Abstract: A travel pillow for supporting the head of a person when seated comprises a generally U-shaped frame having two side members and a rear member, and a padded generally U-shaped cushion fixed with the frame. In one embodiment, the pillow includes a plurality of cushions each fixed along the frame. The frame and cushion may include a plurality of mutually-aligned ventilation apertures therethrough to cool the person's neck and head. The frame may include a plurality of connectable, size-adjustable, or hinged segments for allowing the pillow to be collapsed for storage or transport. In one embodiment, the frame is replaced by a plurality of rigid grommets fixed about each ventilation aperture, or a pair of lateral frames at side sections of the pillow. A travel pillow includes a resilient inner frame having a rear portion and two side portions, and U-shaped outer cushion fixed about the inner frame and including a rear portion and two side portions. Each side portion, and optionally the rear portions, includes at least one transverse air apertures therethrough. Each side portion of the inner frame further includes a forward end. The side portions may each include a drawstring aperture at the forward end for receiving a drawstring having two halves, each of which being fixed at a proximal end thereof at the drawstring apertures and being mutually and selectively fixable at distal ends thereof at one part of a two-part mechanical fastener. A flexible cover that has an opening therethrough into which the inner frame and the outer cushion are inserted may be included that has at least one ventilation area through which air may travel.
TRAVEL PILLOW

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of US Provisional Patent Application 61/951,421 to Wong, filed on March 11, 2014 and entitled "Travel Pillow", and US Patent Application 14/518,719 to Wong, filed on October 20, 2014 and entitled "Travel Pillow", each of which is fully incorporated by reference herein in its entirety.

FIELD OF THE INVENTION

This invention relates to pillows, and more particularly to an improved travel pillow.

DISCUSSION OF RELATED ART

Travel pillows are well known for helping people rest or sleep when in a seated position. However, such prior art travel pillows suffer from common drawbacks such as being bulky, trapping heat and moisture between the pillow and the user's neck and head, and generally being unable to adequately or comfortably support the person's head.

US Patent 6,926,686 to Cheatham on Aug. 9, 2005, discloses a travel pillow with some of these drawbacks. Little air is allowed to circulate between the pillow and the person's neck with this type of product, often resulting in an uncomfortably hot and sweaty neck. Further, this type of travel pillow causes the user's head to tilt forward.
due to a relatively large back portion that, when contacting the seat, puts pressure on
the rear of the person's neck. US Design Patent D619,402 to Sternlight et al. on July
13, 2010 teaches a similar device. PCT Application PCT/US2013/035646, published
on 10/17/2013 to Sternlight et al., teaches a similar device, albeit with a thinner back
portion. However, low air circulation is also a drawback of this device.

SUMMARY OF THE INVENTION

The present device is a pillow for supporting the head of a person when seated, such
as when sitting in an airline seat. The pillow comprises a generally U-shaped frame
that has two side members and a rear member. A padded generally U-shaped cushion
is fixed with the frame and is adapted to support the person's head when the frame
and the cushion are fixed about the person's neck. In one embodiment, the pillow
includes a plurality of cushions each fixed along the frame and adapted to support the
person's head when the frame and cushions are fixed about the person's neck. The
cushions may be contoured to conform to the person's jaw, shoulders, and head. The
frame may be fixed completely within the cushions, be fixed with an outside surface
of the cushions, or both by traversing the cushions at frame apertures of the cushions.

The present device is a travel pillow for a person. A preferably U-shaped resilient
inner frame includes a rear portion and two side portions. Each side portion, and
optionally the rear portion, includes at least one lateral, transverse air apertures
therethrough. Each side portion of the inner frame further includes a forward end.
In one embodiment, the frame and the cushions both include a plurality of mutually-aligned ventilation apertures traversing from an inside surface of the frame and cushions to the outside surface of the frame and cushions. As such, heated air between the person’s neck and the pillow may escape through the ventilation apertures, resulting in the cooling of the person’s neck and head.

A removable outer cover may be adapted for receiving therein each cushion and frame. The cover may include a bag configuration for transporting or storing the pillow when not in use. Alternately, a separate carrying bag may be included.

In certain other embodiments, the frame includes a plurality of connectable segments. Adjacent such segments are preferably selectively adjustably connectable, such as with a pin-and-aperture type mechanical fastening mechanism, or the like. As such, the size of the frame is selectively adjustable to fit the person’s head and neck. In one embodiment, the frame includes an inner L-shaped segment and an outer L-shaped segment that are mutually rotatably fixed at a pivot. As such, the segments may be rotated between a collapsed configuration and an expanded configuration.

In one embodiment, the frame includes a living hinge between each side member and the rear member. Alternately, the side members and rear member of the frame are each separate segments, with each side member and the rear member pivotally mutually fixed at a hinge mechanism. As such, the pillow may be folded at each living hinge between a collapsed position and an expanded position.
In one embodiment, the pillow includes the padded, generally U-shaped cushion having two side sections, a rear section, the inside surface and the outside surface, but no internal frame. The cushion is adapted for supporting the person’s head when the cushion is fixed about the person’s neck. The cushion further includes the plurality of ventilation apertures traversing the cushion between the inside and outside surfaces, thereof. In one such embodiment, each ventilation apertures may further include a rigid or resilient grommet adapted to add rigidity and support to the pillow. Such an embodiment may include the outer cover made from an air-permeable mesh or woven material. Alternately the cover may include cover apertures therethrough, each aligned with a corresponding ventilation aperture of the cushion.

In one such embodiment, each ventilation apertures may further include a rigid or resilient grommet adapted to add rigidity a30nd support to the pillow. Such an embodiment may include the outer cover made from an air-permeable mesh or woven material. Alternately the cover may include cover apertures therethrough, each aligned with a corresponding ventilation aperture of the cushion. In one embodiment, adjacent grommets may be connected to form framing grommets. In such an embodiment, the grommets may include an L-shaped radial cross-section or an elongated radial cross-section, so as to add sufficient rigidity to the pillow at the two side sections to support the person’s head when worn.

Alternately, the pillow includes the U-shaped cushion and a pair of lateral frames at the two side sections. Each such lateral frame includes at least one of the ventilation apertures therethrough. In one embodiment, each lateral frame is fixed to either the inside surface or the outside surface of one of the side sections. Alternately, each
lateral frame is fixed within one of the side sections. Each lateral frame is preferably
made with a material of higher density than the cushion.

In one embodiment, the pillow further includes a pair of tie strings each looped
through one of the forward-most ventilation apertures and adapted to me mutually and
selectively fastened, preferably with a two-part mechanical fastener. In the
embodiment of the pillow having the cover, each tie string may be threaded between
the cover and the cushion, exiting the cover at a forward end of the cover at a tie
string aperture.

In one embodiment, a plurality of vertical supports is fixed within the cushion on
either side of the ventilation apertures. Each vertical support has a density higher than
the cushion, and may be fixed between the outside surface of the cushion and each
lateral frame.

In one embodiment, each side portion of the cushion terminates a lower side thereof
with an outwardly-extending flared portion. As such, the lower side and the front
sides of each side portion rest on the person’s chest to help support the person’s head
when worn.

