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(54) **SECURING DEVICE FOR ARTICLES HUNG OVER THE SHOULDER**

(57) A description is provided for a device for articles that conventionally hang over the shoulder, such as satchels, handbags, luggage, inter alia, which include straps, handles, chains or similar means. The device prevents said articles from slipping and falling from the user's shoulder and comprises a rear section (20) in contact with the user's back; a first fastening device (30) mounted in the rear section (20) and on which said hanging means

(2) are secured; a mid-section (40) attached to the rear section (20) and extending forwards from the latter, the mid-section (40) being in contact with the user's shoulder; a front section (50) attached to the mid-section (40) and extending forwards from the latter; the mid-section being in contact with the user's chest; and, a second fastening device (60) mounted in the front section (50) and on which said hanging means (2) are also secured.

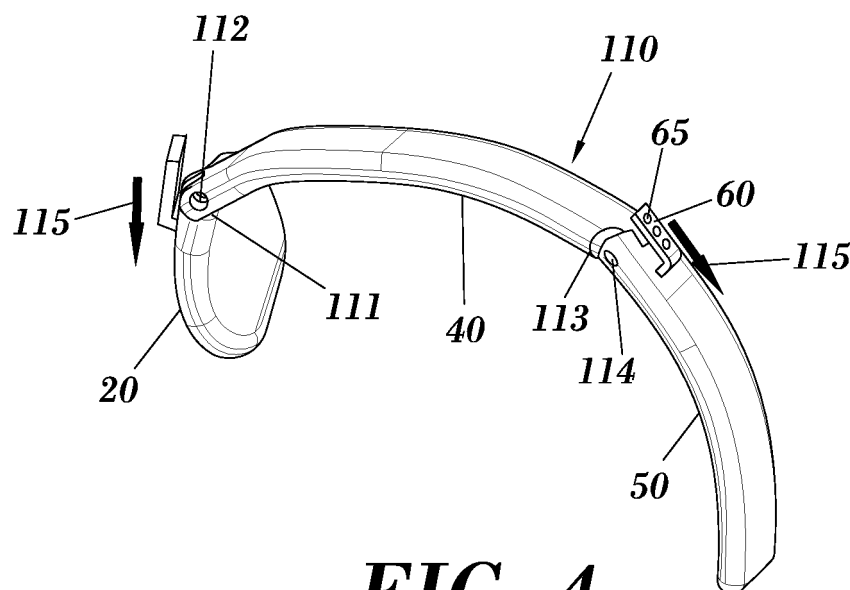


FIG. 4

Description

Field of the Invention

[0001] The present invention relates to the techniques used in the design and manufacture of devices and apparatuses which allow a user to carry and hang articles over his/her shoulder, and it more particularly relates to a securing device for articles that conventionally hang over the shoulder, such as satchels, handbags, luggage, inter alia, which include straps, handles, chains or similar means for this purpose. The device prevents said articles from slipping and falling from the user's shoulder.

Background of the Invention

[0002] For a long time, men and women have used articles such as handbags, satchels and luggage which hang over the shoulder. To that end, the articles include hanging means such as straps, chains, bands, belts. Many of these hanging means include a part, which is sometimes padded, that slides along the means and is what is placed on the shoulder per se. This part sometimes usually has a certain anatomical shape but it is generally flat and flexible.

[0003] Although the length of these elongated hanging means can vary to be adjusted to the height of any user, they have the drawback that when walking, the gradually slide towards the outer side of the shoulder and end up falling. It is common for the hanging means to have to be returned to its original position to prevent the article from falling. Although the padded part usually is or has a non-slip cover, this will inevitably happen. It is a movement that is seen daily, very common in people carrying handbags, but it is uncomfortable in handbags, suitcases, satchels, satchels for laptop computers, which carry certain weight, so it is very uncomfortable to carry them. A practical and simple solution to this problem is required.

[0004] Document US 4 091 975 discloses a device for mounting articles on the shoulder, particularly a video camera, having articulations for adjusting it to the shape of each user's shoulder, where once the adjustment is made, the device remains fixed in a well-known manner, which is not suitable for articles hanging over the shoulder, where forces of another type which, as mentioned, make the article slip are generated.

[0005] Other devices and assemblies that have been designed for hanging articles over the shoulder can be found in documents FR 2 127 412, US 2004084490, US 2003121942, US 2009033110 and WO 0040114, these documents illustrate straps or harnesses that do not take into account the forces generated by the hanging articles and place more importance on providing padded or one-piece surfaces to provide user comfort.

Summary of the Invention

[0006] The object of the present invention is to provide

a securing device of articles that hang over a user's shoulder such as bags, satchels, luggage, having hanging means such as straps, bands, handles, chains, etc., for example.

[0007] To that end, the device of the present invention comprises a rear section configured to come into contact with the user's back; mounted to this rear section there is a first fastening device provided for securing said hanging means of the article.

[0008] The device of the present invention also comprises a front section configured to come into contact with the user's chest and a second fastening device mounted in the front section and also provided for securing said hanging means.

[0009] Finally, the device comprises a mid-section arranged between the rear section and the front section which is configured to rest on the user's shoulder.

[0010] The structural relationship between the elements of the device of the present invention allow the article to be able to hang in a secure manner without falling off the shoulder because the article is supported at both fastening devices and its weight is distributed throughout the entire the device, particularly the fastening devices allow adjusting the forces acting on the device to thus achieve greater comfort when the article is hung.

[0011] In one embodiment of the invention, the rear section and/or the front section are attached in an articulated manner to the mid-section, whereby increasing the contact and grip of the device with respect to the body and further preventing momentums or torques from being generated by the hanging element of the article.

[0012] The front, mid- and rear sections can be rigid and the front section and the rear section can be attached with the mid-section by means of articulations comprising a pin. This pin particularly can be formed integrally in the front or rear section and is received in a housing formed integrally in the mid-section.

