



US 20100064944A1

(19) **United States**(12) **Patent Application Publication**
Su(10) **Pub. No.: US 2010/0064944 A1**(43) **Pub. Date: Mar. 18, 2010**(54) **PAD STRUCTURE**(30) **Foreign Application Priority Data**(75) Inventor: **Heng-Yung Su**, Sinjhuang City
(TW)

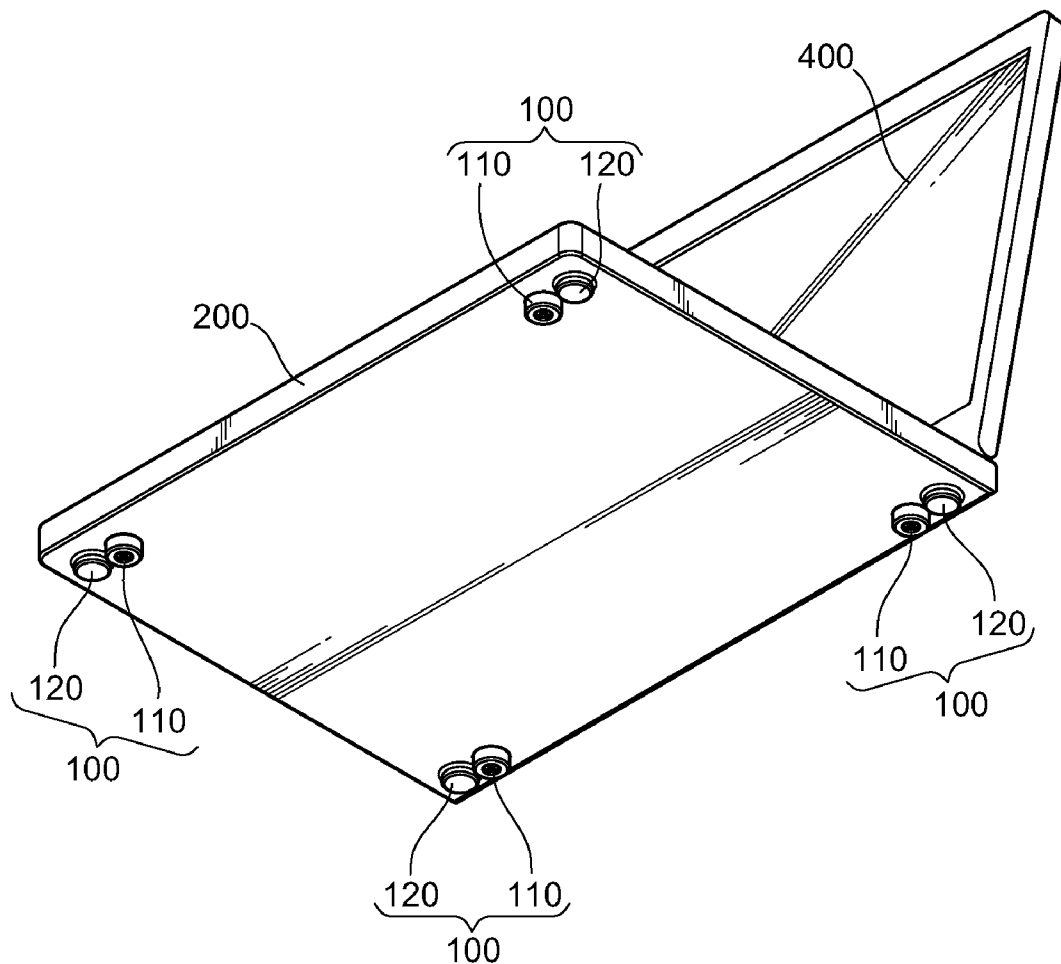
Sep. 17, 2008 (TW) 097135708

Publication Classification

Correspondence Address:

APEX JURIS, PLLC**12733 LAKE CITY WAY NORTHEAST**
SEATTLE, WA 98125 (US)(51) **Int. Cl.**
A47B 97/00 (2006.01)(52) **U.S. Cl.** **108/50.01**(57) **ABSTRACT**(73) Assignee: **MICRO-STAR**
INTERNATIONAL CO., LTD.,
Jung-He City (TW)(21) Appl. No.: **12/260,978**(22) Filed: **Oct. 29, 2008**

A pad structure is disposed on the bottom of a casing of an electronic device, which includes a skidproof piece and a slide piece. The skidproof piece is used for securing and supporting the electronic device on a plane. When the electronic device is at an oblique angle opposite to the plane, and drags the skidproof piece away from the plane, the slide piece contacts with the plane, and the electronic device is enabled to move on the plane by the slide piece.

