

Since 1992

隆安律師事務所
BEIJING LONGAN LAW FIRM

Floor 8, Beijing International Club Tower,
21 Jianguomenwai Street, Beijing 100020, China
Patent&Trademark Department Tel:86-10-88096573
Patent&TrademarkDepartment Fax:86-10-88096923
Email:patent@longanlaw.com

CERTIFICATION OF TRANSLATION

Original text full file name:

CN216561630U

WO2020113541A1

Translation full file name:

CN216561630U-English translation

WO2020113541A1-English translation

This is to certify that the attached documents in the English language with the above title are a true and accurate translation, and has the same meaning as the text of the original documents in the Chinese language to the best of my knowledge and belief. This translation was performed and edited by a Chinese to English professional translator.

I declare under the penalty of perjury under the laws of the United States that the foregoing is true and correct; and further declare that I am aware that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 1001 of Title 18 of the United States Code.

Executed this March 28, 2026

刘林

Lin LIU

Beijing Longan Law Firm uses all available measures to ensure the accuracy of each translation but shall not be held liable for damages due to error or negligence in translation or transcription.



(21) Application No. 202220153617.7

(22) Application Date 2022.01.20

(73) Patentee Shenzhen Quankai Technology Co., Ltd.

Address: A2 Building A2(1) Floor 5 EAST No. 70,
Tongxin Road, Tongxin Community, Baolong
Subdistrict, Longgang District, Shenzhen, Guangdong,
518000

(72) Inventor: Ye Wenbin

(74) Patent Agency: Dongguan Renhe Patent & Trademark
Agency (General Partnership) 44734

Patent Agent: Wang Wei

(51) Int. Cl.

G06F 1/16 (2006.01)

G06F 1/20 (2006.01)

CLAIMS: 1 PAGE DESCRIPTION: 3 PAGES DRAWINGS: 3 PAGES

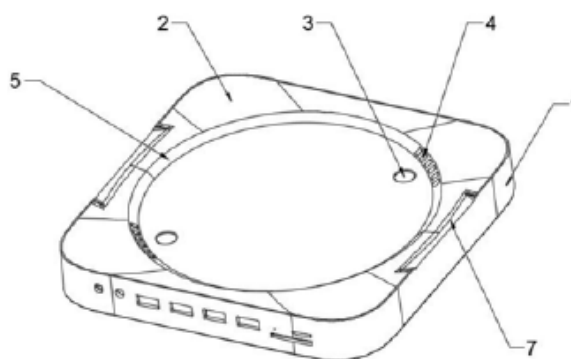
(54) Utility Model Title

A DESKTOP COMPUTER BASE DOCKING STATION

(57) Abstract

5

The utility model relates to the docking station field and discloses a base docking station of a desktop computer, including a docking station body which serves as a base and is used to place the desktop computer, the docking station body is equipped with a built-in cooling fan, and provided with an air outlet and an air inlet, the air outlet and air inlet form a convective air path and dissipate heat from the desktop computer, a hard disk is installed in the expansion slot to solve the problem of small storage space for the Mac mini, the design of the placement groove allows the Mac mini to be stably placed on the docking station, and the convective air path formed by the air outlet and air inlet combined with the cooling fan makes the heat dissipation effect significant.



1. A base docking station for a desktop computer, comprising a docking station body, wherein the docking station body serves as a base and is used to place the desktop computer, characterized in that, the docking station body is equipped with a built-in cooling fan, and provided with an air outlet and an air inlet, the air outlet and air inlet form a convective air path and dissipate heat from the desktop computer.
2. The base docking station for a desktop computer according to claim 1, characterized in that the top surface of the docking station body is defined as a placement surface, and an edge of the placement surface is provided with an exhaust port.
3. The base docking station for a desktop computer according to claim 2, characterized in that the placement surface is provided with a placement groove that matches the bottom of the desktop computer.
4. The base docking station for a desktop computer according to claim 2, characterized in that several pads are installed on the placement surface.
5. The base docking station for a desktop computer according to claim 4, characterized in that the top surface of the pad is flush with or higher than the placement surface.
6. The base docking station for a desktop computer according to claim 1, characterized in that the bottom surface of the docking station body is provided with an expansion slot for placing a hard disk, and the expansion slot is sealed by a cover plate.
7. The base docking station for a desktop computer according to claim 6, characterized in that the bottom surface of the docking station body is equipped with a toggle switch, and the cover plate is provided with a groove that matches the switch, and one side of the groove is provided with a notch for easy opening of the cover plate.
8. The base docking station for a desktop computer according to claim 6, characterized in that the interior of the expansion slot is provided with a through hole that is communicated with the docking station body.
9. The base docking station for a desktop computer according to claim 6, characterized in that an inner wall of the expansion slot is vertically connected with a elastic sheet, and the middle of the elastic sheet protrudes and is used to support or bounce the cover plate.

