

Resting Device

The invention relates to a device intended to allow a user to adopt a comfortable resting seated position.

More specifically, the invention relates to the field of rest in a means of transportation. In particular, the device according to the invention can be used during
5 transportation in an airplane, bus, train, etc. In general, the device according to the invention can be used in any type of transportation. However, the device according to the invention is not limited to the field of rest during transportation and can also be used in any other field in which a user wishes to rest or relax, for example in the home, at the office, etc.

10 While traveling on means of transportation, a traveller must often remain in a seated position in a seat for a long time. This seated position can, however, be particularly uncomfortable and can be unsatisfactory for resting or for sleeping.

Devices allowing a traveller to rest or relax more easily during journeys in a seated position are already known. Thus, document US 5645319 describes an
15 inflatable pillow on which a seated passenger can lean forward and rest his head in order to rest. The shape of the pillow, once inflated, is predetermined in such a way as to occupy substantially the space in front of the passenger and be supported by a supporting means, for example such as a tray table of a seat.

However, such a device does not allow the traveller to have an optimal
20 position during long journeys in order to sleep. In particular, this position does not allow the head of the traveller to be maintained in a comfortable position. This can lead to painful muscle contractions, in particular in the back of the neck.

The document US 2010205743 that describes a device for supporting the head and the neck that also allows a user to rest is also known. The device has a
25 circular shape with an opening in the middle that allows the user to insert and rest the

user's head. The supporting device also comprises holes at its base that allow the circulation of air to and from the face of the user in order to allow the user to breathe.

The document US 6721978 that describes a device that comprises a support for supporting the head and a support for supporting the thorax is also known. In particular, the support for supporting the head comprises an opening allowing a user to insert and rest his head.

These devices, however, do not provide a particular position for maintaining the arms and the hands of the user.

There is therefore a need to improve the position of a user in order for the user to be able to relax in a seated position during medium or long journeys.

To overcome the aforementioned problem, the invention relates to a device intended to allow a user to adopt a seated rest position, the device comprising at least a head-maintaining upper portion for maintaining the head and a supporting lower portion, the upper portion for maintaining the head comprising an upper opening suitable for receiving the face of the user, the supporting lower portion allowing the device to be kept bearing on a support, the device bearing on the support being suitable for supporting the weight of the head of the user, the device also comprising at least two lateral openings allowing the user to position the arms of the user under the upper portion for maintaining the head.

Via these arrangements, the user has a rest position allowing the user to both maintain the head of the user, or even the chest, as well as the arms and the hands of the user in a comfortable position in order to relax or to sleep.

In a first aspect, there is provided a totally inflatable device designed to allow a user to adopt a seated rest position, the device comprising at least a head-maintaining upper portion for maintaining the head and a supporting lower portion, the head-maintaining upper portion for maintaining the head comprising an upper opening suitable for receiving the face of the user, the supporting lower portion allowing the device to be kept bearing on a support, the device bearing on the support being suitable for supporting the weight of the head of the user, wherein the device also comprises at least two lateral openings allowing the user to position the arms of the user under the upper portion for maintaining the head and in that the supporting lower portion comprises an inner face located inside the device and extending between the two lateral openings, the lateral openings and the inner face

allowing the user to position the arms and hands of the user during the use of the device.

In various embodiments of the method according to the invention, one and/or the other of the following arrangements can optionally also be implemented:

- 5 - the supporting lower portion comprises a peripheral portion, the peripheral portion comprising a front portion and a rear portion, the two lateral openings extending between the front portion and the rear portion, respectively;
- the two lateral openings are opposite to each other, the device being passed through on either side between the two lateral openings;
- 10 - each of the two lateral openings is closed by a closing device;
- the upper opening comprises a rear side suitable for the user to be able to rest the face of the user, at the forehead, on the device;

