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Swenson et al.

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[54] **CARRYING CASE FOR PHOTOGRAPHIC EQUIPMENT AND THE LIKE**

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[52] **U.S. Cl.** ..... **224/5 V;** D87/5 E; 150/52 J

[51] **Int. Cl.**[2] **A45F 5/00**

[58] **Field of Search** ..... 224/5 V, 5 W, 26 R; 150/52 J; D87/5 E, 5 R

[56] **References Cited**

UNITED STATES PATENTS

1,809,696	6/1931	Heilweil	224/26 R UX
2,136,357	11/1938	Darling et al.	224/5 V X
3,307,757	3/1967	Gatos et al.	224/5 V
3,363,814	1/1968	Hall et al.	224/5 V
3,495,751	2/1970	Moran	224/43

FOREIGN PATENTS OR APPLICATIONS

14,646	11/1885	United Kingdom	224/5 W
531,616	1/1941	United Kingdom	224/5 V

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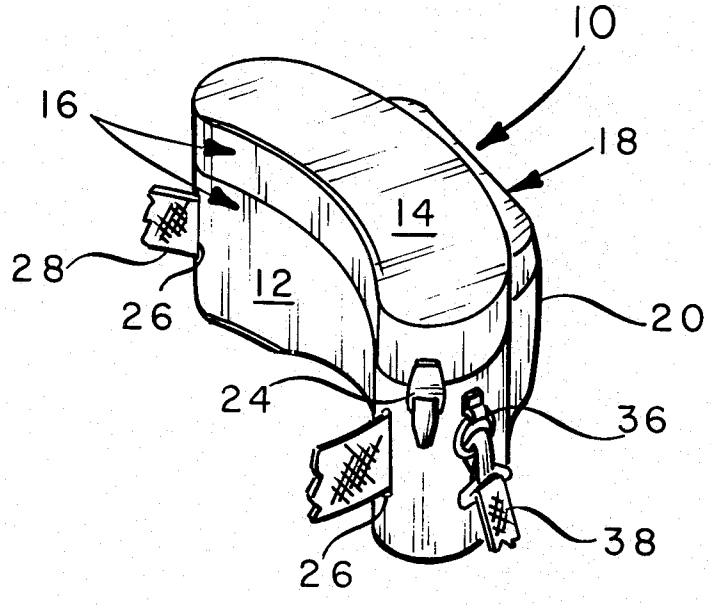
Assistant Examiner—Jerold M. Forsberg

[57] **ABSTRACT**

A carrying case for photographic equipment and the like configured to rest against and conform to the curvature of an animate body. An outer shell of the case, which includes strap attachment for securing the case to the body, is lined internally with cushion material for retaining photographic equipment in a firm, vibration-damped state when the case is subjected to agitation.

