An articulating neck pillow (100) is provided. The neck pillow (100) may include a pillow portion (102) adapted, in use, to fit at least partially around a user’s neck and an articulating frame (104) coupled to the pillow portion (102). The frame (104) may be coupled to the pillow portion (102) such that movement of the frame (104) causes corresponding movement of the pillow portion (102). The frame (104) may include a pair of frame arms (144) pivotally connected together by a hinge (142) to articulate towards and away from each other. A rear end portion (154) of each frame arm (144) may project more rearwardly than the hinge (142) such that when the rear end portions (154) of each frame arm (144) are pressed against a surface (106), the frame arms (144) pivot thereby together towards each other and more closely around and toward the user’s neck.
ARTICULATING NECK PILLOW

TECHNICAL FIELD

[0001] The present disclosure relates generally to travel accessories, and more specifically to a neck pillow.

BACKGROUND

[0002] Neck pillows are typically U-shaped soft pillows that can be positioned about a user's neck to provide head and/or neck support to the user while the user is traveling in an upright position (e.g., on airplanes or trains, in automobiles, etc.). Typical neck pillows accordingly include pillow arms that wrap about a substantial portion of a user's neck in an attempt to support the user's head or neck during travel. The pillow arms of some neck pillows, however, may have a tendency to move away from the user's neck during use. Furthermore, the pillow arms of some neck pillows require active input from the user, such as being held in place, to position the pillow arms about the user's neck in the desired way. For example, the user may be required to hold the pillow arms against his/her neck to maintain proper head support and/or sleep comfort. Some traditional neck pillows include additional retaining mechanisms, such as strings or cords, that semi- permanently secure the pillow arms together once the neck pillow is positioned about the user's neck. These traditional configurations, however, may be difficult to remove quickly if needed.

[0003] It is therefore desirable to provide an improved neck pillow, and more specifically an improved neck pillow including an articulating frame arranged to position the neck pillow more closely and automatically around and toward a user's neck that addresses one or all of the above described problems and/or which more generally offers one or more improvements or an alternative to existing arrangements.


SUMMARY

[0005] The present disclosure provides an articulating travel pillow, as described below and defined in the accompanying claims. The present disclosure advantageously provides a neck pillow that provides improved positioning about a user's neck in use. For example, the neck pillow according to the present disclosure may allow the neck pillow to automatically move or collapse towards a user's neck in use, such as by, for example, the user pressing the neck pillow against a surface. This automatic "hugging" of the neck pillow about the user's neck may be facilitated by a frame, such as in one example a partially internal frame, of the neck pillow. Preferably, the frame of the neck pillow includes rear projections that project more rearward than a centrally positioned pivot of the frame to facilitate the neck pillow automatically "hugging" the user's neck when the projections are pressed against a surface.

[0006] Embodiments of the present disclosure may include a neck pillow for use in supporting the head and/or neck of a user. The neck pillow may include a pillow portion adapted, in use, to fit at least partially around a user's neck and an articulating frame coupled to the pillow portion. The frame may be coupled to the pillow portion such that movement of the frame causes corresponding movement of the pillow portion. The frame may include a pair of frame arms pivotally connected together by a hinge to articulate towards and away from each other. A rear end portion of each frame arm may project more rearwardly than a hinge such that when the rear end portions of each frame arm are pressed against a surface, the frame arms pivot thereby together towards each other and more closely around and toward the user's neck.

[0007] In some embodiments, the neck pillow and/or frame may be movable between a first, unactuated position and a second, actuated position. In the first position, the distance between the frame arms may be sufficient to receive the user's neck therewithin to position the pillow portion about the user's neck. The neck pillow and/or frame may be moved to its second position via the user pressing the rear end portions of the frame against the surface. The second position may be considered any position where the frame is actuated to apply a force directed to move the frame arms inwardly towards each other, whether the frame arms move inwardly an appreciable amount or not.

[0008] In some embodiments, the pillow portion may include a pair of pillow arms connected together by a central pillow portion. Each pillow arm may include an end projecting more rearward than the hinge to move the pillow arms inwards in use when the rear end of each pillow arm is pressed against a surface and a user's neck presses against the central pillow portion. The frame may be coupled to the pillow arms and to the central pillow portion. The frame may be centrally pivoted between the rear ends of the pillow arms. The central pillow portion may be adapted to abut against the nape of a user's neck in use. The pillow arms and the central pillow portion may form a U-shaped pillow.

[0009] In some embodiments, the frame may be at least partially rigid and at least partially covered by padding. The frame may be an internal frame.