- the upper opening comprises a front side suitable for the user to be able to rest the face of the user, below the mouth, on the device;
- the front portion and/or the rear portion comprise an opening allowing the air and the heat given off by the user to be evacuated outside of the device;
- 5 - the device comprises an inner structure suitable for allowing the device to be deployed;
- the device is an inflatable device;
- the device comprises an inflation valve allowing the device to be inflated manually and/or the device to be inflated via an air output;
- 10 - the device has a height equal to approximately 40 centimetres, as well as a width and a length between 20 and 30 centimetres;
- the device comprises an additional element in contact with the supporting lower portion in order to allow the device to be raised;
- the device is suitable for use in a means of transportation, the device being
- 15 in particular suitable for being placed on an open tray table of a seat located in front of the user;
- the rest position of the user also corresponds to a safety position suitable for absorbing the impacts in the case of a collision of the means of transportation;
- the device comprises an extension at the upper portion for maintaining the
- 20 head allowing the user to be protected in the case of impacts, in particular front impacts;
- the device is totally inflatable;
- the supporting lower portion comprises an inner face located inside the device and extending between the two lateral openings, the lateral openings and the
- 25 inner face allowing the user to position the arms and hands of the user during the use of the device; and
- the upper opening and/or the lateral openings of the device comprise cutouts extending from the sides of their respective openings.

Of course, the various features, alternatives and/or embodiments of the present invention can be associated with each other in various combinations as long

30 they are not incompatible with each other or mutually exclusive.

The present invention will be better understood and other features and advantages will also appear upon reading the following detailed description

comprising embodiments given for information purposes with reference to the appended drawings, given as non-limiting examples, which can be used to supplement the understanding of the present invention and the disclosure of its production and, if necessary, contribute to its definition, in which:

- 5 - figure 1 is a perspective view of a device according to an embodiment of the invention;
- figure 2 is a side view of the device of figure 1;
- figure 3 is an overhead view of the device of figures 1 and 2; and
- figures 4a and 4b are side views of a passenger using the device of figures 1
- 10 to 3 under normal conditions of use, the device being placed on a seat tray table;
- figure 5 is a perspective view of a device according to a second embodiment of the invention;
- figure 6 is a side view of the device of figure 5 in which curtains close the lateral openings of the device;
- 15 - figure 7 is a perspective view of a device according to a third embodiment of the invention;
- figure 8 is a side view of the device of figure 7;
- figures 9a and 9b are side views of a passenger using a device according to the invention in a safety position, the device being placed on the knees of the
- 20 passenger;
- figure 10 is a perspective view of a device according to a fourth embodiment of the invention;
- figure 11 is an overhead view of the device of figure 10;
- figure 12 is a bottom view of the device of figure 10;
- 25 - figure 13 is a side view of the device of figure 10;
- figure 14 is a rear view of the device of figure 10;
- figure 15 is a perspective view of the device of figure 10 in which the upper portion for maintaining the head is covered with a cover; and
- figure 16 is a view of the flat template intended to be assembled in order to
- 30 form the device of figure 10.

Below is a detailed explanation of a plurality of embodiments of the invention accompanied by examples and references to the drawings.

Figure 1 shows a device 1 according to an embodiment of the invention.

According to this first embodiment, the device 1 has a generally parallelepipedic shape, in particular cubic. However, the device 1 according to the invention is not limited by such a shape and can have, for example, a spherical, cylindrical or other shape.

5 The device 1 comprises a head-maintaining upper portion 3 for maintaining the head (hereinafter called “upper portion”) and a supporting lower portion 4 (hereinafter called “lower portion”).

 The lower portion 4 can also comprise a peripheral portion 5 extending up to the upper portion 3. As shown in figures 1 to 6, the peripheral portion 5 can in
10 particular comprise a front portion 5A, a rear portion 5B.

 It is understood that the adjectives “front” and “rear” applied to the device 1 and to its components are meant in reference to when a person uses the device 1 under normal conditions in order to rest, the term “front” thus denoting an element relatively close to the user, the term “rear” thus denoting an element farther away.

15 Under normal conditions of use of the device 1, the peripheral portion 5, in particular the front portion 5A and the rear portion 5B of the device 1, extend substantially vertically. Also under normal conditions of use, the lower portion 4 comprises a lower face 4A that extends substantially horizontally.

 The adjectives “vertical” and “horizontal” applied to the device and to its
20 components are meant according to their normal meaning and are understood namely when the lower face 4A of the lower portion 4 of the device 1 is placed under normal conditions of use on a support that is itself horizontal, such as a tray table 11, completely unfolded, of a seat 12 as will be described below, or on the knees of the user, if necessary with an interposed cushion or bag. When the device 1 is used by a
25 user seated behind a seat 12 in front, the rear portion 5B can bear, at least partially on the rear of the backrest of the seat 12 in front.