10

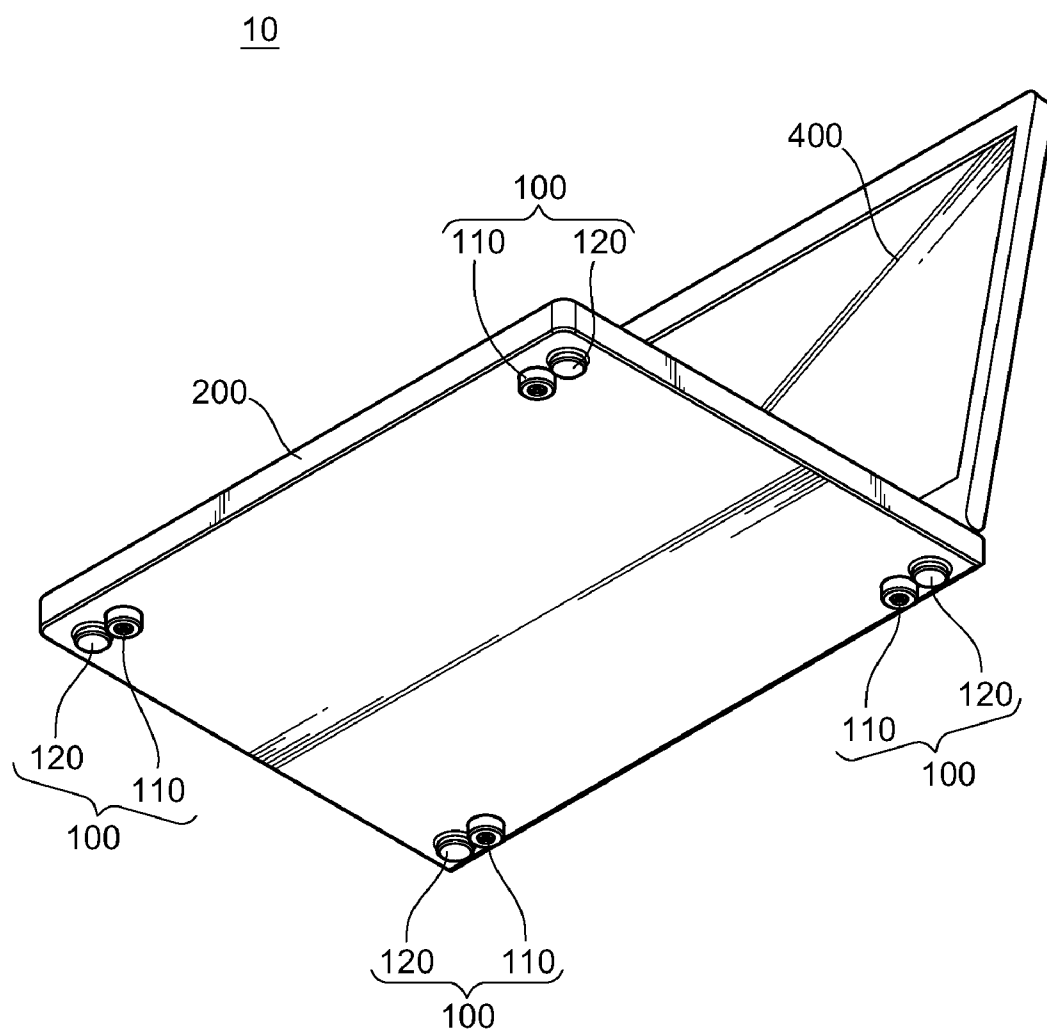


FIG.1A

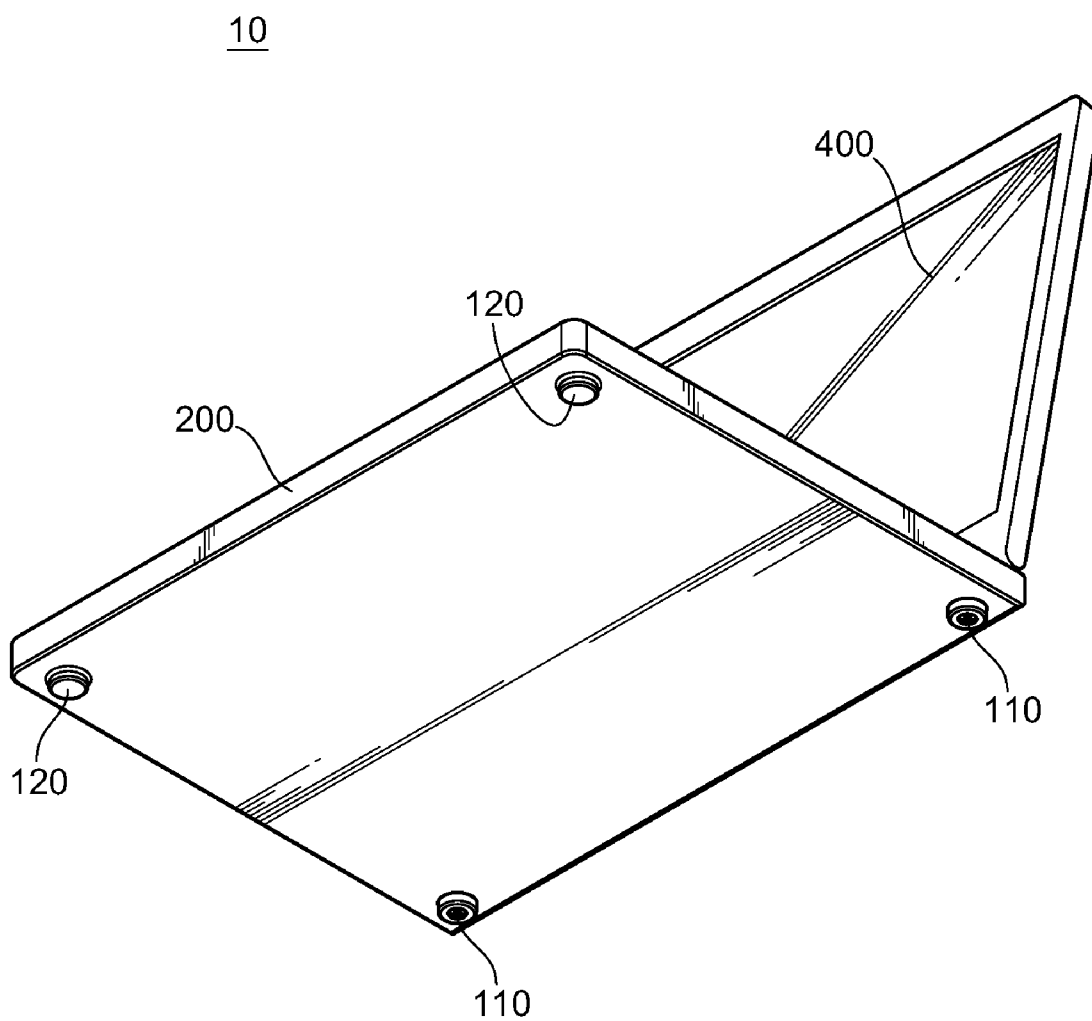