[0013] Due to the effect of the weight exerted by the hanging means, the front and rear sections can thereby rotate with respect to the mid-section, causing a pinching effect on the user's shoulder which increases friction and therefore makes it difficult for the device to slide off the shoulder.

[0014] Furthermore, the first fastening device and the second fastening device can be in different vertical planes, such that the hanging means cause a torque in the clockwise direction with respect to a vertical axis tending to move the device against the user's shoulder. The front and mid-sections have a configuration such that they lock the device against the shoulder when it is moved due to the effect of the mentioned torque.

[0015] The attachment between the hanging means and the fastening devices can be movable or articulated both in the first fastening device and in the second fastening device, such that the transmission to the device of the torques caused by the hanging means with respect to the horizontal axes passing through the point of attachment is prevented, which could cause the loss of

contact between the device and the user's shoulder.

[0016] In another embodiment, the device comprises tensing means connecting the first and second fastening device to one another. The tensing means allow adjusting the tensile force between said fastening devices and they are used when one or both front and rear sections are mounted in an articulated manner to the mid-section.

[0017] For greater comfort, in an additional embodiment, it is preferred that at least one of the front, rear or mid-sections has a padded covering and/or non-slip covering.

[0018] It has also been provided that the device can be covered with a removable or detachable cover which allows the user to change the cover and, therefore, the outer appearance of the device, or it allows changing the cover if it becomes deteriorated.

[0019] The use of the device of the present invention is simple and practical for carrying hanging articles in a secure manner without them falling off the shoulder.

Brief Description of the Drawings

[0020] To complement the description being made and for the purposes of aiding to better understand the features of the invention according to certain preferred practical embodiments thereof, a set of drawings is attached as an integral part of this description in which the following has been depicted with an illustrative and non-limiting character:

Figure 1 is a top plan view of a securing device for articles that hang over the shoulder, the device being constructed according to a first preferred embodiment of the present invention.

Figure 2 is a right side view of the first embodiment of the device illustrated in Figure 1.

Figure 3 is a side perspective view of a securing device for articles that hang over the shoulder, the device being constructed according to a second preferred embodiment of the present invention.

Figure 4 is a perspective view from the rear to the front of the device of Figure 3.

Figure 4A is a cross-section view between the mid-section and front of the device constructed according to the second preferred embodiment of the invention.

Figure 5 is a side perspective view showing a variant of the second embodiment of the device of Figure 3.

Figure 6 is a top perspective view of a securing device for articles that hang over the shoulder, the device being constructed according to a third preferred embodiment of the present invention.

Figure 7 is an enlarged view of the mid-section of a securing device for articles that hang over the shoulder, the device being constructed according to a fourth preferred embodiment of the present invention.

Figure 8 is a side view of a variant of the embodiment illustrated in Figure 7.

Figure 9 shows a view of the chest of a user using a preferred embodiment of the present invention.

Figure 10 shows a view of the user's back using the preferred embodiment of the present invention illustrated in Figure 9.

Detailed Description of the Preferred Embodiments of the Invention

[0021] In reference to Figures 1 and 2, said figures show a first embodiment of a securing device 10 for articles that hang over the shoulder such as handbags, satchels, luggage and having hanging means 2, which are formed by the strap 3 and the buckle or handle 4. In the context of the present invention, it must be understood that the use of the device is not limited to said articles that have been mentioned, nor is it limited to said hanging means included in such articles, because there are several alternatives thereof that are well known by the persons skilled in the art.

[0022] Based on Figures 1 and 2, it can be mentioned that the main elements of the device are the rear section 20, the first fastening device 30, the mid-section 40, the front section 50 and the second fastening device 60 the structural relationship and function of which in the device 10 is explained below:

[0023] With respect to the rear section 20, it comes into contact with the user's back; said section is formed by a lobe-shaped segment 21 with an extended surface to come into sufficient and comfortable contact with the user's back; and an elongated segment 22 attached to the lobe-shaped segment 21 and running from there to the mid-section 40. When seen from the side, the rear section 20 has a concave trajectory for being anatomically adjusted to the user's back. In the present description, the term "anatomical" means that it is shaped to and follows the contour of the human body.

[0024] The first fastening device 30 is located on the rear section 20, on which the buckle or handle 4 of said hanging means 2 is secured, the first fastening device 30 is formed by an attachment portion 31 integral with the rear section 20 and projecting in the normal direction thereof; and an elongated portion 32 orthogonally attached to the attachment portion 31 and running upwards and separately with respect to the rear section 20. Both portions 31 and 32 together give the first fastening device 30 an L-shape when seen from the side.

[0025] The first fastening device 30 has a plurality of positioning holes 35 provided on the elongated portion 32 and running the entire length thereof, the function of these perforations 35 is to allow selecting the position in which the hanging means 2 will be secured so that the user can decide in which position he/she is most comfortable with the hanging article.

[0026] Another element of the device 10 is the mid-section 40 attached to the rear section 20 and extending forwards from the latter, the mid-section 40 comes into contact with the user's shoulder, to that end the mid-section 40

tion follows an anatomical trajectory, i.e., it is concave when seen from the side and curved inwardly when seen from above, which allows being shaped to the user's body in the section going from the back towards the chest.

[0027] With respect to the front section 50, said section is attached to the mid-section 40 and extends forwards therefrom; the mid-section 50 likewise comes into contact with the user's chest. When seen from the side, it is observed that the front section 50 has an elongated and slightly concave shape for being anatomically adjusted to the user's chest.

[0028] Finally, with respect to the second fastening device 60, said device is mounted on the front section 50 and another buckle 4 of the hanging means 2 is also secured therein. The second fastening device 60 has the same configuration as the first fastening device 30, the second fastening device 60 specifically comprises an attachment portion 61 integral with the front section 50 and projecting in the normal direction thereof; and an elongated portion 62 orthogonally attached to the attachment portion and running upwards and separately with respect to the front section 50, the second fastening device 60 also has an L-shape when seen from the side.