The pillow may further include a plurality of vertical ventilation apertures, preferably
each intersecting one of the horizontal ventilation apertures. The framing grommets
may be fixed externally to the cushion, internally to the cushion, partially or fully
within either the horizontal ventilation apertures, partially or fully within either the
vertical ventilation apertures, or both. In one embodiment, the inside surface of the
cushion further includes a plurality of vertical ventilation channels, each of which preferably intersects one of the horizontal ventilation apertures.

In an alternate embodiment of the pillow having the pair of lateral frames, each lateral frame includes at least one ventilation aperture having a supporting grid thereacross, the frame and grid being integrally formed from a resilient polymer material.

The present invention is a travel pillow that is compact and provides for a collapsed configuration for easier travel or storage when not in use. The present device further provides for heat and moisture dissipation between the pillow and the user's head and neck, and is contoured and internally supported to better retain the user's head in a comfortable position even while seated. The present invention is further relatively inexpensive to manufacture, easy to use and aesthetically pleasing. Other features and advantages of the present invention will become apparent from the following more detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

In one embodiment, a U-shaped outer cushion is fixed about the inner frame and includes a rear portion and two side portions. Each side portion, and optionally the rear portion, includes at least one lateral, transverse air apertures therethrough that are each aligned with one of the air apertures of the inner frame. Each side portion of the outer cushion further includes a forward end.

In one embodiment, an upper front portion of the side portions extends upward for contacting the person's jaw and cheek areas to support the person's head in a neutral
position. The upper front portion of each side portion is padded such that the cushion
compresses at least slightly for continuous support of the person's head when the
person's head is in the neutral position, upright and balanced from side-to-side.

The air apertures provide for an abundance of air flow through to the person's neck.
The relative size of each of the apertures may vary in size to allow different
compression characteristics along the top of the travel pillow. Pillars defined between
each aperture are provided to control flexion of the top portion of the outer cushion
and inner frame, improve support of the person's head, and provide for a wide range
of sizes.

For example, apertures, at the rear portions, may be relatively large so that the top
side of the cushion at the rear portion may flex more than, for example, along areas of
the side portion. Alternately, larger apertures towards the front of the side portions
allow for greater air flow and flexing at the front area of the travel pillow, while
smaller apertures and more rigid pillars in the back portion provide for greater support
at the back of the person's head.

The travel pillow preferably can further include a closure mechanism fixed with the
side portions of the inner frame and outer cushion. Preferably the side portions each
include a drawstring aperture at a forward end, thereof. The closure mechanism may
include, for example, a drawstring traversing the drawstring apertures of each side
portion. Such a drawstring is adapted to selectively and adjustably hold the forward
ends mutually together. Alternately, the closure mechanism may be the drawstring
traversing at least one of the air apertures, instead of the drawstring apertures.
The drawstring preferably includes two halves, each of which is fixed at a proximal end thereof to the side portions at one of the drawstring apertures thereof. Each drawstring half is mutually and selectively fixable at a distal end thereof at one part of a two-part mechanical fastener. Such a two-part mechanical fastener preferably includes at least one magnet for holding each part together. Each part of the two-part mechanical fastener further preferably includes a spring-biased drawstring cinch mechanism for selectively fixing the part to one of the drawstring halves at a selected position along the length of the drawstring half.

In one embodiment of the invention, each side portion of the outer cushion includes an ear depression formed in a top side thereof. Such an ear depression is adapted to reduce the chance of contact between the top side of the outer cushion with the person’s ears, earphones, ear buds, or the like.

The inner frame is preferably C-shaped in cross section at least along part of the side portions. As such, the top portion of the inner frame may flex under the weight of the person’s head as the lower part of the inner frame resists flexing. Each side portion of the outer cushion may further include a jawbone depression formed in the top side thereof, such that the travel pillow generally fits under and around a person’s jaw to support his head.

A flexible, preferably elastic chin sling may be fixed between the forward ends of each side portion of the outer cushion. Such a chin sling is adapted to support the person’s chin to keep the person’s head in a substantially upright position. The sling
may be removable, adjustable in length and elasticity, include cooling and forming
materials such as gel or micro beads, and may also function as the closure mechanism.

In one embodiment, the travel pillow further includes a flexible cover that has an
opening therethrough into which the inner frame and the outer cushion are inserted.
The cover includes at least one ventilation area through which air may travel.

Preferably the cover includes a flexible 4-way stretch fabric.

The present invention is a travel pillow that has a dynamic compression frame and
cushioning that has superior support architecture. The present device allows proper
flexion for load distributions and dissipations, adjusts to the person’s particular
anatomy, promotes air flow between the pillow and the person’s neck for reducing
sweat and increasing comfort. The present device comfortably maintains the user’s
head in an upright, neutral position during use, and supports the user’s head even if
tilted to one side or back. The present invention is contoured and internally supported
to better retain the user’s head in a comfortable position while seated. The present
device is further relatively inexpensive to manufacture, easy to use and aesthetically
pleasing. Other features and advantages of the present invention will become
apparent from the following more detailed description, taken in conjunction with the
accompanying drawings, which illustrate, by way of example, the principles of the
invention.

DESCRIPTION OF THE DRAWINGS
FIG. 1 is a perspective view of one embodiment of the invention, showing a frame embedded within a padded cushion;

FIG. 2 is a perspective view of an alternate embodiment of the invention;

FIG. 3 is a perspective view of another alternate embodiment of the invention;

FIG. 4A is a perspective view of an embodiment of the invention having ventilation apertures through side members of the frame and cushion;

FIG. 4B is a cross-sectional view thereof, taken generally along line 4B—4B of FIG. 4A;

FIG. 5 is a perspective view of an alternate embodiment of FIG. 4A;

FIG. 6 is a perspective view of another alternate embodiment of FIG. 4A;

FIG. 7 is a perspective view of an embodiment of the invention wherein the frame comprises multiple separated segments mutually adjustably fixed at a mechanical fastener;

FIG. 8 is a perspective view of FIG. 7 illustrated with the segments mutually affixed;

FIG. 9 is an alternate embodiment of FIG. 7;

FIG. 10 is a perspective view of FIG. 9 illustrated with the segments mutually affixed;

FIG. 11 is a perspective view of an embodiment wherein two segments are mutually pivotally attached, the pillow being illustrated in an expanded configuration;

FIG. 12 is a top plan view of an alternate embodiment of that shown in FIG. 11, except the pillow being in a collapsed configuration;

FIG. 13 is a perspective diagram of FIG. 11, except the pillow being in the collapsed configuration;

FIG. 14 is a top plan view of FIG. 12, except the pillow being in the expanded configuration;
FIG. 15A is a perspective view of an embodiment of the invention having a living
hinge formed between the side members and the rear member of the frame, the
pillow being shown in an expanded configuration;

FIG. 15B is a top plan view of the embodiment of FIG. 15A in a collapsed
configuration;

FIG. 16 is a perspective view of an alternate embodiment the invention;

FIG. 17 is a perspective view of another alternate embodiment the invention;

FIG. 18 is an exploded perspective view of an embodiment of the invention having a
hinge mechanism between the side members and the rear member of the
frame, and further illustrated a removable cover of the invention;

FIG. 19 is a perspective view of an embodiment of the invention having multiple
cushions;

FIG. 20 is a perspective view of an alternate embodiment of FIG. 19;

FIG. 21 is a perspective view of the embodiment of FIG. 19 but further including the
ventilation apertures;