12 Claims, 6 Drawing Figures



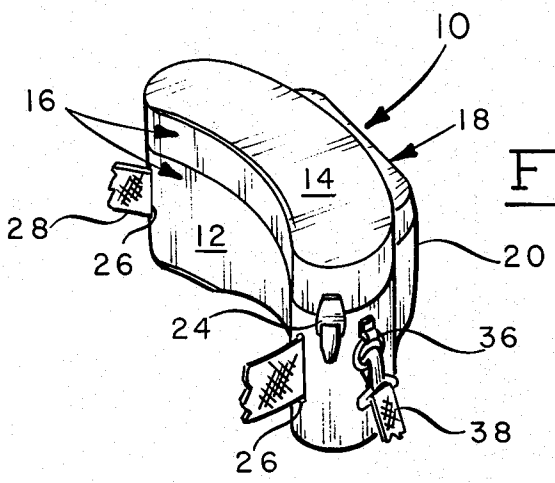


FIG. 1

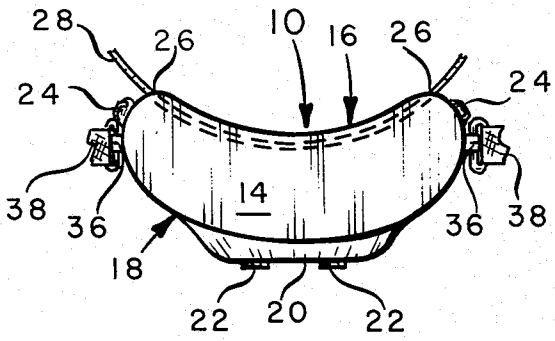


FIG. 3

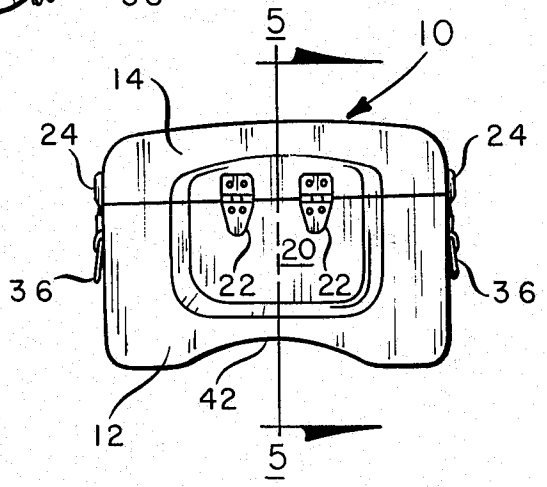


FIG. 2

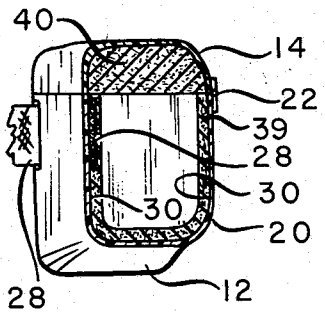


FIG. 5

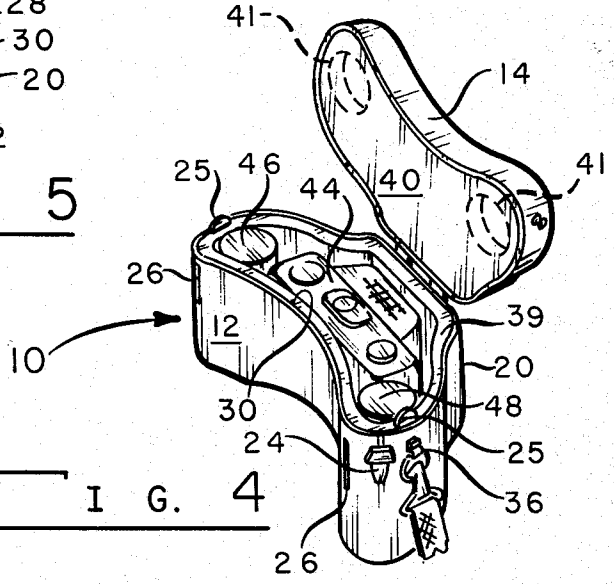


FIG. 4

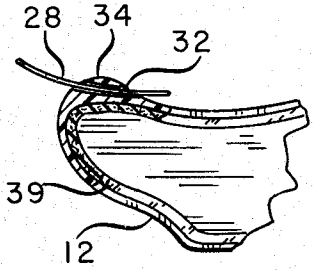


FIG. 6

CARRYING CASE FOR PHOTOGRAPHIC EQUIPMENT AND THE LIKE

BACKGROUND OF THE INVENTION

Photography, both as a hobby and as a profession, has expanded very rapidly in recent years. As its popularity has increased it has been necessary that special equipment be designed for storing and carrying the cameras and lenses. This has been especially true when such equipment has been used in sporting activities. Upon numerous occasions, for example, it has been highly desirable and, indeed, sometimes mandatory, that photographic equipment be carried upon the person of a hiker or upon a pack animal to insure its ready availability when a particularly striking scene or activity is encountered. For purposes of discussion the carrier will be hereinafter referred to as a person, or by similar terminology.

Recognizing the relative delicacy of photographic equipment, it is important that the carrying means be capable of protecting the cameras and lenses from those conditions of agitation, impact and the generally abrasive environmental conditions which one would expect to encounter under such circumstances.

It is also a matter of great importance that the photographic equipment be properly stored during periods of non-use. The storage containers should include means to assure the aforementioned dynamic and environmental isolation, additional to providing features which facilitate its being carried conveniently, while leaving the hands of the photographer free for other activities.

As noted above, ready accessibility of the equipment at all times can also be a feature of significance to the photographer. Thus, when the camera can be reached almost instantly, it assures the photographer of a maximized opportunity to obtain shots of subjects requiring a short reaction time.

In the prior art, carrying cases generally conforming to the shape of the equipment have been used. They have usually been supported by over-the-shoulder or similar straps, the case being left free to dangle or swing to and fro in response to the body movements of the person carrying it.

Therefore, objects of the invention include the provision of means for storing and carrying photographic equipment such that the equipment is vibration isolated, protected from hard knocks and from the environment, the case being conformed to the bodily shape of the carrier, while the equipment, nevertheless, is readily accessible for uses within a minimum time frame, and without bodily interference.

SUMMARY OF THE INVENTION

The photographic equipment carrying case of this invention comprises a relatively hard outer case manufactured, for example, of a tough plastic material such as polyethylene, or other suitable material. One side and/or the bottom of the case is concavely curved to conform, for example, to the shape of the hip of the person carrying it, or to the curvature of a horse, saddle or the like. Strap attachment means upon the ends of the case accommodate its being fastened for firm support against the body of the carrier, thereby minimizing free movement of the case and assuring an ease of carrying, free from movement relative to the body of the carrier.