[0029] The second fastening device 60 also has a plurality of positioning holes 65 provided on the elongated portion and running the entire length thereof, the function of these perforations 65 is to allow selecting the position in which the hanging means will be secured so that the user can decide in which position he/she feels most comfortable with the hanging article as it is secured in the first and second fastening device 30 and 60.

[0030] The hanging means 2 can be secured to the fastening devices 30 and 60 by means of a buckle or the like in the different positions of said fastening devices represented by perforations 35 or 65. This attachment between the hanging means and the fastening devices is movable or articulated both in the first fastening device 30 and in the second fastening device 60. Since they are movable or articulated attachments instead of rigid attachments, the transmission of the torques generated with respect to the horizontal axes to the device 10 is prevented and therefore the device is prevented from lifting up off the shoulder and losing contact

[0031] The curved shapes illustrated and described according to Figure 1 of the rear section 20, mid-section 40 and front section 50 have a dual function. The first is that the forces acting through the hanging means 2 as the strap 3 are not located in the same vertical plane and therefore a torque effect on the entire assembly is generated when the device is resting on the shoulder. This torque causes the entire device 10 to rotate in the clockwise direction with respect to a vertical axis such that device is moved until it comes into contact with the user's shoulder. The curved shapes of sections 40 and 50 of Figure 1 correspond to the shape of the shoulder and are provided such that they block the device moved due to the effect of the mentioned torque. The combination of both effects, the rotation of the device together with the

shape thereof, increase the grip effect on the shoulder

[0032] It is generally observed that, unlike the prior art, in the present invention, the weight of the article is received at two points below the shoulder, i.e., the first and the second fastening device 30 and 60, and not directly on the shoulder. Likewise, the weight of the article is distributed throughout the entire the device 10 which, as can be observed, when the device 10 is seen from above, follows a trajectory that is curved inwardly in its mid-section 40, i.e., it is not straight as occurs with the straps, this is so that the device 10 is anatomically adjusted to the user's back, shoulder and chest and does not fall off.

[0033] Reference is now made to Figures 3 and 4 showing a second preferred embodiment of the device of the present invention and now identified with reference number 110, this embodiment is characterized in that the rear section 20 and the front section 50 are attached in an articulated manner to the mid-section 40. However, in the present invention it is possible that only one of these sections can be mounted in an articulated manner.

[0034] The articulated attachment of the rear section 20 with the mid-section 40 is done by means of a first articulation 111 with an articulation pin 112 going through said sections 20 and 40, whereas the articulated attachment of the front section 50 with the mid-section 40 is done with a second articulation 113 with an articulation pin 114 going through said sections 40 and 50. Each articulation pin 112 or 114 can have a different direction with respect to the other, i.e., they are not necessarily parallel, such that they allow rotating the rear section 20 or front 50 towards the inside of the user's body improving the contact and grip effect of the device 110. Furthermore, the positioning holes of the fastening devices 30 and 60 allow regulating the position in which the hanging means are attached in order to be able to distribute the weight of the article as desired by each user, which is illustrated by means of the force arrows 115.

[0035] In this embodiment, the structural formation generates a pinching effect, i.e., the vertical components of the forces represented by the arrows 115 make the front section 50 rotate with respect to the pin 114, as well as make the rear section 20 rotate with respect to the pin 112 when the device 10 is on the shoulder and said additional pinching effect is generated, which increases the mooring on the shoulder with respect to the torque effect.

[0036] In other words, the pinching effect means that the weight of the bag or satchel hanging from the rear section 20 and front section 50 makes these sections rotate on the mid-section 40 towards the user's body, exerting a pinching effect on the shoulder. The intermediate section further has a curved shape, such that the hanging means 2 at both ends of the device 10 are located in different vertical planes.

[0037] The hanging means 2 of the front section 50 are located closer to the vertical axis of the person with respect to the hanging means 2 of the rear section 20, thereby generating a torque causing a rotation in the clockwise direction and towards the device with respect

to the mentioned vertical axis. Because of the shape of the sections 40 and 50, this rotation makes the device come into contact with the user's shoulder, preventing the device 10 from slipping off the shoulder.

[0038] For all this to be possible, the front section, rear section and mid-section, 50, 40 and 20 must be rigid to interact with the pins 114 and 115, which is the opposite of the solutions of the prior art where the devices are formed by flexible and generally padded elements for being adjusted to the shape of the shoulder, which would make it impossible to achieve the aforementioned torque and pinching effects.

[0039] Therefore there are two grip effects for gripping the device to the shoulder, one due to the rotation with respect to the vertical axis (torque effect) which is enhanced by the shape bordering the shoulder, and the other due to the pinching effect enabled by the articulations.

[0040] Now in reference to Figure 4A, said figure illustrates a preferred shape for the articulation 113, more particularly the front section 50 has the pin 114 integral therewith, which pin is received in a housing 42 formed integrally at one end of the mid-section 40. The disassembly is thereby achieved in a single position of one section with respect to the other, on the opposite side of the mid-section 40 there is a similar construction for attaching the rear section with the mid-section in an articulated manner, i.e., the rear section 40 includes the pin 112 in an integral manner. In other words, articulations 111 and 113 would be rapidly mountable and detachable for assembling the device.

[0041] A variant of the second embodiment is illustrated in Figure 5, where the device 110 includes an elastic belt 116 connecting the fastening devices 30 and 60, the elastic belt 116 works as tensing means and the ends 117 thereof are attached to said fastening devices 30 and 60 by means of rings 118. The tensing means, such as the elastic belt 116, allow adjusting the tensile force between said fastening devices 30 and 60.