[0010] In some embodiments, each frame arm may include a first part and a second part at an angle to the first part. The first parts of the pair of frame arms may be hingedly connected together. The first and second parts may define an L-shaped arm. The first part of each frame arm may be enlarged as compared to the second part extending therefrom. Each of the first and second parts of each frame arm may define a respective plane. The plane defined by the first part of each frame arm may extend orthogonally to the plane defined by the second part of each frame arm. The first parts may be enlarged in the direction of their respective planes. The respective planes defined by each second part of the pair of frame arms may be substantially parallel.

[0011] In some embodiments, a portion of each frame arm may extend along an outer side of the neck pillow.

[0012] In some embodiments, the frame arms may curve convexly towards each other to position the neck pillow closely around the user's neck.

[0013] In some embodiments, the frame includes a central frame portion. The frame arms may extend from opposite ends of the central frame portion. The central frame portion may be coupled to the central pillow portion. The frame arms may be coupled to the pillow arms. The frame arms may extend from the opposite ends at an angle to the central frame portion but in the same plane to each other. The central frame portion may include a plate-like element. The
central frame portion may be defined by a plate including a concave shape facing to the outer surface of the neck pillow. The opposite ends of the central frame portion may pivot about the hinge to move the frame arms towards each other and position the pillow arms more closely around a user’s neck. The central frame portion may define an exterior surface on the rear of the neck pillow. The central frame portion and the frame arms may define a generally "W"-shaped. The central frame portion may resiliently flex about the hinge.

[0014] Embodiments of the present disclosure may include a neck pillow for use in supporting the head and/or neck of a user. The neck pillow may include a pair of pillow arms connected together by a central pillow portion, and a portion of the central frame portion is connected to the pillow arms and operable to move the pillow arms towards and away from each other about a pivot. A rear end of each pillow arm may project more rearward than the pivot of the frame to move the pillow arms inwards in use when the rear end of each pillow arm is pressed against a surface and a user’s neck presses against the central pillow portion.

[0015] In some embodiments, the neck pillow and/or frame may be movable between a first, unactuated position and a second, actuated position. In the first position, the distance between the pillow arms may be sufficient to receive the user’s neck thereby to position the pillow arms about the user’s neck. The neck pillow and/or frame may be moved to its second position via the user pressing the rear ends of the pillow arms against the surface to actuate the frame. The second position may be considered any position where the frame is actuated to apply a force directed to move the pillow arms inwardly towards each, whether the pillow arms move inwardly an appreciable amount or not.

[0016] In some embodiments, the pivot may be defined adjacent the central pillow portion.

[0017] In some embodiments, the frame may include a central frame portion coupled to the central pillow portion and a pair of frame arms extending from opposite ends of the central frame portion, the frame arms coupled to the pillow arms. The pivot may be defined by a vertically oriented hinge defined centrally in the central frame portion of the frame.

[0018] Embodiments of the present disclosure may include a neck pillow for use in supporting the head and/or neck of a user. The neck pillow may include an articulating frame. The frame may include a central frame portion and a pair of frame arms extending from opposite ends of the central frame portion. The central frame portion may include a hinge centrally defined therein. The frame may be adapted, in use, to fit around the user’s neck. In a first position, the opposite ends of the central frame portion may project further way from the user’s neck than the hinge such that when the user’s neck is pressed against the central frame portion and the opposite ends of the central frame portion pivot about the hinge to move the frame arms towards each other and move closer to the user’s neck.

[0019] Additional embodiments and features are set forth in part in the description that follows, and will become apparent to those skilled in the art upon examination of the specification or may be learned by the practice of the disclosed subject matter. A further understanding of the nature and advantages of the present disclosure may be realized by reference to the remaining portions of the specification and the drawings, which forms a part of this disclosure. One of skill in the art will understand that each of the various aspects and features of the disclosure may advantageously be used separately in some instances, or in combination with other aspects and features of the disclosure in other instances.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The description will be more fully understood with reference to the following figures in which components are not drawn to scale, which are presented as various embodiments of the present disclosure and should not be construed as a complete recitation of the scope of the disclosure, characterized in that:

[0021] FIG. 1 is a top, rear perspective view of a neck pillow according to various embodiments of the present disclosure;

[0022] FIG. 2 is a top plan view of the neck pillow of FIG. 1 in a first position;

[0023] FIG. 3 is a top plan view of the neck pillow of FIG. 1 in a second position;

[0024] FIG. 4 is a top, rear perspective view of a frame according to various embodiments of the present disclosure;

[0025] FIG. 5 is a top plan view of the frame of FIG. 4 in a first position;

[0026] FIG. 6 is a top plan view of the frame of FIG. 4 in a second position;

[0027] FIG. 7 is a side elevation view of the frame of FIG. 4;

[0028] FIG. 8 is a partially cut-away, perspective view of the neck pillow of FIG. 1 received within an outer pillow sleeve according to various embodiments of the present disclosure; and

[0029] FIG. 9 is a perspective view of the neck pillow of FIG. 1 in use around the neck of a user.