The bottom curvature of the case accommodates the acceptance of relatively long lenses, the camera being mounted between the lense positions. The entire interior of the case is lined with sponge material such that the equipment stored therein is retained in an interference fit with respect to the sponge.

Hinge means upon the side of the case remote from the concave curvature connects a base or receptacle portion to a lid. Latch means upon both ends of the case cooperate with the hinges to retain the lid and permit it to be opened away from the body of the carrier, providing ease of access to the equipment contained.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of the equipment case of this invention;

FIG. **2** is a front view of the case;

FIG. **3** is a top view taken along line **3—3** of FIG. **2**;

FIG. **4** is a perspective view of the interior of the case, showing the equipment stored therein;

FIG. **5** is a cross section taken along line **5—5** of FIG. **2**; and

FIG. **6** is a sectional view of the case illustrating an alternative strap attachment structure.

DETAILED DESCRIPTION OF THE DRAWINGS

In detail, the equipment carrying case **10** of this invention is shown in a perspective view, generally as oriented while being carried upon the hip of the photographer. The case includes a base or receptacle portion **12** and a lid portion **14,** each being conformed in shape to include a concavely curved region on what may be termed as an inner side thereof, indicated by the numeral **16.**

The front or forward region **18** of the case **10** is generally convexly curved and includes a protruding portion **20** extending outward from the main region of curvature **18** of the case **10.** This protrusion **20** extends over a portion of both the base **12** and the lid **14,** so as to define a continuously protruding portion.

A pair of hinges **22** are mounted upon the protrusion **20** and are connected to both the base **12** and the lid **14,** thereby accommodating an easily opening container, i.e., the lid **14** opening away from the body of the carrier. This facilitates ready access to the equipment contained in the carrying case when that case is being supported upon the hip of the photographer. It is sometimes desirable that the hinges **22** be of the type generally known as "partially opening". This permits the lid **14** to be positioned in a partially opened condition. This ultimately results in a decreased tendancy for the weight of the lid **14** to cause structural damage to the case in the region of the hinges **22** during time periods when the lid is so retained.

It is also sometimes desirable that a single hinge **22** rather than the illustrated double hinge be utilized.

Latches **24** are provided on either end of the case **10** to assure a positive latching of the lid **14** to the base **12.** Such placement also assures ease of access to these latches **24.** An additional benefit of this placement is the fact that the curved region **16** is free from hardware protrusions, thereby obviating the existence of extraneous objects in contact with the hip of the carrying party, the presence of which would prove uncomfortable to that person.

A pair of guide members **25,** usually bonded to the interior of the base **12,** extend upward to engage the in-

terior of the surface of the lid **14** when the lid is closed. Although optional, these guides contribute support and rigidity to the lid **14**, relieving the stress otherwise applied to the hinges **22** and latches **24.**

In the preferred embodiment of the invention, slots **26** are provided through each end of the base portion **12** adjacent the curved portion **16** and a belt **28** is received therethrough, that belt **28** lying flat against the interior surface **30** of the base and conforming to the curved shape thereof so as to provide little or no interference with the equipment contained therein. The strap **28** is usually made of woven fabric, leather or any other suitable material. It is conventionally adjustable (not shown) to accommodate its being retained about the body of the photographer.

It is sometimes desirable to utilize an alternative embodiment of the strap retention means just described by first providing a slot **32** through the corner **34** of the base **12.** In such event the strap **28** does not actually penetrate the interior of the case. Rather, it extends through the slots **32**, such that a portion of the strap is held in a taut or semi-taut condition between two corners **34.** This provides a web which tends to hold the case **10** away from the body of the bearer, thereby sometimes relieving the bearer of tendencies toward bodily chafing. Since the slot **32** does not penetrate the interior of the base **12**, this configuration also enhances the waterproof characteristics of the case.

Additionally provided upon the two ends of the base portion **12** are a pair of strap retainers **36**, in this instance a ring type retainer. A strap **38** may be attached to these retainers such that it can be placed, for example, over the shoulder of the bearer, to better secure the case while the bearer is traveling, or to support the case at such times as the bearer does not desire to have the belt **28** secured.

The interior of the base portion **12** is lined with a foamed or sponge material such as foamed polyethylene. It has been found desirable to use a material thickness of about one-half inch, such a material being illustrated by numeral **38** in FIGS. **1** and **3.** In any event, a thickness should be used sufficient to provide a proper vibration isolation for the equipment stored therein.