 As shown in figures 2, 8 and 10, the faces of the front and/or rear portions 5A, 5B of the device 1 can also be slightly curved. The front portion 5A thus allows the thorax of a user 8 to bear on the device 1 as will be described below. The front
30 portion 5A can further comprise a recess 6 at its lower portion as shown in figures 1, 5 and 7.

 As is visible in figures 2 and 8, the upper portion 3 is preferably slightly inclined forward. The upper portion 3 thus comprises an upper face 3A for example

inclined by an angle α between 1 and 60 degrees, and more specifically of approximately 40 degrees, with respect to the lower face 4A of the lower portion 4.

Figure 3 shows an overhead view of the device 1 according to an embodiment of the invention. In this figure 3, the upper portion 3, and namely its upper face 3A, comprises an upper opening 7. The upper opening 7 is in particular centred on the upper portion 3. The upper opening 7 is at least defined by a front side 7A. The upper opening can also be defined by a rear side 7B. These front and/or rear sides 7A, 7B are preferably surfaces inclined towards the inside of the device 1 and suitable for coming into contact with a portion of the face of the user 8. More specifically, the front side 7A of the upper opening 7 is suitable in order for the user 8 to be able to bear on the device 1 via the face of the user below the mouth. The rear side 7B of the upper opening 7 is suitable in order for the user 8 to be able to bear on the device 1 via the forehead of the user.

Figure 11 shows an overhead view of the device 1 according to another embodiment of the invention. According to this embodiment, the upper opening 7 has the shape of a trapezoid. The front side 7A and the side 7B are positioned in parallel to each other. The front side 7A has a length less than the rear side 7B. The opening 7 has an axis of symmetry.

Moreover, the upper opening 7 can also comprise lateral sides 7C, 7D, in particular inclined towards the inside, extending between the front side 7A and the rear side 7B, respectively. The lateral sides 7C, 7D of the upper opening 7 are suitable for supporting the cheeks and the temples of the face of the user 8.

Thus, the upper opening 7 is defined by the front side 7A, the rear side 7B and by the lateral sides 7C. The upper opening 7 thus comfortably maintains the head of the user 8 at the chin, the forehead and along the opposite sides of the face. The front side 7A, the rear side 7B and/or the lateral sides 7C can also comprise flaps 23. Flaps 23 consist of extensions of matter, advantageously flat, extending partly at the upper opening 7. The flaps 23 are for example made from the same material as the device 1, in particular made as a single piece with the material of the device 1.

The flaps 23 are suitable for preventing the face of the user from being irritated or even getting cut when the user places the face of the user in contact with the sides 7A, 7B, 7C, 7D of the upper opening 7. They also allow marks on the face during prolonged use to be prevented.

The upper opening 7 is thus dimensioned in order to receive the face of the user 8, including the mouth, the nose and the eyes, in order for this user 8 to be able to rest the head of the user facing downwards on the device 1. In particular, the mouth, the nose and the eyes of the user 8 are thus located inside the upper opening 7
 5 and are therefore not directly in contact with the device 1. The head of the user 8 is thus positioned straight, that is to say, without the user 8 having to turn the head of the user to the side. This position, even when held for a long time, is particularly comfortable since it prevents the appearance of possible painful muscle contractions in the neck.

10 Moreover, the lower portion 4, and namely the peripheral portion 5, contains holes. As illustrated in the drawings, the peripheral portion 5 thus comprises at least two lateral openings 9. In particular, these lateral openings 9 can namely be contained between the front portion 5A and the rear portion 5B of the device 1. Moreover, these lateral openings 9 can each be substantially rectangular in shape or
 15 have another shape such as circular or other.

As illustrated in the embodiment visible in figure 13, the lateral openings 9 advantageously have a rectangular shape, rounded at its edges. Each lateral opening 9 is thus defined by at least a lower side 9A and an upper side 9B. The lower side 9A and the upper side 9B are parallel to each other. Two lateral sides 9C, 9D extend
 20 between the lower side 9A and the upper side 9B, respectively. The lower side 9A, the rear side 9B and/or the lateral sides 9C, 9D can also comprise flaps 23, such as those described above with regard to the sides 7A, 7B, 7C, 7D of the upper opening 7. Advantageously, only the lower side 9A comprises a flap as visible in figure 13. The flap 23 of the lower side 9A allows irritation of the arms of the user to be prevented
 25 when the user places them in the lateral openings 9 of the device 1. The flaps 23 thus participate in better comfort during the use of the device 1.

