



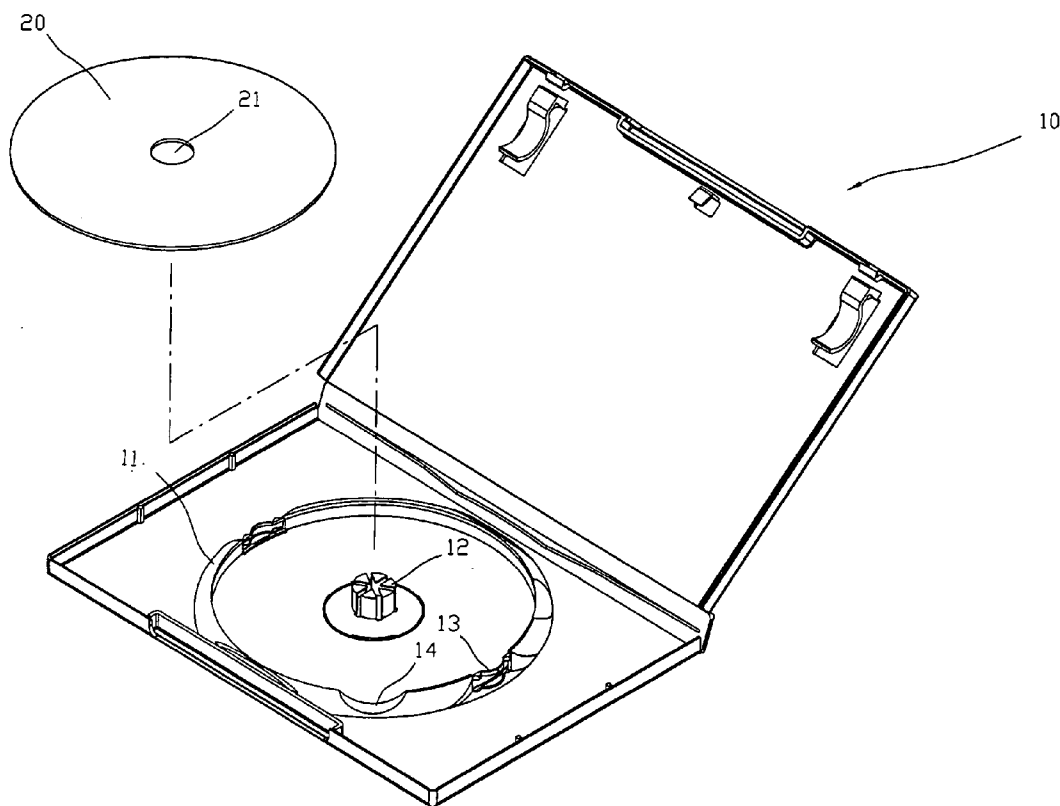
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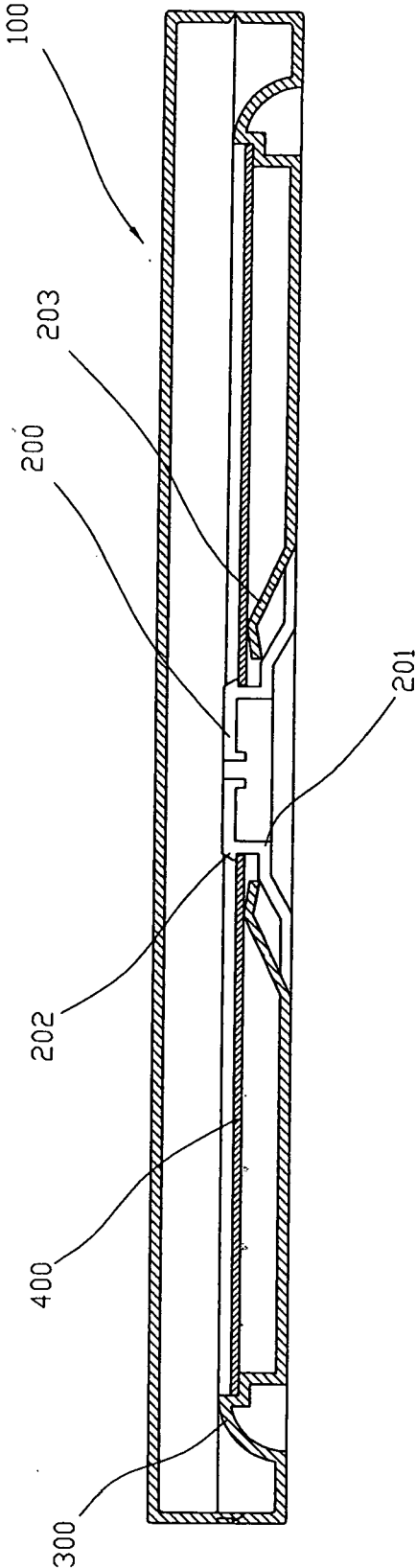
(19) **United States**(12) **Patent Application Publication****Liang**(10) **Pub. No.: US 2007/0241005 A1**(43) **Pub. Date: Oct. 18, 2007**(54) **LASER DISC CASING