

[54] ARTICLE CARRYING STRAP

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[57] ABSTRACT

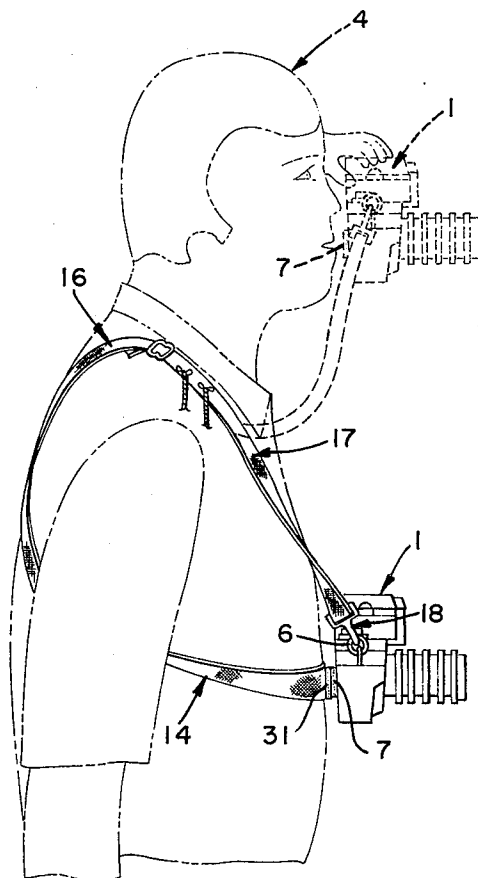
[52] U.S. Cl. 224/5 V; 2/DIG. 6
[51] Int. Cl. A45f 5/00
[58] Field of Search 224/5 V, 5 BC, 5 R, 5 A,
224/5 B, 26 R, 26 B, 5 E, 5 L, 5 S; 2/DIG. 6;
182/3

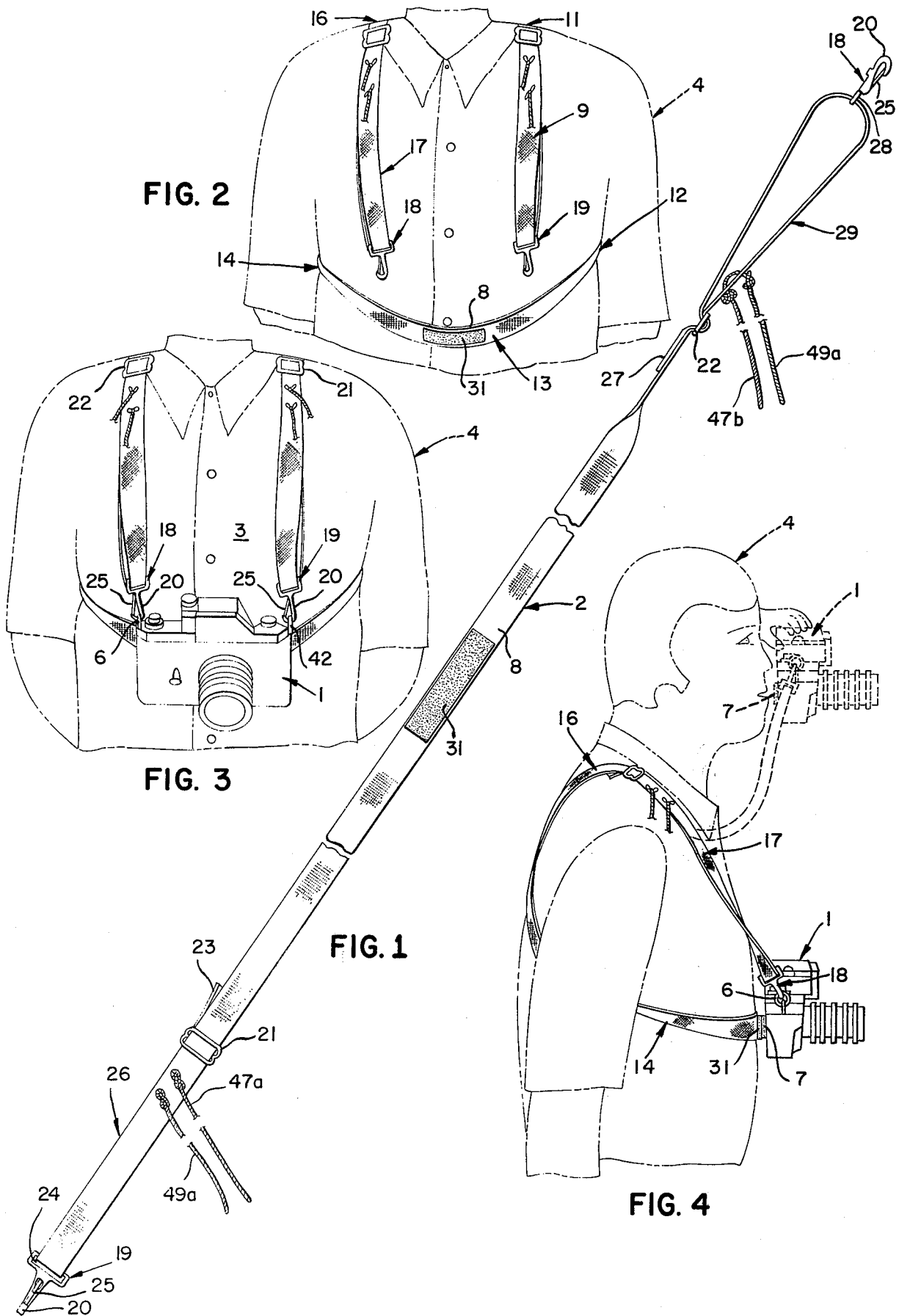
An article carrying strap for releasably supporting cameras and the like including a single elongated non-elastic flexible strap releasably connected to conventional coupling elements on cameras wherein the strap is worn over the shoulders and the central portion of the strap crosses the chest. The camera or other article is releasably attached to the portion of the strap which crosses the chest by a coupling means which enables the camera or other article to be quickly and easily raised to eye level and then reattached to the chest strap portion.