The lower portion 4 further comprises an inner face 10 located inside the device 1. "Inside" should be understood as meaning that the inner face 10 is located in an inner space 2 of the device 1 more particularly defined by the upper portion 3
 30 and the lower portion 4. The inner face 10 can thus be defined by the peripheral portion 5 and namely by the front portion 5A and by the rear portion 5B of the device 1. The inner face 10 is preferably substantially horizontal and extends in parallel to the lower face 4A of the lower portion 4 of the device 1 as shown for example in

figures 7 and 8. Alternatively, as shown in figures 1 and 2, the inner face 10 can also be slightly curved. The lower face 4A is advantageously a plain face, that is to say, does not have an opening or hole, as illustrated in figure 12.

5 The inner face 10 also extends between the two lateral openings 9 of the device 1. Thus, the device 1 is passed through on either side laterally between the two lateral openings 9. The upper opening 7 also opens into the inner space 2, and in particular onto the inner face 10 inside the device 1.

10 The lateral openings 9 and the inner face 10 allow the user 8 to position the arms and the hands of the user during the use of the device 1. More precisely, the user 8 can pass each of the arms of the user through a lateral opening 9 under the upper portion 3. The user can thus place the hands of the user, for example one on top of the other, on the inner face 10 of the device 1.

By positioning the head of the user in the upper opening 7 and the arms of the user in the lateral openings 9 of the device 1, the user 8 can thus occupy a rest position in order to sleep, rest or relax, in particular in means of transportation. Figure 4a shows more particularly a use of the device 1 under normal conditions, wherein the user 8 has a seated rest position, the device 1 being placed on an unfolded tray table 11 of a seat 12 located in front of the user 8. In this use, the rear portion 5B of the device 1 can bear against the seat 12 in front, as shown in figure 4b.

20 In particular in the embodiment in which the device 1 is used in a means of transportation, the device 1 can also comprise a vertical extension 13 located to the rear of the upper portion 3, as shown in figures 5, 6, and 9. The extension 13 thus extends the rear portion 5B vertically upwards. This extension 13 is in particular suitable for preventing the head of the user 8 from directly impacting an object placed behind the device 1 in the case of an impact or collision. In particular, in the embodiment in which the device 1 is placed on a tray table 11 of a seat, the extension 13 allows the user 8 to be protected and a possible impact between the user 8 and the seat 12 located in front of the user to be absorbed. The extension 13 also allows such an impact to be prevented when the device 1 is placed on the knees of the user 8, in particular in a safety position as illustrated in figure 9a or 9b and as will be described below, if there is violent braking during an emergency landing.

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Alternatively, in the absence of an extension, the rear portion of the upper portion 3 for supporting the head can allow the head of the user 8 to be prevented from directly impacting an object placed behind the device 1.

5 The front and rear portions 5A, 5B can be plain, that is to say, not comprise openings as shown in figures 1, 10 and 14. The front portion 5A can thus namely be used to support the thorax of the user 8. However, the front and/or rear portions 5A, 5B can also comprise an opening 14.

10 In particular, the front portion 5A of the device 1 can be completely or partially open, the upper opening 7 thus no longer being defined by a front side 7A but also at least partially extending at the level of the front portion 5A of the device 1. According to this embodiment, the user 8 in a seated rest position does not bear on the device 1 at the chin of the user but only at the forehead of the user on the rear side 7B of the upper opening 7.

15 The rear portion 5B can also comprise an opening 14 having any shape, for example circular or rectangular, as shown in figure 5. The opening 14 located on the rear portion 5B of the device 1, as well as the two lateral openings 9, thus allow the air and the heat given off by the user to be easily evacuated from the inside, and in particular from the inner space 2 of the device 1, towards the outside. The lateral openings 9 also allow such an evacuation of air.

20 According to an embodiment shown by figure 6, each lateral opening 9 can be closed by a closing device 15. The closing devices 15 are thus positioned facing each lateral opening 9 and can be fastened for example to the device 1. Such closing devices 15 allow the user 8 to be insulated from the outside when the user is in a rest position. The rest position is thus more suitable for relaxing or for a nap and allows, 25 for example, one to be in at least partial or even total darkness in order to watch a film or read on a tablet, or play for example. For this purpose, the inner space 2 of the device 1 can comprise a holder for a smartphone or tablet.