FIG.1B

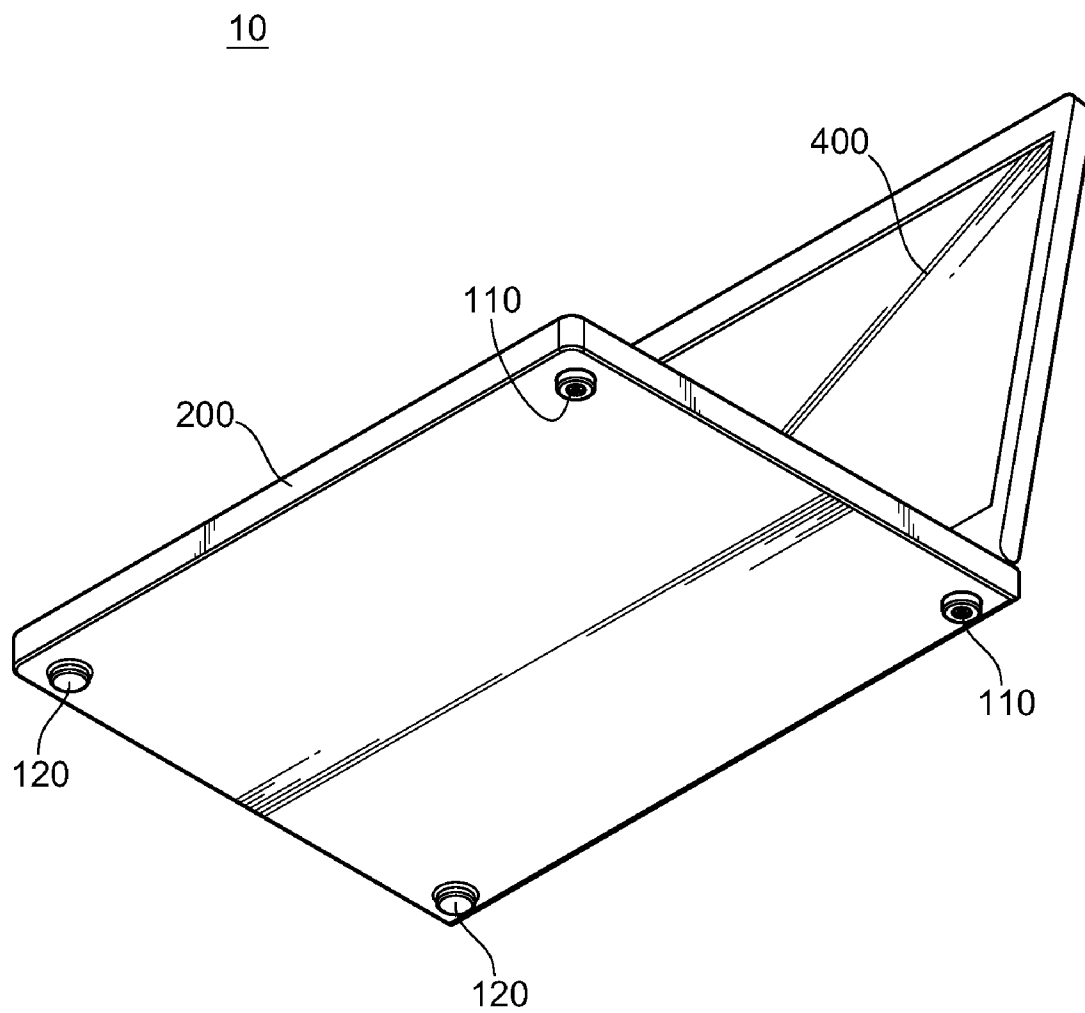


FIG.1C

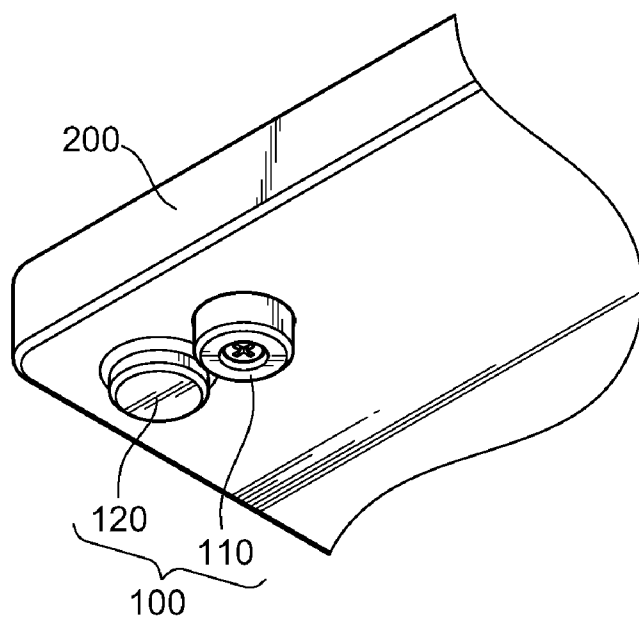