[0042] The tensing means are very useful in hanging articles with variable weight such as handbags provided that when the weight of the articles increases, the tension of the tensing means increases, thereby preventing the shoulder from being subjected to greater stresses as a consequence of the weight. Other tensing means can be dampers or springs connecting said fastening devices.

[0043] Now in reference to Figure 6, showing a third embodiment of the device of the present invention identified with reference number 210, in this embodiment it can be observed that both the first and the second fastening device 30, 60, in addition to comprising the attachment portion 31, 61 and the elongated portion 32, 62, each additionally comprises: a prolongation 33, 63 attached to the elongated portion 32, 62 and projecting perpendicularly from there towards the outside of the rear section 20 or front section 50 of the device, i.e., these prolongations 33, 63 give the fastening devices 30 and 60 an L-shape when seen from above. The prolongations

33, 63 are also provided with a plurality of perforations 35 and 65, distributed along same which allows moving the point of attachment of the hanging means and thereby generating a momentum/torque on the device 210 making the rear and front sections rotate towards the inside of the user's body (see the arrows 215 representing these forces).

[0044] Finally, Figures 7 and 8 show a fourth embodiment of the device identified with the reference number 310, where it is observed that the mid-section 40 of the device 310 integrally includes an extended surface 41 projecting towards the outside thereof (Figure 7) or toward the inside (Figure 8), these extended surfaces allow further improving the grip conditions of the device on the user's body, particularly on the shoulder.

[0045] Figures 9 and 10 show a user 5 using the device 10 for hanging a satchel 6, as is observed, each rear section 20, mid-section 40 and front section 50 of the device includes a padded covering 70 for providing comfort in the use of the device. It is also possible that at least one of the rear sections 20, mid-sections 40 and front sections 50 can include a non-slip covering.

[0046] The materials with which the sections of the device are manufactured are rigid enough so as to not become deformed or break due to the weight of the article to be carried, such as plastic or metal materials.

[0047] Having described and exemplified preferred embodiments of the present invention, it must be emphasized that numerous modifications thereto are possible, such as the selection of materials, the length of the sections, etc. Therefore, the present invention must not be considered as restricted with the exception of that required by the prior art and by the scope of the attached claims.

List of Reference Numbers

[0048]

2 Hanging means

3 Strap

4 Buckle

5 User

6 Satchel

10 Device (first embodiment)

20 Rear section

21 Lobe-shaped segment

22 Elongated segment

30 First fastening device

31 Attachment portion

32 Elongated portion

33 Prolongation

35 Positioning holes

40 Mid-section		shoulder according to claims 1 or 2, characterized in that the front section (50) and the rear section (20) are attached with the mid-section (40) by means of articulations (111, 113) comprising a pin (112, 114).
41 An extended surface		
42 housing	5	
50 Front section		
60 Second Fastening device		4. Securing device for securing hanging articles to the shoulder according to claim 3, characterized in that the pin (112, 114) is formed integrally in the front section (50) or rear section (20) and is received in a housing (42) formed integrally in the mid-section.
61 Attachment portion		
62 Elongated portion	10	
63 Prolongation		
65 Positioning holes		5. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 4, characterized in that the first fastening device (30) and the second fastening device (60) are located in different vertical planes, such that the hanging means (2) cause a torque in the clockwise direction with respect to a vertical axis.
70 Padded covering		
110 Device (second embodiment)	15	
111, 113 First and second articulations		
112, 114 Articulation pins		
115 Arrows representing forces		
116 Elastic belts	20	
117 Ends of elastic belts		
118 Rings		6. Securing device for securing hanging articles to the shoulder according to any of the preceding claims, characterized in that the front section (50) and rear section (20) can rotate with respect to the mid-section, causing a pinching effect on the user's shoulder.
210 Device (third embodiment)		
215 Arrows representing Forces	25	
310 Device, fourth embodiment		
Claims		
1. Securing device (10) for articles that hang over a user's shoulder and having hanging means (2); the device being characterized in that it comprises:	30	
a) a rear section (20) configured to come into contact with the user's back;	35	
b) a first fastening device (30) mounted in the rear section (20) and provided for securing said hanging means (2);		
c) a front section (50) configured to come into contact with the user's chest;	40	
d) a second fastening device (60) mounted in the front section (50) and provided for securing said hanging means (2); and		
e) a mid-section (40) arranged between the rear section (20) and the front section (50), configured to rest on the user's shoulder;	45	
wherein the rear section (20) and/or front section (50) are attached in an articulated manner to the mid-section (40).	50	
2. Securing device for securing hanging articles to the shoulder according to claim 1, characterized in that the front section (50), mid-section (40) and rear section (20) are rigid.	55	
3. Securing device for securing hanging articles to the		an attachment portion (31) integral with the rear section (20) and projecting in the normal direction thereof; and, an elongated portion (32) orthogonally attached

to the attachment portion (31) and running upwards and separately with respect to the rear section (20).

12. Securing device for securing hanging articles to the shoulder, according any of claims 1 to 11, **characterized in that** the second fastening device (60) comprises:

an attachment portion (61) integral with the front section (50) and projecting in the normal direction thereof; and,
an elongated portion (62) orthogonally attached to the attachment portion (61) and running upwards and separately with respect to the front section (50).

13. Securing device for securing hanging articles to the shoulder according to any of claims 11 or 12, **characterized in that** the first or second fastening device (30, 60) additionally comprises:

a prolongation (33, 63) attached to the elongated portion (32, 62) and projecting perpendicularly from there out of the rear section (20) or front section (50) of the device.

14. Securing device for securing hanging articles to the shoulder according to any of claims 11 to 13, **characterized in that** the first or second fastening device (30, 60) include in the elongated portion (32, 62) and/or in the prolongation (33, 63) a plurality of positioning holes (35, 65) which allow selecting the position in which the hanging means will be secured in the first or second fastening device (30, 60).

15. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 14, **characterized in that** the front section (50) has an elongated and slightly curved shape for being adjusted to the user's chest.

16. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 15, **characterized in that** the rear section (20) comprises:

a lobe-shaped segment (21) with an extended surface to come into contact with the user's back; and,
an elongated segment (22) attached to the lobe-shaped segment (21) and running from there to the mid-section (40).

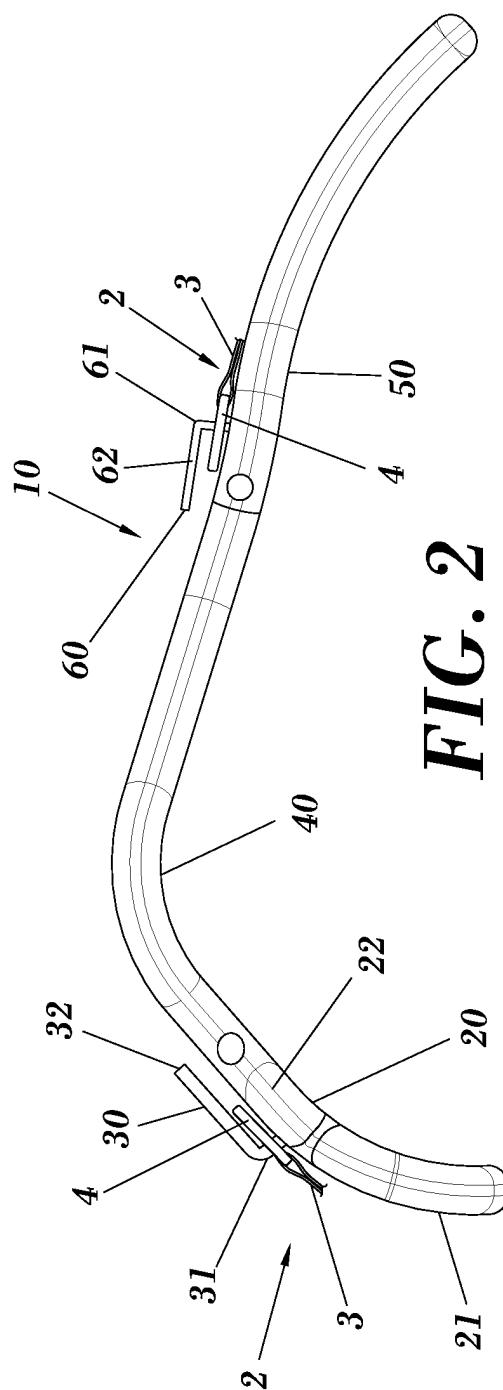
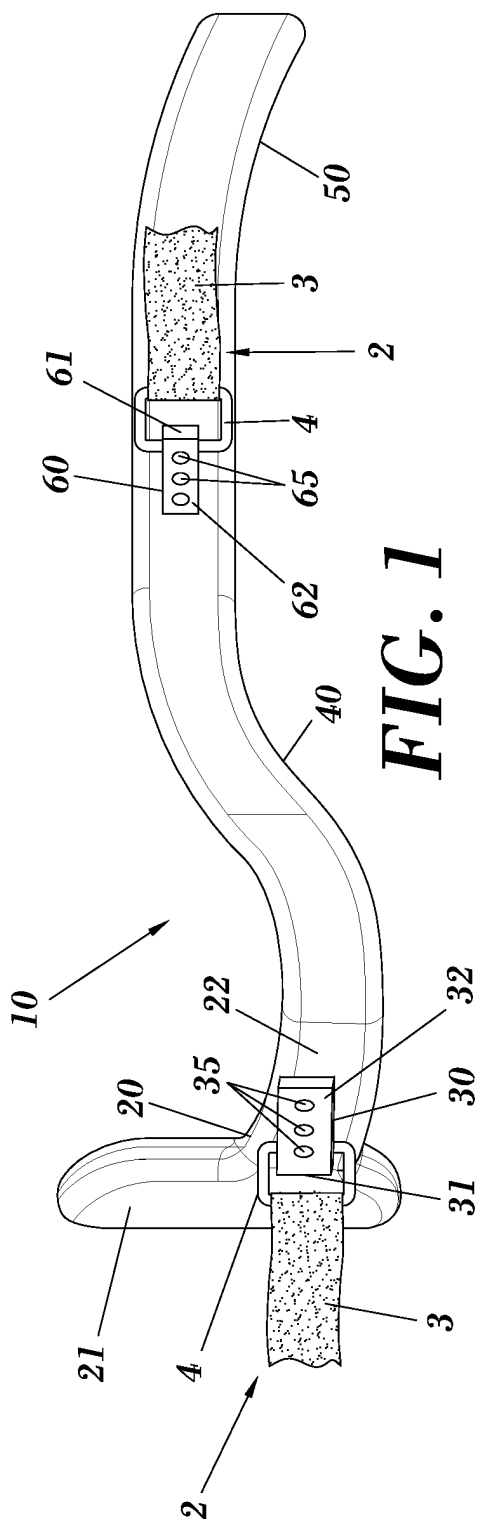
17. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 16, **characterized in that** when seen from above, the mid-section (40) of the device has an elongated and inwardly curved trajectory for being shaped to the user's

body in the section going from the back towards the chest.

18. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 17, **characterized in that** the mid-section (40) of the device integrally includes an extended surface (41) projecting towards the inside or towards the outside thereof.

19. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 18, **characterized in that** at least one of the front, rear or mid-sections has a padded covering (70).

20. Securing device for securing hanging articles to the shoulder according to any of claims 1 to 19, **characterized in that** at least one of the front, rear or mid-sections has a non-slip covering.