30 As illustrated by figure 6, the closing devices 15 are for example curtains, in particular fastened above the lateral openings 9, via self-fastening means or via dome fasteners in order for the user 8 to be able to detach them if necessary. Alternatively, the closing devices 15 can, for example, be one or more flexible shutters fastened onto the sides of each lateral opening 9.

The device 1 has a height h suitable for preventing the user 8 from leaning too far forward when in the rest position. For example, the device 1 can have a vertical height h at the rear portion 5B equal to approximately 40 centimetres. The device 1 can also have a width L and a length l between 20 and 30 centimetres, respectively. As shown in figure 4a, the device 1 can have a size and a shape more precisely suitable for being placed on a tray table 11, of a seat 12, located in front of the user 8, or even bearing on the seat 12 in front, as shown in figure 4b. Moreover, in order to prevent the device 1 from being able to slide on the support, and in particular on the tray table 11, the device 1 can comprise a nonslip edge or a nonslip surface 17 at least partially covering the lower face 4A of the lower portion 4 of the device 1.

More generally, the device can have a size, and in particular a height h , adapted according to its user 8. As shown in figures 5 and 6, and in order to be able to be used by tall persons, the device 1 can also comprise an additional element 16, namely inflatable, intended to raise the device 1. In particular, the additional element 16 is placed under the lower portion 4 of the device 1. The additional element 16 can be fastened to the device 1 for example via self-fastening strips, dome fasteners, or other. The additional element 16 can namely be used when the device 1 is placed directly on the knees of the user 8, in particular in a safety position as will be described below. According to this embodiment, the additional element 16 is thus placed between the knees of the user 8 and the lower portion 4 of the device 1.

The device 1 is preferably formed from a light material in order to be easily transportable. The weight of the device 1 is preferably less than 300 grams (g), or even less than 250 grams (g). It is for example greater than 100 grams.

Moreover, in order to improve the comfort in the rest position, the device 1 can namely comprise a material suitable for being slightly deformed, for example a shape-memory material, such as a foam or a gel, in order to ergonomically conform to the shape of the face and/or the hands of the user 8. The device 1 is moreover covered by a trim cover made of a plastic material, fabric, velvet or other. The trim cover can itself also comprise a foam or a gel in order to improve the ergonomics of the device 1. The trim cover can also comprise the closing devices 15, in particular curtains or flexible shutters as described above.

For reasons of hygiene, a disposable single-use coating can also be placed on the device 1 for each use or for each different user 8. This coating can, for example, allow at least the upper portion 3 of the device 1 to be covered, in particular the front, rear and lateral sides 7A, 7B, 7C of the upper opening 7. As visible in figure 15, the
 5 coating can, for example, be a cover 22 that can be removably mounted on the device 1. The cover 22 advantageously covers the upper portion 3 while leaving the upper opening 7 accessible. The cover 22 is maintained on the device 1 by any means, for example via an elastic band of the cover placed around the device 1.

The device 1 can also be an inflatable device. The device 1 can thus
 10 alternately be in two states, a folded state and an inflated state. In the folded state, the device 1 does not contain any gas and has a small or even zero inner volume. The device 1 can thus be folded in order to occupy less space. It can thus be easily transported or stored in a compartment, for example on the side or under the seat 12 of the user 8. If the device is inflatable, the weight given above is the weight of the
 15 folded device. In the inflated state, the device 1 is unfolded in order for the user 8 to be able to use it, in particular by taking up the rest position as shown in figure 4a. In particular, in the inflated state, the device 1 is suitable in order for the user 8 to be able to bear on the device in the rest position, in particular at the upper opening 7 on which the head of the user 8 is placed. Thus, the device 1 bearing on a support 11 is
 20 suitable for supporting the weight of the user 8, and in particular of the head of the user.

The device 1 can be totally inflatable. Totally inflatable is understood to mean that the device 1 does not comprise additional rigid non-inflatable elements suitable for supporting the weight of the head of the user 8, as visible for example in the
 25 embodiment in figure 10. When the device is totally inflatable, it can comprise flaps, as described above, the flaps being non-inflatable while being separated from an inner chamber via a weld.

In order to be able to be inflated, the device 1 comprises an inflation valve 18, that is to say, a passage for injection of inflation gas. The inflation valve 18 is

namely located on the lower portion 4 of the device 1, in particular on the front 5A or rear 5B portion. The device 1 thus comprises a single chamber to be inflated.

