

DISPLAY AND DOCKING APPARATUS FOR A PORTABLE ELECTRONIC DEVICE

RELATED APPLICATIONS

[0001] This application claims priority to U.S. Provisional Patent Application No. 62/782,224, filed on December 19, 2018, which is hereby incorporated herein by reference.

TECHNICAL FIELD

[0002] This disclosure generally relates to portable electronic devices (PEDs), and, more specifically, to display apparatuses for portable electronic devices.

SUMMARY

[0002a] An aspect of the present disclosure provides a display and docking apparatus to receive and support a portable electronic device, comprising, a docking tray to receive the portable electronic device, a base, a hinge connecting the docking tray and the base to allow the docking tray to pivot relative to the base, a first interface disposed in the docking tray and configured to removably couple with a port of the portable electronic device to enable power and data communication with the portable electronic device, and a cable coupled at a first end to the first interface and extending at least through part of the base.

[0002b] Another aspect of the present disclosure provides a display and docking apparatus to receive and support a portable electronic device, comprising a docking tray to receive the portable electronic device, a base including a plurality of interconnected modules including a foundation module to support the display and docking apparatus and a docking tray support module, a hinge connecting the docking tray and the docking tray support module of the base to allow the docking tray to pivot relative to the base, and a first interface disposed in the docking tray and configured to removably couple with a port of the portable electronic device to enable power and data communication with the portable electronic device.

[0002c] Another aspect of the present disclosure provides a display and docking apparatus to receive and support a portable electronic device, comprising a docking tray including an open end to receive the portable electronic device and a closed end to limit movement of the portable electronic device, a hinge connected to the docking tray to enable pivotable movement of the docking tray, a base including a plurality of interconnected modules, wherein the modules include a foundation module to support the display and docking apparatus and a docking tray support module connected to the hinge and configured to enable pivotal movement of the hinge and the docking tray relative to the foundation module, and a first interface disposed in the docking tray and configured to removably couple with a port of the portable electronic device to enable power and data communication with the portable electronic device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] FIG. 1 illustrates a perspective view of a display and docking apparatus, according to an embodiment.

[0004] FIGS. 2A-2F illustrate various perspective views of a PED assembly of a display and docking apparatus, according to various embodiments.

[0005] FIG. 3 illustrates a PED assembly sliding into a docking tray of a docking stand assembly of a display apparatus, according to an embodiment.

[0006] FIGS. 4A-4D illustrate various perspective views of a display and docking apparatus, according to various embodiments.

[0007] FIG. 5 illustrates a plurality of pivots that are possible with various respective embodiments of a display and docking apparatus.

[0008] FIG. 6 illustrates a docking stand assembly of a display and docking apparatus that includes a cable that has been routed through the docking stand assembly, according to an embodiment.

[0009] FIG. 7 illustrates a docking stand assembly of a display and docking apparatus, according to an embodiment that includes a notch and a hollow cavity, according to an embodiment.

[0010] FIG. 8 illustrates the construction of a modular base of a docking stand assembly of a display and docking apparatus, according to an embodiment.

[0011] FIG. 9 illustrates an embodiment of a docking stand coupled to a docking station.

[0012] FIG. 10 illustrates an embodiment of a docking stand with a plurality of docking ports.

[0013] FIG. 11 illustrates an alternative embodiment of a display and docking apparatus.

[0014] FIGS. 12A-12E illustrate an alternative embodiment of a display and docking apparatus.

[0015] FIGS. 13A-13H illustrate an alternative embodiment of a display and docking apparatus.

[0016] FIGS. 14A-14C illustrate an alternative embodiment of a display and docking apparatus.