DETAILED DESCRIPTION

[0030] According to the present disclosure, an articulating neck pillow is provided for automatically adjusting inwardly towards a user’s neck, sometimes referred to herein as “hugging” a user’s neck, in use. The neck pillow includes an articulating frame including a centrally positioned pivot and rear projections, the rear projections extending more rearwardly than the centrally positioned pivot. In use the positioning of the projections relative to the pivot applies a force directed to move (e.g., pivot) pillow arms of the neck pillow inwardly towards each other about the pivot to more closely “hug” a user’s neck. The “automatic” pivoting of the pillow arms may be caused by pressing the projections against a surface, such as against a headrest of a chair or seat, while also pressing against the centrally positioned pivot, such as under the force of the user’s head or neck while leaning back against the neck pillow positioned against the headrest.

[0031] According to an embodiment of the present disclosure, illustrated in FIGS. 1-3, a neck pillow 100 is provided including a pillow portion 102 adapted, in use, to fit at least partially around a user’s neck, and an articulating frame 104 whereby a user can selectively manipulate the pillow portion 102 to position the neck pillow 100 at least partially around the user’s neck. As described herein, the neck pillow 100 (e.g., the frame 104 of the neck pillow 100) is arranged to automatically move portions of the neck pillow 100 inwardly towards the user’s neck in use when a portion of
the neck pillow 100 is pressed against a surface 106, such as against a headrest of a chair or seat within an automobile, train, airplane, home, or other location. The automatic positioning of the neck pillow 100 around a user’s neck may be accomplished with little to no attention or effort from the user during use. For example, as explained more fully below, the neck pillow 100 may automatically “hug” the user’s neck under the bias of the user’s weight as the user leans back in the chair or seat. Once positioned around the user’s neck, the neck pillow 100 provides lateral support to the user’s head and/or neck, thereby limiting side-to-side and front to back movement of the user’s head and/or neck to provide a degree of comfort to a user. The neck pillow 100 described herein may support the user’s head or neck (such as for proper head alignment or sleep comfort) without active input from the user. For example, because the neck pillow 100 automatically “hugs” the user’s neck under the bias of the user’s own weight, the neck pillow 100 may properly support the user’s head in situations where the user is unconscious (e.g., asleep) or otherwise unable to properly position his/her head. Though discussed with reference to lying back against a headrest of a chair or seat, the neck pillow 100 may be utilized in other situations wherein lateral support of the head or neck is desired. The various components of the neck pillow 100 and the frame 104 will be discussed in detail below with reference to the accompanying figures, which are for exemplary purposes only.

[0032] In the exemplary embodiments shown in FIGS. 1-3, the neck pillow 100 includes a pair of pillow arms 120 connected together by a central pillow portion 122. The pillow arms 120 and central pillow portion 122 may be separate elements connected together (e.g., via stitching, fasteners, or the like) or may be formed integrally together during manufacturing. The pillow arms 120 and central pillow portion 122 may be oriented relative to one another in substantially any configuration; however, in a preferred embodiment, the neck pillow 100 is substantially U-shaped to extend at least partially around a user’s neck in use. For example, the pillow arms 120 and the central pillow portion 122 may be oriented relative to one another to define a U-shaped pillow.

[0033] In the embodiments described herein, the pillow arms 120 and the central pillow portion 122 are deformable and/or compressible to provide a desired characteristic to the neck pillow 100. For instance, the pillow arms 120 and the central pillow portion 122 may be deformable and/or compressible to provide comfort, for instance in the form of physical support, to a user and/or to allow the pillow portion 102 to be positioned at least partially around the user’s neck. In one embodiment, the pillow arms 120 and the central pillow portion 122 may be filled with compressible material (e.g., with compressible foam, cellular material, expanded polystyrene, padding, air, or the like) to cushion the user’s head, neck, and/or chin positioned thereagainst, the compressible material also providing shape to the pillow arms 120 and to the central pillow portion 122. The compressibility and/or deformability of the pillow arms 120 and the central pillow portion 122 may be uniform or may be varied between the components. For example, depending on the particular application, the central pillow portion 122 may be more or less compressible and/or deformable than the pillow arms 120. In like manner, a distal end 124 of each pillow arm 120 may be more or less compressible and/or deformable than a proximal end 126 of the pillow arm 120 to provide a desired amount of support comfort to a user.

