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(54) **TRI-FOLD CASE FOR A TABLET COMPUTER**

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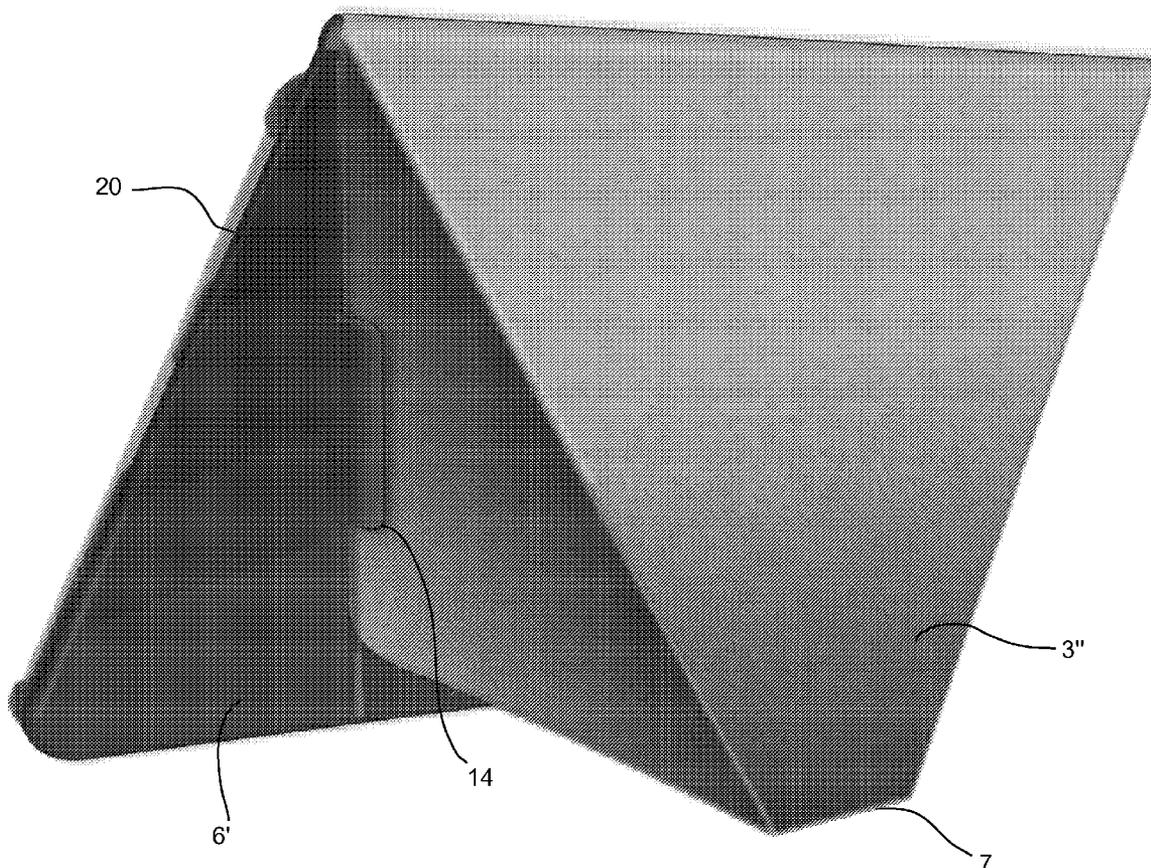
(57) **ABSTRACT**

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A tri-fold case for a tablet computer includes front and rear covers, a spine and hinges for rotating the covers and converting the case between storage and standing positions. The front cover has corner folding lines dividing the front cover into a center portion and corners. The rear cover has cutout flaps and flap folding lines for bending the flaps away from the rear cover. The front and rear covers have outer surfaces facing away from each other and inner surfaces facing toward each other for receiving the tablet computer in the storage position. The outer surfaces of the covers face each other, the corners are bent along the corner folding lines and the flaps are bent along the flap folding lines and attached to the outer surface of the front cover, for supporting the tablet computer at the outer surface of the rear cover in the standing position.

