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(54) **DETACHABLE RECEIVING BOX FOR AN ELECTRONIC ELEMENT**

(57)

ABSTRACT

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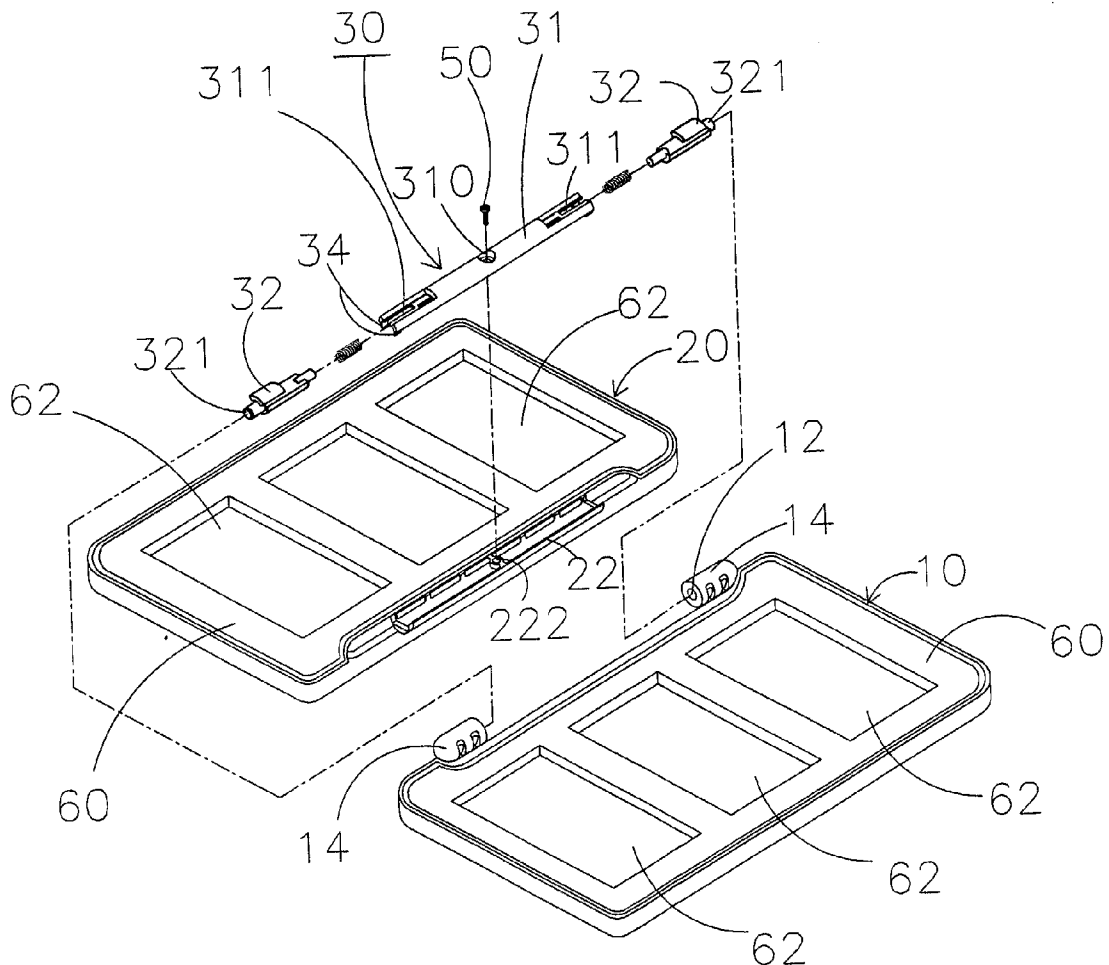
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A detachable receiving box for an electronic element includes an upper box body disposed respectively with an engaging seat having an axle hole on the lateral rim thereof and a lower box body with an inserting seat convexly disposed on the lateral rim thereof; a connecting device connects the upper and the lower box bodies, wherein the main lateral side of the connecting device is respectively inserted by a resilient sliding block; the outer end of the said sliding block forms an axle portion moveably connected in the axle hole on the engaging seat; the inward resilient displacement of the sliding block under a pressing force allows the axle portion to separate from the axle hole so as to detach the upper and the lower box bodies for assembling another upper box body of different regulation.