A desktop computer base docking station

Technical field

[0001] The present utility model relates to the field of docking stations, particularly to a base docking station for desktop computers.

Background technology

[0002] A docking station, also known as a port replicator, is an external device designed specifically for laptops or small computer hosts. By replicating or even expanding the ports of a laptop, it can easily connect multiple accessories or external devices (such as power adapters, Ethernet cables, mice, external keyboards, printers, and external displays) in one stop. Existing docking stations provide limited storage space, poor heat dissipation, and limited functionality.

[0003] An existing Type-C docking station (application number 201920617949.4, application date: April 30, 2019), although can expand storage space by installing a hard disk, does not have a structure that can be used to fix a Mac Mini. The Mac Mini host is prone to falling off when placed on it, and the docking station has poor heat dissipation. It is also difficult to remove the hard disk from the expansion slot.

Summary of the Utility model

[0004] The present utility model aims to provide a technical solution that can solve the above-mentioned problems in order to overcome the aforementioned shortcomings.

[0005] A base docking station for a desktop computer, comprising a docking station body as a base and used to place the desktop computer. The docking station body is equipped with a cooling fan, and is provided with an air outlet and an air inlet. The air outlet and the air inlet form a convection duct to dissipate heat from the desktop computer.

[0006] As one of the improvements to the above technical solution, the top surface of the docking station body is defined as the placement surface, and an exhaust port is provided at an edge of the placement surface.

[0007] As one of the improvements to the above technical solution, the placement surface is provided with a placement groove that matches the bottom of the desktop computer.

[0008] As one of the improvements of the above technical solution, several pads are installed on the placement surface.

[0009] As one of the improvements of the above technical solution, the top surface of the pad is flush with or higher than the placement surface.

[0010] As one of the improvements of the above technical solution, the bottom surface of the docking station body is provided with an expansion slot for placing a hard disk, and the expansion slot is sealed by a cover plate.

[0011] As one of the improvements to the above technical solution, a toggle switch is installed on the bottom surface of the docking station body, which is in the shape of an L, T, or cross. The cover plate is provided with a groove that matches the switch, and one side of the groove is provided with a notch for easy opening of the cover plate.

[0012] As one of the improvements to the above technical solution, the interior of the expansion slot is provided

with a through hole that is communicated with the docking station body.

[0013] As one of the improvements of the above technical solution, the inner wall of the expansion slot is vertically connected with an elastic sheet, and a middle protrusion of the elastic sheet is used to support or bounce the cover plate.

[0014] Compared with the prior art, the beneficial effects of the present utility model are: a hard disk is installed in the expansion slot to solve the problem of small storage space for the Mac mini, the design of the placement groove allows the Mac mini to be stably placed on the docking station, and the convective air path formed by the air outlet and air inlet combined with the cooling fan makes the heat dissipation effect significant.

[0015] Additional aspects and advantages of the present utility model will be partially presented in the following description, some of which will become apparent from the following description, or learned through practice of the present utility model.

Brief explanation of the drawings

[0016] In order to provide a clearer explanation of the embodiments of the present utility model or the technical solutions in the prior art, a brief introduction will be given to the drawings required for the description of the embodiments or the prior art. It is obvious that the drawings in the description below are only some embodiments of the present utility model. For those skilled in the art, other drawings can be obtained based on these drawings without creative labor.

[0017] Figure 1 is a schematic diagram of the structure of the present utility model.

[0018] Figure 2 is another schematic diagram of the structure of the present utility model.

[0019] Figure 3 is a schematic diagram of the structure of the cover plate of the present utility model.

[0020] Figure 4 is a schematic diagram of the structure of the elastic sheet of the present utility model.

[0021] In the drawings: 1. Docking station body, 2. Placement surface, 21. Placement groove, 3. Pad, 4. Air outlet, 5. Sloping surface, 6. Air inlet, 7. Exhaust port, 8. Expansion slot, 9. Cover plate, 10. Switch, 11. Elastic sheet, 12. Groove, 13. Cooling fan, 14. Through hole.

Implementation of the Utility Model

[0022] The following will provide a clear and complete description of the technical solution in the embodiments of the present utility model. Obviously, the described embodiments are only a part of the embodiments of the present utility model, and not all of them. Based on the embodiments in the present utility model, all other embodiments obtained by ordinary skilled persons in this field without creative labor are within the protection scope of the present utility model.