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7 Claims, 15 Drawing Figures





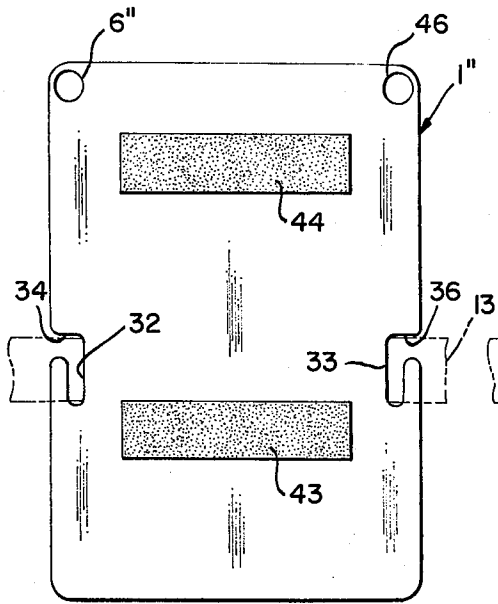


FIG. 6

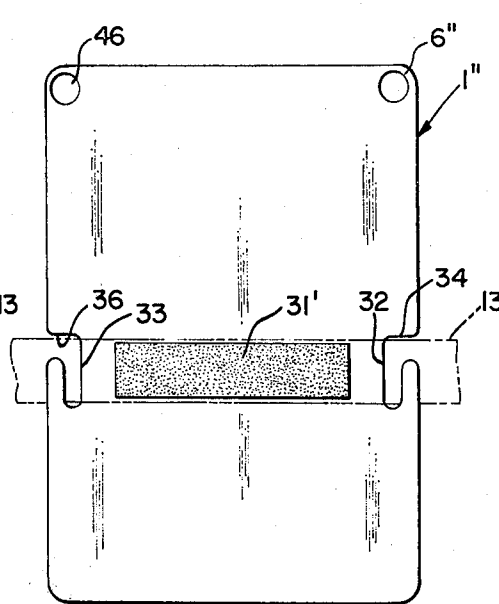


FIG. 7

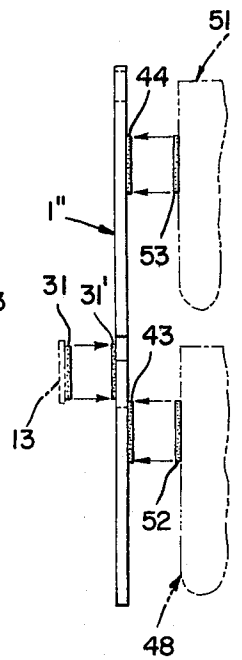


FIG. 8

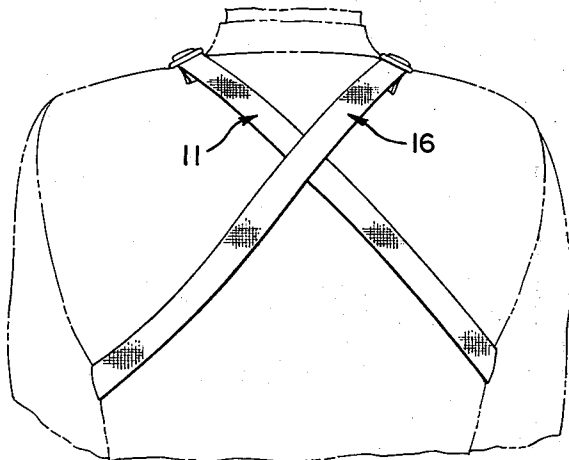


FIG. 5

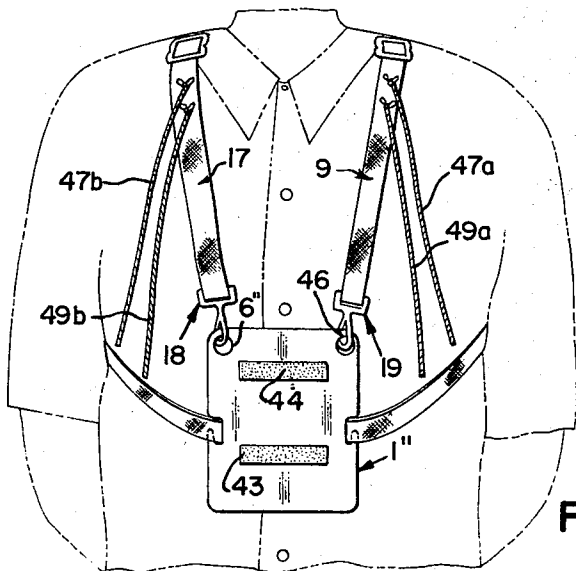


FIG. 9

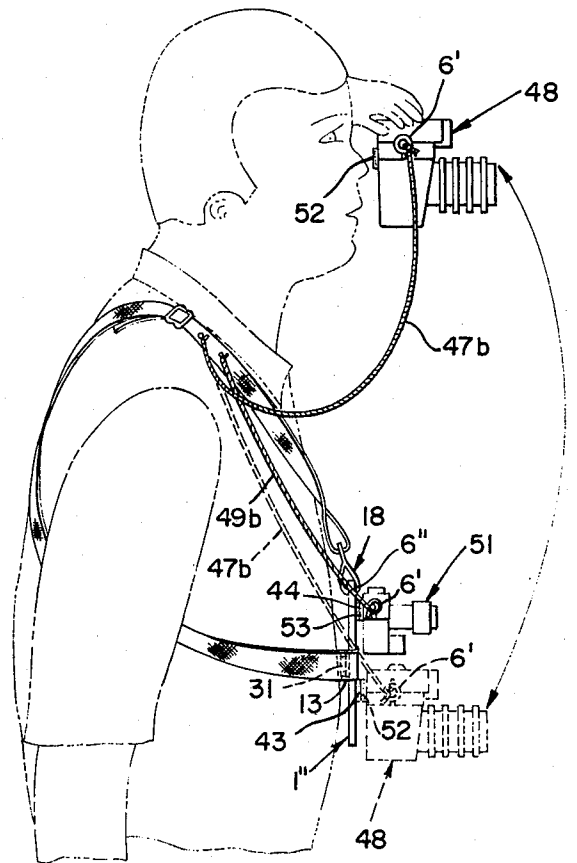


FIG. 10

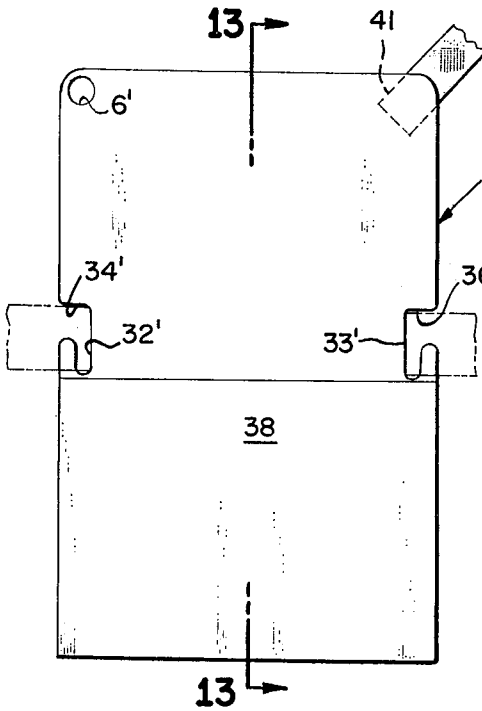


FIG. 11

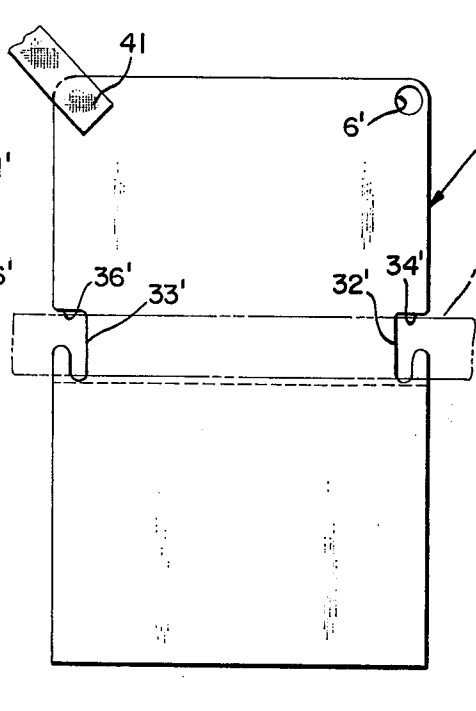


FIG. 12

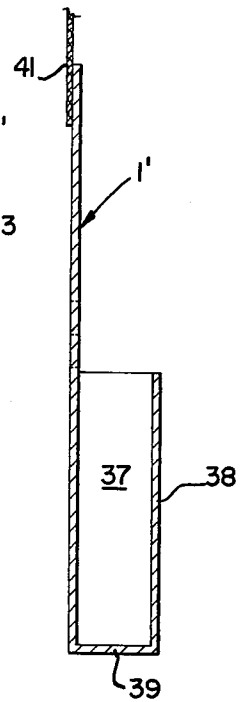


FIG. 13

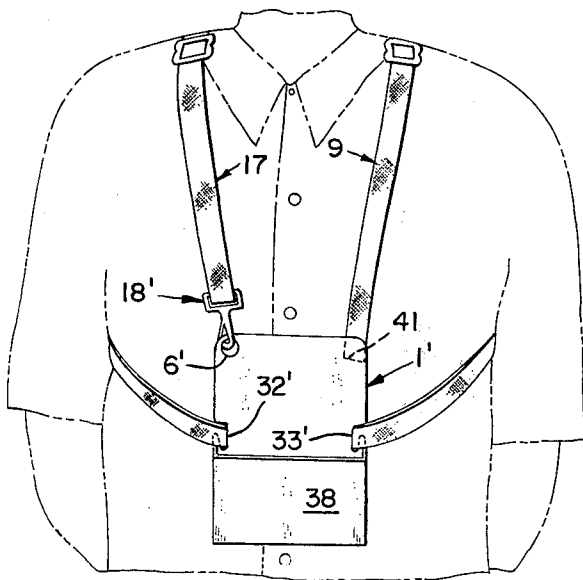


FIG. 14

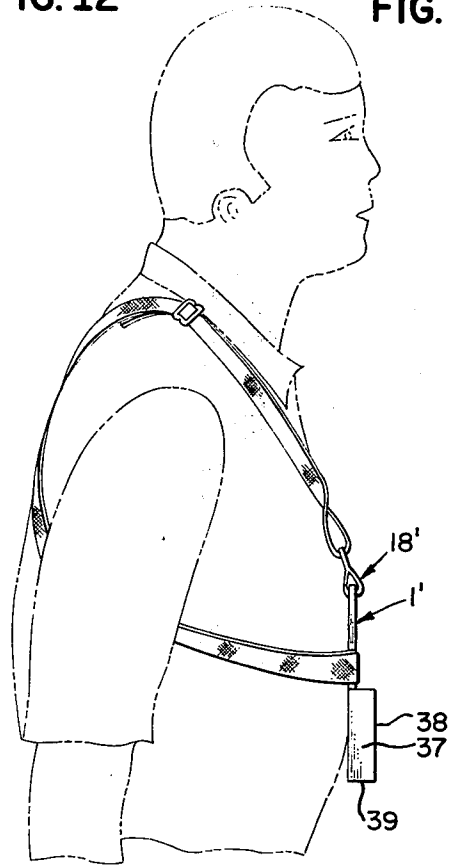


FIG. 15

ARTICLE CARRYING STRAP

BACKGROUND OF THE INVENTION

Cameras, binoculars, sound equipment, breathing equipment and many other portable articles are commonly fitted with straps so that they may hang from the neck about the chest area in order that they may be raised to head or eye level for instant use. The problems of hanging relatively heavy articles about the neck