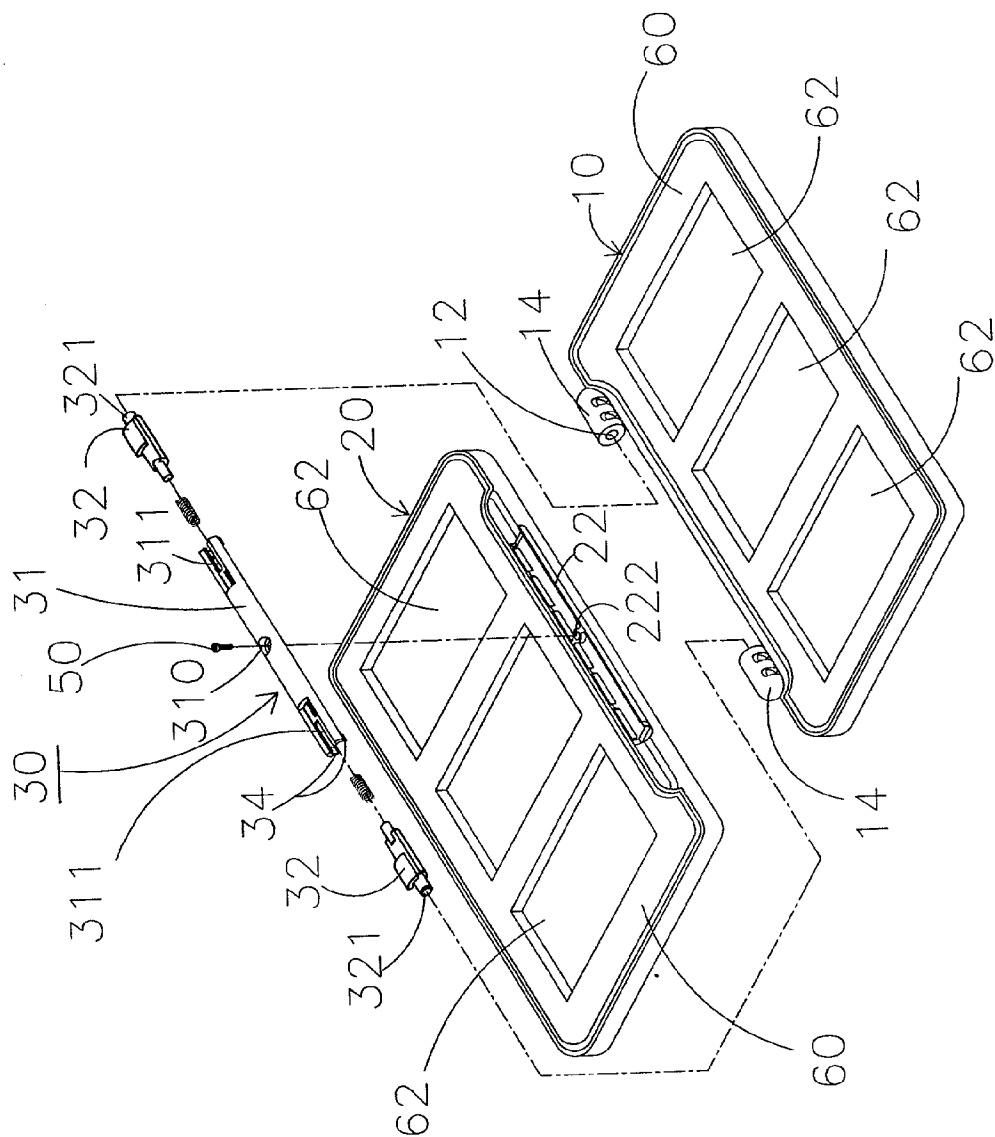


FIG. 1

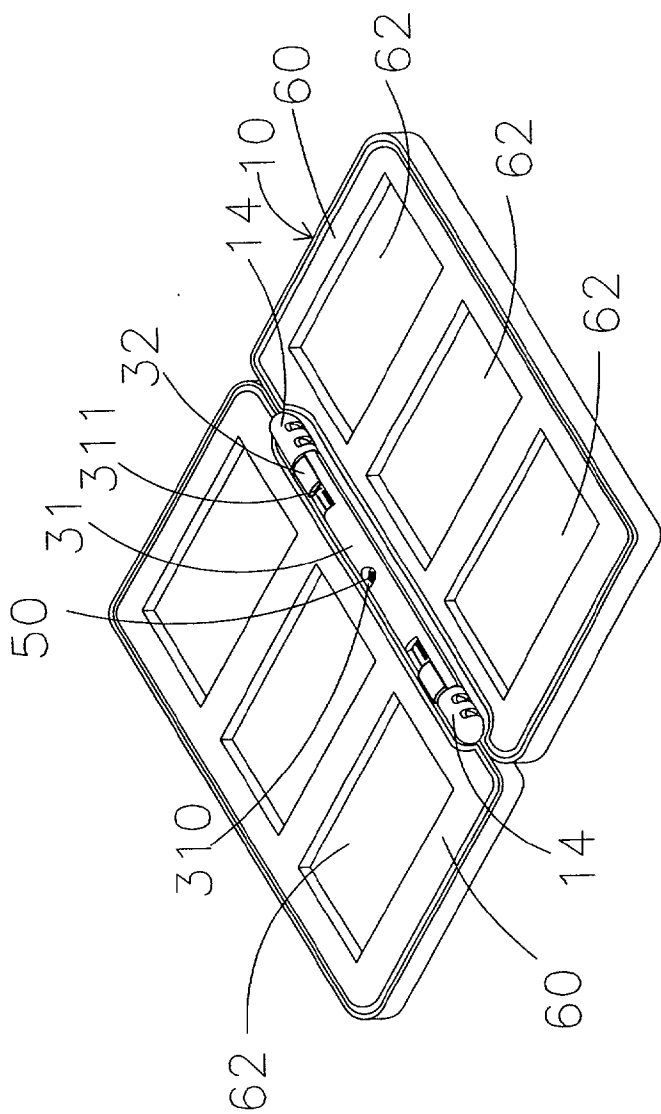


