

[0012] FIG. 2(c) illustrates the location of the A and B hinges when the portable computer is in the tablet configuration according to a first embodiment of the present invention;

[0013] FIG. 3 illustrates a cross-section of both the A and B hinge assemblies according to a first embodiment of the present invention;

[0014] FIG. 4(a) presents a side view of the portable computer in the closed configuration according to a first embodiment of the present invention;

[0015] FIG. 4(b) presents a side view of the portable computer in the laptop configuration according to a first embodiment of the present invention;

[0016] FIG. 4(c) presents a side view of the portable computer in the tablet configuration according to a first embodiment of the present invention;

[0017] FIG. 5 presents a top perspective view of the portable computer in the tablet configuration according to a first embodiment of the present invention;

[0018] FIG. 6 illustrates a latching assembly according to an embodiment of the present invention;

[0019] FIG. 7 presents a side view of the portable computer in a closed configuration according to a second embodiment of the present invention;

[0020] FIG. 8(a) presents a top view of the portable computer in a laptop configuration according to a second embodiment of the present invention;

[0021] FIG. 8(b) presents a side view of the portable computer in a laptop configuration according to a second embodiment of the present invention;

[0022] FIG. 9(a) presents a top view of the portable computer in a tablet configuration according to a second embodiment of the present invention;

[0023] FIG. 9(b) presents a side view of the portable computer in a tablet configuration according to a second embodiment of the present invention;

[0024] FIGS. 10(a) and 10(b) illustrate a portable computer in the closed configuration according to a third embodiment of the invention.

[0025] FIGS. 11(a) and 11(b) illustrate a portable computer in the laptop configuration according to a third embodiment of the invention

[0026] FIGS. 12(a) and 12(b) illustrate a portable computer in the tablet configuration according to a third embodiment of the invention

[0027] FIG. 13(a) illustrates a top view of a portion of a hinging assembly as it would appear when the portable computer is in the laptop configuration according to a third embodiment of the invention;

[0028] FIG. 13(b) illustrates a top view of a portion of a hinging assembly and a locking mechanism according to a third embodiment of the invention;

[0029] FIG. 13(c) illustrates a top view of a portion of a hinging assembly according to a third embodiment of the invention;

[0030] FIG. 13(d) illustrates a cross-sectional top view of a shaft that may be included in a hinging assembly according to a third embodiment of the invention;

[0031] FIG. 13(e) illustrates a cross-sectional side view of a hinging assembly according to a third embodiment of the invention.

[0032] FIGS. 14(a)-14(c) show a locking mechanism at various stages as the portable computer is changed from the laptop configuration to the tablet configuration according to a third embodiment of the invention.

#### DETAILED DESCRIPTION OF THE INVENTION

[0033] The present invention is directed to a portable computer that may be placed in a closed configuration, a laptop configuration, and a tablet configuration. While the term "portable computer" is used, it should be understood that this term is not limited to traditional laptop and notebook computers and that the term "portable computer" is meant to encompass other electronic devices having input processing capabilities, such as, subnotebook computers, PDAs, wireless telephones, and the like. The portable computer may include a display device and a keyboard, a mouse, a pointing device, or some other primary input device(s) separate from the display device. The display device may be used as a secondary input device, possibly in conjunction with an electronic stylus or similar device. In the laptop configuration, the user may input data using the primary input device and may receive information from the laptop via the display device. In the tablet configuration, the user may receive information from the display device and may use the display device as a secondary input device. In this configuration, the user may be prevented from accessing the keyboard or other primary input device(s), e.g., by placing the display device over the keyboard or other primary input device(s). The technology for using a display device as a touchscreen is well known in the art. In particular, U.S. Pat. No. 5,917,475 to Kuzunuki et al. describes a display device that may be used as a touchscreen to transmit handwriting input to circuitry capable of interpreting the handwriting as recognized characters. In embodiments of the present invention, such circuitry may include a combination of processors, integrated circuits, gate arrays, memories, software and the like. In the closed configuration, the display device and the keyboard or other primary input device(s) may be enclosed so as to prevent the user from accessing either and to prevent damage to the portable computer during transportation or storage.

[0034] As illustrated in FIG. 1, embodiments of the portable computer may have a display unit 10 and a base unit 12. The display unit 10 may be connected to the base unit 12 utilizing a hinging assembly 13. Alternatively, as illustrated in connection with FIGS. 7 to 9, a cover unit 52 may connect the display unit 10 to a base unit 12 having a keyboard 18 or other primary input device. In embodiments of the invention, the display unit 10 may include a display screen 14 and a display screen frame 16. The base unit may include a keyboard 18, a pointing device 20 and/or some other primary input device. In embodiments of the invention, the display unit 10, the base unit 12 or both may also include a central processing unit (not shown) and or a memory (not shown). The portable computer may also include an elec-