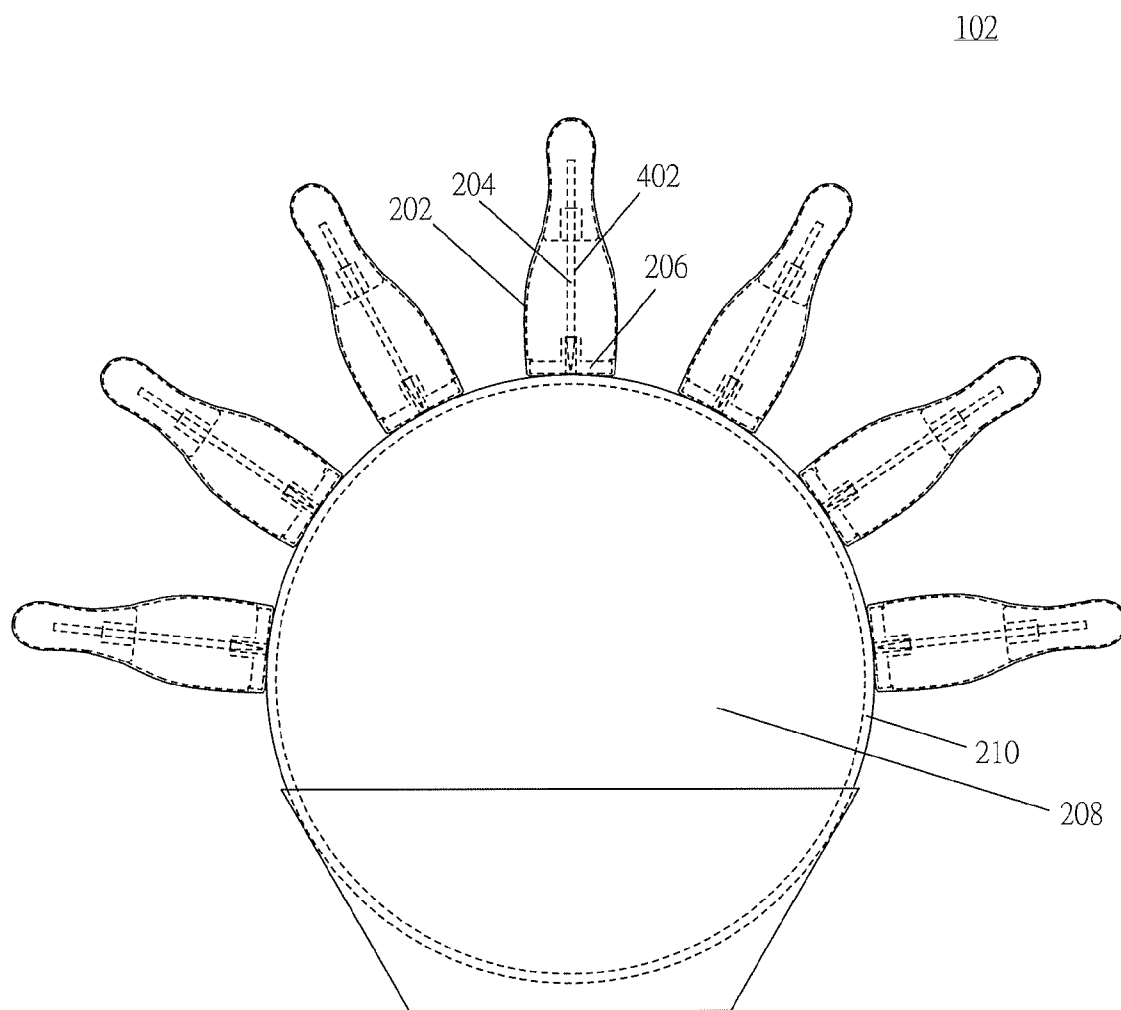


FIG.3

DRAWING PIN HAVING FUNCTIONALITY OF DRAWING BACK AUTOMATICALLY

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the priority benefit of Taiwan application serial no. 97211942, filed on Jul. 4, 2008. The entirety of the above-mentioned patent application is hereby incorporated by reference herein and made a part of specification.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a drawing pin, in particular, to a drawing pin having functionality of drawing back automatically.