[0023] Please refer to Figure 1. In the embodiment of the present utility model, a base docking station for a desktop computer comprises a docking station body 1. The top surface of the docking station body 1 is defined as a placement surface 2 and used for the desktop computer. The placement surface 2 is equipped with several pads 3, and the placement surface 2 is provided with a placement groove 21 and several air outlets 4.

[0024] Generally, as the docking station for a host is mainly adapted to an MAC mini, the shape of the placement groove 21 is circular and its side is an inclined plane 5 and the placement surface 2 is inclined towards the center of the placement groove 21, which can allow the desktop computer to be stably placed on the docking station body 1. The shape of the placement groove 21 is not limited to this. The shape and quantity of the placement groove 21 can be adjusted according to the bottom shape (including the legs) of different hosts, such as triangular

shape, quadrilateral shape, etc. It can be understood that triangular shape or other polygonal shape can also be used to place a MAC mini (inscribed circle), and also leave some space for heat dissipation. The air outlet 4 is located on the inclined plane 5 of the placement groove 21, and the heating parts of different hosts are different. The air outlet 4 can also be located on the bottom surface of the placement groove 21 or other places on the placement surface 2. The bottom surface of the docking station body 1 is provided with several air inlets 6, and the connection between the top and side surfaces of the docking station body 1 is provided with an exhaust port 7. In the implementation process, a heat dissipation fan is installed inside the docking station body 1, and the air outlet 4 and the air inlet 6 will form a convective air path. Combined with the heat dissipation fan (as well as the space or gap left by the placement groove 21), the heat dissipation effect can be improved. The exhaust port 7 not only facilitates air intake and exhaust, but also helps to separate the host from the docking station body 1. [0025] Pad 3 can provide cushioning and increase friction, and is made of rubber material, and its top surface is flush with or higher than placement surface 2.

[0026] As shown in Figures 2 and 3, the bottom surface of the docking station body 1 is provided with an expansion slot 8 for placing a hard disk. The expansion slot 8 is sealed by a cover plate 9. During operation, the MAC mini or other hosts will generate heat, and the hard disk itself will also generate heat during operation; therefore, the two items should be arranged separately, that is, the MAC mini or other hosts are located on the top surface of the docking station body 1, while the hard disk is arranged on the bottom surface of the docking station body 1. Considering that the hard disk installed in the docking station body 1 usually has a large capacity and does not need to be replaced frequently, the expansion slot 8 can be provided on the bottom surface of the docking station body. Specifically, a toggle switch 10 is installed on the bottom surface of the docking station body 1, which is in the shape of L or T or in a cross shape. The cover plate 9 is provided with a groove 12 that matches the switch 10, and one side of the groove 12 is provided with a notch for easy opening of the cover plate 9. The interior of the expansion slot 8 is provided with a through hole that is communicated with the docking station body 1. The internal wiring of the docking station body 1 can be connected to the hard disk through the through hole and the through hole can also be used for heat dissipation. As shown in Figures 2 and 4, the expansion slot 8 is equipped with an elastic sheet 11 inside. One end of the elastic sheet 11 is vertically connected to the inner wall of the expansion slot 8, and the middle of the elastic sheet 11 protrudes and is used to support or bounce the cover plate 9. Preferably, a spring can be installed under the elastic sheet 11.

[0027] The side surface of the docking station body 1 has multiple interfaces, such as PD interface, TF/SD card interface, USB interface, power interface, etc., and corresponding indicator lights can also be provided.

[0028] For those skilled in the art, it is apparent that the present utility model is not limited to the details of the exemplary embodiments described above, and can be implemented in other specific forms without departing from the spirit or basic features of the present utility model. Therefore, from any point of view, the embodiments should be regarded as exemplary and not limiting, and the scope of the present utility model is limited by the appended claims rather than the above description. Therefore, it is intended to include all changes falling within the meaning and scope of the equivalent elements of the claims in the present utility model.