The inflation 8 can be carried out manually by the user by blowing directly into the inflation valve 18 via the mouth. The device 1 is suitable for being inflated
5 rapidly by a user 8. Advantageously, the device 1 is sufficiently inflated after the user 8 has blown between 3 and 8 breaths of air into the device, in particular less than six breaths of air. The inner volume of the device is thus between 10 and 20 litres, namely between 12 and 15 litres.

Alternatively, the inflation can be carried out by connecting the device 1 to an
10 automatic inflation system such as a foot pump or an electric pump (not shown in the drawings). Moreover, an inflation tube having a variable length can be connected to the inflation valve 18 with, opposite, an input for injection into the device 1. The inflation tube thus allows the device to be inflated via an air output located for example near the seat 12 of the user 8. For example, such an air output can be an air
15 conditioning output of the means of transportation.

The inflation valve 18 can also consist of an evacuation valve allowing the device 1 to be rapidly deflated. The inflation valve 18 can for example be closed by a plug.

According to one embodiment of the invention, the inflation valve 18 can
20 comprise a double inflation system. A first inflation system allows the device 1 to be inflated or deflated quickly, possibly quasi-instantly. Such a first inflation system is particularly useful if the device 1 must be inflated or deflated in an emergency situation for example. A second inflation system allows more precise inflation, for example directly via the mouth by the user 8, namely if the preceding inflation using
25 the first inflation system is not sufficient to inflate the device 1 completely. An inflation valve 18 comprising such a double inflation system is known *per se* and will not be described in more detail.

According to the embodiment of the invention illustrated in figure 10, the inflation valve 18 can be a valve comprising a check valve. A check valve is suitable
30 for pivoting in front of the opening of the valve in order to close it or open it.

The check valve allows the device 1 to be inflated, advantageously manually, for example by blowing directly into the inflation valve 18 via the mouth. However, when the user stops blowing into the valve 18, the check valve closes the opening of

the valve under the effect of the overpressure of the air contained in the device 1. The device 1 does not therefore deflate.

Moreover, a valve comprising a check valve is also suitable for allowing quick deflation of the device 1. For this purpose, the user bears on the check valve of the valve, in such a way that the opening of the valve is no longer closed and the air can escape from the device 1. This leads to an ease of use of the device 1, for example when the user has finished using the device 1 and wishes to deflate it. A valve comprising such a check valve is known *per se* and will not be described in more detail.

10 The device 1 can be inflated differently according to the desire and the preferences of the user. In particular, a user can wish to underinflate the device 1 in order for the latter to be more flexible during its use or more suitable to the size of the user or to the seated position of the user. However, although under-inflated, the device 1 remains suitable for supporting the weight of the face of the user, in particular in order to be used in a rest position as shown in figure 4a.

The device 1 can also comprise an inner structure suitable for allowing the device to be automatically inflated, for example via the first inflation system described above. More precisely, the inner structure of the device 1 allows the device 1 to be expanded in terms of volume as soon as the inflation valve 18 is opened. The inner structure can, for example, consist of a cellular structure, the cells being in fluid communication with each other. The inner structure can also comprise an “accordion” structure that, when being deployed, deploys and quickly inflates the device 1. A non-limiting example of such an inner structure of the device 1 is already known *per se* and is described for example in document US 3378864.

25 Obviously, the invention is not limited to the embodiments described above and provided only as examples. It covers various modifications, alternative forms and other variants that a person skilled in the art could think of in the context of the present invention and namely all combinations of the various operating modes described above, which can be taken separately or in combination.

30 In particular, although the invention was described for use in the field of rest, the invention can also have an advantageous use in the field of safety during transportation. In particular, the device 1 can be used by a user 8 in order to take up a seated safety position similar to the rest position described above. For example, this

can be the case for preventing an impact during an emergency landing upon orders from an airplane crew.

According to this latter embodiment, the device 1 can also be used as an “airbag” safety device. A cartridge that generates inflation gas can thus allow gas to be injected very quickly into the device 1 in order to obtain very quick, see quasi-immediate, inflation. This cartridge allows the required quantity of gas to be injected. This cartridge can be actuated by a dedicated gripping device, as shown in figure 9b. The device 1 can thus be positioned on the knees of the user 8. As shown in figure 9a, the user 8 thus has a position similar to the rest position described above while leaning farther forwards than in the rest position. The user 8 thus adopts a safety position suitable for protecting during a collision of the means of transportation or for absorbing an impact. In this case, the device 1 bears on the seat in front, as shown in figure 9b. Namely, this position allows the head and the vital organs to be protected.