FIG. 22 is a perspective view of the embodiment of FIG. 20 but further including the
ventilation apertures;

FIG. 23 is a perspective view of an embodiment of the invention having the cushion
but no frame, and instead having resilient or rigid grommets fixed about the
ventilation apertures;

FIG. 24 is an alternate embodiment of FIG. 23;

FIG. 25 is another alternate embodiment of FIG. 23;

FIG. 26A is a cross-sectional view through one of the apertures of FIG. 24;

FIG. 26B is a cross-sectional view through one of the apertures of FIG. 25;
FIG. 27 is a perspective view of an alternate embodiment of the invention having two internal frames;

FIG. 28 is a perspective view of another alternate embodiment of the invention having two external frames;

FIG. 29 is a perspective view of FIG. 27 but having a ventilated material covering the apertures of the frame;

FIG. 30 a perspective view of FIG. 28 but having a ventilated material covering the apertures of the frame;

FIG. 31A is a perspective view of an alternate embodiment having two frames made with a higher density cushioning pad than the cushion thereof;

FIG. 31B is a perspective view of an alternate embodiment wherein the frame is made with a higher density cushioning pad than the cushion thereof;

FIG. 32 is a perspective view of an alternate embodiment of FIG. 27, having a tie string looped through two of the ventilation apertures;

FIG. 33 is a perspective view of an alternate embodiment of FIG. 32;

FIG. 34 is a perspective view of an alternate embodiment of FIG. 27 having vertical supports;

FIG. 35 is a perspective view of an alternate embodiment of FIG. 34;

FIG. 36 is a perspective view of another alternate embodiment of FIG. 34;

FIG. 37 is a perspective view of yet another alternate embodiment of FIG. 34;

FIG. 38A is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of one embodiment of the frame;

FIG. 38B is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a second embodiment of the frame;
FIG. 38C is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a third embodiment of the frame;

FIG. 38D is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a forth embodiment of the frame;

FIG. 38E is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a fifth embodiment of the frame;

FIG. 38F is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a sixth embodiment of the frame;

FIG. 38G is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a seventh embodiment of the frame;

FIG. 38H is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of an eighth embodiment of the frame;

FIG. 38I is a cross-sectional view of a horizontal ventilation apertures, illustrating a cross-sectional view of a ninth embodiment of the frame;

FIG. 38J is a cross-sectional view of a tubular grommet inserted into a horizontal ventilation aperture;

FIG. 39K a cross-sectional view of a tubular grommet inserted into a vertical ventilation aperture;

FIG. 39 is a top plan view of an alternate embodiment of the cushion, showing a plurality of vertical ventilation channels;

FIG. 40 is a perspective view of an alternate embodiment of the pillow, showing an ear depression in a top contoured surface of the cushion;

FIG. 40A is a cross-sectional view of FIG. 40 along line 40A; and

FIG. 41 is a perspective view of one embodiment of the framing grommet.

FIG. 42 is a front elevational view of the invention;
FIG. 43A is a top plan view of an inner frame of the invention;

FIG. 43B is a right-side elevational view thereof;

FIG. 43C is an alternate right-side elevational view thereof;

FIG. 44A is a top plan view of the invention;

FIG. 44B is a right-side elevational view thereof;

FIG. 45A is a front elevational view of the invention, illustrating in phantom outline

the position of the internal frame within an outer cushion of the invention and;

FIG. 45B is a front elevational view of a closure mechanism of the invention,

illustrated with the inner frame and the cushion omitted for clarity of

illustration;

FIG. 46 is a rear perspective view of one embodiment of the inner frame;

FIG. 47 is a front elevational view of another embodiment, illustrated with the inner

frame and outer cushion cut away to show the interface between the invention

and a person’s jaw;

FIG. 48 is a partial side elevational view of another embodiment showing a rear

portion of the invention sloped with respect to vertical;

FIG. 49A is a side elevational view of the invention, showing an air aperture area as

compared to a non-aperture area;

FIG. 49B is a rear elevational view of the invention, showing an air aperture area as

compared to a non-aperture area; and

FIG. 50 is a bottom perspective view of a cover of the invention;

FIG. 51A is a top plan view of one embodiment of a chin sling of the invention; and

FIG. 51B is a top plan view of an alternate embodiment of the chin sling.
DETIALED DESCRIPTION OF THE PREFERRED EMBODIMENT

Illustrative embodiments of the invention are described below. The following explanation provides specific details for a thorough understanding of and enabling description for these embodiments. One skilled in the art will understand that the invention may be practiced without such details. In other instances, well-known structures and functions have not been shown or described in detail to avoid unnecessarily obscuring the description of the embodiments.

Unless the context clearly requires otherwise, throughout the description and the claims, the words “comprise,” “comprising,” and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of “including, but not limited to.” Words using the singular or plural number also include the plural or singular number respectively. Additionally, the words “herein,” “above,” "below" and words of similar import, when used in this application, shall refer to this application as a whole and not to any particular portions of this application. When the claims use the word "or" in reference to a list of two or more items, that word covers all of the following interpretations of the word: any of the items in the list, all of the items in the list and any combination of the items in the list. When the word “each” is used to refer to an element that was previously introduced as being at least one in number, the word “each” does not necessarily imply a plurality of the elements, but can also mean a singular element.

FIGS. 1-3 illustrate a pillow 10 for supporting the head 25 of a person 20 when seated, such as when sitting in an airline seat (not shown). The pillow 10 may also be
used for those lying in a supine position on a bed (not shown) or other flat surface, or
even a slanted surface (not shown). The pillow 10 supports the head 25 of the person
from falling to the left or right uncomfortably.

The pillow 10 comprises a generally U-shaped frame 30 that has two side members 40
and a rear member 50. The frame 30 may be made from a suitably resilient or rigid
material, such as plastic, aluminum, wood, rubber, or the like. In one embodiment, the
frame 30 is made with a higher-density foam material than is the cushion 60 (FIG.
31B).

A padded generally U-shaped cushion 60 is fixed with the frame 30 and is adapted to
support the person's head 25 when the frame 30 and the cushion 60 are fixed about
the person's neck 23. The cushion 60 may preferably include a contoured lower
surface 62 for conforming to the curvature of the person's shoulders 27. Likewise,
the cushion 60 may further include a contoured upper surface 68 conforming to the
curvature of the person's jaw 24. A contoured upper surface 68 of the cushion 60
may further conform to the curvature of the back 26 of the person's head 25. Further,
the contoured upper surface 68 may include an ear depression 350 for receiving a
person's ear without contacting the ear, and for making room for access to the ear
with headphones, so-called "ear buds," or the like (FIG. 40). The cushion 60 may be
made from a suitably padded, resilient foam material, either open or closed foam, or
other suitable material such as low-density rubber, foam rubber, or the like. Further,
such a cushion 60 may further include a closed outer shell (not shown) that is
generally water resistant.
In one embodiment, the frame 30 is fixed completely within the padded cushion 60 and the frame 30 is made from a rigid material, such as plastic, aluminum, or the like (FIG. 1). Alternately, the frame 30 may be fixed to an outside surface 69 of the padded cushion 60 (FIG. 2). Alternately, the frame 30 may be fixed partially within the cushion 60, wherein the frame 30 projects through the cushion 60 at a plurality of frame apertures 70 in the cushion 60 (FIG. 3). In such an embodiment, the rear member 50 may be fixed within the cushion 60 and the side members 40 of the frame 30 traverse the frame apertures 70 of the cushion 60 and are fixed to the outside surface 69 of the cushion 60 (FIG. 3), or alternately the rear member 50 of the frame 30 is fixed with the outer side 69 of the cushion 60 and the side members 40 of the frame 60 each traverse the frame apertures 70 in the cushion 60 and are at least partially fixed within the cushion 60 (not shown).