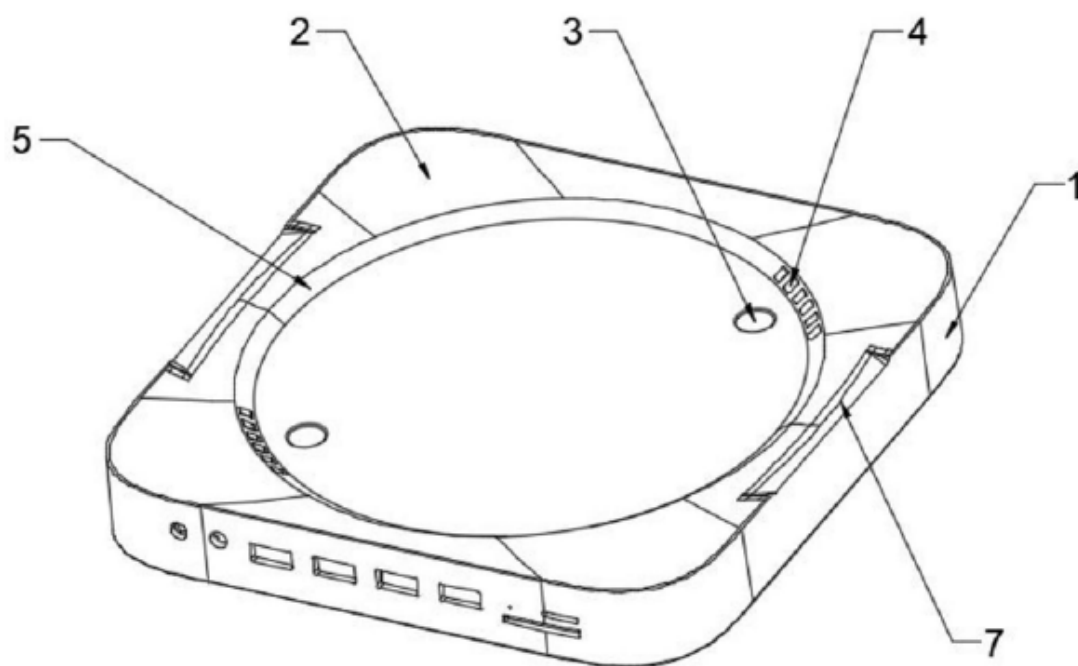


Figure 1

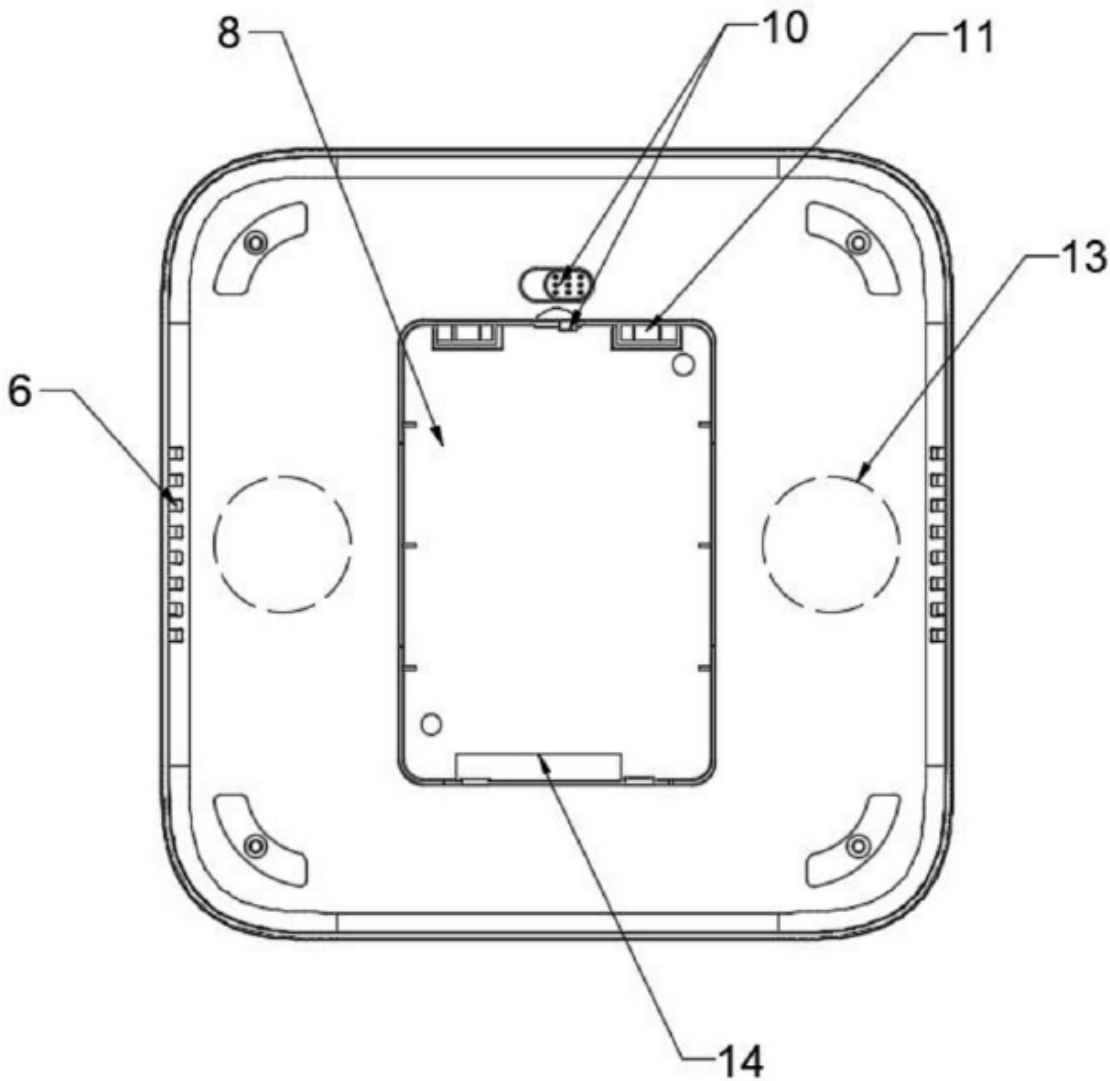


Figure 2