[0004] 2. Description of Related Art

[0005] In the past, users would take great care whenever taking drawing pins to use, because the drawing pins were scattered in a box disorderly, and users can only grasp the plastic portions of the drawing pins so as to avoid to be pricked by them. The feelings that the skin touched by the pins when users take out drawing pins to be used from the box or take down them from a billboard and put them on the palm are very unpleasant. When the drawing pins drop on the ground, they will incur dangers if a person passed by steps on it inadvertently. In addition, the way of receiving the drawing pins was not desirable, since the drawing pins will be always scattered in the box disorderly, leading to great inconvenience when taking drawing pins. In the light of this, it is do necessary to provide a novel drawing pin to solve aforementioned problems.

SUMMARY OF THE INVENTION

[0006] The present invention is directed to a drawing pin having functionality of drawing back automatically in order to solve aforementioned problems.

[0007] The present invention provides a drawing pin having functionality of drawing back automatically, which includes a containing portion and a pin portion. The pin portion is disposed in the containing portion when the pin portion is at a first location, and an appropriate part of the pin portion is exposed outside the containing portion when the pin portion is at a second location. The containing portion provides a resilient force that enables the pin portion to draw back from the second location to the first location automatically when the pin portion moves from the first location to the second location.

[0008] The objects, features, and/or advantages of the present invention will be described and become more apparent from the detailed description of exemplary embodiments when read in conjunction with accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The accompanying drawings are included to provide a further understanding of the invention, and are incorporated in and constitute a part of this specification. The drawings illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

[0010] FIG. 1 is a schematic structural view of a drawing pin according to the present invention, wherein a pin portion is at a first location.

[0011] FIG. 2 is a schematic structural view of the drawing pin according to the present invention, wherein the pin portion is at a second location.

[0012] FIG. 3 is a schematic structural view of a drawing pin with a receiving recess according to another embodiment of the present invention.

DESCRIPTION OF THE EMBODIMENTS

[0013] Reference will now be made in detail to the present preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the description to refer to the same or like parts.

[0014] It should be noted first that, although the specific elements are indicated by some specific terms throughout the specification (including the claims) of the present invention, it can be understood by persons of ordinary skills in the art that some manufacturers may name the same elements with different terms. Therefore, the elements should not be distinguished according to the variations of their names when understanding the whole specification of the present invention, but should be based on the functional differences of the elements. In addition, the terms “including”, “comprising”, and “having” used herein throughout the specification (including the claims) of the present invention are both open-ended languages, so they should be construed to mean “including but not limited to”. Moreover, the terms “coupling” and “connecting” used herein throughout the specification (including the claims) of the present invention both mean any connecting means directly or indirectly, for example, if it is described herein that a first unit is coupled to a second unit, or a first unit is connected to a second unit, then both of two cases should be construed to mean the first unit can be connected to the second unit directly, or the first unit can be connected to the second unit indirectly through other units or by some connecting means.

[0015] FIG. 1 is a schematic structural view of a drawing pin 102 according to the present invention, wherein a pin portion 204 is at a first location 402. FIG. 2 is a schematic structural view of the drawing pin 102 according to the present invention, wherein the pin portion 204 is at a second location 404. As shown, the drawing pin 102 includes a containing portion 202, a pin portion 204, and a base 206. The containing portion 202 has an elastic part 302, an opening part 304, a depression part 306, and a holding part 308. The base 206 is connected to the opening part 304, and has a pore part 310 and a guide part 318. The base 206 encloses substantially the containing portion 202 except at the portion of the pore part 310.