FIG:2

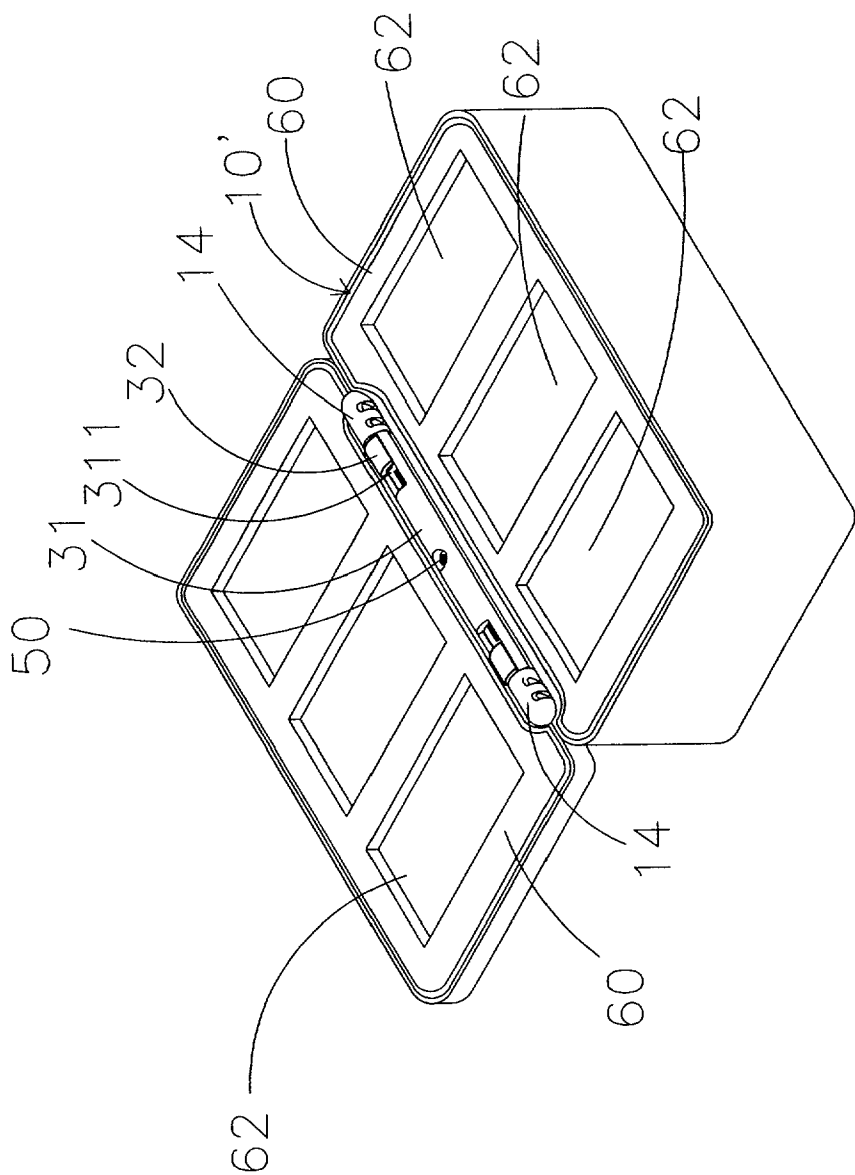


FIG:3