FIG.2A

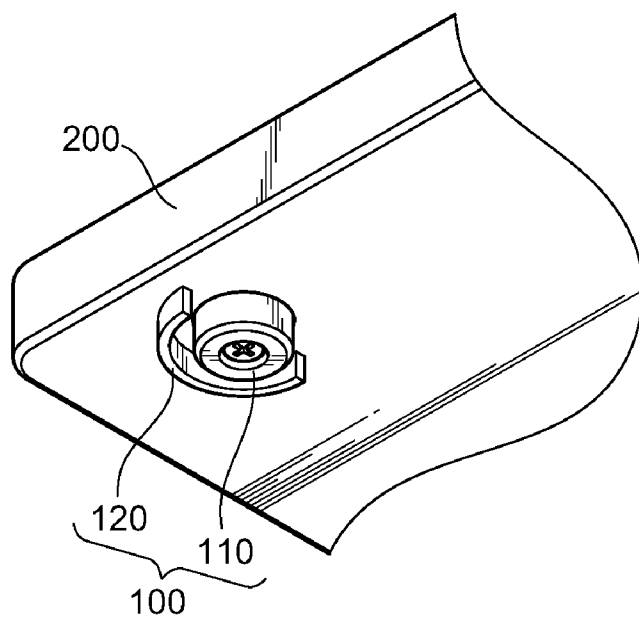


FIG.2B

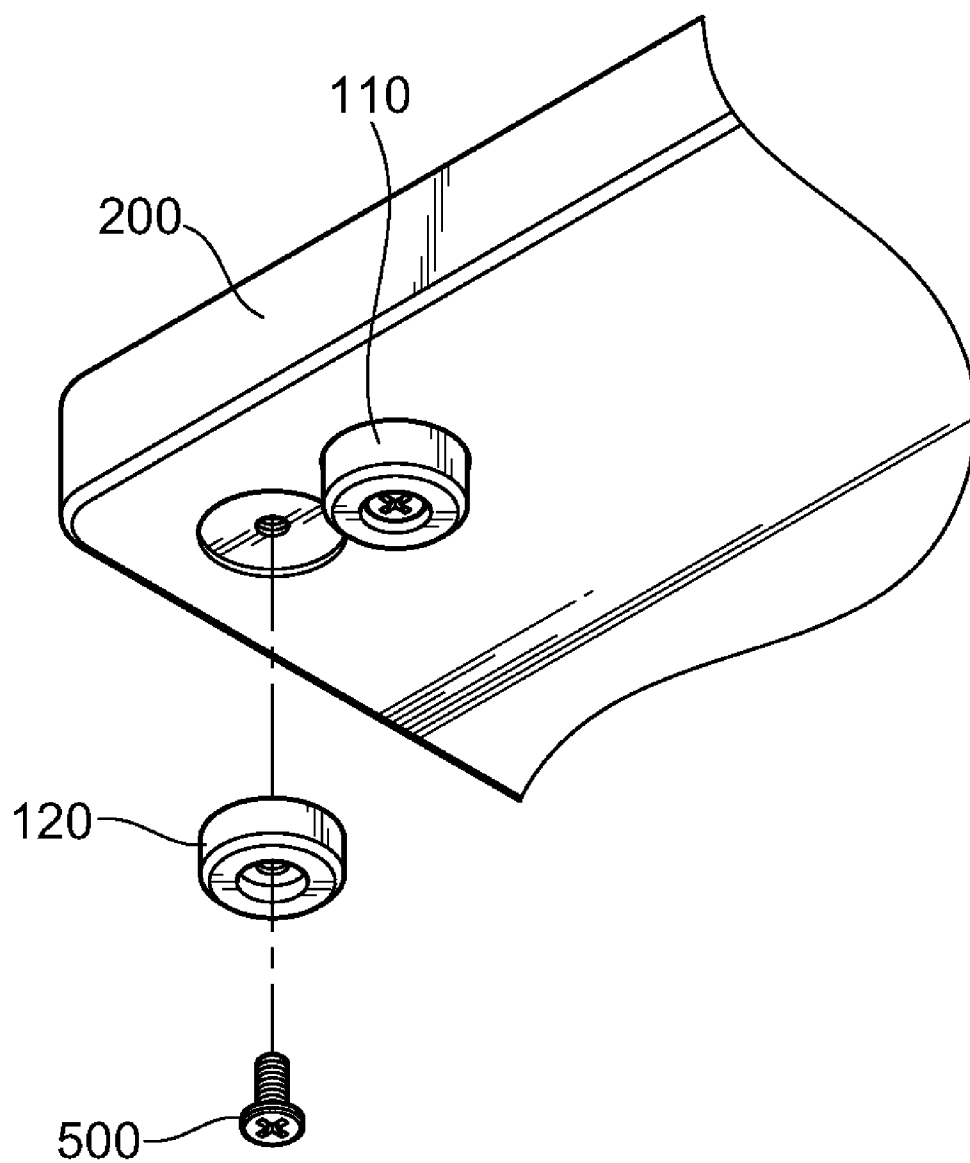