Related U.S. Application Data

(60) Provisional application No. 61/491,684, filed on May 31, 2011.



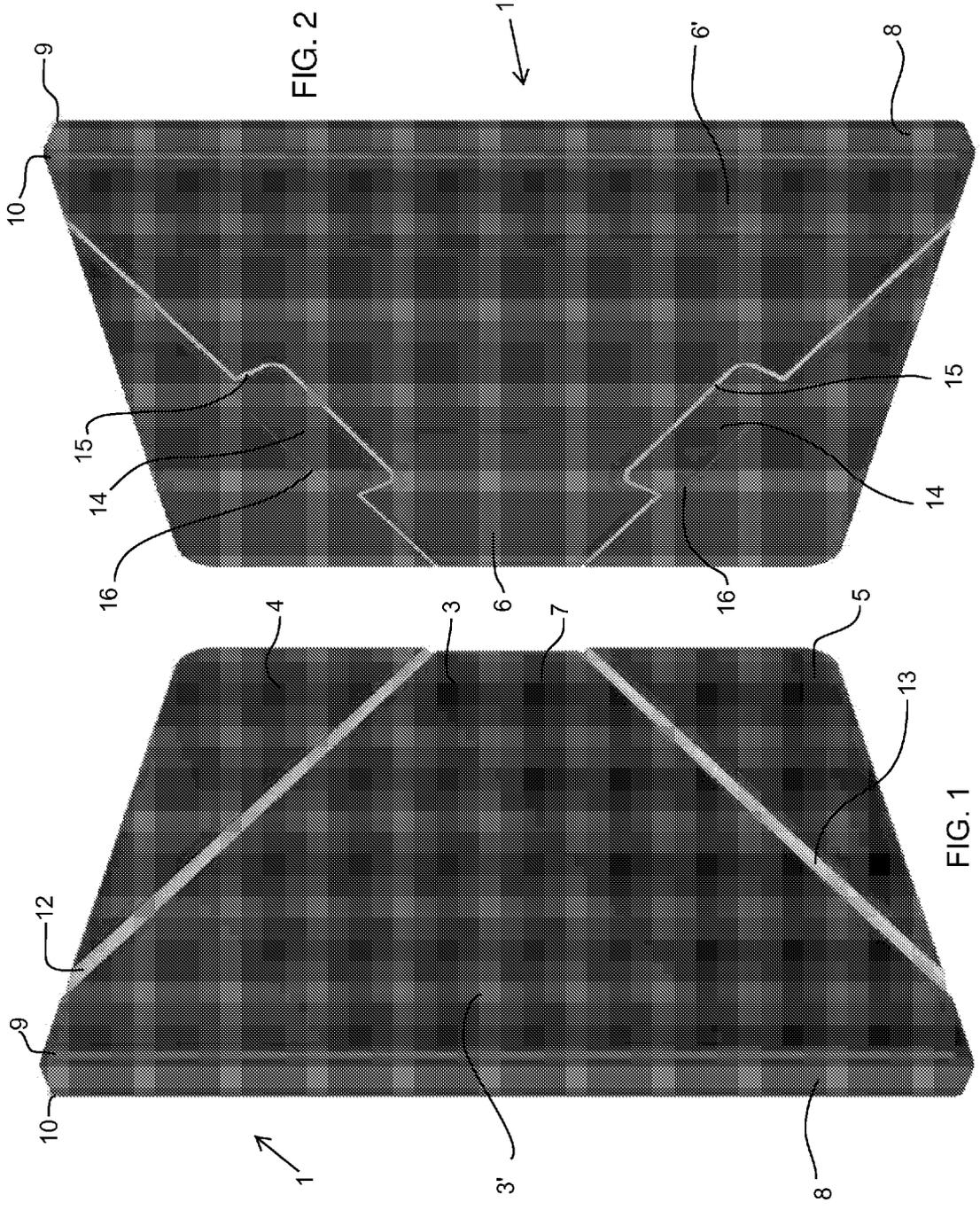


FIG. 2

FIG. 1

