A bedtime computer table allows one to comfortably use a laptop computer or other portable electronic devices while reclining in bed or sofa. The bedtime computer table consists of a flat panel to support a laptop computer and a mouse, a set of collapsible leg panels that support said panel and reciprocal locking fixtures that set members at fixed positions. The bedtime computer table can be in folded or unfolded position.

The bedtime computer table has some of the following functions:

a) Protects user from heat and absorbs heat from a laptop computer.
b) Organizes one’s usage of laptop computer, computer keyboard and a mouse while staying in bed or sofa.
c) Alleviates weight pressure from user’s lap.
BEDTIME COMPUTER TABLE

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention relates to field of portable folding tables and trays and is to be used as a surface to place a laptop computer or other objects that may fit within the boundaries of the flat surface when user is in a reclining position in bed or sofa.

BACKGROUND OF THE INVENTION AND RELATION TO THE PRIOR ART

[0002] The present invention specifically relates to a foldable tables/trays that can be either self-supporting or supported in a person’s lap.

[0003] The significant increase of use of portable electronic devices and computers over recent years has increased the demand for supporting gadgets accommodating frequent travel and work away from the office or home.

[0004] The portability of computer devices, allows for their use in airplanes and waiting rooms, in conference rooms, hotel rooms and classrooms and anywhere else as needed by the user. The user customarily places the device on their lap, in order to perform computing operations, including entering commands by a keyboard or by a mouse. During long hours of computer work at home or traveling the user would prefer to use a laptop computer in the comfort of one’s bed or reclining in sofa. While portable devices allow for convenient access anywhere a user needs them, when placed on the user’s lap they present a real challenge in terms of being awkward, having the potential to cause excessive strain on the arm muscles of the user due to the position of the device.

[0005] In addition, it is well known that further discomfort may be caused as a result of significant amount of heat dissipation from batteries, cooling fans, hard drives, CPU’s and other parts of today’s computer. Placing the device directly on the user’s lap then results in additional discomfort and creates further difficulties for the user. Because users of portable devices are faced with such challenges, there has developed a need for a bedtime computer table or a portable bedtime computer folding table during use.

[0006] The prior art reviews a number of patents on such devices and a number of such products are available to address these challenges, but in most cases the resolution is not satisfactory in meeting the demand for resolution of various problems some of which were discussed above.

[0007] Tomaka et al., U.S. Pat. No. 4,953,473 describes an elongated tray that provides a support surface of the tray. Each end of the tray carries a “U”-shaped hinged leg. The leg is hinged to swing from a closed position where the leg is parallel to the bottom surface of support member, downward into a vertical position and then beyond into an over-center open position, in which position the leg is generally upright. Each “U”-shaped leg has a bight portion that is normally stiff, but is resiliently bendable under pressure. A stop is provided for each “U”-shaped leg, which limits the leg from moving beyond its over-center, open, generally upright position.

[0008] Davis et al., U.S. Pat. No. 5,005,702 describes a portable tray device includes a core having a resiliently compressible gas. A first and second leg extend outward in the same direction from opposite ends of the tray body. A layer of visco-elastic material substantially surrounds the core matrix to provide a surface with a high frictional coefficient. A generally planar tray body is formed having a resiliently compressible air-filled chamber with a first end and a second end. Second and third air-filled chambers are mounted to and extend generally perpendicularly outward in the same direction from the first and second ends, respectively.

[0009] Pannu, U.S. Pat. No. 5,377,946 describes a bed tray with a flat bottom member having a panel mounted in, adjustable at angles of inclination with respect to the top surface of the bottom member to serve as a book rest. The tray bottom member is provided with legs suitable for placing on a bed whereby the tray bridges the torso of a person reclined on the bed. The insert panel is supported such that its top surface is normally co-planar with the flat surface of the tray bottom member but is pivotally mounted to the bottom member for pivotal movement about an axis adjacent to the edge of the bottom member, which faces the person in bed.

[0010] Tomaka et al., U.S. Pat. No. 5,383,411 describes a combination serving tray, bed tray and bathroom tray wherein there are provided leg portions that can be placed in a folded position wherein the tray will serve its normal function and, if desired, the legs can be unfolded into a generally vertical position to allow the tray to function as a bed tray. When it is desired to utilize the tray in a bathtub, the legs are folded back into position underneath the tray and are slidingly supported to allow them to move longitudinally outwardly relative to the main tray portion to extend the length of the tray so it can be supported on the sidewalks of a bathtub.