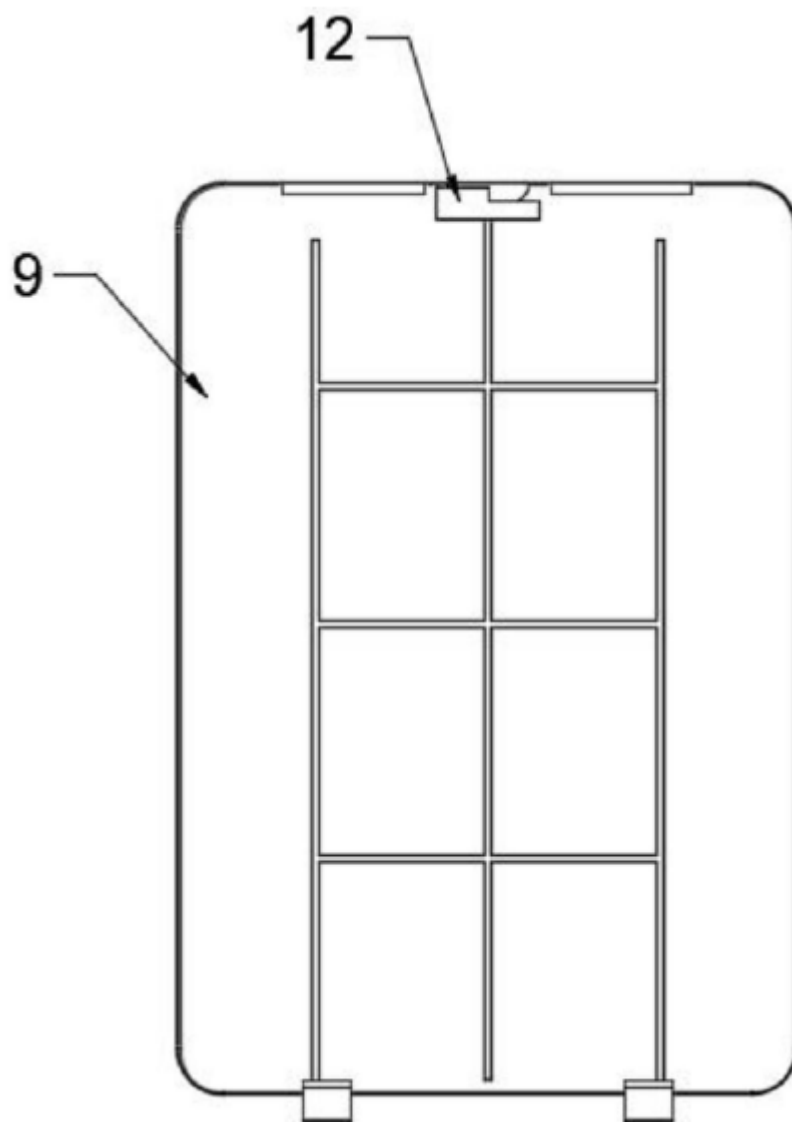


Figure 3

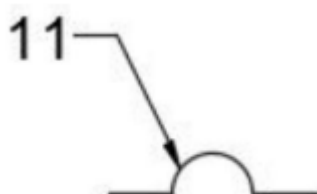


Figure 4