for long periods of time by a single strap have been recognized for some time and there are now several harness arrangements available on the market and in the literature. Such harnesses are relatively expensive or suitable for only one type of equipment and therefore they have not found ready acceptance. Other harnesses require modifications in the articles being carried; the addition of brackets or the drilling of holes in expensive camera cases defaces the instruments.

Some harnesses presently available approach the desired simplicity and low cost which is desired but they require the harness or portions of the harness to be constructed from elastic material. Many find that this elastic material is uncomfortable to wear in the chest area or the elasticity does not hold the instrument firmly enough against the chest area during vigorous activity such as climbing or skiing.

SUMMARY OF THE INVENTION

The gist of the present invention is the use of a single flexible, non-elastic belt which is placed around the user's shoulders so that the weight of the article carried is taken by the shoulders and back. The single length belt carries at least one releasable coupling for fastening the strap and article to the wearer. A coupling means releasably attaches the article to the portion of the strap which crosses the chest in a transverse direction so that in the carrying position, the article is firmly attached to the strap and to the chest area of the person, yet by simply releasing the coupling, the article can be easily and quickly raised to head level. Optical equipment can be raised to eye level, and breathing equipment such as gas masks or other safety respiratory equipment can be raised to the mouth and nose area. In one form of the invention, the coupling between the article and strap is a mechanical modification of the article while in another preferred embodiment the coupling consists of a hook and loop fastener sold under the trademark Velcro.

An object of the present invention is to provide a carrying strap for articles which must be worn about the chest area and quickly and easily raised to head level.

Another object is to provide a strap as described which can be inexpensively constructed yet is long lasting and will reliably carry expensive instruments with a minimum of discomfort to the wearer.

A further object is to provide a strap as described which can be used to carry a great many different types of articles with no modification of the carried instruments.

BRIEF DESCRIPTION OF THE DRAWINGS:

FIG. 1 is a side view of the strap constructed in accordance with the present invention.

FIG. 2 is a front view of the torso of the wearer with the strap of FIG. 1 in place.

FIG. 3 is a front view of the torso of the wearer with the strap connected to an article such as a camera.

FIG. 4 is a side view of a person wearing the strap of the present invention. The solid line drawing shows the carrying position of the article and strap and the dotted line shows the eye level position of the article and strap.