[0011] Moss et al., U.S. Pat. No. 5,623,869 describes a lap table for a portable computer. The lap table comprises a main body having a top surface joined to a bottom surface. The main body, has a sealed hollow interior filling to give the main body means to support a portable computer. Filling material is comprised of either an inflating gas or styrofoam beads. The lap table also includes a securing wall with the top surface that is configured to receive a footprint of the portable computer.

[0012] Kadesky, U.S. Pat. No. 6,116,165 describes a lap tray formed from a continuous elongated flexible plastic panel and enclosed in a close fitting, removable, fabric cover. The tray includes a generally flat central portion having two intermediate portions bent at about 90 degree to the central portion and two end portions having return bends to a portion approximately parallel to the central portion.

[0013] Cordes et al. U.S. Pat. No. 6,496,560 describes a Laptop portable computer desk with a portable computer supporting attachment on which the portable computer is positioned and which in turn supports the portable computer at a level for use on a web strapping harness that passes over the upper legs of the user in the seated position. The supporting attachment is conveniently constructed as a collapsible unit that is close to the size of the portable computer itself. The portable computer is mounted on a structural member with telescopic and foldable properties.

[0014] Pipkin, U.S. Pat. No. 7,073,449 describes a tray for movable attachment to the back of a seat on an aircraft or the like, which incorporates a collapsible support panel. The tray is rectangular in shape with a central space housing. A movable support lever, which is automatically engaged by movement of the support panel, further secures reading material in place on the support panel.

[0015] Toltzman et al., U.S. Pat. No. 7,121,214 describes a portable laptop desk for supporting and stabilizing a portable computer. The laptop desk is lightweight, portable and can be stored with the laptop computer in a carrying case. It has frictional pads, which engage the legs of the user as well as the
computer case to provide stability and prevent the device from slipping from the lap of the user.

Ward, U.S. Pat. No. 7,275,724 describes a laptop computer support platform comprised of a rigid, multi-layered assembly including a thermal insulator. The thermal insulator is disposed between a upper side and a lower side of the assembly for reducing heat transference from a computer supported on the upper side of the assembly.

The above are representatives of various approaches found in the prior art but nevertheless do not provide satisfactory designs that alleviate the outlined problems.

SUMMARY OF THE INVENTION

Briefly, the present invention is directed for use in one’s bed or sofa providing great support for a laptop or other devices and creating an air gap between the user and the table, thus protecting the computer user from dissipating heat coming from an electronic device. The bedtime computer table is big enough to hold some additional items while in use such as beverage’s cup, electronic organizers, PDA’s, GPS, conventional or trackball mouse, etc. The table is collapsible and compact enough to be stored for an example between bed and a nightstand, in closets or any other narrow space. One substantial advantage of the device is that it has collapsible or expandable legs providing stability as well as preventing the device to touch users lap thus prohibiting heat transfer thus the device provides an excellent insulation and heat dissipation.

To provide the above-mentioned advantages, the present invention has a main panel which is aesthetically shaped with curves helping to optimize users workspace and storage area. Smoothness is added for an overall user satisfaction. Foldable side panels that lock in expanded position, form legs. Leg panels would lock in folded position via catches attached to insides of flat panel and leg panels. When legs are in folded position leg panels are relatively coplanar to the main panel. Leg panels would lock in unfolded position via side latches located outside of butt edge between main panel and leg panels. When legs lock in unfolded position they are relatively perpendicular to main panel, thus form long enough extension to support main panel with its contents away from the thighs of a bed sitting user and creating a great working surface of the bedtime computer table.

BRIEF DESCRIPTION OF THE DRAWINGS

The above sets forth the features and advantages of the present invention. Additional features and advantages of the invention will be described set forth in the following detailed description, claims and drawings in which:

FIG. 1 is an elevated “Southwest” perspective view of the invention in unfolded mode.

FIG. 2 is a slightly beneath front bottom-top view of the invention in unfolded mode.