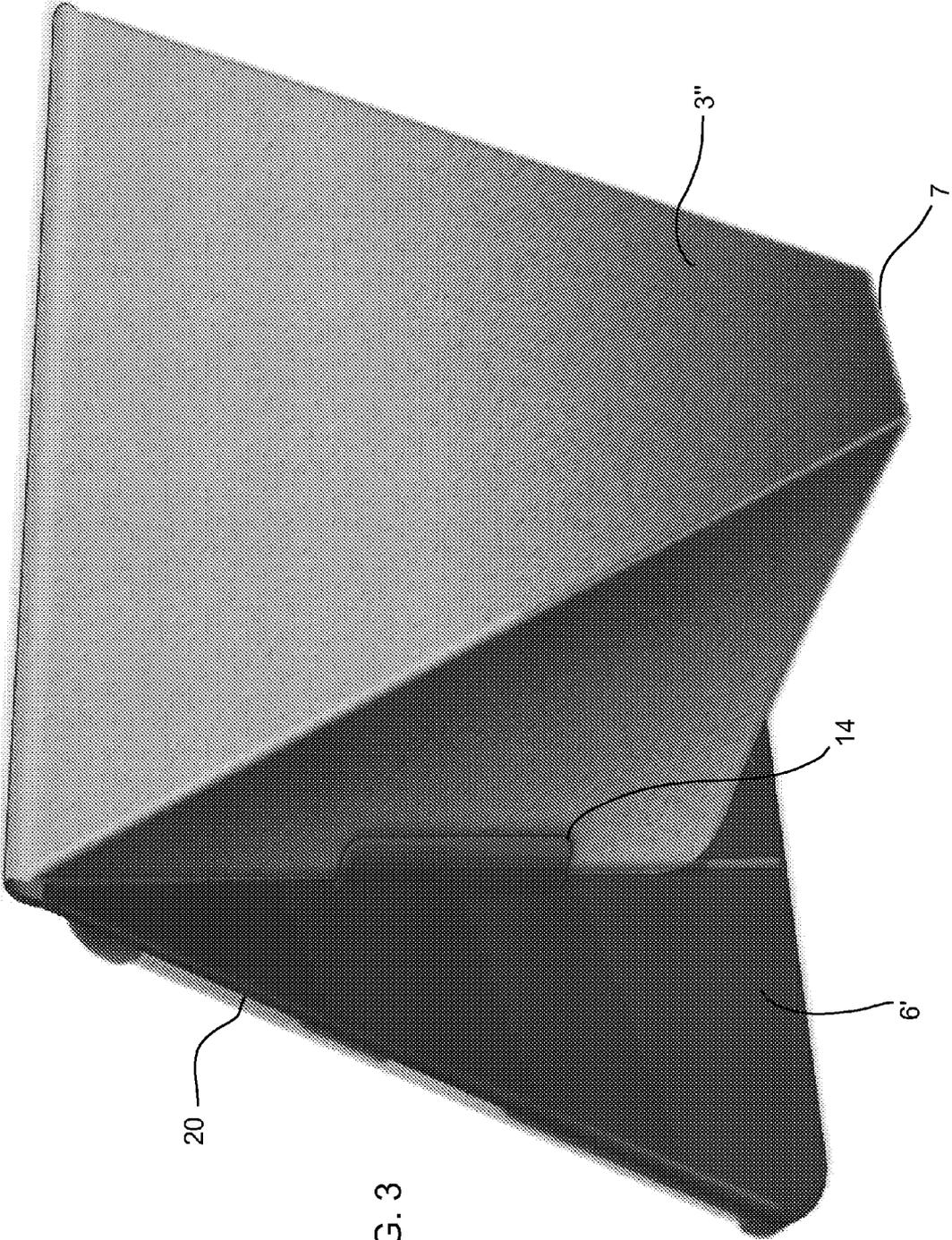
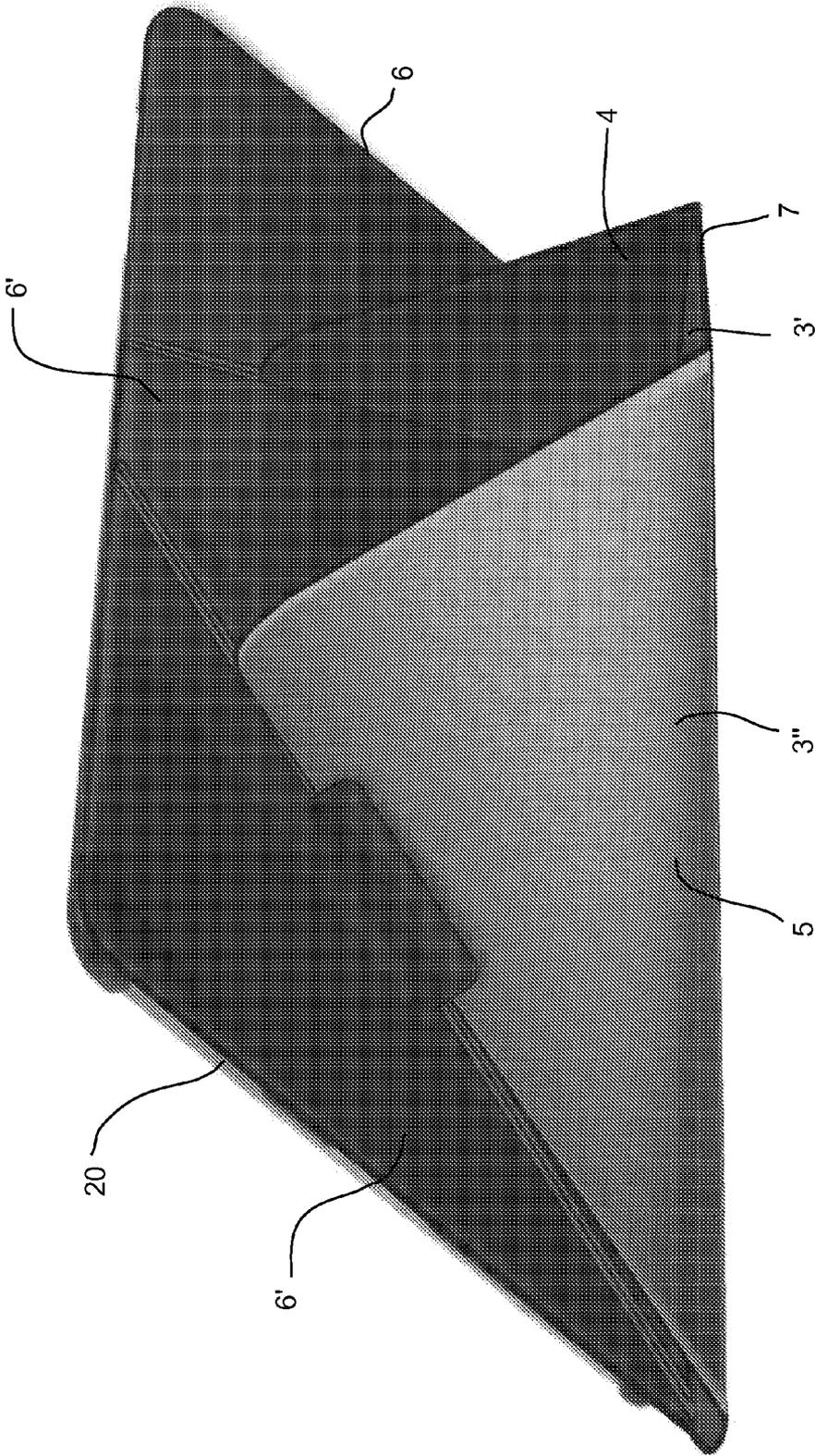