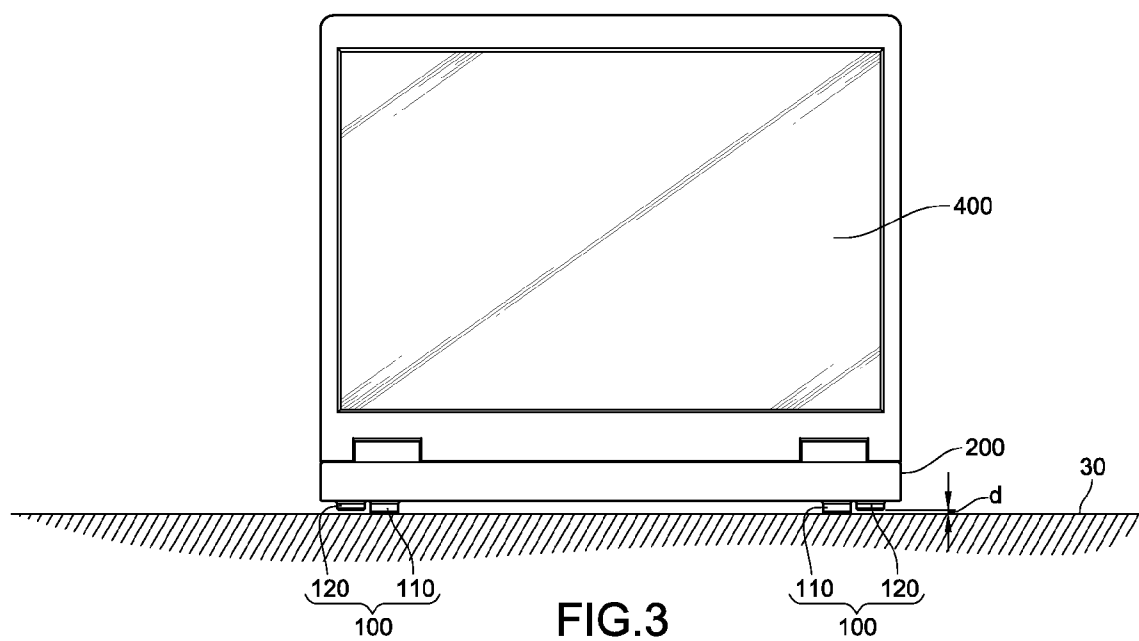
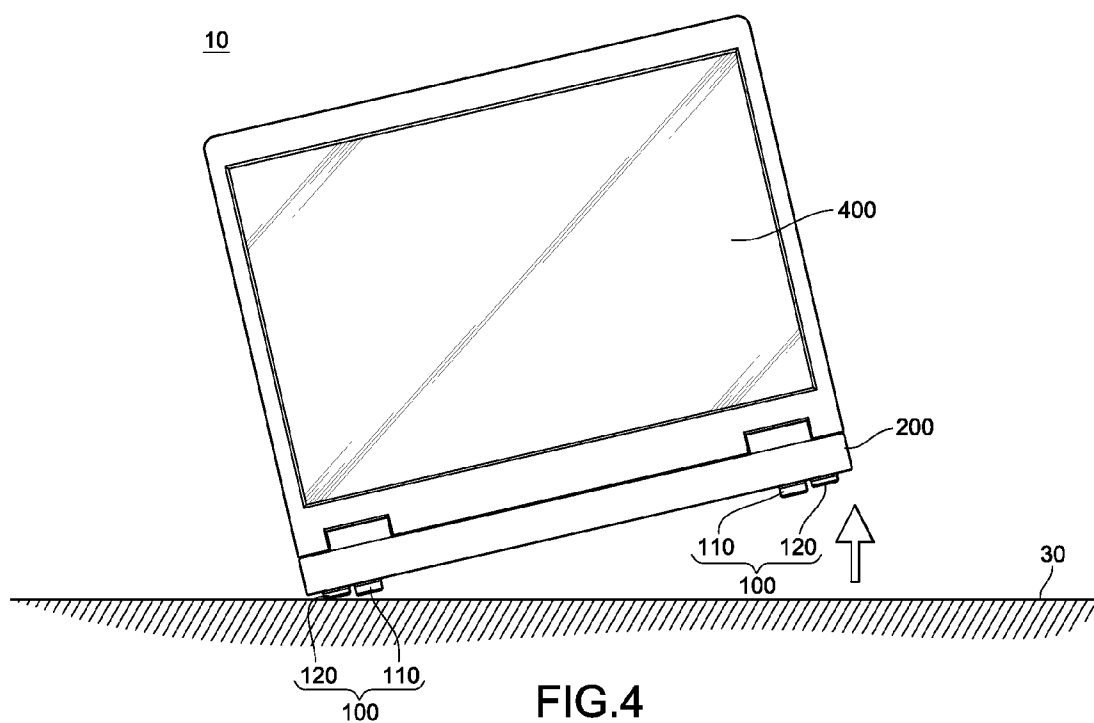