In one preferred embodiment, the frame 30 and the cushion 60 both include a plurality of mutually-aligned horizontal ventilation apertures 80 (FIG. 4A) traversing from an inside surface of the frame 31 and cushion 61 to the outside surface of the frame 39 and cushion 69 (FIG. 4B). As such, heated air between the person’s neck 23 and the pillow 10 may escape through the ventilation apertures 80, resulting in the cooling of the person’s neck 23 and head 25.

In one embodiment, the pillow 10 includes a plurality of cushions 60 (FIGS. 19-22), each fixed along the frame 30 and adapted to support the person’s head 25 when the frame 30 and cushions 60 are fixed about the person’s neck 23. In such an embodiment, the frame 30 may traverse at least one of the cushions 60 (FIGS. 20 and 22) through frame apertures 70 of the at least one cushion 60. For example, the rear
member 50 may be fixed within one of the cushions 60 and the side members 40 of
the frame 30 may be fixed to the outside surface 69 of the other cushions 60 (not
shown), or alternately the rear member 50 of the frame 30 may be fixed with the outer
side 69 of one of the cushions 60 and the side members 40 of the frame 30 may each
traverse the frame apertures 70 in the other cushions 60 and be at least partially fixed
within the other cushions 60 (not shown). Alternately, the frame 30 may be fixed to
the outside surface 69 of all of the padded cushions 60 (FIGS. 19 and 21). The
ventilation apertures 80 may further be included in one or more of the cushion 60 in
such an embodiment (FIGS. 21 and 22).

In such an embodiment having the plurality of cushions 60, two of the cushions 60
may include the contoured lower surface 62 for conforming to the curvature of the
person’s shoulders 27. Likewise, such cushions 60 may further include the contoured
upper surface 68 conforming to the curvature of the person’s jaw 24. A rear cushion
60 may include the contoured upper surface 68 for conforming to the curvature of the
back 26 of the person’s head 25.

A removable outer cover 160 (FIG. 18) may be included, the outer cover 160 adapted
for receiving therein the cushion 60 or cushions 60 and frame 30. The cover 160 may
include a bag configuration (not shown) for transporting or storing the pillow 10 when
not in use. Alternately, a separate carrying bag (not shown) may be included.

In certain other embodiments, the frame 30 includes a plurality of connectable
segments 90 (FIGS. 7-14 and 18). Adjacent such segments 90 are preferably
selectively adjustably connectable, such as with a pin-and-aperture type mechanical
fastening mechanism 100, or the like (FIGS. 7-10). Telescoping mechanisms (not
shown) may alternately be utilized as the fastening mechanism 100. As such, the size
of the frame 30 is selectively adjustable to fit the person's head 25 and neck 23.

In one embodiment, the frame 30 includes an inner L-shaped segment 110 and an
outer L-shaped segment 120 (FIGS. 11-14) that are mutually rotatably fixed at a pivot
130. As such, the segments 110,120 may be rotated between a collapsed
configuration 140 (FIGS. 13 and 14) and an expanded configuration 150 (FIGS. 11
and 12).

In one embodiment, the frame 30 includes a living hinge 170 (FIGS. 15A-17)
between each side member 40 and the rear member 50. Alternately, the side members
40 and rear member 50 of the frame 30 are each separate segments 90, with each side
member 40 and the rear member 50 pivotally mutually fixed at a hinge mechanism
210 (FIG. 18). As such, the pillow 10 may be folded at each living hinge 170
between a collapsed position 180 (FIG. 15A) and an expanded position 190 (FIGS.
15A and 18).

In one embodiment, the pillow 10 includes the padded, generally U-shaped cushion
60 having two side sections 220, a rear section 230, the inside surface 61 and the
outside surface 69. The cushion 60 is adapted for supporting the person's head 25
when the cushion 60 is fixed about the person's neck 23. The cushion 60 further
includes the plurality of ventilation apertures 80 traversing the cushion 60 between the
inside and outside surfaces 61,69 thereof. In one embodiment, each ventilation
aperture 80 is covered with a ventilating material 280, such as a mesh or loosely-woven material (FIGS. 29 and 30).

In one such embodiment, each ventilation apertures 80 may further include a rigid or resilient grommet 240 (FIGS. 23 and 24) adapted to add rigidity and support to the pillow 10. Such an embodiment may include the outer cover 160 made from an air-permeable mesh or woven material. Alternately the cover 160 may include cover apertures 250 therethrough, each aligned with a corresponding ventilation aperture 80 of the cushion 60. In one embodiment, adjacent grommets 240 may be connected with a connector 261 to form framing grommets 260 (FIG. 25).

In such an embodiment, the grommets 24 may include an L-shaped radial cross-section 261 or an elongated radial cross-section 262 (FIGS. 26A, 26B, and 38A-38I), so as to add sufficient rigidity to the pillow 10 at the two side sections 220 to support the person’s head 25 when worn.

Alternately, the pillow 10 includes the U-shaped cushion 60 and a pair of lateral frames 270 (FIGS. 27-34) at the two side sections 220. Each such lateral frame 270 includes at least one of the ventilation apertures 80 therethrough. In one embodiment, each lateral frame 270 is fixed to either the inside surface 61 or the outside surface 69 of one of the side sections 220 (FIGS. 28 and 30). Alternately, each lateral frame 270 is fixed within one of the side sections 220 (FIGS. 27 and 29). Each lateral frame 270 is preferably made with a material 271 of higher density than the cushion 60 (FIG. 31A).
In one embodiment, the pillow 10 further includes a pair of tie strings 290 (FIGS. 32 and 33) each looped through one of the forward-most ventilation apertures 80 and adapted to me mutually and selectively fastened, preferably with a two-part mechanical fastener 300. In the embodiment of the pillow 10 having the cover 160, each tie string 290 may be threaded between the cover 160 and the cushion 60, exiting the cover 160 at a forward end 162 of the cover 160 at a tie string aperture 164 (FIG. 32).

In one embodiment, a plurality of vertical supports 310 (FIGS. 34-36) is fixed within the cushion 60 on either side of the ventilation apertures 80. Each vertical support has a density higher than the cushion 60, and may be fixed between the outside surface 69 of the cushion 60 and each lateral frame 270.

In one embodiment, each side portion 220 of the cushion 60 terminates a lower side 61 thereof with an outwardly-extending flared portion 320 (FIGS. 36 and 37). As such, the lower side 61 and the front sides of each side portion 220 rest on the person's chest to help support the person's head 25 when worn.