FIG. 5 is a back view of the strap shown in FIG. 1.

FIG. 6 is the front view of a modified form of an article used with the strap of FIG. 1.

FIG. 7 is the rear view of the article shown in FIG. 6.

FIG. 8 is a side view of the article shown in FIGS. 6 and 7.

FIG. 9 is a front view of a modified form of the strap with the article of FIGS. 6, 7, and 8 for carrying two articles such as two cameras.

FIG. 10 is a side view of the combination shown in FIG. 9.

FIG. 11 is a front view of still another modified form of an article.

FIG. 12 is the back view of the article shown in FIG. 11.

FIG. 13 is a cross sectional view of the article shown in FIG. 11 taken along line 13—13.

FIG. 14 is a front view of a modified form of the strap and article.

FIG. 15 is a side view of the strap and article shown in FIGS. 11—14.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS OF THE INVENTION

This invention consists briefly of the combination of an article 1 and a carrying strap means 2 adapted to releasably hold the article against the chest 3 of the wearer 4 in a carrying position and permitting selective eye level positioning in an operating position comprising: (a) the article having an apertured coupling element 6 thereon and releasable strap engaging means 7 at a lower position thereon adapted to releasably engage a portion 8 of the strap; (b) the strap consisting of a single flexible, nonelastic elongated member consisting of the following portions and having a length adapted to span the distance from the wearer's chest (first chest portion 9), over one shoulder (first shoulder portion 11), under the arm (first under arm portion 12), across the chest (transverse chest portion 13), under the second arm (second under arm portion 14), over the second shoulder (second shoulder portion 16), and back to the chest (second chest portion 17); (c) a releasable coupling member 18 attached to a first end of the strap and dimensioned to releasably couple to the apertured coupling element on the article; (d) connecting means 19 attaching the second end of the strap to the article; and (e) the releasable strap engaging means on the article releasably engaging the transverse chest portion of the strap.

The strap is preferably a flexible woven material such as nylon having a suitable width to take the load of the camera, or other article. One inch nylon webbing is readily available and provides sufficient strength and load bearing surface.

The article referred to in this application may be a camera and wherever the term "article" or "camera" is used, it is meant to include but not be limited to the following where applicable: camera, binoculars, naturalist's or explorer's field kit, musical instruments, surgical or medical equipment, tools, first aid kit, surveyors' instruments, weapons, tape recorder, microphone, two-way radio, portable amplifier, gas mask, or any

other equipment or supplies that a person might want to lift to his face or have immediately accessible.

A unique feature of the present invention is the fact that the strap is but a single length. The strap could be a relatively short length of material with the coupling means on the very end, but preferably the strap is fitted with at least one strap adjustment member 21 for adjusting the length of the strap to fit the wearer. A second strap adjustment member 22 may also be used to give additional adjustability. An end 23 of the strap is threaded through an opening 24 in the coupling member forming a strap loop 26 and is then threaded through the adjustment member 21.

In like manner, an end 27 of the strap is threaded through an opening 28 in coupling 18 forming a loop 29 and then is threaded through adjustment member 22.

The coupling means such as 19 and 18 may be of various types. The typical J hook 20 with a spring metal tongue 25 which is depressed by the finger is suitable. It should be noted that only one coupling means is necessary.

The J hook coupling member is fastened to an opening 6 in the article. Most cameras and binoculars are fitted with rings or other coupling means. A single simple opening is all that is required.

One of the simplest and easiest means of releasably attaching an article such as a camera to the strap is to attach a portion of a hook and loop fastener 7 to the back portion of the article. A suitable hook and loop fastener is a product sold under the trademark Velcro. The other portion of the hook and loop fastener 31 is attached to the front of the transverse chest portion of the strap. Preferably the loop portion is attached to the camera and the hook portion of the Velcro fastener is attached to the strap. When constructed in this manner, the loop portions on the camera will not snag the clothing of the wearer whereas, the hook portions of the strap are always turned outwardly.