[0016] When the pin portion 204 is at the first location 402, the pin portion 204 is disposed in the containing portion 202. At this time, the containing portion 202 is substantially in the shape of a bowling pin. Also, the tail 312 of the pin portion 204 is secured to the holding part 308 of the containing portion 202. A material of the pin portion 204 is metal, and the material of the holding part 308 is plastic.

[0017] When the pin portion 204 moves from the first location 402 to the second location 404 under an external force 406, the guide part 318 of the base 206 guides and constrains the moving direction 410 of the pin portion 204. At the same time, an appropriate part 316 of a head 314 of the pin portion 204 is exposed outside the containing portion 202 through the pore part 310 of the base 206.

[0018] When the pin portion 204 is at the second location 404, the guide part 318 of the base 206 is engaged into the depression part 306 in the containing portion 202, and the elastic part 302 of the containing portion 202 is in a compressed state to produce a resilient force 408. Moreover, the surface 320 of the pin portion 204 is frosted or sand blasted, so that the surface 320 of the pin portion 204 is a non-smooth surface, and therefore, when the pin portion 204 penetrates into a certain object (such as a billboard) 502, a sufficient friction 412 (that is, greater than or equal to the resilient force 408) is generated between the pin portion 204 and the object 502 into which it penetrates, so as to offset the resilient force 408 produced by the elastic part 302 when in compressed state, thereby avoiding the case in which the excessively large resilient force 408 causes the pin portion 204 of the drawing pin 102 to draw back automatically and eject from the object (such as a billboard) 502 into which it penetrates. When the external force 406 or the friction 412 is removed, the resilient force 408 enables the pin portion 204 to draw back from the second location 404 to the first location 402 automatically. Therefore, the drawing pin 102 has the functionality of drawing back automatically. Also, the material of the elastic part 302 is an elastic rubber.

[0019] In another embodiment of the present invention, the drawing pin 102 further includes a receiving recess 208 and a surface layer 210. FIG. 3 is a schematic structural view of the drawing pin 102 with the receiving recess 208 according to another embodiment of the present invention. In this embodiment, the material of the surface layer 210 is rubber, and the surface layer 210 encapsulates substantially the receiving recess 208. The material of the receiving recess 208 is metal, and the receiving recess 208 is in a substantially spherical shape. The base 206 is a magnet having magnetism. As shown, when the pin portion 204 is at the first location 402, that is, when the pin portion 204 draws back into the containing portion 202, the base 206 can be attracted to the receiving recess 208 with the magnetism. At this time, the surface layer 210 is in contact with the base 206 to provide a friction to the base 206. In a further embodiment of the present invention, the receiving recess 208 can also be in a stripe shape, a triangular shape, or any other possible shapes.

[0020] In an embodiment of the present invention, when the drawing pin is free of any external forces or is not in use, the elastic part of the containing portion provides the resilient force so that the pin portion can draw back into the containing portion automatically, thereby enhancing the safety when in use and the convenience when receiving. In an embodiment of the present invention, the bases of the drawing pins are magnets with magnetism, such that the drawing pins have also the functionality of magnets and can be used to serve as the whiteboard magnets or magnets used in seat clapboards in offices, thereby improving the practicability of the drawing pins in use. In an embodiment of the present invention, the bases of the drawing pins are magnets of magnetism, therefore, the drawing pins can be attracted to the receiving recesses of metal materials with magnetism of the bases, such that the drawing pins can be oriented toward a specific direction after being received and never be disordered, thereby improving the aesthetics and safety of the drawing pins when in use. In an embodiment of the present invention, the receiving recesses of metal materials can be in a spherical shape, a stripe shape, a triangular shape, and any other possible shapes, such that the receiving recesses and the drawing pins

received in them can form together unique integrated visual effect, so as to enhance the aesthetics and interest of the drawing pins when in use.