The pillow 10 may further include a plurality of vertical ventilation apertures 330 (FIGS. 38E-38H and 38K), preferably each intersecting one of the horizontal ventilation apertures 80. The framing grommets 260 may be fixed externally to the cushion 60, internally to the cushion 60, partially or fully within either the horizontal ventilation apertures 80, partially or fully within either the vertical ventilation apertures 330, or both (FIGS. 26A, 26B, and 38A-38I). FIG. 39 illustrates an embodiment wherein the inside surface 61 of the cushion 60 further includes a
plurality of vertical ventilation channels 340, each of which preferably intersects one
of the horizontal ventilation apertures 80. The framing grommets 260 may take the
form of a tube 242 insertable into either the horizontal ventilation aperture 80 (FIG.
38J), or the vertical ventilation aperture 330 (FIG. 38K).

FIG. 41 illustrates an embodiment of the pillow 10 wherein each lateral frame 270
includes at least one ventilation aperture 80 having a supporting grid 360 thereacross,
the frame 270 and grid 360 being integrally formed from a resilient polymer material.
The frame 270 and grid 360 may be externally mounted with the cushion 60, or
internally mounted.

FIGS. 42-45B illustrate a travel pillow 510 for a person 520. The travel pillow 510 is
well suited for use while the person 520 is sitting, such as while traveling by plane,
train, automobile, or the like.

A resilient inner frame 530 includes a rear portion 540 and two side portions 550.
The inner frame 530 is preferably U-shaped (FIG. 43A). Each side portion 550, and
optionally the rear portion 540, includes at least one lateral, transverse air apertures
560 therethrough (FIG. 43B). Each side portion 550 of the inner frame 530 further
includes a forward end 532. A top portion 539 of the inner frame 530 is preferably
linear (FIG. 43B), or concave (FIG. 43C) to allow for a comfortable interface between
the person’s jaw and cheek areas 522 and the travel pillow 510. The top portion 539
of the side portions 550 of the inner frame 530 may also be concave in shape in a
front elevational view (FIG. 47), further providing for cupping of the person’s jaw
and cheek areas 522. The inner frame 530 is made with a resilient plastic or foam
material. While the inner frame 530 is preferably U-shaped, as illustrated in FIG.

43A, other embodiments may include a two-part inner frame comprising of the two
side portions 550 without the rear portion 540, or three discrete pieces comprising the
two side portions 550 and the rear portion 540 that are not in mutual contact, or the
like.

A U-shaped outer cushion 570 is fixed about the inner frame 530 and includes a rear
portion 580 and two side portions 590. Each side portion 590, and optionally the rear
portion 580, includes at least one lateral, transverse air apertures 600 therethrough that
are each aligned with one of the air apertures 560 of the inner frame 530. Each side
portion 590 of the outer cushion 570 further includes a forward end 572. The outer
cushion 570 is made with a pliable or malleable material, such as so-called memory
foam, soft rubber, or the like.

In one embodiment, an upper front portion 559 (FIG. 44B) of the side portions 590
extends upward for contacting the person's jaw and cheek areas 522 to support the
person's head 525 in a neutral position. The upper front portion 559 of each side
portion 590 is padded such that the cushion 570 compresses at least slightly for
continuous support of the person's head 525 when the person's head 525 is in the
neutral position, upright and balanced from side-to-side.

The air apertures 560,600 preferably cover a surface area A1 of between 5% and 85%
compared to the non-aperture area A2 (FIGS. 49A and 49B), providing for flexion
under load compression, and an abundance of air flow through to the person's neck
526. As such, the air apertures 560,600 in the inner frame 530 and the outer cushion
allow the top side 571 to flex under the weight of the person's head 525. The
relative size of each of the apertures 560,600 may vary in size to allow different
compression characteristics along the length of the travel pillow 510. For example,
apertures 560,600 at the rear portions 540,580 may be relatively small for better
structurally support. Moreover, a plurality of reinforcements 720 (FIG. 46) may be
fixed with the inner frame 530 between certain of the air apertures 560 on pillars 722
formed therebetween in order to reduce bending of the inner frame 530 except at a top
portion 539 thereof. One or more flex grooves 725 may also be formed in one or
more of the resilient pillars 722 to further promote flexing thereof when under
pressure at the flex grooves 725.

Each side portion 550 of the inner frame 530 preferably further includes at least one
folding groove 770 proximate the rear portion 540 (FIG. 43A). As such, the side
portions 590 of the outer cushion 570 and the side portions 550 of the inner frame 530
may each be folded towards the rear portions 540,580 for compact storing of the
travel pillow 510. A similar folding groove 770 may be included at corresponding
locations on the outer cushion 570 as well (not shown). Another folding groove 770
proximate the front end 532 of the inner frame 530 may be included for providing
better fitting around a smaller person 520.

The travel pillow 510 preferably further includes a closure mechanism 620 fixed with
the side portions 532,572 of the inner frame 530 and/or the outer cushion 570.
Preferably the side portions 550,590 of the inner frame 530 and the outer cushion 570
each include a drawstring aperture 610 at a forward end 532,572 thereof, respectively.
The closure mechanism 620 may include, for example, a drawstring 621 traversing
the drawstring apertures 610 of each side portion 550,590. Such a drawstring 621 is
adapted to selectively and adjustably hold the forward ends 532,572 mutually
together. Alternately, the closure mechanism 620 may be the drawstring 621
traversing at least one of the air apertures 560,600 instead of the drawstring apertures
610. Alternately, the closure mechanism 620 may be a length of hook-and-loop type
fastening material (not shown) looped through at least one of the air apertures
560,600, or a strap with a mechanical snap fastener (not shown), or the like.

The drawstring 621 preferably includes two halves 625, each of which is fixed a a
proximal end 624 thereof to the side portions 550,590 of the inner frame 530 and the
outer cushion 570 at one of the drawstring apertures 610 thereof. Each drawstring
half 625 is mutually and selectively fixable at a distal end 626 thereof at one part 631
of a two-part mechanical fastener 630 (FIGS. 42, 45A & 45B). Such a two-part
mechanical fastener 630 preferably includes at least one magnet 640 for holding each
part 631 together. Each part 631 of the two-part mechanical fastener 630 further
preferably includes a spring-biased drawstring cinch mechanism 650 for selectively
fixing the part 631 to one of the drawstring halves 625 at a selected position along the
length of the drawstring half 625.

A pair of drawstring anchors 680 (FIGS. 45A, 45B) may be included, each having a
tube 690 fixed with a center portion 705 of a disk 700. The tube 690 is adapted for
fitting within one of the drawstring apertures 610, and the disk 700 is large enough to
prevent the anchor 680 from traversing the drawstring aperture 610. The proximal
end 624 of each drawstring half 625 terminates at a T-shaped anchor 710 which is
able to traverse each drawstring apertures 610 when aligned with the end 624 of the
drawstring half 625, but when flipped 90-degrees is retained by the disk 700 and
prevented from being pulled back through the drawstring aperture 610. As such, the
drawstring 621 may not be pulled through the inner frame 530 or outer cushion 570.

Both the inner frame 530 and the outer cushion 570 may further include a thicker
anchor reinforcement area 611 about the drawstring apertures 610 to further inhibit
the drawstring 620 from being pulled through or ripping the outer cushion 570 or the
inner frame 530.

In one embodiment of the invention, each side portion 590 of the outer cushion 570
includes an ear depression 660 (FIG. 49A) formed in a top side 571 thereof. Such an
ear depression 660 is adapted to reduce the chance of contact between the top side
571 of the outer cushion 570 with the person's ears 528, earphones (not shown), ear
buds (not shown), or the like.