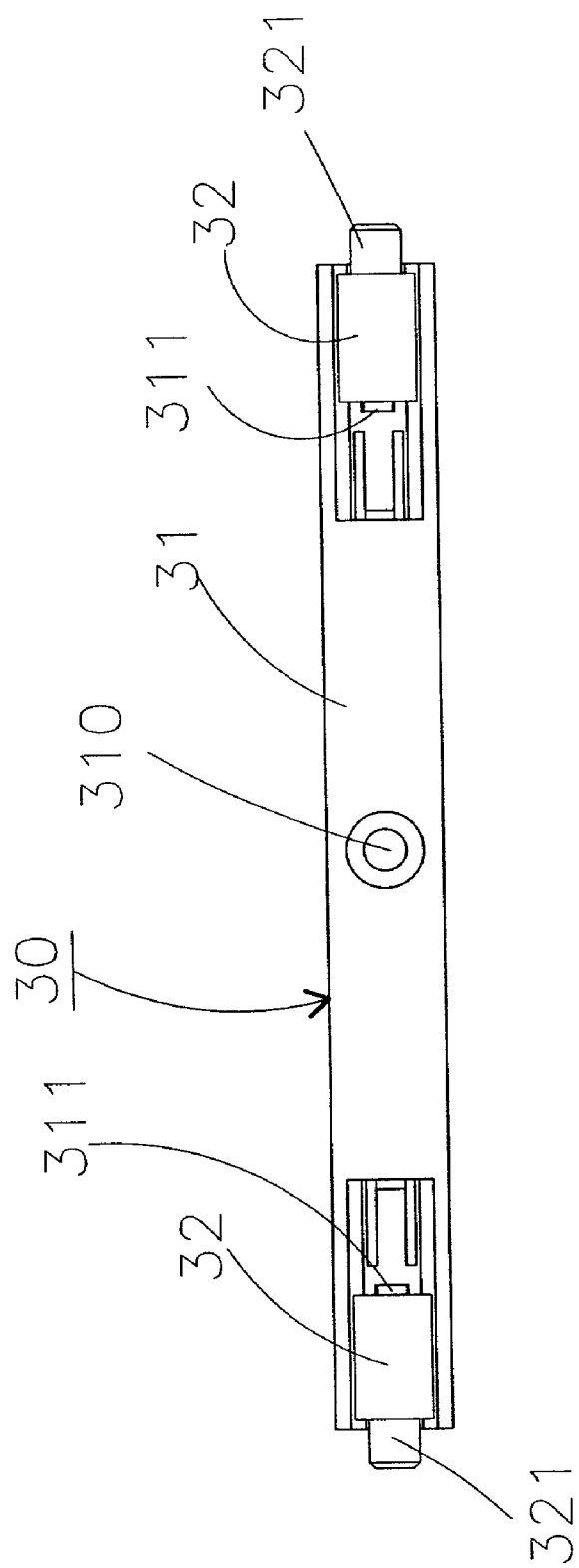


FIG:4

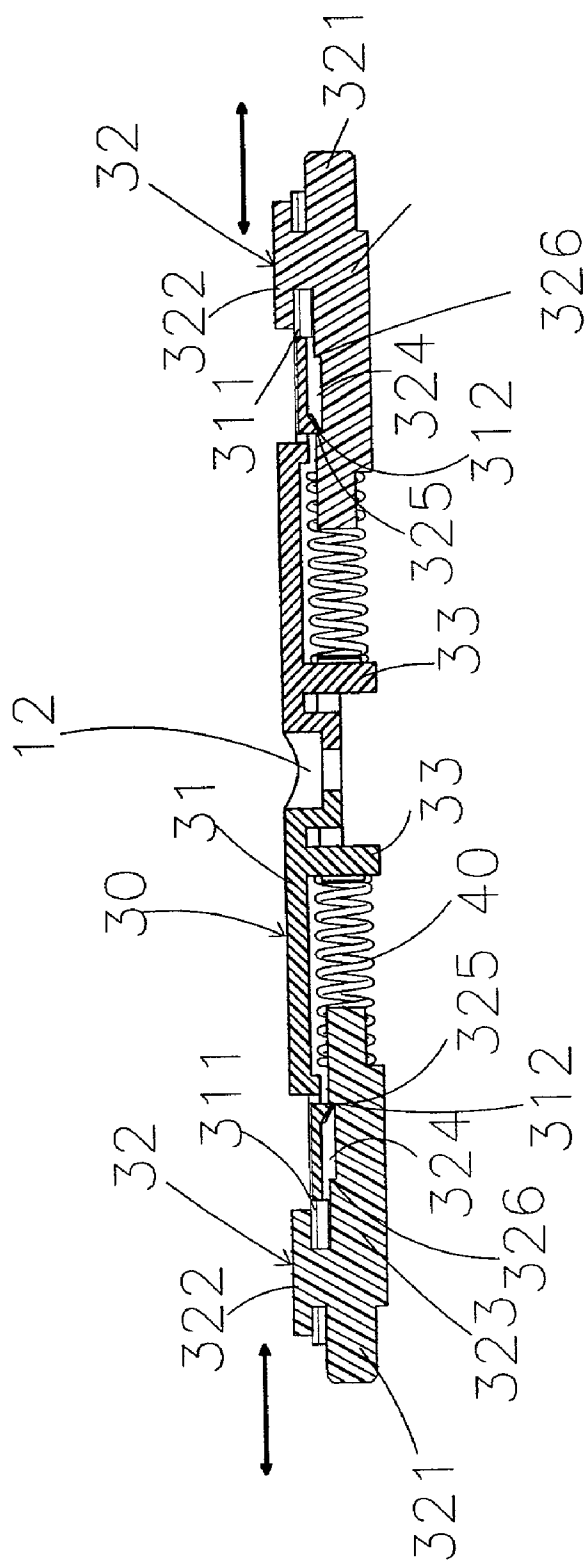


FIG:5A