DEVICE****Publication Classification**(76) Inventor: **Maxine Liang**, Hsin Chuang City (TW)(51) **Int. Cl.**
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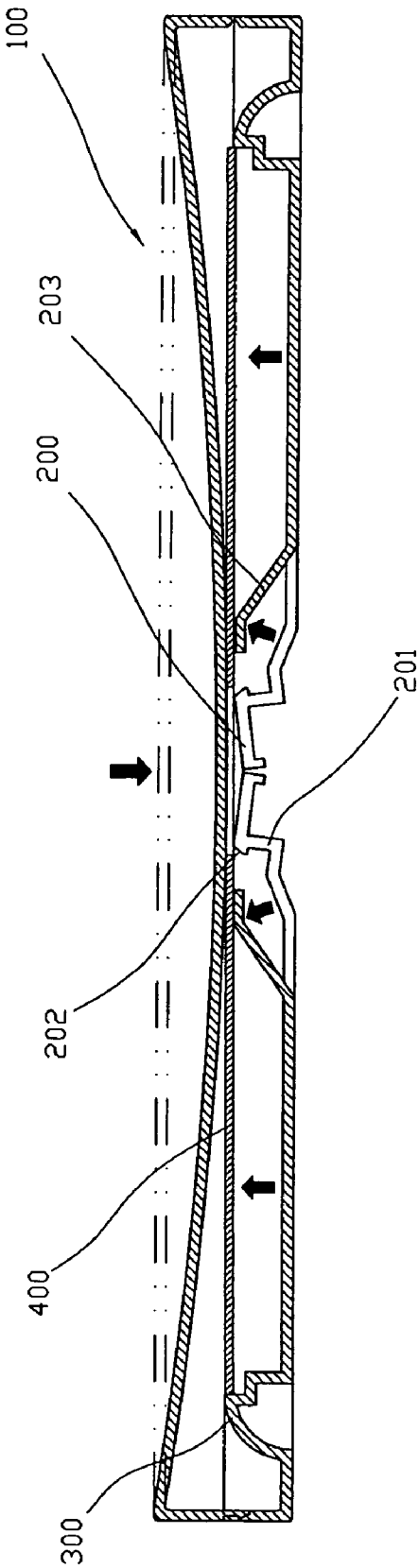
LEONG C LEI**PMB # 1008****1867 YGNACIO VALLEY ROAD****WALNUT CREEK, CA 94598 (US)**(57) **ABSTRACT**