Preferably, at least a portion of an inside surface 574 of the outer cushion 570 at the
top side 571 thereof or a center portion 575 thereof (FIG. 47) is sloped inwardly with
respect to a bottom side 579 thereof, preferably at an angle \( \alpha \) of between 2 and 85-
degrees. Preferably, along the inside surface 574, the center portion 575 protrudes
inwardly along at least one portion of its length with respect to the top and bottom
sides 571,579 of the outer cushion. This angle \( \alpha \) may vary along the length of the
side portions 590 and rear portion 580.

In such an embodiment, the inner frame 530 is preferably C-shaped in cross section
(FIG. 47), preferably at least along part of the side portions 550. As such, the top
portion 539 of the inner frame 530 may flex under the weight of the person's head 525 as the lower part of the inner frame 530 resists flexing.

In one embodiment, an outside surface 576 of the outer cushion 570 at the top side 571 thereof is sloped outwardly with respect to the bottom side 579 thereof, preferably at an angle $\beta$ of between 2 and 30-degrees (FIG. 48). As such, contact between the outer cushion 570 and a seat (not shown) urges the travel pillow 510 to tilt forward rather than backward, a forward tilt of the travel pillow 510 being more comfortable to the person 520 and reducing the choking effect caused when such a travel pillow is tilted upward. That notwithstanding, the rear portions 540,580 are thin enough to minimize pressure transmitted from the seat through the rear portions 540,580 to the back of the person's head 525.

In one embodiment, each side portion 590 of the outer cushion 570 further includes a jawbone depression 670 formed in the top side 571 thereof, such that the travel pillow 510 generally fits under and around a person's jaw 522 to support his head 525 (FIGS. 44A and 47). Preferably when the person's head 525 is in a neutral vertical position, the top side 571 of the outer cushion 570 is compressed slightly to provide support to the person's head 525 in the neutral position (FIG. 42).

A flexible, preferably elastic chin sling 760 (FIGS. 44A, 51A, & 51B) may be fixed between the forward ends 572 of each side portion 590 of the outer cushion 570. Such a chin sling 760 is adapted to support the person's chin 527 to keep the person's head 525 in a substantially upright position. The sling 760 may be adjustable in location, length and elasticity, and may also function as the closure mechanism 620.
Such a chin sling 760 may include the mechanical two-part fastener 630 such as
buttons (FIG. 51A), snaps (not shown), a buckle (FIG. 51B), magnets (FIG. 44A),
hook and loop-type material (not shown), or the like. Such a chin sling 760 may be
selectively removable from one of the side portions 590 or both of the side portions
590.

In one embodiment, the travel pillow 510 further includes a flexible cover 730 (FIG.
50) that has an opening 740 therethrough into which the inner frame 30 and the outer
cushion 570 are inserted. The cover 730 includes at least one ventilation area 750
through which air may travel through the cover 730, the air apertures 560,600 of the
inner frame 530 and the outer cushion 570, and through the cover 730 again.

Preferably the cover includes a flexible 4-way stretch fabric.

While a particular form of the invention has been illustrated and described, it will be
apparent that various modifications can be made without departing from the spirit and
scope of the invention. Accordingly, it is not intended that the invention be limited,
except as by the appended claims.

Particular terminology used when describing certain features or aspects of the
invention should not be taken to imply that the terminology is being redefined herein
to be restricted to any specific characteristics, features, or aspects of the invention
with which that terminology is associated. In general, the terms used in the following
claims should not be construed to limit the invention to the specific embodiments
disclosed in the specification, unless the above Detailed Description section explicitly
defines such terms. Accordingly, the actual scope of the invention encompasses not
only the disclosed embodiments, but also all equivalent ways of practicing or
implementing the invention.

The above detailed description of the embodiments of the invention is not intended to
be exhaustive or to limit the invention to the precise form disclosed above or to the
particular field of usage mentioned in this disclosure. While specific embodiments of,
and examples for, the invention are described above for illustrative purposes, various
equivalent modifications are possible within the scope of the invention, as those
skilled in the relevant art will recognize. Also, the teachings of the invention
provided herein can be applied to other systems, not necessarily the system described
above. The elements and acts of the various embodiments described above can be
combined to provide further embodiments.

All of the above patents and applications and other references, including any that may
be listed in accompanying filing papers, are incorporated herein by reference.
Aspects of the invention can be modified, if necessary, to employ the systems,
functions, and concepts of the various references described above to provide yet
further embodiments of the invention.

Changes can be made to the invention in light of the above "Detailed Description."
While the above description details certain embodiments of the invention and
describes the best mode contemplated, no matter how detailed the above appears in
text, the invention can be practiced in many ways. Therefore, implementation details
may vary considerably while still being encompassed by the invention disclosed
herein. As noted above, particular terminology used when describing certain features or aspects of the invention should not be taken to imply that the terminology is being redefined herein to be restricted to any specific characteristics, features, or aspects of the invention with which that terminology is associated.

While certain aspects of the invention are presented below in certain claim forms, the inventor contemplates the various aspects of the invention in any number of claim forms. Accordingly, the inventor reserves the right to add additional claims after filing the application to pursue such additional claim forms for other aspects of the invention.
CLAIMS

What is claimed is:

1. A travel pillow comprising:
   a resilient inner frame comprising a rear portion and two side portions, each
   side portion comprising a plurality of inner air apertures;
   a pliable outer cushion fixed about said inner frame and comprising a rear
   portion and two side portions, each side portion comprising a plurality of outer air
   apertures, each of said plurality of outer air apertures substantially aligned with one of
   said inner air apertures.

2. The travel pillow of claim 1, further comprising a closure mechanism fixed with a
   forward end of each side portion of the inner frame and/or the outer cushion, the
   closure mechanism configured to selectively secure the forward ends mutually
   together.

3. The travel pillow of claim 2, wherein the side portions of the inner frame and the
   outer cushion each comprise a drawstring aperture at the forward end thereof, and
   wherein the closure mechanism comprises a drawstring traversing each drawstring
   aperture, the drawstring adapted to selectively and adjustably hold the forward ends of
   each side portion together.

4. The travel pillow of claim 3, further comprising a pair of drawstring anchors that
   each comprise a tube fixed with a center portion of a disk, the tube adapted for fitting
within one of the drawstring apertures and the disk adapted for preventing the anchor from completely traversing the drawstring aperture.

5. The travel pillow of claim 4, wherein the proximal end of each drawstring half terminates at a T-shaped anchor adapted to traverse the tube of each drawstring anchor when aligned with the end of the drawstring, and adapted to retain the end of the drawstring in the drawstring anchor when the T-shaped anchor is orthogonal to the end of the drawstring.

6. The travel pillow of claim 2, wherein the closure mechanism is a drawstring traversing at least one of the air apertures, the drawstring adapted to selectively, adjustably hold the forward ends of each side portion together.

7. The travel pillow of claim 6, wherein the drawstring comprises two halves, each drawstring half fixed at a proximal end thereof to the side portions of the inner frame and outer cushion at one of the apertures thereof, and each drawstring half mutually and selectively fixable at a distal end thereof at one part of a two-part mechanical fastener.