FIG.2C

10





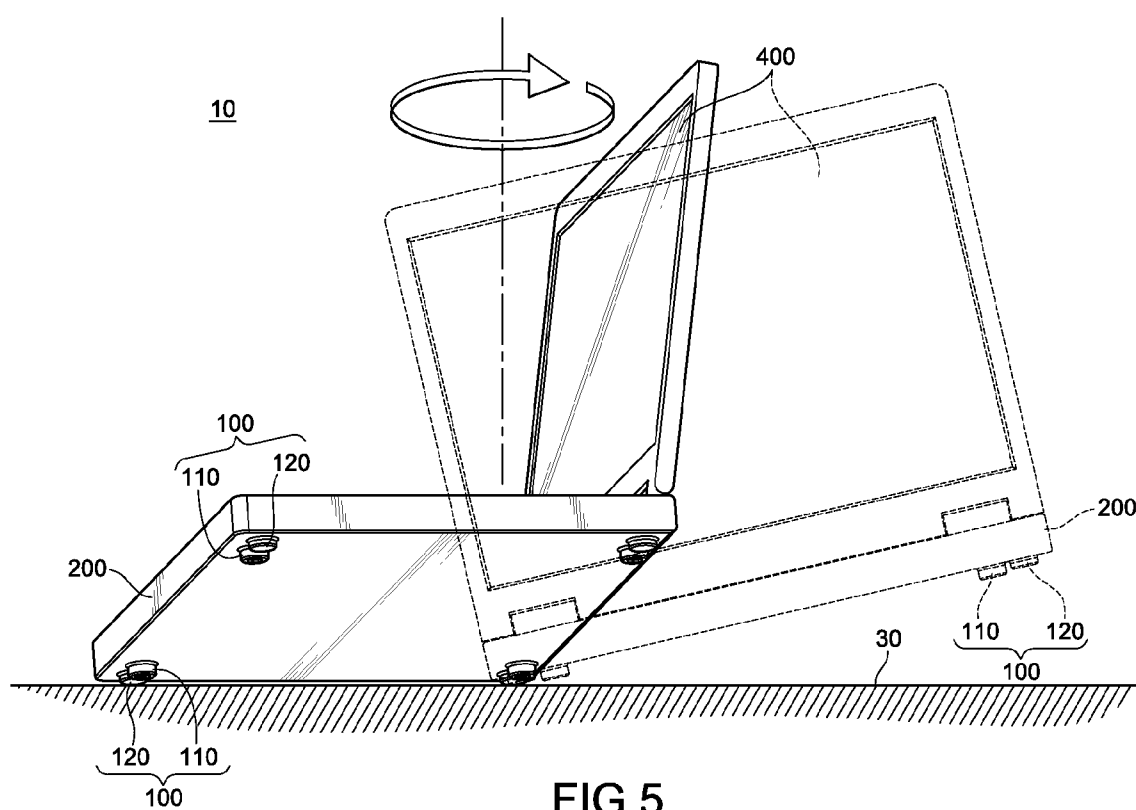
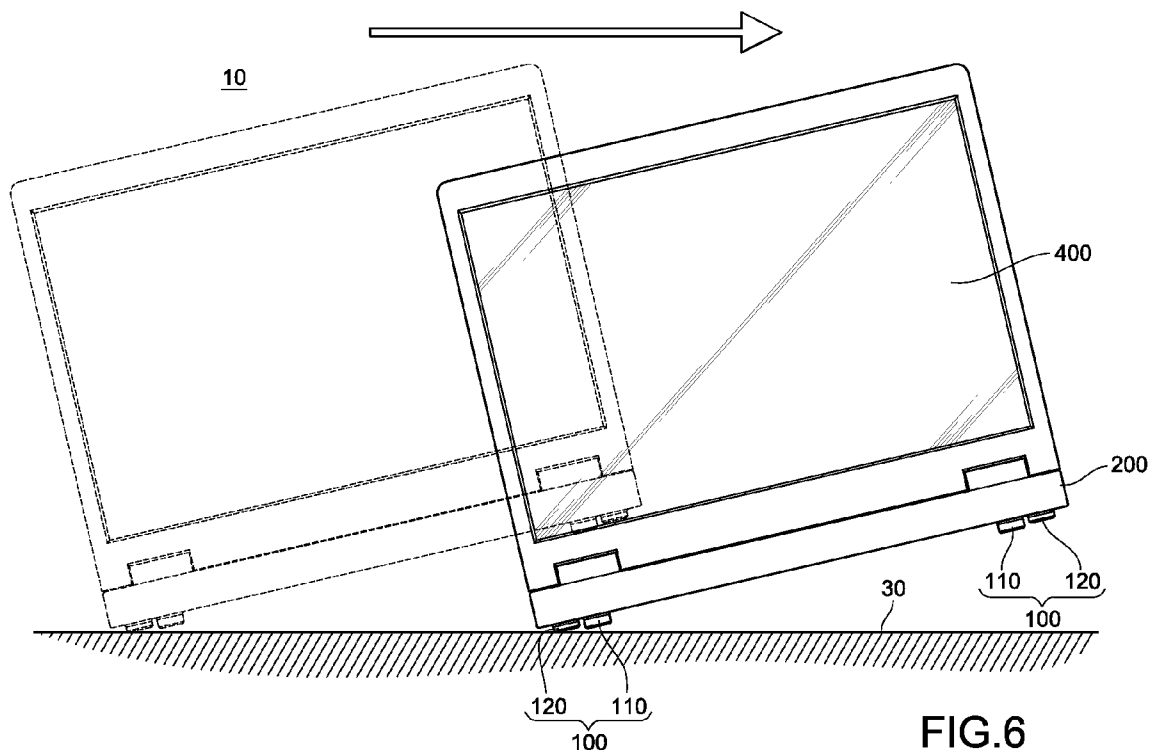