[0034] The pillow arms 120 and the central pillow portion 122 may be sized and shaped to provide a desired aesthetic and/or functional characteristic to the neck pillow 100. For example, the thickness of each pillow arm 120 may vary between its distal and proximal ends 124, 126 to accommodate the shape of a user’s jaw. In one embodiment, the pillow arms 120 may be thinner adjacent the proximal ends 126 of the pillow arms 120 to account for the user’s angle of the mandible. In such embodiments, the pillow arms 120 may be thicker adjacent the distal ends 124 of the pillow arms 120 to account for the user’s chin. In like manner, the central pillow portion 122 may be adapted to abut against the nape of a user’s neck in use. The depth of the central pillow portion 122 (i.e., the depth of the central pillow portion 122 between the user’s neck and the surface 106) may vary between the pair of pillow arms 120. For instance, as shown in FIG. 1, a cutout 130 may be defined at the rear portion of the neck pillow 100. For example, in one embodiment, the cutout 130 is formed in a proximal end 126 of each of the opposing pillow arms 120 and the rear of the central pillow portion 122. As detailed below, the cutout 130 may be shaped to receive at least a portion of the frame 104.

[0035] Additionally or alternatively, the shape of the cutout 130 may facilitate the automatic pivoting of the pillow arms 120 inwards during use. For example, the cutout 130 may at least partially define a rear end 132 of each pillow arm 120, the rear ends 132 projecting more rearward than a central portion of the central pillow portion 122 and the frame 104 in use. For instance, when the neck pillow 100 is positioned around a user’s neck in use, the rear ends 132 project rearwardly behind the user to engage the surface 106. This forms a clearance gap 134 between the frame 104 and the surface 106, so that when the rear end 132 of each pillow arm 120 is pressed against the surface 106 in use (e.g., against a headrest), as explained below, the frame 104 articulates or folds into the clearance gap 134, which allows the pillow arms 120 to pivot inwards and contact the user’s head and/or neck to provide support. As explained below, as the frame 104 articulates or folds into the clearance gap 134, the relative position between the rear ends 132 of the pillow portion 102 and a portion of the frame 104 (such as a centrally pivoting portion of the frame 104 as explained below) changes, and in this case they move closer to lying in the same plane, to bias the pillow arms 120 to pivot inwards. For example, when the rear end 132 of each pillow arm 120 is pressed against the surface 106 in use, a centrally pivoting portion of the frame 104 moves towards the surface 106 to pivot the pillow arms 120 towards each other (see FIGS. 2 and 3).

[0036] Referring to FIGS. 2 and 3, the neck pillow 100 may be movable between a first, un-actuated position (see FIG. 2) and at least one second, actuated position (see FIG. 3). In the first position, the pillow arms 120 may be positioned away from each other a distance defined by the structure of the frame 104. In the example shown here, the distance between the distal ends 124 of the pillow arms 120 is sufficient to receive a user’s neck therebetween to then position the user’s neck between the pillow arms 120. Alternatively, the distal ends 124 of the pillow arms 120 may be spaced apart any suitable distance, or may be in contact with each other but defectable to open sufficiently to allow the neck pillow 100 to be positioned around a user’s neck.
[0037] Once the neck pillow 100 is positioned about the user’s neck, the neck pillow 100 may be moved to a second position, such as by pressing the rear ends 132 of the pillow arms 120 against the surface 106. In the second position, the distal ends 124 of the pillow arms 120 may be moved inwardly towards each other (such as by the frame 104) to position the pillow arms 120 more closely around the user’s neck, such as in supportive contact with the user’s neck and/or head. The second position is considered any position where the frame 104 is actuated to apply a force directed to move the pillow arms 120 inwardly towards each other, whether the pillow arms 120 move inwardly an appreciable amount or not. In some embodiments, the neck pillow 100 may be extended to the first position through such a force, and this may or may not be essential. As one example, the neck pillow 100 may include a biasing element, such as a spring-like element, configured to automatically pivot the pillow arms 120 away from each other when the user fails to press the rear ends 132 of the pillow arms 120 against the surface 106. In one embodiment, the biasing element may be a leaf spring attached to opposing members of the frame 104 to bias the neck pillow 100 open for more convenient positioning around one’s neck. As an alternative example, the biasing element may be arranged to bias the neck pillow 100 to its second position such that the neck pillow 100 is smaller for storage.