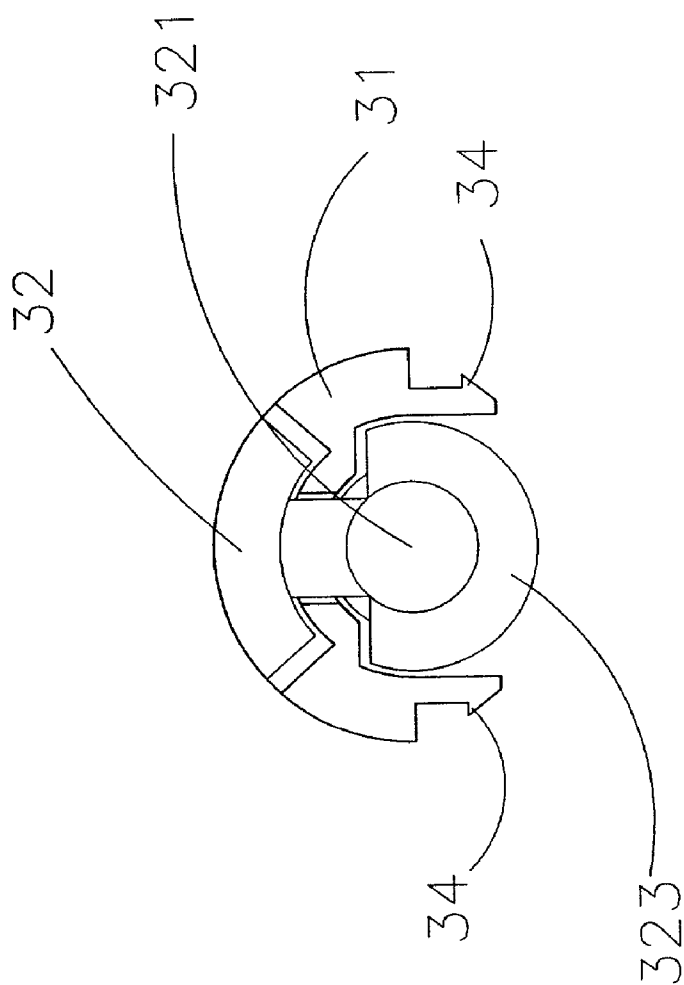
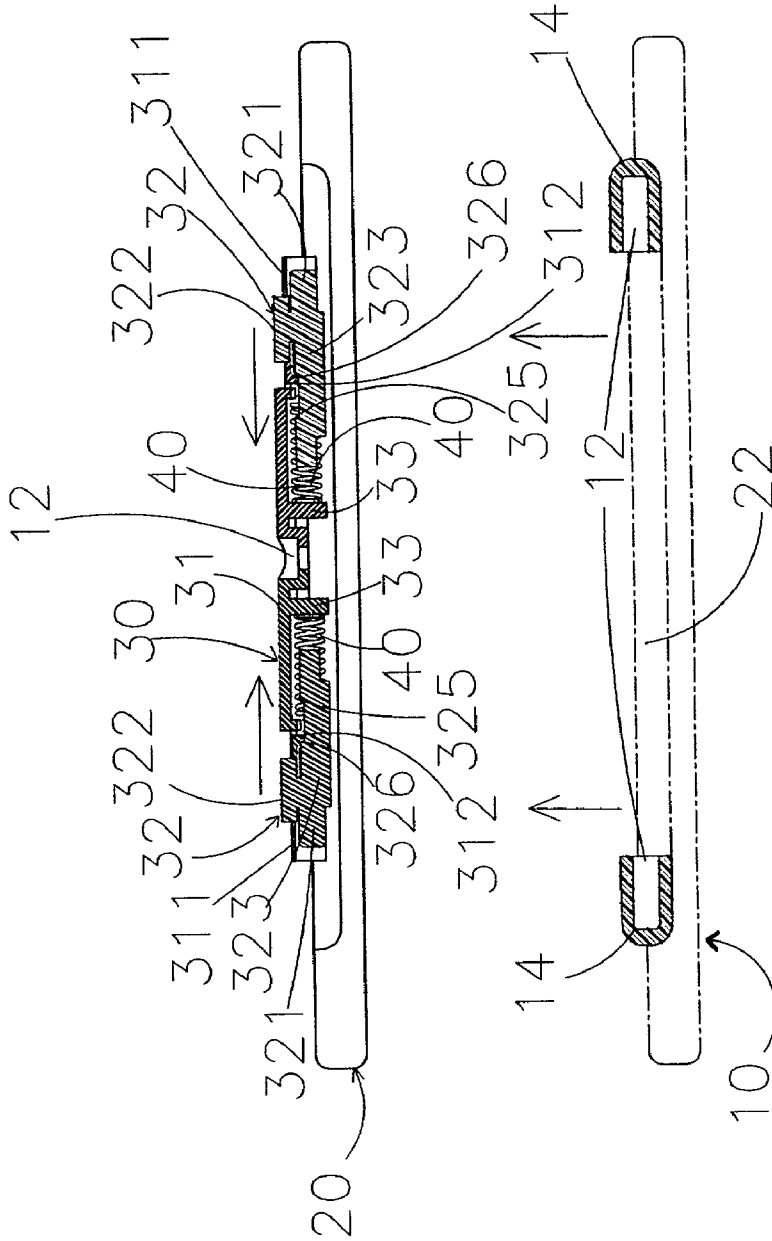