FIG. 3

FIG. 4



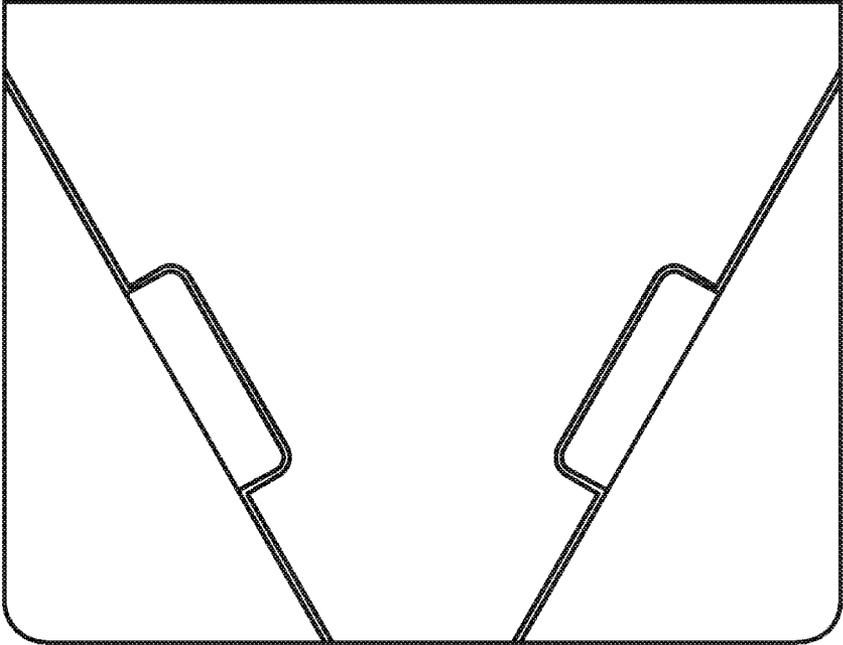


FIG. 6

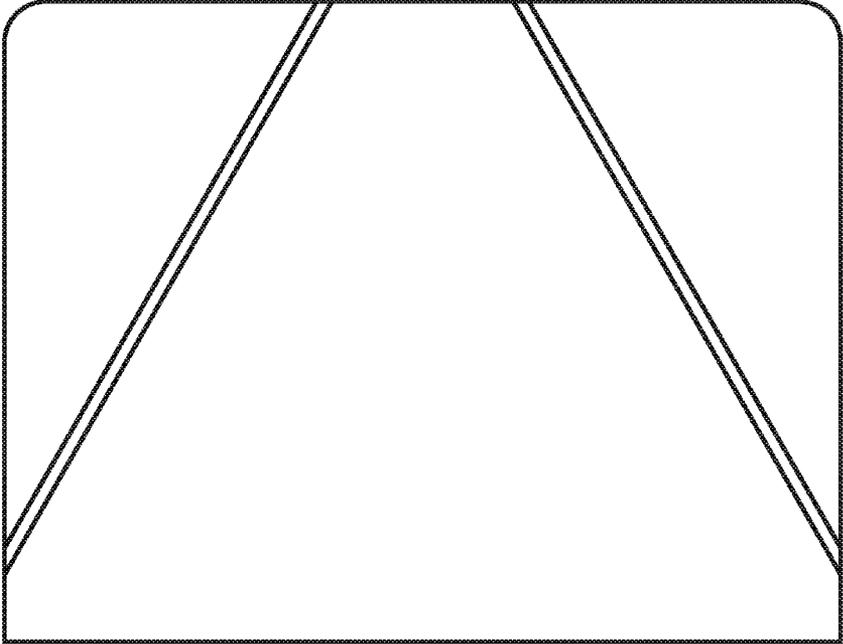


FIG. 5

TRI-FOLD CASE FOR A TABLET COMPUTER

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the priority, under 35 U.S.C. §119(e), of provisional application No. 61/491,684 filed May 31, 2011; the prior application is herewith incorporated by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The invention relates to a tri-fold case for a tablet computer. Tablet computers, such as the iPad from Apple, are devices which are between a laptop computer and a smart phone, both in terms of size and capabilities.