FIG.5



PAD STRUCTURE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This non-provisional application claims priority under 35 U.S.C. §119(a) on Patent Application No(s). 097135708 filed in Taiwan, R.O.C. on Sep. 17, 2008 the entire contents of which are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of Invention

[0003] The present invention relates to a pad structure, and more particularly a pad structure disposed on the bottom of a casing of an electronic device.

[0004] 2. Related Art

[0005] For a housing of a common electronic device such as a computer, a host, and a screen, pads are generally disposed at periphery of the casing bottom, which can assist in the firm arrangement of the electronic device on a plane such as a desktop and a floor. The pads also support the electronic device to a certain height, thus avoiding the casing of the electronic device from directly contacting with the desktop or the floor to influence the performance of the electronic device due to the heat generated during the operation.

[0006] For example, in a laptop computer, the pad disposed at the bottom of the casing thereof is mainly made of a material having a high friction coefficient, such as rubber and plastic, and secured on the bottom of the casing with a link member such as a screw, or attached to the bottom of the casing in manner of adhesion, such that the laptop computer can be firmly placed on the desktop with the help of the retarding force formed on the desktop due to the friction force of the pad. However, in certain cases, for example, when a salesman shows data to a customer, the retarding force provided by the pads becomes a burden, such that the user has to uplift the whole laptop computer from the desktop, and turn it to show the content on the screen to the customer. Moreover, after showing, the user has to repeat the same action to operate the laptop computer again. Therefore, in the entire process of showing data, the need of frequent turning causes much inconvenience in use, and the inner operation devices, such as Central Processing Unit (CPU), are easily to be damaged due to the shock resulting from the frequent lifting up and putting down of the computer. Or, the computer suffers from the risk of falling off to the floor because of not being held steadily. Moreover, when the user needs to alter the using position temporarily, for example, when the user wants to alter the operation position to an area near the desktop momentarily, the alternation of the operation position also requires the uplift of the whole laptop computer, thereby resulting in the inconvenience in use.

SUMMARY OF THE INVENTION

[0007] Accordingly, the present invention is directed to a pad structure, so as to solve the problem that the laptop computer in the prior art cannot be moved momentarily on a desktop.

[0008] As embodied and broadly described herein, the pad structure disclosed in the present invention is disposed on the bottom of a casing of an electronic device, and includes a slide piece and a skidproof piece. The skidproof piece is in contact with a plane, and forms a retarding force with the plane by the friction force of the materials. The static friction force of the

material of the slide piece is lower than that of the material of the skidproof piece, so that the interference drag formed by the slide piece with the plane is less than that formed by the skidproof piece with the plane.