[0038] The frame 104 may be arranged in any suitable configuration. According to various embodiments of the present disclosure, and as illustrated in FIGS. 4-7, the frame 104 is operably connected to the pillow arms 120 and is operable to move the pillow arms 120 towards and away from each other about a pivot 140. The pivot 140, which may be centrally positioned such as evenly spaced between the rear ends 132 of the pillow arms 120, may permit the frame 104 to articulate or fold into the clearance gap 134 to move the pillow arms 120 inwardly to provide support for a user’s head or neck. For example, the pivot 140 may be defined adjacent the central pillow portion 122 such that when the central pillow portion 122 is moved towards the surface 106, the rear ends 132 of the pillow arms 120 are pressed against the surface 106 and the pillow arms 120 pivot inward towards each other about the pivot 140. In one embodiment, the frame 104 may include a plurality of components pivotally connected together by a hinge 142. The hinge 142 may be a fabric strip, a piano hinge, a living hinge, spaced-apart discrete hinges, or an articulating joint made of elastomeric material or the like, among others examples. In one embodiment, the frame 104 includes a pair of frame arms 144 pivotably connected together by the hinge 142 to articulate the frame arms 144 towards and away from each other. In such embodiments, the frame 104 articulates, pivots, or folds about the hinge 142 such that a portion of the frame 104 articulates or folds into the clearance gap 134 to cause the pillow arms 120 to move more closely “hug” a user’s neck, as explained below. The frame 104 may be at least partially rigid. The frame 104 may be at least partially covered by padding, such as being positioned at least partially within the pillow, such that the frame 104 is an at least partially internal frame (see FIG. 4). Depending on the particular application, however, the frame 104 may be positioned entirely within the pillow and form an entirely internal frame (see FIG. 8).

[0039] The frame arms 144 may include various shapes and configurations. For example, a portion of each frame arm 144 may extend along outer sides of the neck pillow 100. In one embodiment, the frame arms 144 may curve convexly towards each other to position the neck pillow 100 closely around the user’s neck. In one embodiment, each frame arm 144 may include a first part 150 and a second part 152 at an angle to the first part 150. In one embodiment, the bottom portion of each frame arm 144 may be plate shaped. For example, the first part 150 may be a plate-like member along the bottom of the frame arm 144, with the second part 152 extending therefrom. In such embodiments, each first part 150 may be considered a plate, and each second part 152 may be considered an arm. In one example, the second portion 152 may extend orthogonally from the first part 150. As shown in at least FIGS. 5 and 6, the first parts 150 may be hingedly connected together to permit the second parts 152 to move towards and away from each other. In one embodiment, each first part 150 may include two portions, such as an inner portion 150A and an outer portion 150B, angled relative to each other (see FIG. 5, for instance). In such embodiments, the inner portions 150A may be pivotally joined by the hinge 142. As shown in FIG. 5, an articulation gap 153 may be defined between a shoulder formed on each of the frame arms 144 (such as between the first parts 150 and/or the second parts 152 of opposing frame arms 144) to permit the frame arms 144 to articulate or pivot towards each other in use. In some embodiments, the articulation gap 153 may close as the frame arms 144 pivot towards each other in use until the shoulder formed on each of the frame arms 144 contacts or engages the other, thereby limiting further movement of the frame arms 144 towards each other to define a fully closed configuration of the neck pillow 100.

[0040] In some embodiments, the first part 150 of each frame arm 144 may be enlarged as compared to the second part 152 extending therefrom. For instance, the first parts 150 may define an area greater than the area defined by the second parts 152. In one embodiment, the first and second parts 150, 152 of each frame arm 144 may define a respective plane. In such embodiments, the first parts 150 may be enlarged in the direction of the plane defined by the first parts 150. Depending on the particular application, the plane defined by the first part 150 may extend at an angle (e.g., orthogonally) to the plane defined by the second part 152. In one embodiment, the planes defined by the second parts 152 may be parallel, and preferably coextensive (see FIG. 7). In this manner, the frame arms 144 may be generally mirror images of each other across the hinge 142 connecting the frame arms 144 together.

[0041] In some embodiments, the first and second parts 150, 152 of each frame arm 144 may be configured to increase the rigidity of the frame 104. For example, and without limitation, each of the first and second parts 150, 152 may include strengthening features, such as molded ribs or flanges, defined therein. As shown in at least FIG. 4, each first part 150 may include a plurality of ribs 156 defined on the surface of the first part 150, the ribs 156 configured to increase the torsional rigidity of the first part 150. Similarly, each second part 152 may include a flange 158 extending orthogonally from the second part 152, such as along a terminal or outer side of the second part 152. Similar to the ribs 156 of the first part 150, the flange 158 of the second part 152 may be configured to increase the torsional rigidity of the second part 152. Additionally or alternatively, the flange 158 may provide structure to which the pillow portion
102 is coupled, such as providing a surface to which fabric of the pillow portion 102 is attached.

[0042] The frame arms 144 may be coupled to at least the pillow arms 120 of the pillow portion 102. For instance, the first part 150 of each frame arm 144 may be coupled to the central pillow portion 122 to extend along a length of the central pillow portion 122, and the second part 152 of each frame arm 144 may be coupled to a respective pillow arm 120 to extend along a length of the pillow arm 120. In such embodiments, the pivoting or flexing characteristic between the pair of frame arms 144 may permit the pillow arms 120 to move towards and away from each other in use. For example, as the frame arms 144 move towards or away from each other, the pillow arms 120 may move correspondingly, or vice-versa.