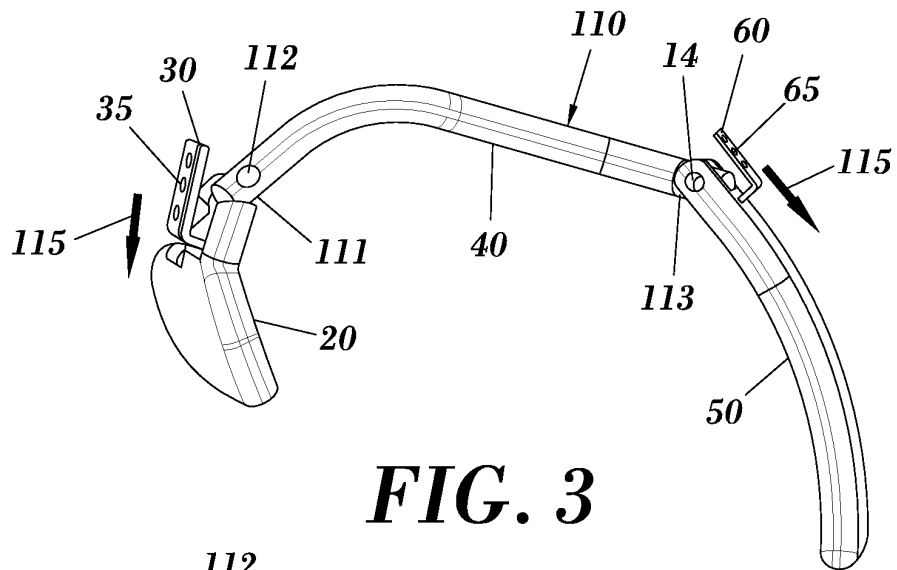


FIG. 3

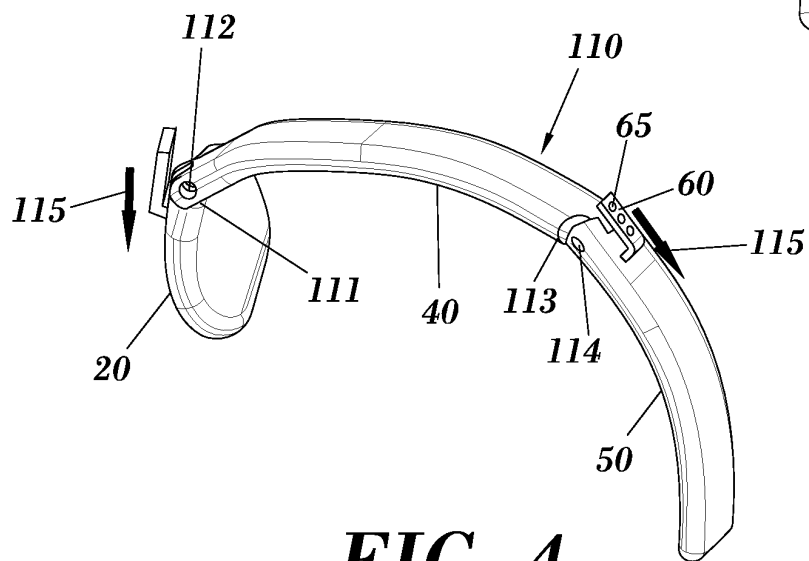


FIG. 4