[0009] The skidproof piece is lifted to leave the plane when the casing of the electronic device is slanted, while the slide piece contacts with the plane simultaneously, such that the casing of the electronic device may move on the plane by the slide piece. Therefore, the staying and moving of the electronic device on the plane can be achieved by the difference between the retarding force formed by the skidproof piece and the slide piece with the plane. In this way, a user can easily move the electronic device on the plane.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The present invention will become more fully understood from the detailed description given herein below for illustration only, and thus are not limitative of the present invention, and wherein:

[0011] FIG. 1A is a schematic three-dimensional view of an embodiment according to the present invention;

[0012] FIG. 1B is a schematic three-dimensional view of an embodiment according to the present invention;

[0013] FIG. 1C is a schematic three-dimensional view of an embodiment according to the present invention;

[0014] FIG. 2A is a schematic view of a slide piece which is integrally formed on a casing according to an embodiment of the present invention;

[0015] FIG. 2B is a schematic view of a slide piece which is integrally formed on a casing according to an embodiment of the present invention;

[0016] FIG. 2C is a schematic view of a slide piece which is locked on a casing by a link member according to an embodiment of the present invention;

[0017] FIG. 3 is a schematic front view of an embodiment according to the present invention;

[0018] FIG. 4 is a schematic view in which one side of an electronic device is slanted and uplifted according to an embodiment of the present invention;

[0019] FIG. 5 is a schematic view in which an electronic device is rotated at a fixed point according to an embodiment of the present invention; and

[0020] FIG. 6 is a schematic view in which an electronic device slides on a plane according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0021] The housing of an electronic device referred in the present invention is, for example, a housing of a common electronic device such as a computer, a host, and a screen, and the examples above are for the purpose of illustration only, instead of limitation.

[0022] Referring to FIGS. 1A-1C, schematic three-dimensional views of embodiments according to the present invention are shown. A pad structure **100** according to the present invention is disposed on the bottom of a casing **200** of an electronic device **10**, and has a skidproof piece **110** and a slide piece **120**. The slide piece **120** can be adjacent to the skidproof piece **110**, and closer to the edge of the casing **200** relative to the skidproof piece **110** (as shown in FIG. 1A), or on the bottom of the casing **200** at the other side opposite to the skidproof piece **110** (as shown in FIG. 1B and 1C). Moreover, the slide piece **120** is made of a material having a low

static friction force, such as aluminum magnesium alloy and glass-reinforced plastic, the skidproof piece 110 is made of a material having a high static friction force, such as rubber and plastic. The slide piece 120 can be integrally disposed on the bottom of the casing 200 (as shown in FIG. 2A and 2B), or secured on the bottom of the casing 200 by a link member 500 such as a screw or a plug (as shown in FIG. 2C). The following is a description for an embodiment of the present invention in which the slide piece 120 is adjacent to the skidproof piece 110, and closer to the edge of the casing 200 relative to the skidproof piece 110.

[0023] Referring to FIG. 3, a schematic front view of an embodiment according to the present invention is shown. When the electronic device 10 provided with the pad structure 100 according to the present invention is placed on a plane 30, the skidproof piece 110 contacts with the plane 30, so as to support the casing 200 of the electronic device, and the skidproof piece 110 provides a retarding force on the plane 30 by the use of the high static friction force thereof, such that the electronic device 10 cannot move and stably placed on the plane 30. Meanwhile, a distance d is kept between the slide piece 120 and the plane 30, which can prevent the slide piece 120 from interfering with the retarding force formed by the skidproof piece 110 on the plane 30, and the height of the distance d is such that the casing 200 of the electronic device will not contact with the plane 30 when the slide piece 120 moves downwards and contacts with the plane 30. Therefore, the unnecessary abrasion of the casing 200 caused by contact with the plane 30 can be avoided.

[0024] Referring to FIGS. 4-6, schematic views of operation of embodiments according to the present invention are shown. When one side of the electronic device 10 is slanted and uplifted, the skidproof piece 110 moves along with the casing 200 of the electronic device and leaves the plane 30 contacting therewith, and at the same time, the slide piece 120 is caused to lean against the plane 30. The retarding force formed by slide piece 120 on the plane 30 is lower due to its material of low static friction force, the electronic device 10 can be steadily moved on the plane 30 by the slide piece 120,

such that a user can easily and repeatedly alter the showing direction of a display screen 400 of the electronic device only by uplifting the casing 200 and making the slide piece 120 rotate at a fixed point on the plane 30 (as shown in FIG. 5), or by moving the electronic device 10 on the plane 30 to an intended operation position (as shown in FIG. 6).

[0025] The pad structure of the present invention can stably place an electronic device on a plane by a skidproof piece, and when the electronic device is required to be moved, the movement on a plane can be achieved by the use of a slide piece, only through slanting and uplifting one side of the electronic device. The structure of the pad structure is simple, and can not only accomplish the object of fixing or moving electronic device on a plane, but also effectively lower the cost of development and production.

What is claimed is:

1. A pad structure, disposed on a bottom of a casing, comprising:
 - a slide piece; and
 - a skidproof piece, contacting with a plane, and forming a retarding force with the plane;
 wherein the casing is slanted to make the slide piece contact with the plane and the skidproof piece leave the plane simultaneously, such that the casing moves on the plane by the slide piece.
2. The pad structure according to claim 1, wherein a static friction force of a material of the slide piece is lower than the static friction force of a material of the skidproof piece.
3. The pad structure according to claim 1, wherein the slide piece is integrally disposed on the bottom of the casing.
4. The pad structure according to claim 1, wherein the slide piece is locked on the bottom of the casing by a link member.
5. The pad structure according to claim 1, wherein the slide piece is adjacent to the skidproof piece, and separated from the plane by a distance.
6. The pad structure according to claim 1, wherein the slide piece is disposed on the bottom of the casing at the other side opposite to the skidproof piece, and contacts with the plane.

* * * * *