FIG:5B

60
G
F

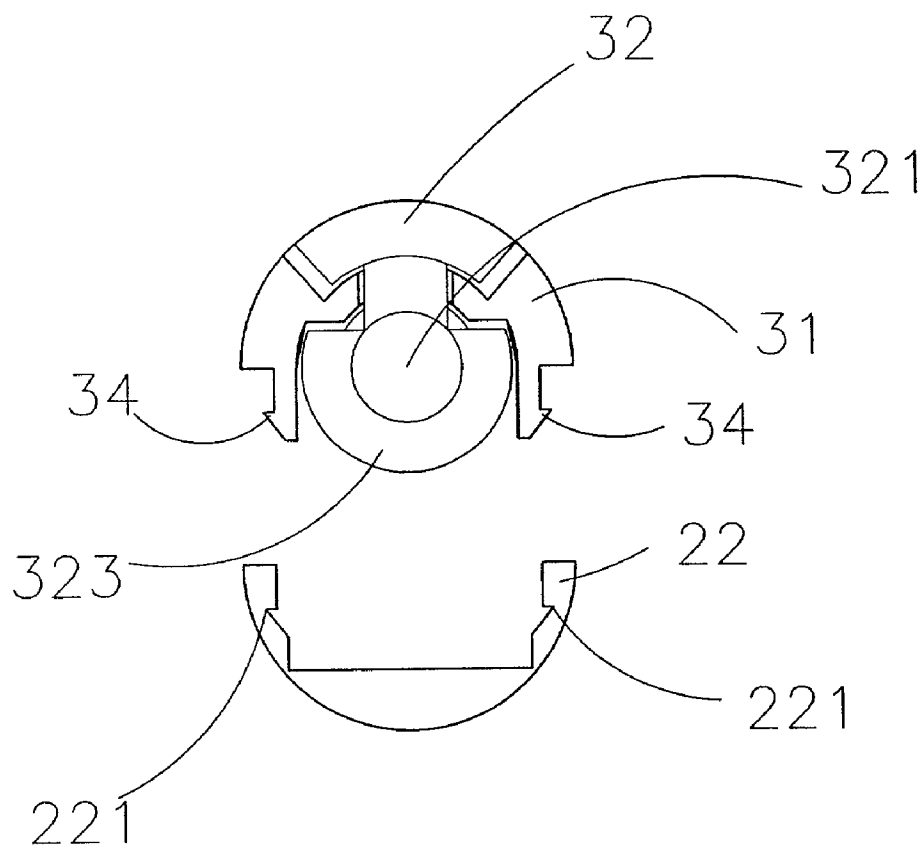


FIG:7

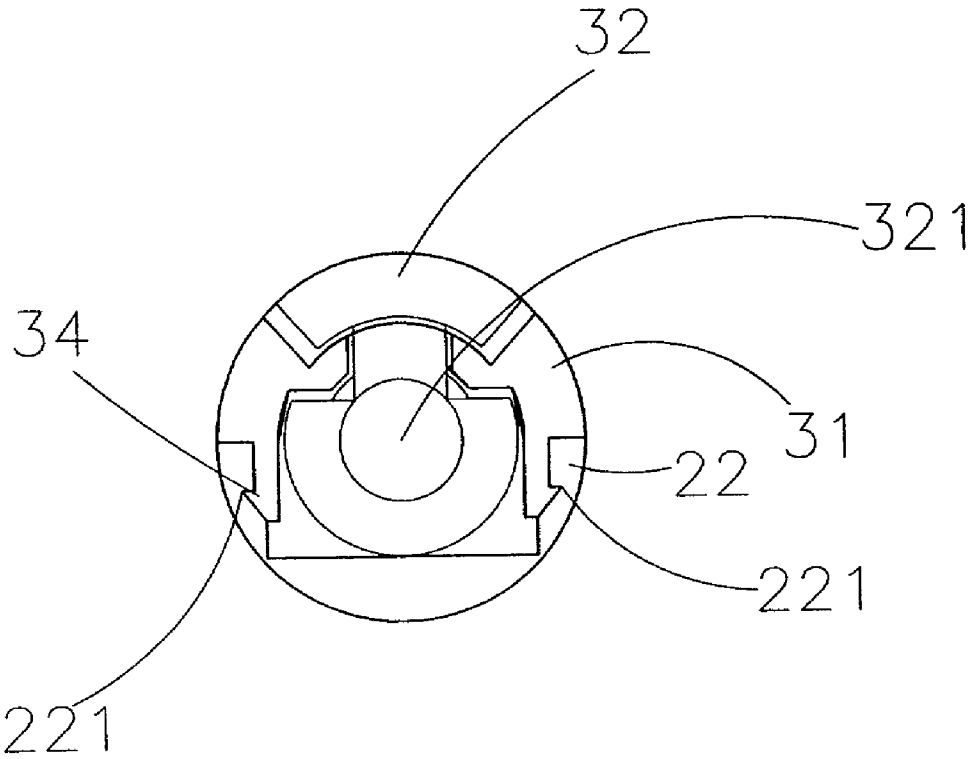


FIG:8

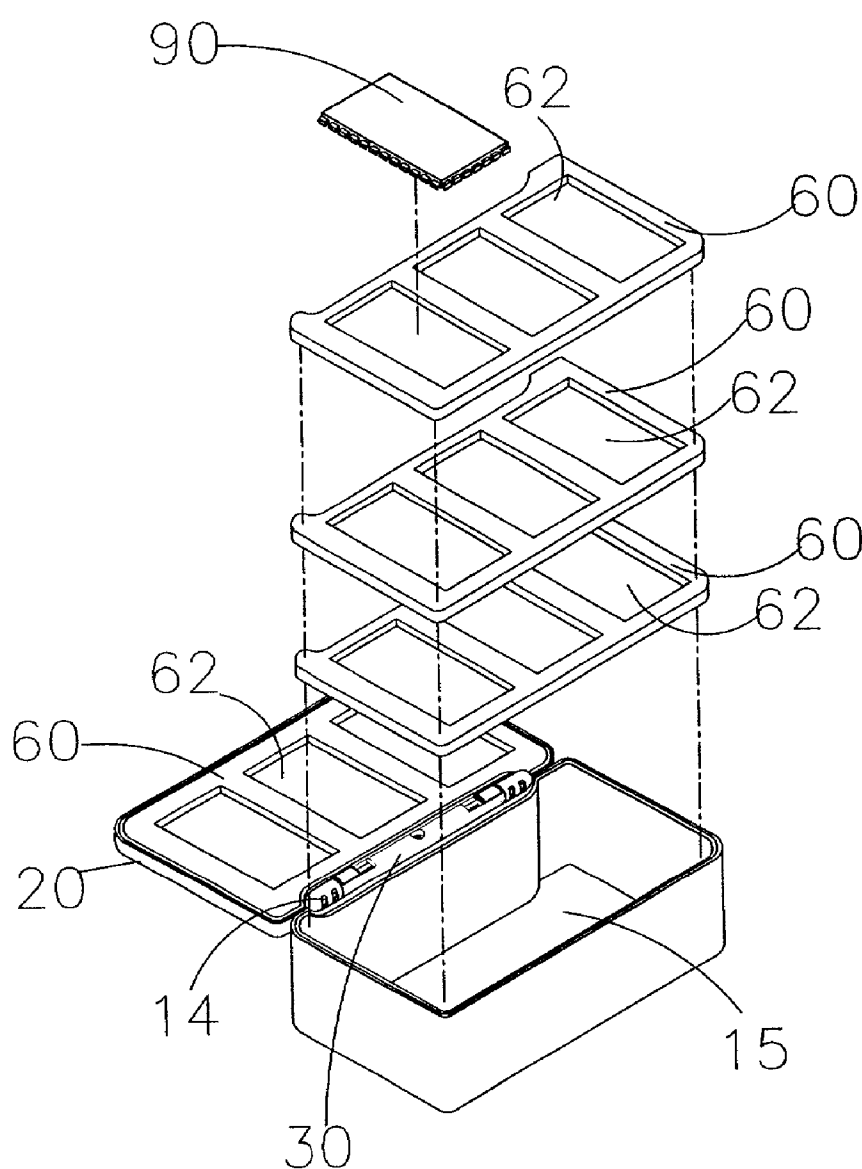


FIG:9

DETACHABLE RECEIVING BOX FOR AN ELECTRONIC ELEMENT

BACKGROUND OF THE INVENTION

[0001] 1) Field of the Invention

[0002] The present invention provides a detachable receiving box for an electronic element, more especially a structure allowing the replacement of an upper or a lower box lid through a simple assembly and disassembly.

[0003] 2) Description of the Prior Art

[0004] Accordingly, the precision electronic elements, such a chip, a semiconductor, etc. available on the market are usually carried by simple packaging containers and the shortcomings thereof are shown as follows:

[0005] 1. The container is made of a certain regulation and unable to receive more or less electronic elements according to the need.

[0006] 2. The container itself is not equipped with device for preventing electromagnetic wave, radiation and X-ray; the electronic element placed inside this kind of container is subject to be disturbed and damaged.

[0007] Therefore the researching issue of the present invention is to design a simple and detachable connecting device for replacing container lids of different regulations in order to hold a proper number of electronic elements.

SUMMARY OF THE INVENTION

[0008] Therefore the primary objective of the present invention is to provide a detachable receiving box for an electronic element; a connecting device between the upper and the lower box bodies is capable of fast disassembling and assembling an upper or an lower box bodies of different regulation.

[0009] To enable a further understanding of the structural features and the technical contents of the present invention, the brief description of the drawings below is followed by the detailed description of the preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a pictorial and exploded drawing of the present invention.

[0011] FIG. 2 is a pictorial and assembled drawing of the present invention.

[0012] FIG. 3 is a pictorial drawing of an exemplary embodiment of the present invention with a replaced upper box body.

[0013] FIG. 4 is a bird's-eye view drawing of a connecting device of the present invention.

[0014] FIG. 5A is a cross-sectional drawing of the connecting device of the present invention.

[0015] FIG. 5B is a lateral view drawing of FIG. 5A.

[0016] FIG. 6 is a cross-sectional drawing of the movement of the detachment between the connecting device and the upper box body of the present invention.

[0017] FIG. 7 is a lateral view drawing of the movement of the connecting device not clipped onto a connecting seat of the present invention.

[0018] FIG. 8 is a lateral view drawing of the movement of the connecting device clipped onto the connecting seat of the present invention.