An alternate means of releasably attaching the article to the strap is shown in FIGS. 11-15. In this form of the invention, instead of using a Velcro type fastener the article is formed with a pair of vertical slots 32' and 33' adjacent the sides with transverse openings 34' and 36' communicating with the sides for removably receiving the transverse chest portion of the strap. When the strap is threaded through the slots, the article cannot move vertically or away from the person's chest.

The article 1' shown in FIGS. 11-15 is merely illustrative of a number of different types of articles that may be carried by the strap. For example, the article may consist of a rectangular sheet metal member with sides 37, a front 38 and a bottom 39 forming an open receptacle for receiving tools, instruments and the like.

Only a single apertured element 6' in the article 1' is required as shown in FIGS. 11-15. A single releasable coupling member 18' is connected to the strap and is dimensioned to be received in the opening 6'. The other end 41 of the strap is non-releasably affixed to the upper portion of the article 1'.

Cameras and binoculars are generally constructed with two spaced apertured elements such as rings 6 and 42. A second connecting means 19 such as a J hook 20 and spring tongue 25 releasably connects to the ring 42 connected to the camera.

An alternate form of article instead of the camera shown in FIGS. 3 and 4 or the box shown in FIGS.

11-14 may be a simple planar plate as shown in FIGS. 6-8. In this form of the invention, the plate 1'' may have a single strip of Velcro material 43 attached to its front face. Any tool or instrument which is desired to be carried may then be constructed with a strip of Velcro material and thus be releasably attached to the article 1''. The article 1'' may have either the slots 33 and 34 for attachment to the strap portion 13 or a strip of Velcro material 31' may be attached to the back of the article as shown in FIG. 7. In some instances it may be desirable to have both the slots and the Velcro for attachment to the strap as shown in FIG. 7.

Still another alternate form of the invention is illustrated in FIGS. 6-10. This form of the invention shows a system of carrying two cameras or two pairs of binoculars or the like.

The article 1'' is formed with a second strip of Velcro material 44 spaced above the first strip of Velcro 43 on the front face. The article 1'' may be formed with a single apertured opening 6'' but preferably is formed with a second opening 46. A first pair of elongated cords 47a and 47b are attached to the first chest strap portion 9 and the second chest strap portion 17 respectively. The ends of the cords are then attached to the coupling elements 6' on the camera 48 as shown in FIG. 10.

A second pair of elongated cords 49a and 49b are attached to the first and second chest strap portions of said strap. The ends of the cord are attached to a third article such as a second camera 51 at its coupling ring 6'.

Camera 48 is attached to the article 1'' by means of a strip of Velcro material 52 adhered to its back face. This strip of Velcro is attached to a matching strip of Velcro 43 adhered to the front face of the article 1''.

Camera 51 is attached to the article 1'' by means of a strip of Velcro material 53 adhered to its back face. This strip of Velcro is attached to a matching strip of Velcro 44 attached to the front face of the article 1''. Preferably, as in the previous examples, the hook portion of the Velcro is attached to the article 1'' and the loop portions are attached to the cameras.

The operation of all of the forms of the invention are similar and may be illustrated by referring to FIGS. 1-4. The strap may be placed around the body in the following manner. First, the camera 1 is held in the left hand, close to the face and with the lens facing away from the body. With the right hand, coupling 19 is attached to ring 42 on the left side of the camera. The loose end of the strap is then dropped over the left shoulder so it hangs down behind the wearer. Any twists between the camera and the body should be removed. Next, the person should reach behind at waist level with the right hand and bring the hanging part of the strap under the right arm to the front of the chest. The Velcro patch on the strap should be facing forward and there should be no twists. The right hand should continue the motion of the strap around the body, bringing the hanging part of the strap under the left arm, behind the neck and over the right shoulder. The loose end of the strap with coupling 18 should then be attached to the ring 6 on the right side of the camera. The two pieces of Velcro, 7 and 31 should then be juxtaposed and pressed together. The strap is now a harness. Other methods of placing the strap in harness form may be also used as the person becomes familiar with the method.