8. The travel pillow of claim 7, wherein the two-part mechanical fastener comprises at least one magnet for holding each part together.

9. The travel pillow of claim 8, wherein each part of the two-part mechanical fastener comprises a spring-biased drawstring cinch mechanism for selectively fixing the part to the drawstring halves at a selected position along the length of the drawstring half.
10. The travel pillow of claim 1, wherein an upper front portion of the side portions of
the outer cushion extend upward for contacting a person's jaw and cheek areas to
support the person's head.

11. The travel pillow of claim 1, wherein each side portion of the outer cushion
comprises an ear depression formed in a top side thereof.

12. The travel pillow of claim 1, wherein an inside surface of the outer cushion at a
center portion thereof is sloped inwardly with respect to both a top side and a bottom
side thereof.

13. The travel pillow of claim 1, wherein an inside surface of the outer cushion at a
top side thereof is sloped inwardly with respect to a bottom side thereof.

14. The travel pillow of claim 13 wherein the inside surface of the outer cushion at the
top side thereof is sloped inwardly with respect to the bottom side thereof at an angle
of between 2 and 65-degrees.

15. The travel pillow of claim 1, wherein an inside surface of the outer cushion at a
top side thereof is sloped inwardly with respect to a bottom side thereof at varying
angles at least along the length of each side portion thereof.

16. The travel pillow of claim 1, wherein an outside surface of the outer cushion at a
top side thereof is sloped outwardly with respect to a bottom side thereof.
17. The travel pillow of claim 16, wherein the outside surface of the outer cushion at the top side thereof is sloped outwardly with respect to the bottom side thereof at an angle of between 2 and 30-degrees.

18. The travel pillow of claim 1, wherein each side portion of the outer cushion comprises a jawbone depression formed in a top side thereof, whereby the travel pillow generally fits under a person’s jaw to support his head.

19. The travel pillow of claim 1, wherein the ratio of an air aperture area to a non-aperture area of the travel pillow is between 5% and 85%.

20. The travel pillow of claim 1, wherein the air apertures in the inner frame and the outer cushion allow a top side thereof to flex under weight of a person’s head.

21. The travel pillow of claim 20 wherein the air apertures of the inner frame and the outer cushion vary in size to allow different compression characteristics along the length of the travel pillow.

22. The travel pillow of claim 1, wherein the inner frame is C-shaped in cross section.

23. The travel pillow of claim 22, wherein the inner frame comprises a plurality of reinforcements fixed thereto between at least two of the air apertures thereof, the reinforcements reducing bending of the inner frame.
24. The travel pillow of claim 22, wherein when the travel pillow is configured to be positioned around a person's neck such that when the person's neck is in a neutral, centered position, the top side of the outer cushion at each side portion is compressed by the person's jaw.

25. The travel pillow of claim 1, wherein the rear portions of the inner frame and outer cushion comprise at least one air aperture.

26. The travel pillow of claim 1, further comprising a cover over said inner frame and outer cushion, the cover comprising at least one ventilation area through which air may travel through the cover, the air apertures of the inner frame and outer cushion, and through the cover again.

27. The travel pillow of claim 26, wherein the cover comprises a 4-way stretch fabric.

28. The travel pillow of claim 26, wherein the at least one ventilation area is an aperture devoid of material.

29. The travel pillow of claim 26, wherein the at least one ventilation area comprises a material that is more breathable than the material covering the remainder of the travel pillow.

30. The travel pillow of claim 1, wherein a top portion of the inner frame is linear or convex.
31. The travel pillow of claim 30, wherein the top portion of the inner frame is sloped inward and convex, whereby the top portion of the inner frame generally follows the anatomy of the person’s jawbone and cheek areas.

32. The travel pillow of claim 1, wherein the side portions of the outer cushion further each comprise at least one folding groove proximate the back portion, whereby the side portions of each outer cushion and inner frame may be folded towards the back portion for compact storing.

33. The travel pillow of claim 1, further comprising a chin sling fixed between front portions of each side portion of the outer cushion, the chin sling adapted to support the person’s chin to keep the person’s head in a substantially upright position.

34. The travel pillow of claim 33, wherein the chin sling is selectively removable from the outer cushion with at least one two-part mechanical fastener.

35. The travel pillow of claim 34, wherein the two-part mechanical fastener further allows the length of the chin strap to be selectively adjusted.

36. A pillow for supporting a person’s head when seated, the pillow comprising:
   a generally U-shaped frame having two side members and a rear member,
   a generally U-shaped cushion fixed with said frame and adapted to support the person’s head when said frame and said cushion are fixed about the person’s neck.
37. The pillow of claim 36, wherein the frame is fixed completely within the padded cushion and the frame is made from a rigid material.

38. The pillow of claim 36, wherein the frame is fixed to an outside surface of the padded cushion.

39. The pillow of claim 36, wherein the frame is fixed partially within the cushion, the frame projecting through the cushion at a plurality of frame apertures in the cushion.

40. The pillow of claim 39, wherein the rear member of the frame is fixed within the cushion and wherein the side members of the frame traverse the frame apertures in the cushion.

41. The pillow of claim 39, wherein the rear member of the frame is fixed with an outer side of the cushion and wherein the side members of the frame traverse the frame apertures in the cushion and are at least partially fixed within the cushion.

42. The pillow of claim 36, wherein the frame and cushion both comprise a plurality of mutually-aligned ventilation apertures traversing from an inside surface of the frame and cushion to the outside surface of the frame and cushion.

43. The pillow of claim 36, wherein the frame comprises a plurality of connectable segments.
44. The pillow of claim 43, wherein adjacent frame segments are selectively
adjustably connectable, and whereby the size of the frame is selectively adjustable to
fit the person’s head and neck.

45. The pillow of claim 44, wherein the adjacent frame segments are selectively
adjustably connectable at a pin-and-aperture type mechanical fastening mechanism.

46. The pillow of claim 36, wherein the frame comprises an inner L-shaped segment
and an outer L-shaped segment mutually rotatably fixed, whereby the segments may
be rotated between a collapsed configuration and an expanded configuration.

47. The pillow of claim 36, wherein the cushion further comprises a contoured lower
surface configured to conform to a person's shoulders.

48. The pillow of claim 36, wherein the cushion further comprises a contoured upper
surface configured to conform to the curvature of a person's jaw.

49. The pillow of claim 36, wherein the cushion further comprises a contoured upper
surface configured to conform to the curvature of the back of a person's head.

50. The pillow of claim 36, further comprising a removable outer cover adapted to
receive or contain the frame and cushion therein.
51. The pillow of claim 36, wherein the frame comprises a living hinge between each side member and the rear member, whereby the pillow may be folded at each living hinge between a collapsed position and an expanded position.

52. The pillow of claim 36, wherein the side members and rear member of the frame are separate pieces, each side member and rear member pivotally mutually fixed at a hinge mechanism, and whereby the pillow may be folded at each hinge mechanism between a collapsed position and an expanded position.

53. A pillow for supporting a person’s head when seated, the pillow comprising:

   a generally U-shaped frame having two side members and a rear member, a plurality of padded cushions each fixed to the frame and adapted to support a person’s head.