[0019] FIG. 9 is a pictorial and exploded drawing of an exemplary embodiment of the present invention with another replaced upper box body.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] Referring to FIGS. 1 and 2, the present invention comprises an upper box body (11) disposed respectively with an engaging seat (14) having an axle hole (12) on the lateral rim thereof and a lower box body (20) with an inserting seat (22) convexly disposed on the lateral rim thereof; a connecting device (30) connects the upper and the lower box bodies (10, 20), wherein the main lateral side of the connecting device (30) is respectively inserted by a resilient sliding block (32); the outer end of the said sliding block (32) forms an axle portion (321) moveably connected in the axle hole (12) on the engaging seat (14); the inward resilient displacement of the sliding blocks (32) under a pressing force allow the axle portion (321) to separate from the axle hole (12) so as to detach the upper and the lower box bodies (10, 20) for assembling another upper box body (10') of different regulations.

[0021] According to the abovementioned primary features, wherein two lateral sides of the main body (31) of the connecting device (30) are disposed with sliding grooves (311) having positioning hooks (312) on the bottom portion, as shown in FIG. 5A; the lower aspect near the center of the main body (31) is disposed with a longitudinal push stop wall plane (33); the upper rim of the sliding block (32) forms a climbing portion (322) and the lower rim thereof forms a horizontal axel (323); the outer end of the horizontal axel (323) forms an axel portion (321); wherein a strap-shaped concave slot (324) with a left and a right push stop portions (326, 325) is disposed at a proper position at the upper aspect of the horizontal axel (323); one end of a spring (40) penetrates to connect the inner end of the horizontal axel (323) while the other end thereof pushes against the push stop wall plane (33) to make the sliding block (32) form a resilient body; thereby the climbing portion (322) is pressed to move left and right on the sliding groove (311).

[0022] According to the abovementioned primary features, wherein the wall planes of two openings of the main body (31) are disposed with retaining hooks (34); the inner wall planes of two lateral ends of the inserting seat (22) are disposed with bevel concave slots (221) for retaining hooks (34) to clip and position therein so as to position the connecting device (30) in the inserting seat (22), as shown in FIGS. 7 and 8.

[0023] According to the abovementioned primary features, wherein a through hole or a tap hole (310) is disposed at the position near the center of the main body (31) according to the need; a tap hole or a through hole (222) is disposed at the position near the center of the inserting seat (22) according to the need; a bolt (50) is threaded into the through hole (310) and the tap hole (222) to further position the main body (31) onto the inserting seat (22), as shown in FIG. 1.