[0043] The first and second parts 150, 152 of each frame arm 144 may be arranged to facilitate the automatic pivoting of the pillow arms 120 inwards in use. As one example, the first and second parts 150, 152 may be arranged to define an arm having a suitable shape, such as in one example a generally L-shape. The rear end portion 154 may be located adjacent to or at the intersection of the first and second parts 150, 152. In the example shown, each rear end portion 154 may form an apex. The rear end portions 154 may be defined as locations of contact between the frame 104 and the surface 106 to actuate the frame 104, though contacting other portions of the frame arms 144 (such as near the rear end portions 154, or on either side of the rear end portions 154) may also cause the frame 104 to actuate. Similar to the rear ends 132 of the pillow arms 120, the rear end portions 154 of the frame arms 144 may project more rearward than other portions of the frame 104 (such as more rearward than the pivot 140 or hinge 142) to cause the frame arms 144 to pivot inwards in use when the rear end portion 154 of each frame arm 144 is pressed against the surface 106, as explained below. For example, as the frame 104 articulates or folds into the clearance gap 134, the relative position between the rear end portions 154 and the pivot 140 or hinge 142 is reduced to cause the frame arms 144 to pivot about the pivot 140 or hinge 142 and results in the second parts 152 of the frame arms 144 moving inwards towards a user's neck. In some embodiments, the rear end portions 154 of the frame arms 144 may be positioned to coincide with the rear ends 132 of the pillow arms 120.

[0044] In addition to the frame arms 144, the frame 104 may include a central frame portion 160, which may be coupled to the central pillow portion 122. In such embodiments, the frame arms 144 may extend from opposite portions or ends 162 of the central frame portion 160. For example, the frame arms 144 may extend from the opposite ends 162 at an angle to the central frame portion 160, such as in the same plane to each other, as explained below. Depending on the particular application, the first part 150 of each frame arm 144 may define a portion of the central frame portion 160. In such embodiments, the central frame portion 160 and the frame arms 144 may define a generally W-shaped frame (see FIG. 5), though other suitable configurations are contemplated. For example, the central frame portion 160 (e.g., the opposite ends or portions 162) may define the inner legs or stems of the W-shape, with the frame arms 144 defining the outer legs or stems of the W-shape. In such embodiments, the pivot 140 or hinge 142 may be positioned at or adjacent an upper region, for example at an apex, defined between the inner stems of the W-shape. As shown, the inner stems of the W-shape (as defined by the opposite ends or portions 162 of the central frame portion 160) may be shorter in length compared to the outer stems of the W-shape (as defined by the frame arms 144), though other suitable configurations are contemplated depending on the application.

[0045] As described herein, the central frame portion 160, which may be a plate-like element, may include the pivot 140 or hinge 142, which may, in one example, be positioned centrally thereon. For example, and without limitation, the central frame portion 160 may include a vertically oriented fold or pivot line (such as pivot 140), which fold or pivot line may be formed in one example by the hinge 142. The fold or pivot line may be defined centrally in the central frame portion 160. In this manner, portions of the central frame portion 160 may pivot or flex about the fold or pivot line to reconfigure the central frame portion 160, and thereby the frame arms 144 extending therefrom, between different positions. For example, the opposite ends 162 of the central frame portion 160 may pivot or flex about the fold or pivot line to move the frame arms 144 towards each other and position the pillow arms 120 more closely around a user's neck. In another example, the opposite ends 162 of the central frame portion 160 may pivot or flex about the fold or pivot line to move the frame arms 144 away from each other and position the pillow arms 120 further away from a user's neck.

[0046] Like the frame arms 144, the central frame portion 160 may be arranged to facilitate the automatic pivoting of the pillow arms 120 inwards in use. For example, the central frame portion 160 may be a plate-like member including a concave shape facing to the outer surface of the neck pillow 100 (e.g., to the rear of the neck pillow 100). In this manner, the opposite ends 162 of the central frame portion 160 may project more rearward than the hinge 142 (such as projecting further away from a user's neck than the hinge 142) to facilitate movement of the frame arms 144 towards each other when the opposite ends 162 of the central frame portion 160 are pressed against the surface 106 and a user presses against the central frame portion 160. Because the frame arms 144 are coupled to the pillow arms 120, movement of the frame arms 144 causes corresponding movement of the pillow arms 120, or vice-versa. In one embodiment, the central frame portion 160 may define an exterior surface of the neck pillow 100, such as on the rear of the neck pillow 100.

[0047] Operation of the neck pillow 100 will now be discussed in detail. Referring to FIG. 2, the neck pillow 100 may be positioned initially in the first, un-actuated position. As noted above, in the first position, the pillow arms 120 may be positioned away from each other a sufficient distance to permit insertion of the user's neck between the distal ends 124 of the pillow arms 120. The user's neck may be positioned within the space between the pillow arms 120 until the central pillow portion 122 engages the nape of the user's neck (see FIG. 9).