54. The pillow of claim 53, wherein the frame traverses each cushion.

55. The pillow of claim 53, wherein the frame is fixed with an outside surface of each cushion.

56. The pillow of claim 53, wherein the rear member of the frame traverses one of the cushions and wherein the side members of the frame are fixed with an outside surface of the remaining cushions.
57. The pillow of claim 53, wherein the rear member of the frame is fixed with an
outer side of one of the cushions and wherein the side members of the frame traverse
at least one of the other cushions at frame apertures thereof.

58. The pillow of claim 53, wherein the frame and a plurality of the cushions
comprise at least one mutually-aligned ventilation aperture traversing from an inside
surface of the frame and cushion to the outside surface of the frame and cushion.

59. The pillow of claim 53, wherein at least two of the cushions further comprise a
contoured lower surface configured to conform to the curvature of the person’s
shoulders.

60. The pillow of claim 53, wherein at least two of the cushions further comprise a
contoured upper surface configured to conform to the curvature of the person’s jaw.

61. The pillow of claim 53, wherein at least one of the cushions further comprises a
contoured upper surface configured to conform to the curvature of the back of the
person’s head.

62. The pillow of claim 53, further comprising a removable outer cover adapted to
receive the frame and cushions therein.

63. The pillow of claim 53, wherein the frame comprises a living hinge between each
side member and the rear member, and whereby the pillow may be folded at each
living hinge between a collapsed position and an expanded position.
64. The pillow of claim 53, wherein the side members and rear member of the frame are separate pieces, each side member and rear member pivotally mutually fixed at a hinge mechanism, whereby the pillow may be folded at each hinge mechanism between a collapsed position and an expanded position.

65. The pillow of claim 53, wherein the pair of tie strings is adapted to be mutually and selectively fastened with a two-part mechanical fastener.

66. A pillow for supporting a person’s head when seated, the pillow comprising:

- a generally U-shaped cushion having two side sections and a rear section, an inside surface, and an outside surface, said cushion comprising a plurality of horizontal ventilation apertures traversing the cushion between the inside and outside surfaces thereof.

67. The pillow of claim 66, wherein each aperture comprises a grommet.

68. The pillow of claim 67, wherein the grommet is of a higher density than the cushion.

69. The pillow of claim 66, further comprising a removable outer cover adapted to receive the cushion therein.

70. The pillow of claim 69, wherein the cover is made from an air-permeable mesh material.
71. The pillow of claim 69, wherein the cover is made from an air-permeable woven material.

72. The pillow of claim 69, wherein the cover comprises a plurality of cover apertures therethrough, each cover aperture aligned with a corresponding ventilation aperture of the cushion.

73. The pillow of claim 69, further comprising a pair of tie strings each looped through one of the forward-most ventilation apertures, fixed between the cover and the cushion, exiting the cover at a forward end of the cover at a tie string aperture, and adapted to be mutually and selectively fastened.

74. The pillow of claim 73, wherein the pair of tie strings is adapted to be mutually and selectively fastened with a two-part mechanical fastener.

75. The pillow of claim 66, further comprising a plurality of framing grommets each defining one of the ventilation apertures and each having a higher density than the cushion.

76. The pillow of claim 75, wherein each framing grommet has an L-shaped radial cross-section, and each framing grommet is internally fixed within the cushion.

77. The pillow of claim 75, wherein each framing grommet has an L-shaped radial cross-section, and each framing grommet is externally fixed outside of the cushion.
78. The pillow of claim 75, wherein each framing grommet has an elongated radial cross-section, and each framing grommet is internally fixed within the cushion.

79. The pillow of claim 75, wherein each framing grommet has an elongated radial cross-section, and each framing grommet is externally fixed outside of the cushion.

80. The pillow of claim 75, further comprising a vertical ventilation aperture intersecting each horizontal ventilation aperture.

81. The pillow of claim 80, wherein each framing grommet has an L-shaped radial cross-section, and each framing grommet is internally fixed within both the horizontal and vertical ventilation apertures.

82. The pillow of claim 80, wherein each framing grommet has an elongated radial cross-section, and each framing grommet is internally fixed within one of the vertical ventilation apertures.

83. The pillow of claim 66, further comprising a pair of lateral frames, each lateral frame comprising at least one of the ventilation apertures therethrough.

84. The pillow of claim 83, wherein each lateral frame is fixed to the inside surface of one of the side sections of the cushion.
85. The pillow of claim 83, wherein each lateral frame is fixed to the outside surface of one of the side sections of the cushion.

86. The pillow of claim 83, wherein each ventilation aperture is covered with a ventilating material.

87. The pillow of claim 86, wherein each framing grommet has an elongated radial cross-section, and each framing grommet is externally fixed outside of the cushion and the cover.

88. The pillow of claim 83, wherein each lateral frame is made with a material of a higher density than the cushion.

89. The pillow of claim 83, further comprising a plurality of vertical supports fixed within the cushion on either side of each ventilation apertures and between the outside surface of the cushion and the frame, the vertical supports each having a higher density than the cushion.

90. The pillow of claim 83, wherein each lateral frame comprises at least one ventilation aperture having a supporting grid thereacross, the frame and grid being integrally formed from a resilient polymer material.

91. The pillow of claim 66, further comprising a pair of tie strings each looped through one of the forward-most ventilation apertures and adapted to be mutually and selectively fastened.
92. The pillow of claim 66, further comprising a plurality of vertical supports fixed within the cushion on either side of each ventilation apertures, the vertical supports each having a higher density than the cushion.

93. The pillow of claim 92, wherein each side portion of the cushion terminates at a lower side thereof with an outwardly-extending flared portion.

94. The pillow of claim 66, wherein each side portion of the cushion terminates at a lower side thereof with an outwardly-extending flared portion.

95. The pillow of claim 66, further comprising a plurality of vertical ventilation channels formed on the inside surface of the cushion.

96. The pillow of claim 95, wherein each vertical ventilation channel intersects one of the horizontal ventilation apertures.

97. The pillow of claim 66, wherein the contoured upper surface of the cushion comprises an ear depression for receiving a person’s ear without contacting the ear.
A. CLASSIFICATION OF SUBJECT MATTER

A47G 9/10 (2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A47G 9/10; A47G 9/00; B01D 50/00; HO4R 25/00; HO4R 5/033

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: travel pillow, inner frame, air apertures, folding

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td></td>
<td>See abstract: paragraphs [0032], [0037]: claims 1, 6; and figures 2-3.</td>
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<td>See abstract: paragraph [0021]: claim 1; and figures 1-2.</td>
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<td>Y</td>
<td>WO 2013-155003 A1 (STERN, IGIT, DAVID BREIT et al.) 17 October 2013</td>
<td>2-11, 18, 24, 47-49</td>
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<tr>
<td></td>
<td>See abstract: paragraphs [0003], [0009]: claims 1, 7; and figure 1.</td>
<td>59-61, 65</td>
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<td>See abstract: paragraphs [0009], [0023]: claim 8; and figures 3-4.</td>
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<td>See abstract: paragraph [0034]: claims 7, 10; and figure 2.</td>
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</table>

Further documents are listed in the continuation of Box C. 

See patent family annex.

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
  "O" document referring to an oral disclosure, use, exhibition or other means
  "P" document published prior to the international filing date but later than the priority date claimed
  "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
  "Y" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
  "Y" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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