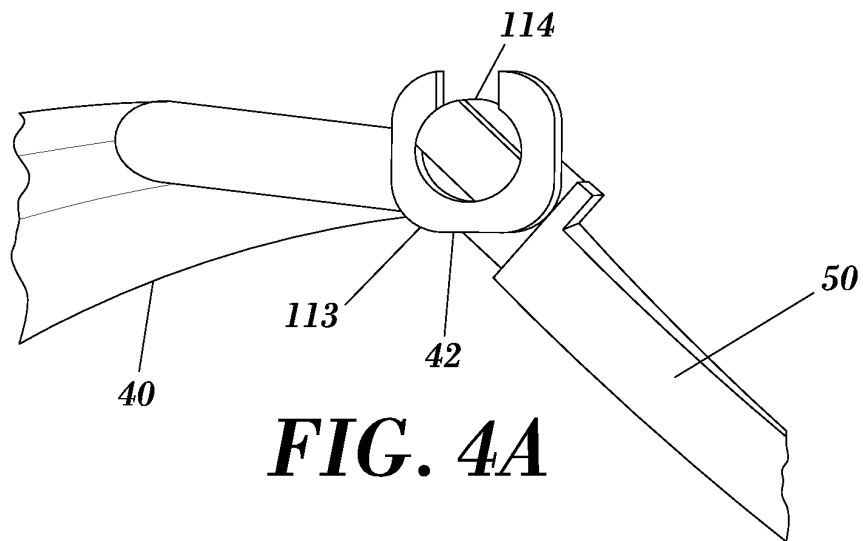
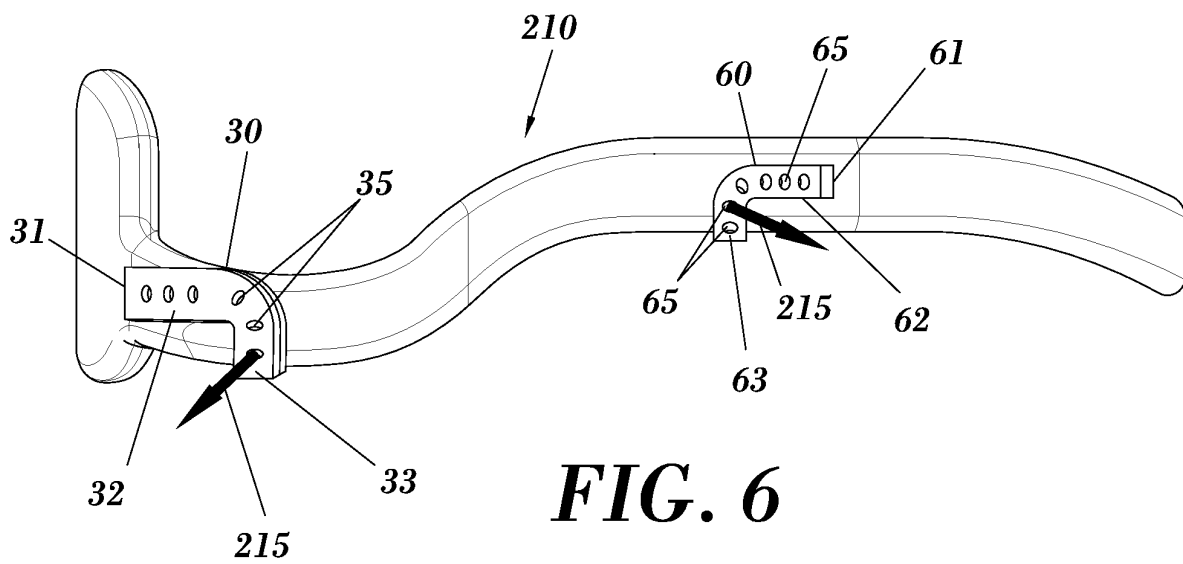
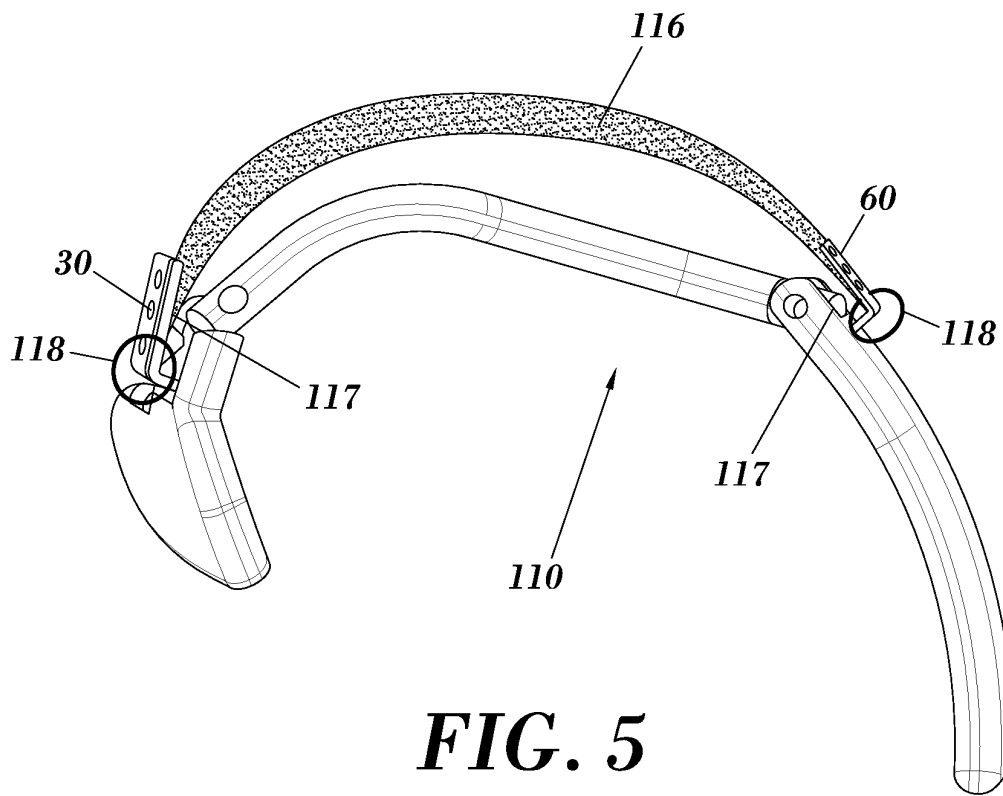