The integration of an inflation cartridge and of a dedicated gripping device into a device that does not provide the safety function, is also envisaged.

In order to allow easy evacuation of the user 8 during an emergency, the device 1 can be quickly deflated by the user 8. According to this embodiment, the device 1 can comprise a pre-tearable portion 19 shown by the dotted line in figure 8 allowing the wall of the device 1 to be torn in order to quickly deflate the device 1. Once the wall has been torn, the device 1 thus becomes unusable and must be replaced.

The device 1 is advantageously made from a template 28. The template 28 has the shape of a cross or of a T, more particularly shown in flat form in figure 16. The template 28 allows to outline two layers 26, 27 which, superimposed on one another, are connected to each other in order to define an inflation chamber of the device that can be inflated by the user 8. The two layers 26, 27 are more particularly connected together at their circumference 29, as well as around the openings 7 and 9, by a peripheral weld. A single layer 26 is more particularly visible in figure 16.

The two layers 26, 27 are advantageously impermeable to air. The two layers 26, 27 are for example made of a plastic material, namely polyvinyl chloride (PVC).

The two layers 26, 27 can namely be different from each other. The two layers 26, 27 can have different colours in order to form a device 1 that has two

colours once assembled. For example, the inner space 2 of the device 1, formed by the layer 27, can have a different colour than the exterior of the device 1, formed by the other layer 26.

Moreover, one of the layers 26, 27 or both layers 26, 27 of the device 1 can
5 be transparent.

The device 1 is then made by assembling the edges to each other. According to the example in figures 10 and 16, each layer 26, 27 of the device 1 comprises more particularly 6 faces. The assembly of the device 1 can be carried out using the template 28 by sewing or by gluing the edges to each other, or via any other means.
10 This step can namely be carried out in the factory, in order to guarantee its reliability. In this case, the device is delivered closed, and no step of assembly by the user is necessary. "Closed" in this context does not refer to the air chambers, which are necessarily closed, apart from the fact that they allow their inflation via a valve, but to the device itself, in that all the edges are rigidly connected together. It is not
15 therefore intended to be possible for the user to place the device in the configuration of figure 16.

Certain portions of the device 1 can further comprise structural welds. A structural weld locally connects the two layers 26, 27 to each other. Such a structural weld can be made via high frequency gluing or by any other means.

Thus, as visible in figure 12, the lower portion 4, in particular the lower face
20 4A, can comprise at least one structural weld 21. The lower portion 4 can namely comprise two structural welds 21A, 21B. The two structural welds 21A, 21B extend longitudinally, at least partially, between the front face 5A and the rear face 5B of the device 1, without reaching two other peripheral welds of the device. The two
25 structural welds 21A, 21B allow a flatter lower face 4A to be obtained, in order to improve the retention of the device 1 on a support 11. In particular, the lower portion 4 thus comprises three inflatable beads 24A, 24B, 24C, separated from each other by the structural welds 21A, 21B.

Moreover, the presence of a structural weld allows the inner volume of the
30 inflation chamber of the device to be inflated to be limited, while providing better resistance of the device 1. Other portions of the device 1 can also comprise such structural welds. In particular, as visible in figure 14, the rear portion 5B can comprise at least one structural weld 20. The structural weld 20 of the rear face

extends vertically in a rectilinear manner, at least partially, between upper portion 3 and the lower portion 4.

The structural weld 20 thus defines two inflatable beads 25A, 25B having an equal size. The inflatable beads 25A, 25B extend substantially vertically, in parallel
5 to one another. The inflatable beads 25A, 25B provide better resistance of the device 1 during its use.

According to one embodiment, the structural welds 20, 21A and 21B described above are the only three structural welds of the device.