FIG. 3 is a slightly off top view of the present invention in unfolded mode.

FIG. 4 is a slightly beneath front bottom-top view of the invention in folded mode.

FIG. 5 is a slightly off top view of the present invention in folded mode.

FIG. 6 is an elevated “Southwest” perspective of the presented invention, loaded with a laptop computer and a computer mouse placed on an unfolded bedtime computer table.

DETAILED DESCRIPTION

The Bedtime Computer Table shown on FIG. 1 has work plot surface panel 1 and two leg panels 2 attached to the first through flexible joint, allowing the legs to go in folded and unfolded position. FIG. 1 shows the present invention in unfolded mode, while FIG. 5 shows the present invention in folded mode. When device is in unfolded mode, locking latches 4 secure the present invention in its unfolded state. Shown latches 4 are one per side and secure leg panel 2 in it’s unfolded place.

FIG. 2 shows the presented invention beneath elevated position and reveals more detail on flexible joints 3. The joint attachments 3, securing proper folding function. Drawing shows catches 5a and 5b will secure leg to stay once put in folded position. Catches 5a and 5b securing a stable folded mode as holding surfaces of work plot panel 1 when coplanar to surfaces of folded side leg panels 2.

FIG. 3 shows the present invention slightly off top view where shape of work surface 1 is clearly visible. The locking latches 4 for both side panels are positioned on middle of sides edges on panel 1. Work panel 1 has notches 6 for placing locking latches 4 thus providing securing storage ability when the presented invention is vertically side leaned at wall or side placed in a narrow place thus protecting locking latches 4 from impact wear while transported or stored.

FIG. 4 is showing the table beneath its front elevated position with legs folded mode. Leg panels 2 are in folded position with surfaces relatively coplanar to the surface of work plot panel 1. In this drawing locking latches 4 are in their disengaged mode. In this folded mode the present invention would be easy to be stored, transported, carried or handled. Front and back edges 7 of work plot 1 are slightly arched for aesthetic purpose, ergonomics when use and compactness. Leg panels 2 are aesthetically shaped with cutout holes 8. A "butterfly" like hole 8 at leg panel 2 provides light overall construction. Cut out holes 8 provide enough structural strength to fulfill the purposes of a good support for presented invention. Cut out hole 8 forms natural handles for easier handling bedtime computer table when in unfolded or folded position. The outside contour 9 of leg panels 2 are following contour 7 of work plot 1.

FIG. 5 shows the bedtime computer table slightly off its top view with legs 2 folded. Shape of work plot 1 is clearly visible where front and back edges 7 are slightly arched and leg panel contour 9 follow front and back edges 7 thus forming a compact collapsed bedtime computer table ready for storage or used as a collapsed table with side edges of work plot 1 notched symmetrically 6.

FIG. 6 shows the presented bedtime portable computer folding table in its intended use where work plot panel 1 is loaded with a laptop computer and a computer mouse and leg panels 2 are in unfolded position.

U.S. Patent Documents

4,138,951 February 1979 Nelson
1 Claim:

1. A bedtime computer table comprising:

(a) Said two support members in unfolded position relative to said main member affixing bedtime computer table to an expanded position.

(b) Said two support members in folded position relative to said main member affixing bedtime computer table to a contracted position.

2. A bedtime computer table as recited in claim 1 comprising:

(a) Said two support members in unfolded position relative to said main member affixing bedtime computer table to an expanded position.

(b) Said two support members in folded position relative to said main member affixing bedtime computer table to a contracted position.

3. Main member as recited in claim 1 comprising of a shaped surface with two shaped edges and two straight edges adaptively notched to accommodate partially edge mounted lockable fixtures.

4. Two support members recited in claim 1, each comprising of flexible joint to said main member, edge mounted lockable fixture to said main member and an catching fixture to said main member.

5. Flexible joints recited in claim 4 placed along the straight edges of said main member pivoting around axis parallel to the said straight edges and offset appropriately to butt stop the said support members unto the said main member.

6. Edge mounted lockable fixtures securing expanded position as recited in claim 2.a.

7. Catching fixtures securing contracted position as recited in claim 2.b

8. Support members as recited in claim 1 having stress balanced design resembling table legs and forming shaped cavities reducing overall weight.

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