[0021] It will be apparent to those skilled in the art that various modifications and variations can be made to the structure of the present invention without departing from the scope or spirit of the invention. In view of the foregoing, it is intended that the present invention covers modifications and variations of this invention provided they fall within the scope of the following claims and their equivalents.

What is claimed is:

1. A drawing pin having functionality of drawing back automatically, comprising:

a containing portion; and

a pin portion, wherein the pin portion is disposed in the containing portion when the pin portion is at a first location, and an appropriate part of the pin portion is exposed outside the containing portion when the pin portion is at a second location;

wherein, the containing portion provides a resilient force that enables the pin portion to draw back from the second location to the first location automatically when the pin portion moves from the first location to the second location.

2. The drawing pin having functionality of drawing back automatically according to claim 1, wherein the containing portion comprises an elastic part, and the elastic part provides the resilient force that enables the pin portion to draw back from the second location to the first location automatically when the pin portion moves from the first location to the second location.

3. The drawing pin having functionality of drawing back automatically according to claim 2, wherein the elastic part is in a compressed state to produce the resilient force when the pin portion is at the second location.

4. The drawing pin having functionality of drawing back automatically according to claim 2, wherein a material of the elastic part is an elastic rubber.

5. The drawing pin having functionality of drawing back automatically according to claim 1, wherein the containing portion comprises an opening part, and the drawing pin further comprises:

a base, connected to the opening part and comprising a pore part, wherein the base encloses substantially the containing portion except at the pore part;

wherein the appropriate part of the pin portion is exposed outside the containing portion through the pore part when the pin portion is at the second location.

6. The drawing pin having functionality of drawing back automatically according to claim 5, wherein the base further comprises a guide part for guiding a moving direction of the pin portion when the pin portion moves from the first location to the second location.

7. The drawing pin having functionality of drawing back automatically according to claim 6, wherein the guide part is further used for constraining the moving direction of the pin portion when the pin portion moves from the first location to the second location.

8. The drawing pin having functionality of drawing back automatically according to claim 6, wherein the containing portion further comprises a depression part, and the guide part is engaged into the depression part when the pin portion is at the second location.

9. The drawing pin having functionality of drawing back automatically according to claim 5, wherein the base has a magnetism.

10. The drawing pin having functionality of drawing back automatically according to claim 9, further comprising:

a receiving recess;

wherein the base is attracted to the receiving recess with the magnetism when the pin portion is at the first location.

11. The drawing pin having functionality of drawing back automatically according to claim 10, further comprising:

a surface layer, for encapsulate substantially the receiving recess;

wherein the surface layer is in contact with the base to provide a friction to the base when the base is attracted to the receiving recess.

12. The drawing pin having functionality of drawing back automatically according to claim 11, wherein a material of the surface layer is a rubber.

13. The drawing pin having functionality of drawing back automatically according to claim 1, wherein an appropriate part of a head of the pin portion is exposed outside the containing portion when the pin portion is at the second location.

14. The drawing pin having functionality of drawing back automatically according to claim 1, wherein a tail of the pin portion is secured to the containing portion.

15. The drawing pin having functionality of drawing back automatically according to claim 14, wherein the containing portion has a holding part, and the tail of the pin portion is secured to the holding part.

16. The drawing pin having functionality of drawing back automatically according to claim 15, wherein a material of the holding part is a plastic.

17. The drawing pin having functionality of drawing back automatically according to claim 1, wherein a surface of the pin portion is a non-smooth surface.

18. The drawing pin having functionality of drawing back automatically according to claim 1, wherein a surface of the pin portion is frosted or sand blasted.

19. The drawing pin having functionality of drawing back automatically according to claim 1, wherein when the pin portion penetrates into an object, a friction generated between the pin portion and the object is greater than or equal to the resilient force.

20. The drawing pin having functionality of drawing back automatically according to claim 1, wherein the containing portion is substantially in a shape of a bowling pin when the pin portion is at the first location.

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