Although the device 1 has been described above with regard to a specific
10 seated rest position of the user 8 as shown in figure 4a, in particular in which the face of the user 8 is received in the upper opening 7, other positions using the device 1 are possible. As an example not shown in the drawings, the user 8 can also occupy a rest position by placing the chin of the user on the upper portion 3 for maintaining the head without placing the head of the user in the upper opening 7. According to
15 another example, the user 8 can also use the device 1 as a lateral bearing device. The user can, for example, place one arm through the two lateral openings. The device thus comprises either its front portion or its rear portion placed between the arm and the lateral portion of the chest of the user. Alternatively, the user can hug the device 1 with one arm, the latter being positioned between the arm and the lateral portion of
20 the chest of the user, the inner device being thus deformed in such a way that the inner space 2 is greatly reduced.

Moreover, the device 1 can comprise other accessories not shown in the drawings in order to facilitate the use of the device 1 while traveling. As non-limiting examples, the device 1 can comprise a pocket in order to store the belongings of the
25 user 8 when the user wants to rest. The device 1 can also comprise an attachment element, such as a ring, in order for the user 8 to be able to attach the glasses of the user to the device 1 before adopting a rest position.

CLAIMS

1. Totally inflatable device (1) designed to allow a user (8) to adopt a seated rest position, the device (1) comprising at least a head-maintaining upper portion (3) for maintaining the head and a supporting lower portion (4), the head-maintaining upper portion (3) for maintaining the head comprising an upper opening (7) suitable for receiving the face of the user (8), the supporting lower portion (4) allowing the device (1) to be kept bearing on a support (11), the device bearing on the support (11) being suitable for supporting the weight of the head of the user (8),
5 Characterized in that the device (1) also comprises at least two lateral openings (9) allowing the user (8) to position the arms of the user under the upper portion (3) for maintaining the head and in that the supporting lower portion (4) comprises an inner face (10) located inside the device (1) and extending between the two lateral openings (9), the lateral openings (9) and the inner face (10) allowing the user (8) to position the arms and hands of the user during the use of the device (1).
10 15
2. Device (1) according to the previous claim, wherein the supporting lower portion (4) comprises a peripheral portion (5), the peripheral portion (5) comprising a front portion (5A) and a rear portion (5B), the two lateral openings (9) extending between the front portion (5A) and the rear portion (5B), respectively.
20
3. Device (1) according to claim 1, wherein the two lateral openings (9) are opposite to each other, the device (1) being passed through on either side between the two lateral openings (9).
- 25 4. Device (1) according to claim 1, wherein each of the two lateral openings (9) is closed by a closing device (15).
5. Device (1) according to claim 1, wherein the upper opening (7) comprises a rear side (7B) suitable for the user (8) to be able to rest the face of the user, at the forehead, on the device (1).
30

6. Device (1) according to claim 1, wherein the upper opening (7) comprises a front side (7A) suitable for the user (8) to be able to rest the face of the user, below the mouth, on the device (1).
- 5 7. Device (1) according to claim 2, wherein the front portion (5A) and/or the rear portion (5B) comprises an opening (14) allowing the air and the heat given off by the user (8) to be evacuated outside of the device (1).
8. Device (1) according to claim 1, wherein the device (1) comprises an inner
10 structure suitable for allowing the device (1) to be deployed.
9. Device (1) according to claim 1, comprising an inflation valve (18) allowing the device (1) to be inflated manually and/or the device (1) to be inflated via an air output.
- 15 10. Device (1) according to claim 1, having a height (h) equal to approximately 40 centimetres, as well as a width (L) and a length (l) between 20 and 30 centimetres.
11. Device (1) according to claim 1, comprising an additional element (16) in contact
20 with the lower supporting portion (4) in order to allow the device to be raised (1).
12. Device (1) according to claim 1, suitable for use in a means of transportation, the device (1) being in particular suitable for being placed on an open tray table (11) of a seat (12) located in front of the user (8).
- 25 13. Device (1) according to claim 12, wherein the rest position of the user (8) also corresponds to a safety position suitable for absorbing the impacts in the case of a collision of the means of transportation.
- 30 14. Device (1) according to claim 1, comprising an extension (13) at the upper portion (3) for maintaining the head allowing the user (8) to be protected in the case of impacts, in particular front impacts.

15. Device (1) according to claim 1, wherein the upper opening (7) and/or the lateral openings (9) of the device (1) comprise flaps extending from the sides of their
5 respective openings (7, 9).

16. Device (1) according to claim 1, wherein the upper portion (3) and the lower portion (4) define an inner space (2) and wherein the upper opening (7) opens into the inner space (2).