The casing device has an inwardly recessed tray in a body member for the placement of a laser disc. A hub in the center of the tray protrudes from the center hole of the laser disc. Along the peripheral wall of the tray, at least a resilient fastening element is provided which has an opened position to make the tray fully accessible for placing and removing a laser disc, and a closed position where the fastening element is bended toward the circular hub to be on top of the rim of the laser disc for confining the laser disc in the tray.

(21) Appl. No.: **11/404,007**(22) Filed: **Apr. 14, 2006**



PRIOR ART
FIG. 1



PRIOR ART
FIG. 2

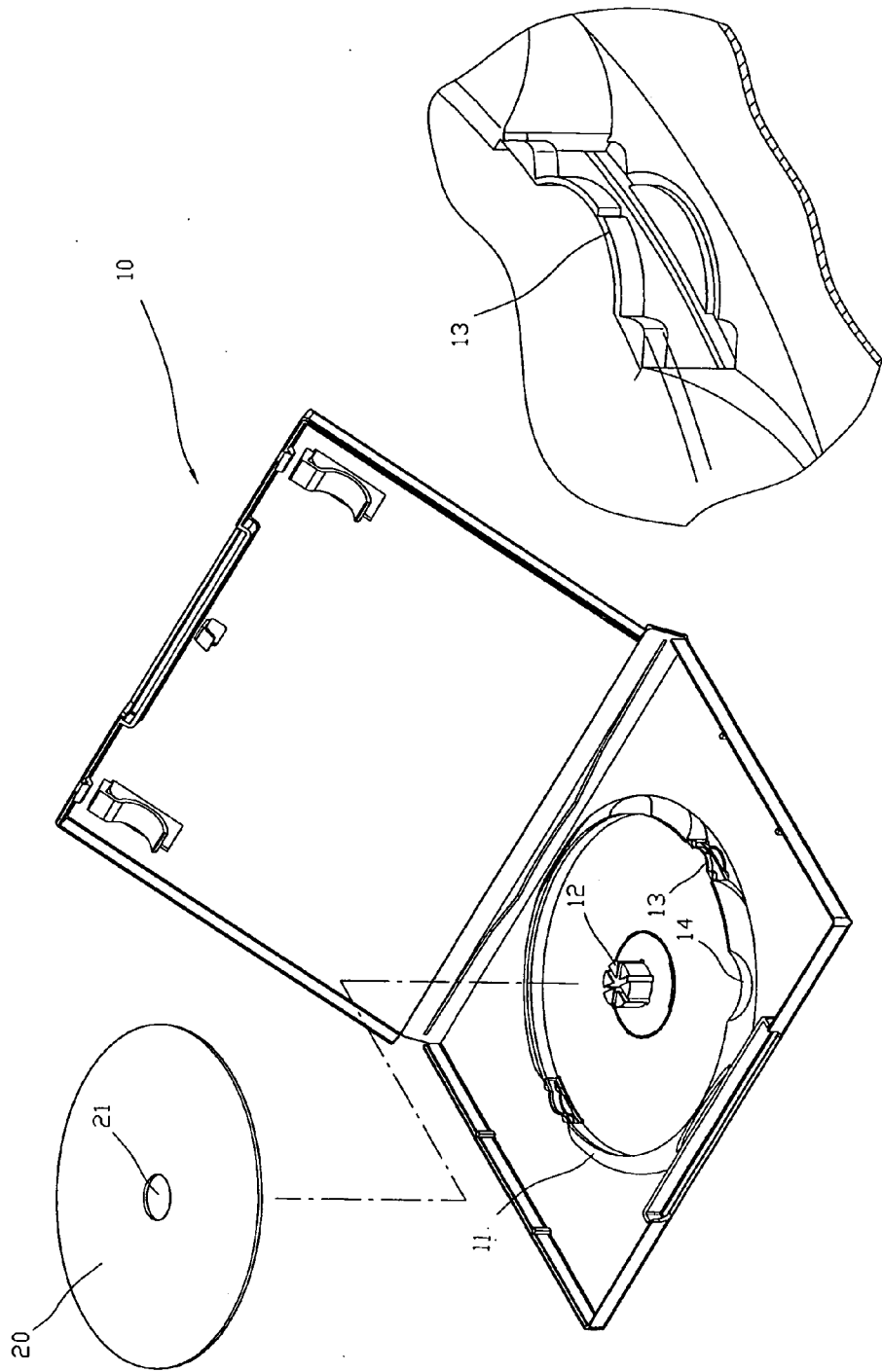


FIG. 4

FIG. 3

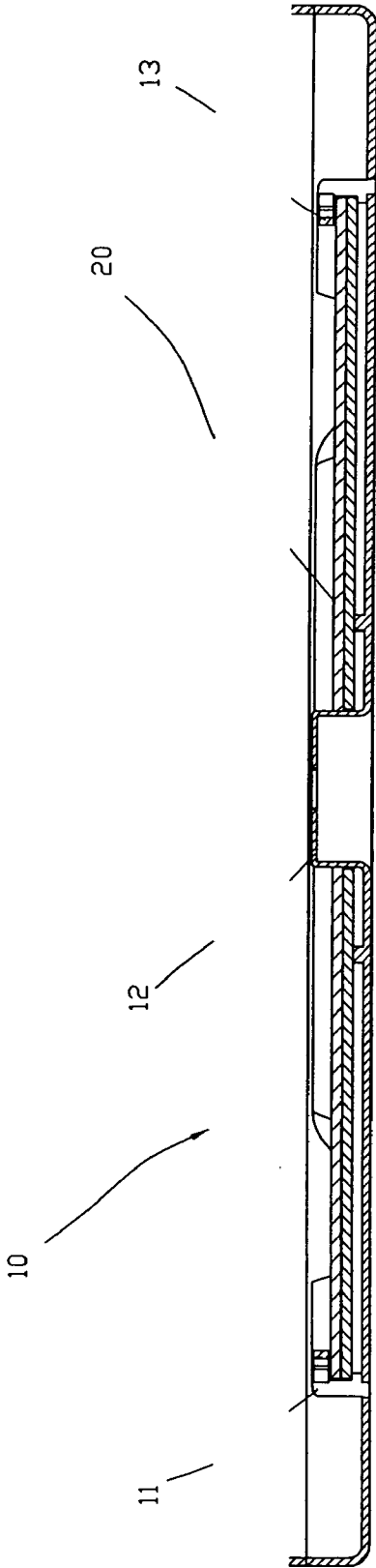


FIG. 5

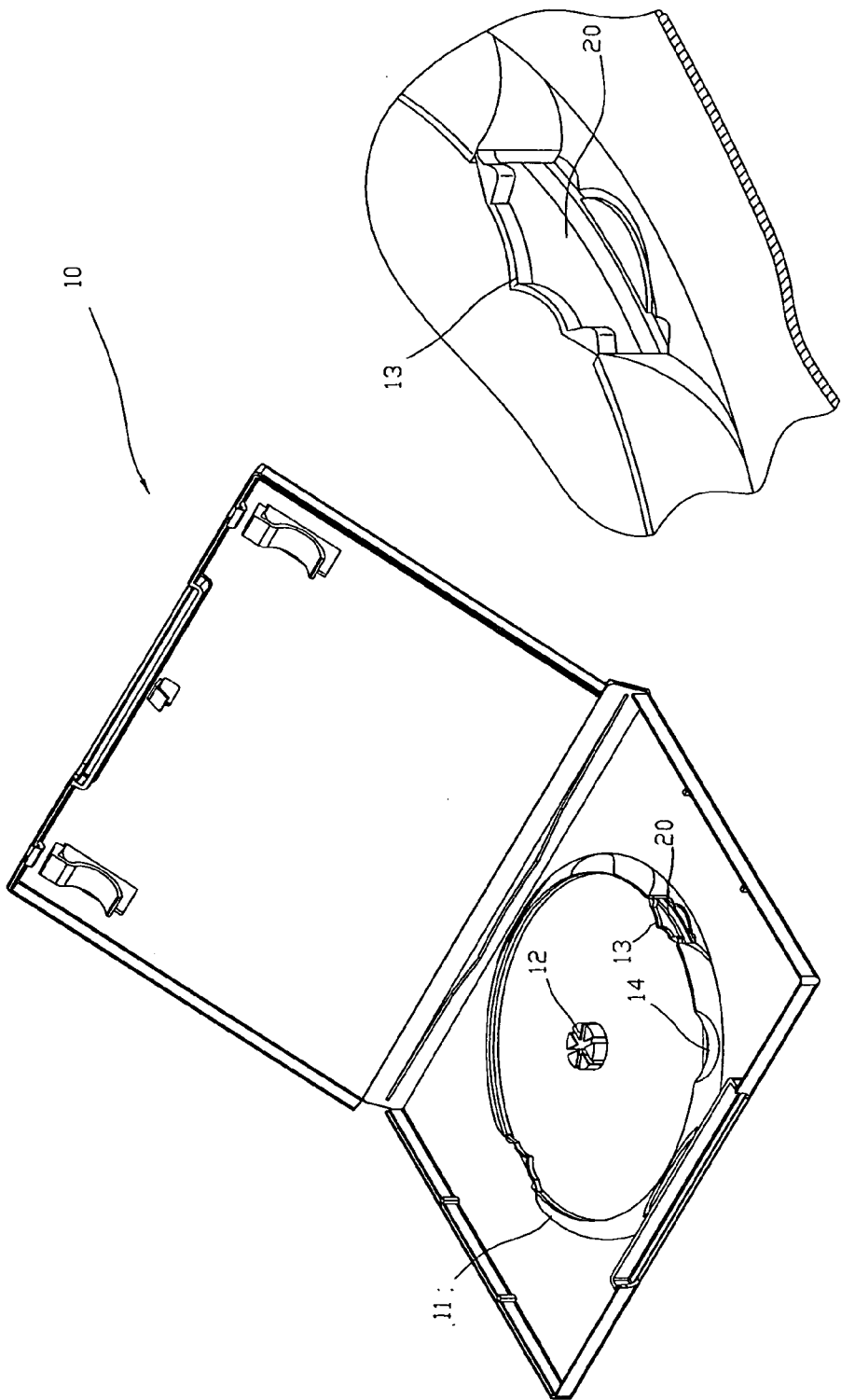


FIG. 7

FIG. 6

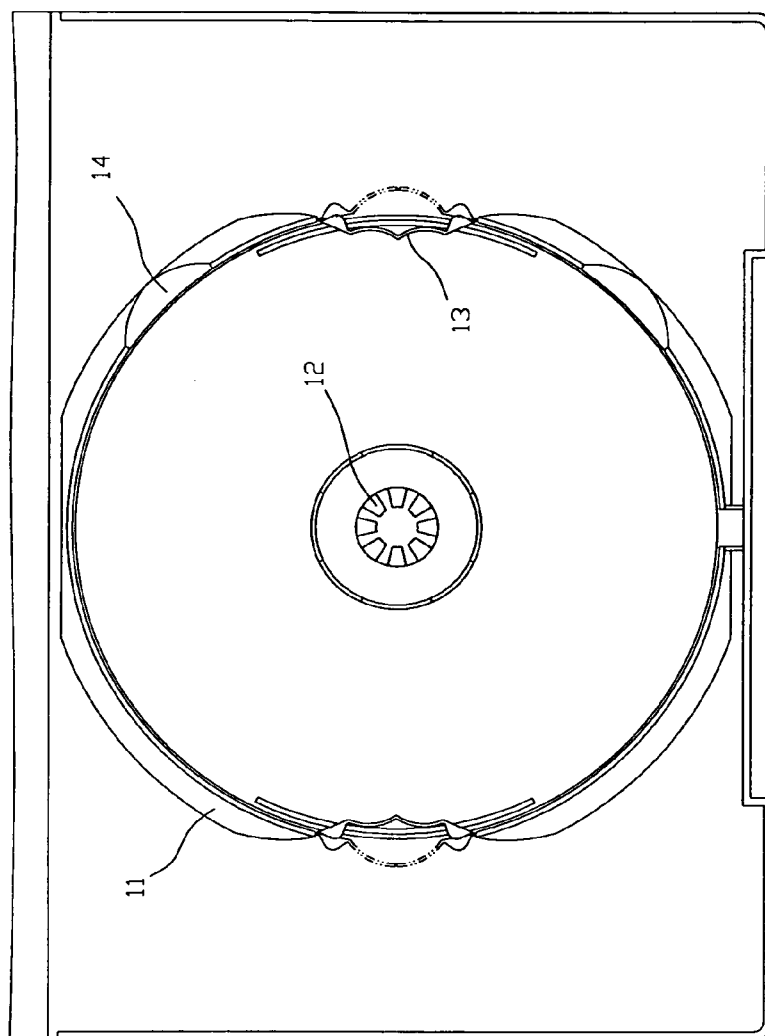


FIG. 8

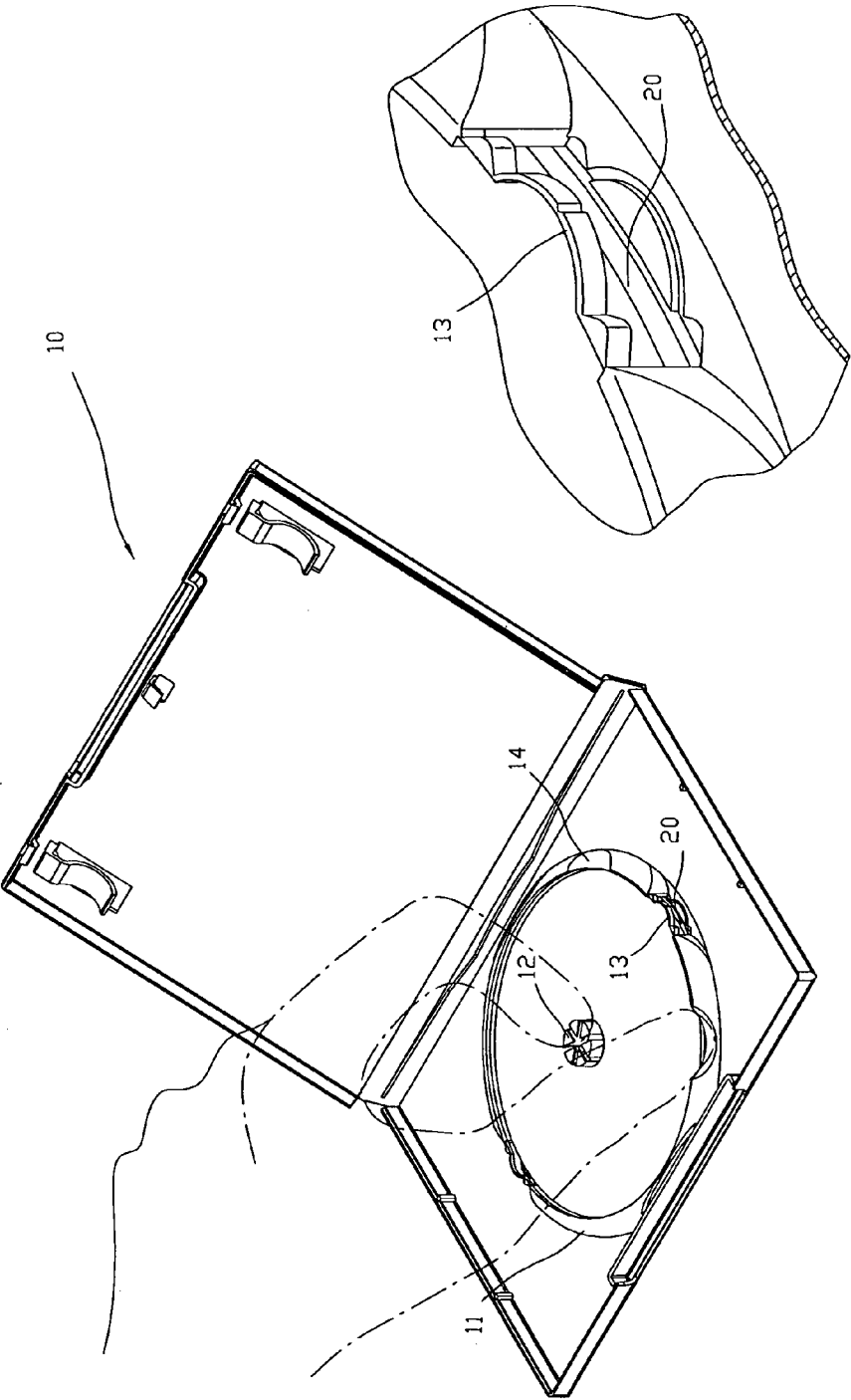


FIG. 9

FIG. 10

LASER DISC CASING DEVICE

BACKGROUND OF THE INVENTION

[0001] (a) Technical Field of the Invention

[0002] The present invention generally relates to casing devices for laser diskettes (discs), and more particularly to a casing device having resilient fastening elements to hold a laser disc by its rim in the casing device.