FIG. 4A



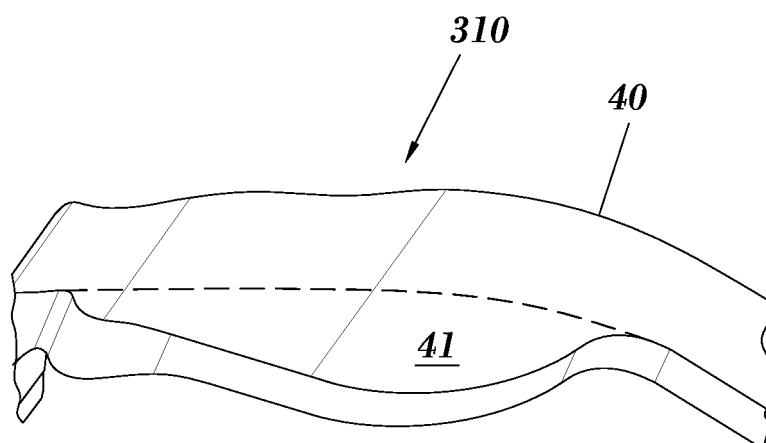


FIG. 7

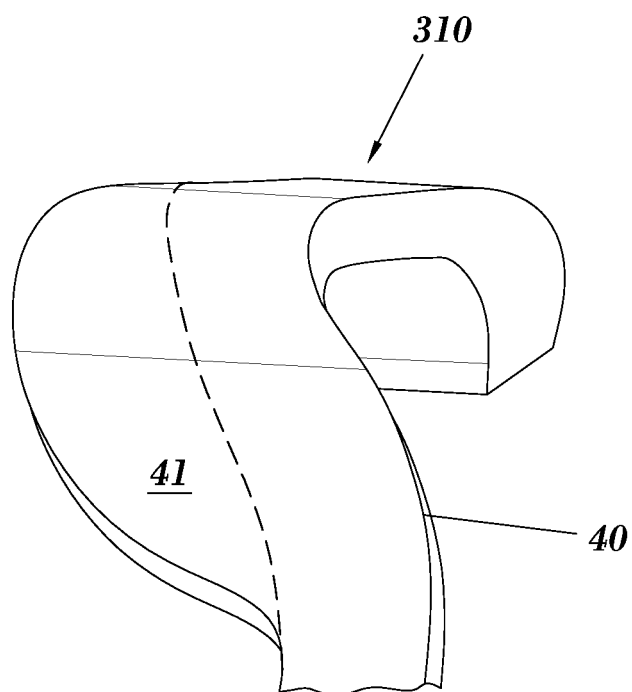


FIG. 8

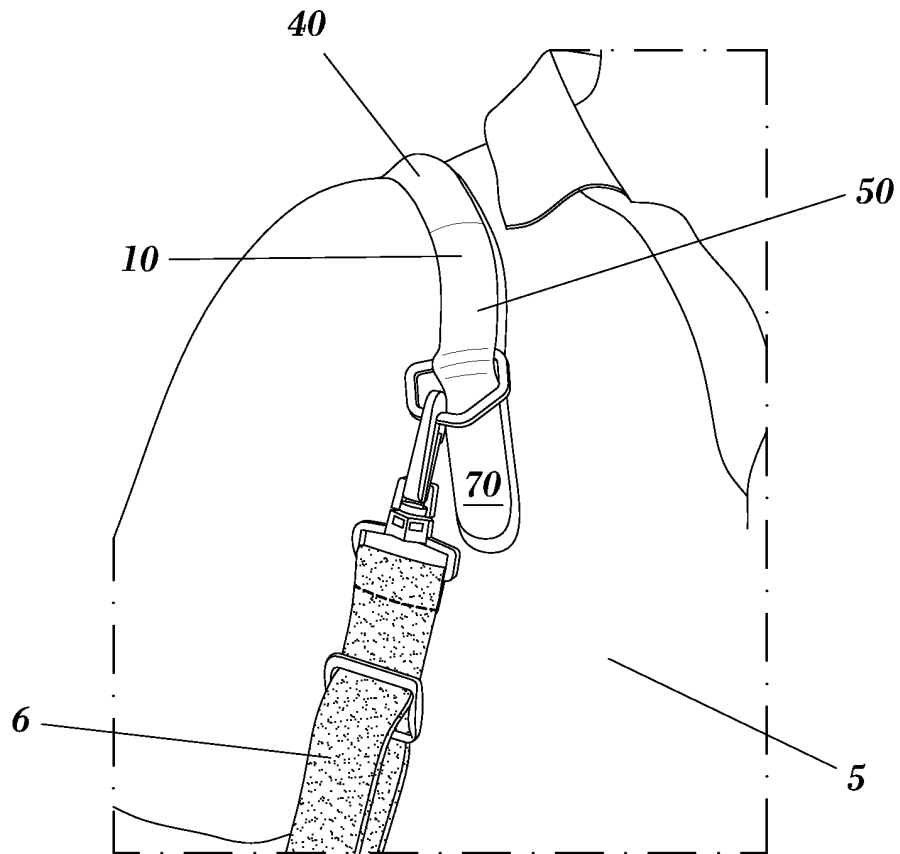


FIG. 9

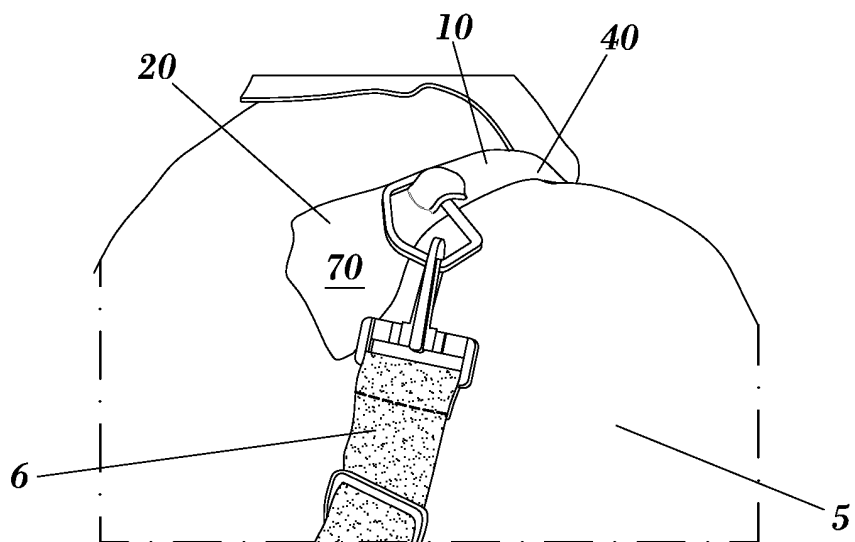


FIG. 10

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2010/070646

A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet

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)

A45C, A45F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, INVENES

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR 2127412 A5 (SERE GEORGES) 13/10/1972, page 2, líneas 8 - 25; figuras.	1-3, 11-20
Y	US 4091975 A (RUSSELL ET AL.) 30/05/1978, column 1, line 31 - column 2, line 35; figuras.	1-3, 11-20

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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Date of the actual completion of the international search
22/02/2011Date of mailing of the international search report
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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2010/070646

Information on patent family members

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FR2127412 A	13.10.1972	NONE	
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US4091975 A	30.05.1978	NONE	
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Form PCT/ISA/210 (patent family annex) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.

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CLASSIFICATION OF SUBJECT MATTER

A45C13/30 (01.01.2006)

A45F3/12 (01.01.2006)

A45F3/14 (01.01.2006)

A45F5/10 (01.01.2006)

REFERENCES CITED IN THE DESCRIPTION

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