[0048] Once the central pillow portion 122 is positioned to engage the nape of the user's neck, the user may then collapse or otherwise move the neck pillow 100 into the second, actuated position (see FIG. 3). As noted above, the neck pillow 100 may be moved to its second position via the user pressing the rear of the neck pillow 100 against a surface (e.g., surface 106), such as via leaning back against a headrest of a chair or seat with the neck pillow 100 in the second, actuated position.
positioned about the user’s neck. For instance, to move the neck pillow 100 to its second position, the user may press his/her neck against an inner portion of the pillow portion 102 (e.g., against an inner portion of the central pillow portion 122) and/or against the central frame portion 160 until the rear ends 132 of the pillow arms 120 and/or the rear end portions 154 of the frame arms 144 contact the surface 106 (e.g., the headrest of a chair or seat). The user may continue to press against the central pillow portion 122 and/or against the central frame portion 160 to correspondingly press the rear ends 132 and/or the rear end portions 154 against the surface 106. Because the rear ends 132 of the pillow arms 120 and/or the rear end portions 154 of the frame 104 project more rearward than the centrally positioned hinge 142, continued pressing against the central pillow portion 122 and/or against the central frame portion 160 while the rear ends 132 and/or the rear end portions 154 are positioned against the surface 106 creates a moment about the hinge 142 inducing the frame arms 144 (and pillow arms 120) to pivot thereby together towards each other and more closely around and toward the user’s neck. As noted above, the user may press against the central pillow portion 122 and/or against the central frame portion 160 simply by resting his/her head or neck against the headrest of the chair or seat. In this manner, no additional force from the user beyond simply resting the user’s head or neck against the neck pillow 100 is needed to move the neck pillow 100 to its second position. Furthermore, the neck pillow 100 may be snugly biased around the user’s neck for as long as the user rests his/her head or neck against the headrest of the chair or seat.

[0049] Removal of the neck pillow 100 may be accomplished in substantially reverse order. For example, to remove the neck pillow 100 from around a user’s neck, the user must first release the neck pillow 100 from the surface 106 (e.g., lift the user’s head or neck off the headrest), thereby reducing the moment about the hinge 142 or pivot 140. Once the moment is sufficiently reduced, the neck pillow 100 may be moved to its first position. For instance, the user may grasp the opposing pillow arms 120 (such as at the distal ends 124 of the pillow arms 120) and pull the pillow arms 120 away from each other. In embodiments including a biasing element, the biasing element may cause the neck pillow 100 to automatically move to its first position once the rear ends 132 of the pillow arms 120 and/or the rear end portions 154 of the frame 104 no longer are pressed against the surface 106. In each embodiment described above, the pillow arms 120 may be moved away from each other until the distance between the distal ends 124 of the pillow arms 120 is sufficient to permit removal of a user’s neck therebetween.

[0050] Referring to FIG. 8, the neck pillow 100 may include other features for convenience. For example, the neck pillow 100 may be positioned within an outer pillow sleeve 180. In some embodiments, the pillow sleeve 180 may cover both the pillow portion 102 and the frame 104 of the neck pillow 100 in use. In this example, the frame 104 would then be considered a fully internal frame. The pillow sleeve 180 may protect the neck pillow 100 from wear, dirt, makeup, and debris, among others. The pillow sleeve 180 may be removable. For instance, a user may remove the pillow sleeve 180 for washing. In some embodiments, the user may remove the pillow sleeve 180 and replace it with a different pillow sleeve of a different color, fabric, or pattern, as desired.

[0051] The neck pillow 100 and its components may be formed from a variety of materials and means. For example, the frame 104 may be formed from a thermoplastic material (self-reinforced or fiber reinforced), ABS, polycarbonate, polypropylene, polystyrene, PVC, polyamide, and/or PTFE, among others. The frame 104 may be formed or molded in any suitable manner, such as by plug molding, blow molding, injection molding, extrusion, casting, or the like. The pillow portion 102 may be formed from fabric material. The fabric material may be nylon, canvas, leather, PVc, polypropylene, polyethylene, and/or PTFE, among others.

[0052] All relative and directional references (including: upper, lower, upward, downward, left, right, leftward, rightward, top, bottom, side, above, below, front, middle, back, vertical, horizontal, and so forth) are given by way of example to aid the reader’s understanding of the particular embodiments described herein. They should not be read to be requirements or limitations, particularly as to the position, orientation, or use unless specifically set forth in the claims. Connection references (e.g., attached, coupled, connected, joined, and the like) are to be construed broadly and may include intermediate members between a connection of elements and relative movement between elements. As such, connection references do not necessarily infer that two elements are directly connected and in fixed relation to each other, unless specifically set forth in the claims.