[0003] (b) Description of the Prior Art

[0004] In the context of this specification, the term of "laser disc" is meant to cover not only read-only discs but also recordable discs, both by laser means, of various sizes in currently available or future-developed formats.

[0005] A conventional laser disc casing device, commonly referred to a CD jewel case, such as one disclosed in the U.S. Pat. No. 5,788,068, is illustrated in FIGS. 1 and 2. As illustrated, the casing device 100 has a circular hub 200 in the center of an inner tray 300. The circular hub 200 is supported by a resilient support 201 and has a top flange 202 for gripping a laser disc 400 by its center hole. A number of resilient arms 203 are arranged radially around the circular hub 200. To release the laser disc 400, pressure is applied to the top of the central hub 200 to compress the resilient support 201. As the flange 202 is disengaged from the center hole of the laser disc 400, the resilient arms 203 automatically push the laser disc 400 out of the circular hub 200, thereby facilitating the removal of the laser disc 400 from the casing device 100. As shown in FIG. 2, a shortcoming of the casing device 100 is that, as it is made of flexible plastic material, the top cover of casing device 100 could be deformed under external impact. When the deformation compresses the top of the central hub 200, the laser disc 400 is mistakenly released from the confinement of the central hub 200 and, when the top cover is opened without caution, the laser disc 400 would fall on the ground and get damaged.

[0006] Another type of casing device is therefore disclosed in U.S. Pat. No. 6,837,830 that completely removes the central hub, in which a recess is formed in a tray of a disc case and spring elements are arranged along slots that are formed in a peripheral wall portion of the recess. Each spring element is formed having a protuberance and a guide surface. As the disc is inserted into the recess, the spring elements bend with their respective guide surfaces touched by an outer peripheral portion of the disc. The outer peripheral portion of the disc moves into the space inside the protuberances of the spring elements. When the disc is in the recess, the protuberances prevent the disc from slipping out of the recess. This design indeed avoids the problem of mistakenly releasing the disc when the casing device is under impact. However, the spring elements add difficulty in retrieving the disc considerably.

SUMMARY OF THE INVENTION

[0007] The primary purpose of the present invention is to provide a casing device, which, instead of relying on the top flange of the circular hub, utilizes fastening elements to hold the laser disc by its rim.

[0008] The casing device has an inwardly recessed tray in a body member for the placement of a laser disc. A hub in the center of the tray protrudes from the center hole of the

laser disc. Along the peripheral wall of the tray, at least a resilient fastening element is provided which has an opened position to make the tray fully accessible for placing and removing a laser disc, and a closed position where the fastening element is bended toward the circular hub to be on top of the rim of the laser disc for confining the laser disc in the tray.

[0009] At least a slant portion is also provided along the peripheral wall of the tray to facilitate the access to the rim of the laser disc by a user's finger. Together with the fastening element and the slant portion, the present invention provides reliable and secure storage of laser disc in the casing device without sacrificing the ease and convenience of placing and retrieving the laser disc.

[0010] The foregoing object and summary provide only a brief introduction to the present invention. To fully appreciate these and other objects of the present invention as well as the invention itself, all of which will become apparent to those skilled in the art, the following detailed description of the invention and the claims should be read in conjunction with the accompanying drawings. Throughout the specification and drawings identical reference numerals refer to identical or similar parts.

[0011] Many other advantages and features of the present invention will become manifest to those versed in the art upon making reference to the detailed description and the accompanying sheets of drawings in which a preferred structural embodiment incorporating the principles of the present invention is shown by way of illustrative example.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a sectional view showing a conventional laser disc casing device.

[0013] FIG. 2 is a sectional view showing the casing device of FIG. 1 when it is under external impact and mistakenly releases the laser disc.