As shown in FIG. 4, the camera or other article is carried at chest level. The Velcro strip 7 is firmly attached to the Velcro strip 31 attached to the strap and when the two Velcro strips are in juxtaposition, they will hold the camera firmly to the chest of the wearer. When the camera is to be used, it is a simple matter to firmly pull the camera away from the chest, thereby causing the Velcro fastener to release. The camera is then raised to eye level. Portions of the strap 9 and 17 are raised with the camera and since they are still attached to the camera, the camera will not fall if accidentally released. To replace the camera to the carrying position, the Velcro strips 7 and 31 are once again juxtaposed and pressed firmly together.

I claim:

1. In combination, an article, and a carrying strap means adapted to releasably hold said article against the chest of the wearer in a carrying position and permitting selective eye level positioning in an operating position comprising:

- a. said article having an apertured coupling element thereon;
- b. releasable strap engaging means consisting of the loop portion of a hook and loop fastener mounted on a substantial lateral rear surface portion of said article at a lower position than said coupling element;
- c. said strap consisting of a single flexible nonelastic elongated member consisting of the following portions and having a length adapted to span the distance from the wearer's chest (first chest portion), over one shoulder (first shoulder portion), under the arm (first under arm portion), across the chest (transverse chest portion), under the second arm (second under arm portion), over the second shoulder (second shoulder portion), and back to the chest (second chest portion);
- d. a releasable coupling member attached to a first end of said strap and dimensioned to releasably couple to said apertured coupling element on said article;
- e. connecting means attaching said second end of said strap to said article; and
- f. fastener means having the hook portion of a hook and loop fastener mounted on a substantial lateral portion of said mid portion of said strap for registered releasable engagement with said releasable strap engaging loops mounted on said article thereby positively restraining side to side, forward, and vertical movement of said article.

2. The article and carrying strap described in claim 1 wherein:

- a. said article is formed with a pair of vertical slots adjacent the sides with transverse openings communicating with said edges for removably receiving said transverse chest portion of said strap.

3. The article and carrying strap described in claim 1 comprising:

- a. said article having a second apertured coupling element transversely spaced from said first aperture;
- b. a second releasable coupling member attached to the second end of said strap and dimensioned to releasably couple to said second aperture on said article;
- c. said strap having a loop portion formed at a first

end and first adjustment means for selectively lengthening and shortening the length of said strap at said first end; and

- d. said strap having a loop portion formed at a second end and second adjustment means for selectively lengthening or shortening the length of said strap at said second end.

4. The article and carrying strap described in claim 1 wherein:

- a. said article is formed with an open ended chamber with a top opening adapted for receiving miscellaneous articles.

5. The article and carrying strap described in claim 1 comprising:

- a. portion of a hook and loop fastener means attached to the front portion of said article adapted for releasable engagement with a portion of a hook and loop fastener attached to another article.

6. The article and carrying strap described in claim 2 comprising:

- a. a second article having a pair of laterally spaced apertured coupling elements thereon;
- b. a third article having a pair of laterally spaced apertured coupling elements thereon;
- c. a first pair of elongated cords attached to said first and second shoulder portions at their first ends and adapted for respective attachment to said apertured coupling elements in said second article;
- d. a second pair of elongated cords attached to said first and second shoulder portions at their first ends and adapted for respective attachment to said apertured coupling elements in said third article;
- e. said first article having a pair of vertically spaced hook portions of a hook and loop fastener means attached to the front portion thereof; and
- f. each of said second and third articles having the loop portion of said hook and loop portion of said fastener means attached to their respective back areas arranged for releasable attachment to said respective hook portions on said first article.

7. The article and carrying strap described in claim 1 comprising:

- a. a second article having a pair of laterally spaced apertured coupling elements thereon;
- b. a third article having a pair of laterally spaced apertured coupling elements thereon;
- c. a first pair of elongated cords attached to said first and second shoulder portions at their first ends and adapted for respective attachment to said apertured coupling elements in said second article;
- d. a second pair of elongated cords attached to said first and second shoulder portions at their first ends and adapted for respective attachment to said respective apertured coupling elements in said third articles;
- e. said first article having a pair of vertically spaced hook portions of a hook and loop fastener means attached to the front portion thereof; and
- f. each of said second and third articles having the loop portion of said hook and loop portion of said fastener means attached to their respective back areas arranged for releasable attachment to said respective hook portions on said first article.

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