[0053] Those skilled in the art will appreciate that the presently disclosed embodiments teach by way of example and not by limitation. Therefore, the matter contained in the above description or shown in the accompanying drawings should be interpreted as illustrative and not in a limiting sense. The following claims are intended to cover all generic and specific features described herein, as well as all statements of the scope of the present method and system, which, as a matter of language, might be said to fall therebetween.

1. A neck pillow for use in supporting the head and/or neck of a user, the neck pillow comprising:
   a pair of pillow arms connected together by a central pillow portion;
   and
   a pivoted frame operably connected to the pillow arms and operable to move the pillow arms towards and away from each other about a pivot;
   wherein a rear end of each pillow arm projects more rearward than the pivot of the frame to move the pillow arms inwards in use when the rear end of each pillow arm is pressed against a surface and a user’s neck presses against the central pillow portion.

2. The neck pillow of claim 1, wherein the frame is centrally pivoted between the rear ends of the pillow arms.

3. The neck pillow of claim 1, wherein the pivot is defined adjacent the central pillow portion.

4. The neck pillow of claim 1, wherein the central pillow portion is adapted to abut against the nape of a user’s neck in use.

5. The neck pillow of claim 1, wherein the pillow arms and the central pillow portion form a U-shaped pillow.

6. The neck pillow of claim 1, wherein:
   the frame comprises:
   a central frame portion coupled to the central pillow portion; and
a pair of frame arms extending from opposite ends of the central frame portion, the frame arms coupled to the pillow arms; and

7. The neck pillow of claim 6, wherein the frame arms extend from the opposite ends at an angle to the central frame portion but in the same plane to each other.

8. The neck pillow of claim 6, wherein the central frame portion comprises a plate-like element.

9. The neck pillow of claim 6, wherein the opposite ends of the central frame portion pivot about the hinge to move the frame arms towards each other and position the pillow arms more closely around a user's neck.

10. The neck pillow of claim 6, wherein the central frame portion defines an exterior surface on the rear of the neck pillow.

11. A neck pillow for use in supporting the head and/or neck of a user, the neck pillow comprising:
a pillow portion adapted, in use, to fit at least partially around a user's neck; and
an articulating frame coupled to the pillow portion such that movement of the frame causes corresponding movement of the pillow portion, the frame including a pair of frame arms pivotably connected together by a hinge to articulate towards and away from each other; wherein a rear end portion of each frame arm projects more rearwardly than the hinge such that when the rear end portions of each frame arm are pressed against a surface, the frame arms pivot thereby together towards each other and more closely around and toward the user's neck.

12. The neck pillow of claim 11, wherein the frame is at least partially rigid and at least partially covered by padding.

13. The neck pillow of claim 11, wherein:
each frame arm includes a first part and a second part at an angle to the first part; and
the first parts of the pair of frame arms are hingedly connected together.

14. The neck pillow of claim 13, wherein the first and second parts define an L-shaped arm.

15. The neck pillow of claim 13, wherein the first part of each frame arm is enlarged as compared to the second part extending therefrom.

16. The neck pillow of claim 15, wherein:
each of the first and second parts of each frame arm defines a respective plane;
the plane defined by the first part of each frame arm extends orthogonally to the plane defined by the second part of each frame arm; and
the first parts are enlarged in the direction of their respective planes.

17. The neck pillow of claim 16, wherein the respective planes defined by each second part of the pair of frame arms are substantially parallel.

18. A neck pillow for use in supporting the head and/or neck of a user, the neck pillow comprising:
an articulating frame, the frame including a central frame portion including a hinge centrally defined therein, and a pair of frame arms extending from opposite ends of the central frame portion, the frame arms adapted, in use, to fit around the user's neck;
wherein in a first position, the opposite ends of the central frame portion project further away from the user's neck than the hinge such that when the user's neck is pressed against the central frame portion and the opposite ends of the central frame portion are pressed against a surface, the opposite ends of the central frame portion pivot about the hinge to move the frame arms towards each other and more closely around the user's neck.

19. The neck pillow of claim 18, wherein the frame is an internal frame.

20. The neck pillow of claim 18, wherein a portion of each frame arm extends along an outer side of the neck pillow.

21. The neck pillow of claim 18, wherein the frame arms curve convexly towards each other to position the neck pillow closely around the user's neck.

22. The neck pillow of claim 18, wherein the central frame portion and the frame arms define a generally W-shape.

23. The neck pillow of claim 18, wherein the central frame portion is defined by a plate including a concave shape facing to the outer surface of the neck pillow.

24. The neck pillow of claim 23, wherein the central frame portion resiliently flexes about a vertically oriented hinge.