[0004] 2. Description of the Related Art

[0005] Tablet computers are too large to be held comfortably in the hand like a smart phone and do not have a horizontally-oriented keyboard which can rest on a surface while supporting a vertically-aligned screen like a laptop computer. Such devices therefore require accessories to enable them to be protected from damage and held in positions which are ergonomically correct, so as to increase productivity while limiting fatigue and discomfort experienced by the user of the device. However, the prior art does not provide both a case supplying adequate protection and a stand supplying ergonomically correct positioning for the device in one unit.

BRIEF SUMMARY OF THE INVENTION

[0006] It is accordingly an object of the invention to provide a tri-fold case for a tablet computer, which overcomes the hereinafore-mentioned disadvantages of the heretofore-known devices of this general type and which both protects the tablet computer when not in use and allows it to be used comfortably, especially its touch screen, while freeing both hands.

[0007] With the foregoing and other objects in view there is provided, in accordance with the invention, a tri-fold case for a tablet computer. The case comprises a front cover, a rear cover, a spine and hinges, especially living hinges, respectively connecting the covers to the spine for rotating the covers about the hinges and converting the case from a storage position to a standing position. The front cover has corner folding lines dividing the front cover into a center portion and corners. The rear cover has flaps cut out of the rear cover except for respective flap folding lines for bending the flaps away from the rear cover. The front and rear covers have outer surfaces facing away from each other and inner surfaces facing toward each other for receiving the tablet computer in the storage position. The outer surfaces of the front and rear covers face toward each other, the corners are bent along the corner folding lines and the flaps are bent along the flap folding lines and attached to the outer surface of the front cover, for supporting the tablet computer at the outer surface of the rear cover in the standing position. Thus, two major tasks of a tablet computer accessory have been accomplished by the invention, namely protecting the tablet computer when not in use and providing an ergonomic stand for using the tablet computer.

[0008] In accordance with another feature of the invention, hook and loop fasteners are provided on the flaps and the outer surface of the front cover. Such fasteners, commonly known as VELCRO®, provide a strong connection and yet are easily detached.

[0009] In accordance with a further feature of the invention, the standing position includes first and second standing positions. In the first standing position, an outer edge of the rear cover and an outer edge of the center portion of the front cover are configured to be supported on a horizontal surface. In the second standing position, the outer surface of the front cover at the center portion is configured to be supported on the horizontal surface. The case is thus able to rest in two different positions.

[0010] In accordance with a concomitant feature of the invention, the outer surface of the rear cover supports the tablet computer in a more vertical orientation in the first standing position than in the second standing position. More particularly, the outer surface of the rear cover supports the tablet computer at an inclination of approximately 30° from the vertical in the first standing position and approximately 45° from the vertical in the second standing position. The user of the case may therefore choose between two different viewing and operating angles for the tablet computer.

[0011] Other features which are considered as characteristic for the invention are set forth in the appended claims.

[0012] Although the invention is illustrated and described herein as embodied in a tri-fold case for a tablet computer, it is nevertheless not intended to be limited to the details shown, since various modifications and structural changes may be made therein without departing from the spirit of the invention and within the scope and range of equivalents of the claims.

[0013] The construction and method of operation of the invention, however, together with additional objects and advantages thereof will be best understood from the following description of the specific embodiment when read in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0014] FIG. 1 is a diagrammatic, front-perspective view of a tri-fold case for a tablet computer according to the invention in an unfolded position;

[0015] FIG. 2 is a rear-perspective view of the tri-fold case in the unfolded position;

[0016] FIG. 3 is a perspective view of the tri-fold case in a first standing position;

[0017] FIG. 4 is a perspective view of the tri-fold case in a second standing position; and

[0018] FIGS. 5 and 6 are respective front-elevational and rear-elevational views of templates for producing the case.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Referring now to the figures of the drawings in detail and first, particularly, to FIGS. 1 and 2 thereof, there is seen a tri-fold case 1 for a tablet computer. The case 1 is in an unfolded or closed position for storage or transport in FIGS. 1 and 2 and therefore it is not possible to see a tablet computer 20 which is disposed therein, as shown in FIGS. 3 and 4. The case 1 is in the shape of a book having a front cover 3 with corners 4, 5, a rear cover 6, a spine or spline 8 and live or living hinges 9, 10 interconnecting the spine and the covers. The front cover 3 has corner folding lines 12, 13 for the corners 4, 5. The rear cover 6 has flaps 14 which are cut out of the rear cover along a U-shaped edge 15, as well as flap folding lines 16 for the flaps.