[0014] FIG. 3 is a perspective view showing a casing device according to an embodiment of the present invention.

[0015] FIG. 4 is a partially enlarged view showing the fastening element of the casing device of FIG. 3 in the opened position.

[0016] FIG. 5 is a sectional view showing the casing device of FIG. 3.

[0017] FIG. 6 is a perspective view showing the casing device of FIG. 3 when a laser disc is placed inside.

[0018] FIG. 7 is a partially enlarged view showing the fastening element of the casing device of FIG. 6 in the closed position.

[0019] FIG. 8 is a top view showing the casing device of FIG. 3.

[0020] FIG. 9 is a perspective view showing the casing device of FIG. 3 when a laser disc is removed.

[0021] FIG. 10 is a partially enlarged view showing the fastening element of the casing device of FIG. 9 in the opened position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] The following descriptions are of exemplary embodiments only, and are not intended to limit the scope,

applicability or configuration of the invention in any way. Rather, the following description provides a convenient illustration for implementing exemplary embodiments of the invention. Various changes to the described embodiments may be made in the function and arrangement of the elements described without departing from the scope of the invention as set forth in the appended claims.

[0023] As illustrated in FIGS. 3 to 5, a casing device 10 according to an embodiment of the present invention mainly contains a tray 11, a hub 12 in the center of the tray 11, and at least a resilient fastening element 13.

[0024] The casing device 10 is made of a plastic material molded into a top cover and a body member (both not numbered). The tray 11 is an inward recess of the body member in a dimension conforming to the laser disc 20 it is designed to hold. The hub 12 is provided in the center of the tray 11 and has a dimension conforming to the center hole 21 of the laser disc 20. Along the peripheral wall (not numbered) of the tray 11, at least a resilient fastening element 13 in the form of a curved strip is provided. The fastening element 13 can be engaged into two different positions: a closed position when it is bended toward the hub 12, and an opened position when it is bended away from the hub 12. Also along the peripheral wall (not numbered) of the tray 11, there is at least a slant portion 14 to facilitate the access the laser disc 20 placed inside the tray 11.

[0025] As shown in FIGS. 6 to 8, to secure the laser disc 20 inside the casing device 10, the laser disc 20 is first placed inside the tray 11 with the hub 12 protruding through the center hole 21. Then, the fastening element 13 is engaged to switch from the opened position (illustrated as the dashed line of FIG. 8) to the closed position (illustrated as the solid line of FIG. 8). With the confinement of the fastening element 13, the laser disc 20 cannot fall from the casing device 10 even when its top cover is opened.

[0026] To remove the laser disc 20 from the casing device 10, the fastening element 13 is first engaged to switch from the closed position (illustrated as the solid line of FIG. 8) to the opened position (illustrated as the dashed line of FIG. 8). Then, through the slant portion 14, a user's finger is thereby

able to access the rim of the laser disc 20 and removes the laser disc 20 from the casing device 10. As such, by having a tray 11 and hub 12 of appropriate depth and height, more than one laser disc 20 can be securely housed inside the casing device 10.

[0027] It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

[0028] While certain novel features of this invention have been shown and described and are pointed out in the annexed claim, it is not intended to be limited to the details above, since it will be understood that various omissions, modifications, substitutions and changes in the forms and details of the device illustrated and in its operation can be made by those skilled in the art without departing in any way from the spirit of the present invention.

I claim:

1. A casing device for a laser disc, comprising:

- a body member and a top cover molded by a plastic material;
- an inwardly recessed tray inside said body member;
- a hub in the center of said tray; and

at least a resilient fastening element along the peripheral wall of said tray, said fastening element capable of being set into an closed portion where said fastening element is bended toward said hub to cover at least the rim of said laser disc when said laser disc placed inside said tray, and an opened position where said fastening element is bended away from said hub to make said tray fully accessible for placing and removing said laser disc into and away from said tray.

2. The casing device according to claim 1, wherein said casing device, by said tray and said hub having appropriate depth and height respectively, is capable of holding at least an additional said laser disc.

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