In the usual case, the entire interior of the lid portion **14** is also filled with sponge material, as illustrated at **40** in FIG. **4.** Again this provides a cushioning for the equipment stored within the case **10.** Cavities **41** may be provided to accept and cushion the lenses described below.

It will be noted, particularly in FIGS. **2** and **4**, that the bottom **42** of the base portion **12** is concavely curved over the greatest portion thereof. This curvature has a dual function: (a) to provide a better mating of the case **10** to the curvature of the body of the bearer and (b) to facilitate a receipt of a camera in the central portion of the case, with an appropriate matching of the space available to the size of the equipment and to facilitate the retention of the additional equipment, such as the placement of a lens upon either side of the camera.

Such an equipment orientation is illustrated in FIG. **4.** Therein, a camera **44** and a pair of camera lenses **46** and **48** are so stored within the base **12.** It will be noticed that the back of the camera **44** abuts the curved portion **16** of the base **12**, with the lens portion being positioned within the protrusion **20.** Both such camera portions abut, penetrate slightly and are cushioned by the foamed material **38**, for proper support. In the usual case, the camera **44** also extends a short distance upward beyond the interior, per se, of the base **12.** Thus, it also penetrates and is retained in cushioned relation by the foamed material **40** when the lid **14** is closed. Moreover, the extension of a portion of the camera beyond the top of the base **12** also facilitates an ease of grasping and removal of the camera from the case. It will also be noted that the lenses **46** and **48** nest within the respective ends of the base **12** adjacent the ends of the camera **44**, these lenses being similarly cushioned by the foamed materials **38** and **40.**

Hence, the curved shape and the structural features heretofore described provide to this photographic equipment carrying case a great utility for its intended function, fully meeting the objects of invention. It will be readily recognized that reasonable departure from the specific elements and features described may be accommodated without departing from either the spirit or the scope of this invention.

We claim:

1. An equipment carrying case comprising:
a hollow base portion having a first concavely curved side and a second generally convexly curved side;
retention means attached to said base portion for securing said case against the body of the user to substantially obviate movement relative to the body;
a hollow lid portion shaped to mate with said base portion;
hinge means upon said generally convexly curved side and connecting said base portion to said lid portion to permit said lid portion to open away from the body;
latch means upon other than said concavely curved side of said base and lid portions to cooperatively and releasably retain the same in a closed position and permit access thereto without bodily interference; and
cushion material lining said base portion and said lid portion to cushion equipment stored therein.

2. The equipment carrying case of claim **1** wherein:
said hollow base portion includes
a bottom wherein a central portion thereof is curved upward to define in said hollow base portion two substantially flat regions of maximum depth separated by a region of lesser depth.

3. The equipment carrying case of claim **2** wherein:
said generally convexly curved side includes a portion extending definitively outward therefrom to form a protrusion and cooperatively defining with a central portion of said hollow base portion a region of maximum width therein.

4. The equipment carrying case of claim **3** wherein:
said hollow base portion has a height exceeding that of said hollow lid portion; and
said hollow lid portion is substantially filled with said cushion material.

5. The equipment carrying case of claim **4** wherein:
said cushion material in said lid includes means defining a pair of cavities adjacent said ends.

6. The equipment carrying case of claim **5** wherein:
said hinge means connecting said hollow base portion and said hollow lid portion is located upon said protrusion,
whereby the opening of said lid away from said concavely curved side is accommodated.

7. The equipment carrying case of claim **1** wherein:
said carrying case has two ends; and

said latch means is a latch positioned on each said end so as to releasably connect said hollow base and lid portions.

8. The equipment carrying case of claim **7** wherein:

said base includes at each said end, adjacent said concavely curved side, means defining a slot therethrough;

said last-mentioned side having an inner surface; and strap means extending through said slot means and lying against an inner surface of said concavely curved side between such side and a portion of said cushion material.

9. The equipment carrying case of claim **7** wherein:

said hollow base portion includes thickened portions defining a corner upon each said end;

means in each said thickened portion define slots therethrough without penetrating the interior of said case, for receiving a case-supporting strap means therethrough oriented in spaced relation from said concavely curved side of said hollow base portion.

10. The equipment carrying case of claim **7** wherein:

a strap retainer is attached to each said end adjacent said latch means, and

strap means is attached to said strap retainers.

11. The equipment carrying case of claim **7** wherein:

guide means is included upon at least one of said hollow base and lid portions, extending therefrom so as to engage the other said portion in a guiding and stabilizing relationship when said hollow lid portion is closed.

12. The equipment carrying case of claim **11** wherein:

said guide means is a pair of tabs upon said inner surface of said hollow base portion extending parallel thereto so as to contact an inner surface of said hollow lid portion when such lid portion is closed upon said base portion.

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