[0020] The front cover 3 has an outer surface 3', an inner surface 3'' and a center portion 7. The rear cover 6 has an outer surface 6' and a non-illustrated inner surface facing the tablet computer 20. The inner surface 3'' is covered with "soft" hook

or loop material, such as VELCRO® and a non-illustrated surface of the flaps 14 facing away from the plane of the paper in FIGS. 1 and 2 is covered with “hard” hook or loop material, such as VELCRO®.

[0021] The steps used to convert the case 1 from the unfolded or closed position shown in FIGS. 1 and 3 to standing positions shown in FIGS. 3 and 4 for supporting the tablet computer 20, will now be described. Firstly, the corners 4, 5 are folded upward above the plane of the paper along the folding lines 12, 13 through approximately 90°. Secondly, the covers 3, 6 are folded along the living hinges 9, 10 through approximately 330° so that the surfaces 3' and 6' face each other. Thirdly, the flaps 14 are folded along the folding lines 16. Fourthly, the hook and loop materials on the surface of the flaps 14 and on the surface 3" are placed in contact with one another so as to hold the corners 4, 5 in place as shown in FIGS. 3 and 4. The angle of folding along the living hinges may be varied somewhat before attaching the hook and loop fasteners. It is also noted that the first, second and third steps may be carried out in any convenient order so that, for example, the flaps may be bent first, the living hinges second and the corners third.

[0022] The case 1 may now be used in one of two standing positions seen by comparing FIGS. 3 and 4. In FIG. 3, an outer edge of the cover 6 and an outer edge of the center portion 7 of the cover 3 may rest upon a horizontal surface in a first standing position so that the tablet computer 20 has a more vertical orientation which is inclined approximately 30° from the vertical. In FIG. 4, the center portion 7 of the inner surface 3" and the edge of the cover 6 rest upon the horizontal surface in a second standing position so that the tablet computer 20 has a less vertical orientation which is inclined approximately 45° from the vertical.

[0023] FIGS. 5 and 6 are highly diagrammatic, respective front-elevational and rear-elevational views of a template for producing the case, in which the various folding lines can be seen.

1. A tri-fold case for a tablet computer, the case comprising:

- a front cover, a rear cover, a spine and hinges respectively connecting said covers to said spine for rotating said

- covers about said hinges and converting the case from a storage position to a standing position;
- said front cover having corner folding lines dividing said front cover into a center portion and corners;
- said rear cover having flaps cut out of said rear cover except for respective flap folding lines for bending said flaps away from said rear cover;
- said front and rear covers having outer surfaces facing away from each other and inner surfaces facing toward each other for receiving the tablet computer in said storage position; and
- said outer surfaces of said front and rear covers facing toward each other, said corners being bent along said corner folding lines and said flaps being bent along said flap folding lines and attached to said outer surface of said front cover, for supporting the tablet computer at said outer surface of said rear cover in said standing position.

2. The case according to claim 1, which further comprises hook and loop fasteners on said flaps and said outer surface of said front cover.

3. The case according to claim 1, wherein said standing position includes:

- a first standing position in which an outer edge of said rear cover and an outer edge of said center portion of said front cover are configured to be supported on a horizontal surface; and
- a second standing position in which said outer surface of said front cover at said center portion is configured to be supported on the horizontal surface.

4. The case according to claim 3, wherein said outer surface of said rear cover supports the tablet computer in a more vertical orientation in said first standing position than in said second standing position.

5. The case according to claim 4, wherein said outer surface of said rear cover supports the tablet computer at an inclination of approximately 30° from the vertical in said first standing position and approximately 45° from the vertical in said second standing position.

6. The case according to claim 1, wherein said hinges are living hinges.

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