[0024] According to the abovementioned primary features, wherein inside the upper and the lower box bodies (10, 20), a piece body (60) made of soft material and capable of preventing the penetration of electromagnetic wave and radiation is disposed respectively; a plurality of concave portions (62) are disposed on the said piece body (60) for placing an electronic element (90).

[0025] According to the abovementioned primary features, wherein the upper box body (10) or the lower box body (20) can be designed to have a receiving chamber (15) for holding more layers of piece bodies (60).

[0026] According to the abovementioned primary and secondary features, the present invention possesses the following outstanding efficiency in application:

[0027] 1. Referring to FIGS. 4, 5A and 5B, the main features of the present invention lies on the connecting device (30); exerting a force onto the climbing portion (322) makes it displace left and right on the sliding slot (311); the control of the position of the dead point for displacing left and right is determined by the length of the strap-shaped concave slot (324); wherein when the climbing portion (322) slides inwardly, the spring (40) retracts; when the right push stop portion (326) contacts the positioning hook (312), it defines that the climbing portion (326) is situated at the dead point on the inner side, thereby the axle portion (321) follows to displace toward the inner side; therefore, the axle portion leaves the engaging seat (14); at this time, an effect is efficiently achieved and that means the upper box body (10) can detach from the lower box body (20); the purpose of separating the upper and the lower box bodies is for the replacement of the upper box bodies (10') of various depths, as shown in FIG. 4.

[0028] 2. When the exerted force on the climbing portion is released (322), the spring (40) resumes to make the axle portion (321) return to the original position and the retaining hook (312) push against the right push stop portion (325); this resuming defines that the axle portion (321) is available for another upper box body (10') of different regulation insert and connect.

[0029] As shown in FIG. 5, the cross-sectional and the schematic drawing of the moveable engagement between the axle portion (321) and the engaging seat (14) of the connecting device; FIG. 6 is the cross-sectional drawing indicating that the connecting device (30) and the lower box body (20) leave the upper box body (10) at the same time.

[0030] FIG. 7 shows that the retaining hooks (34) are unitarily molded to the two lateral wall planes of the main body (31) and flexible; the retaining hook (34) presses into the inserting seat (22) to make the retaining hook (34) clip into the bevel concave slot (221); basically, the connecting device can be positioned to the inserting seat (22) through the retaining between the retaining hook (34) and the bevel concave slot (221); however, when not choosing to use the retaining positioning and the design of the retaining hook (34) and the

bevel concave slot (221), threading the bolt (50) into the through hole (310) and the tap hole (221) can also efficiently achieve the effect of positioning the connecting device (30) at the inserting seat (22).

[0031] 3. The piece body (60) is made of material capable of preventing radiation or electromagnetic wave and at least one piece can be received inside the upper and the lower box bodies (10, 20); the concave portion (62) is provided for storing the electronic element (90), such as a chip; when the upper and lower box bodies (10, 20) are covered, under the normal situation of shipping and carrying, the function of electromagnetic wave and radiation can be efficiently insulated.

[0032] It is of course to be understood that the embodiment described herein is merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

1. A detachable receiving box for an electronic element comprises:

an upper box body disposed respectively with an engaging seat having an axle hole on the lateral rim thereof;

a lower box body with an inserting seat convexly disposed on the lateral rim thereof;

a connecting device connects the upper and the lower box bodies, wherein the main lateral side of the connecting device is respectively inserted by a resilient sliding block; the outer end of the said sliding block forms an axle portion moveably connected in the axle hole on the engaging seat; the inward resilient displacement of the sliding block under a pressing force allows the axle portion to separate from the axle hole so as to detach the upper and the lower box bodies for assembling another upper box body of different regulation.

2. The present invention of a detachable receiving box for an electronic element according to claim 1, wherein two lateral sides of the main body of the connecting device are disposed with sliding grooves having a positioning hooks on the bottom portion, as shown in FIG. 5A; the lower aspect near the center of the main body is disposed with a longitudinal push stop wall plane; the upper rim of the sliding block forms a climbing portion and the lower rim thereof forms a horizontal axle; the outer end of the horizontal axle forms an axle portion; wherein a strap-shaped concave slot with a left and a right push stop portions is disposed at a proper position at the upper aspect of the horizontal axle;

one end of a spring penetrates to connect the inner end of the horizontal axle while the other end thereof pushes against the push stop wall plane to make the sliding block form a resilient body; thereby the climbing portion is pressed to move left and right on the sliding groove.

3. The present invention of a detachable receiving box for an electronic element according to claim 1, wherein the wall planes of two openings of the main body are disposed with retaining hooks; the inner wall planes of two lateral ends of the inserting seat are disposed with bevel concave slots for

retaining hooks to clip and position therein so as to position the connecting device in the inserting seat.

4. The present invention of a detachable receiving box for an electronic element according to claim 1, wherein, a through hole or a tap hole is disposed at the position near the center of the main body according to the need; a tap hole or a through hole is disposed at the position near the center of the inserting seat according to the need; a bolt is threaded into the through hole and the tap hole to further position the main body onto the inserting seat.

5. The present invention of a detachable receiving box for an electronic element according to claim 1, wherein inside

the upper and the lower box bodies, a piece body made of soft material and capable of preventing the penetration of electromagnetic wave and radiation is disposed respectively; a plurality of concave portions are disposed on the said piece body for holding an electronic element.

6. The present invention of a detachable receiving box for an electronic element according to claim 1, wherein the upper box body or the lower box body can be designed to have a receiving chamber for holding more layers of piece bodies.

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