Nov. 14, 1967 W. L. CHUBB 3,352,389

CARRYING CASE CONSTRUCTION

Filed Sept. 27, 1965 3 Sheets-Sheet 1

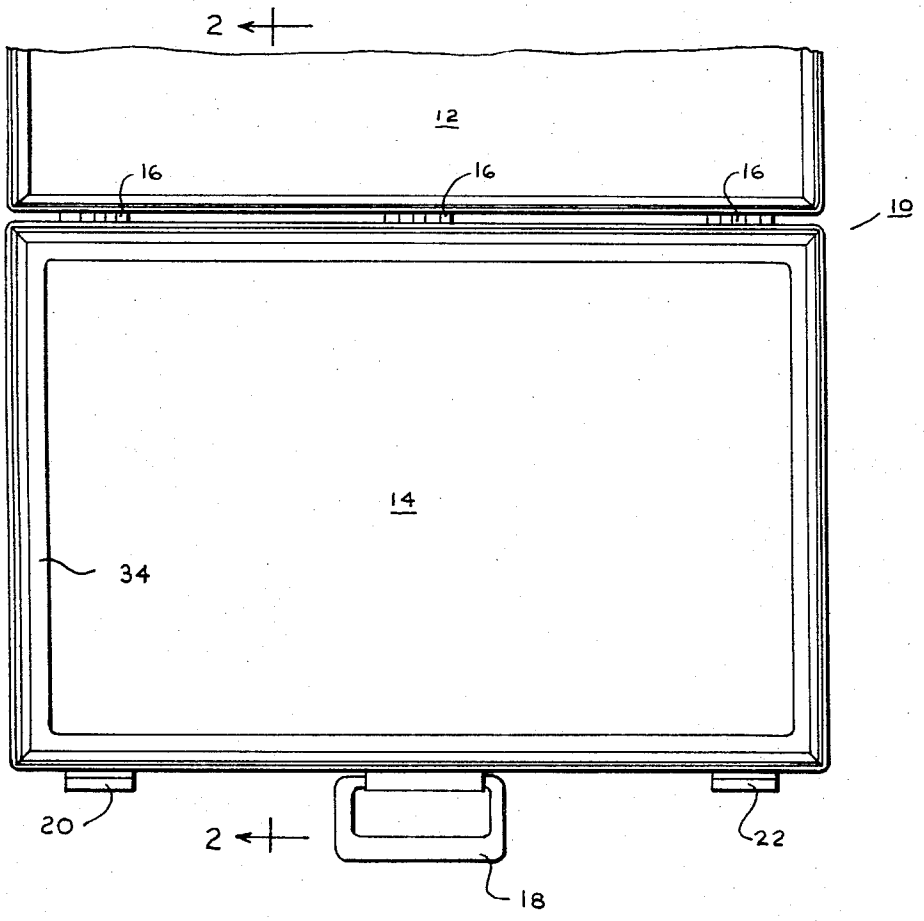


FIG. 1

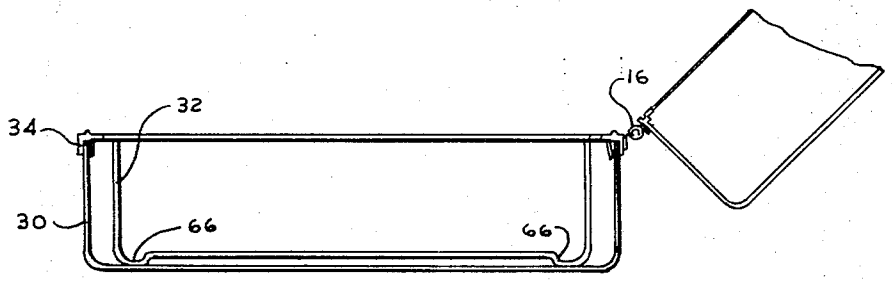


FIG. 2

INVENTOR

WINGFIELD L. CHUBB

BY M. A. Hobbs

ATTORNEY

Nov. 14, 1967 W. L. CHUBB 3,352,389

CARRYING CASE CONSTRUCTION

Filed Sept. 27, 1965 3 Sheets-Sheet 2

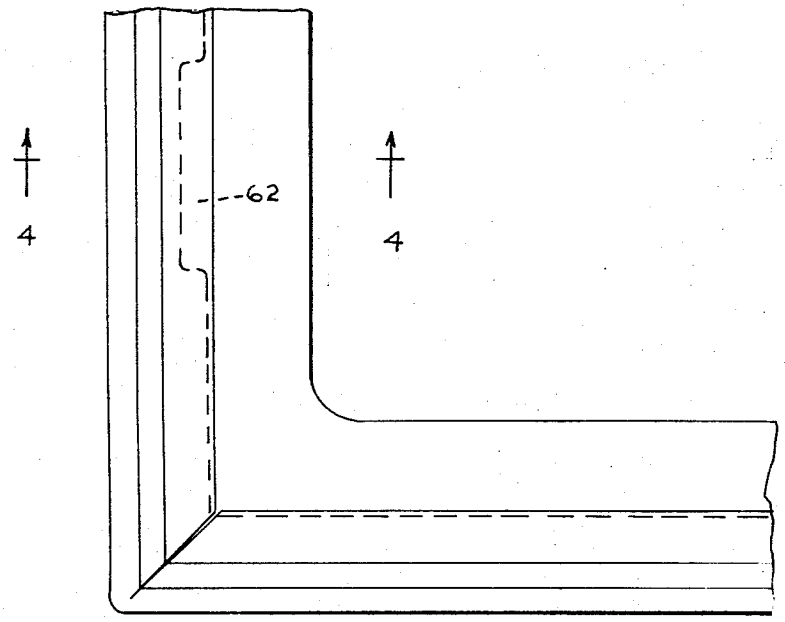


FIG. 3

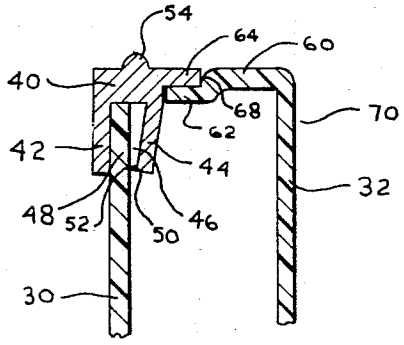


FIG. 4

INVENTOR

WINGFIELD L. CHUBB

BY M. A. Hobbs

ATTORNEY

Nov. 14, 1967 W. L. CHUBB 3,352,389

CARRYING CASE CONSTRUCTION

Filed Sept. 27, 1965 3 Sheets-Sheet 3

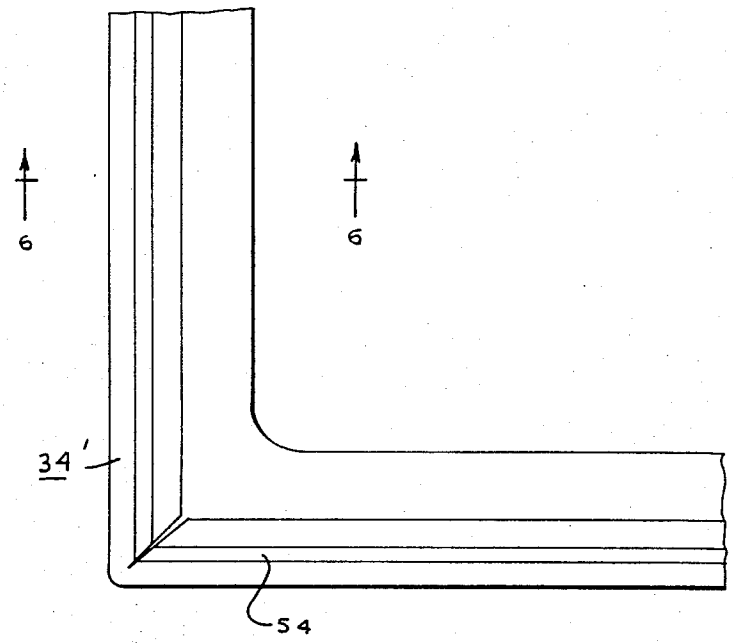


FIG. 5

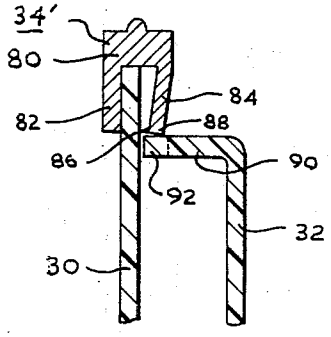


FIG. 6

INVENTOR

WINGFIELD L. CHUBB

BY m. a. Stobbe

ATTORNEY

United States Patent Office 3,352,389 Patented Nov. 14, 1967

3,352,389

CARRYING CASE CONSTRUCTION

Wingfield L. Chubb, Beverly Shores, Ind. 46301

Filed Sept. 27, 1965, Ser. No. 490,454
7 Claims. (Cl. 190—49)

ABSTRACT OF THE DISCLOSURE

A carrying case for instruments, articles and the like having an outer shell and a flexible plastic inner shell, the inner shell being secured in the outer shell by interlocking flanges on a frame around the outer shell and on the external edge of the inner shell. The two flanges are secured together by snapping the flanges on the inner shell behind or beneath the flange on the frame.

Carrying cases for a variety of different instruments, products and articles are constructed of a relatively rigid outer shell of two sections hinged to one another along a frame around the inner adjacent edges, and an inner shell often lined with velvet or other cloth and secured to the outer shell or to the frame of the respective section by rivets, screws or other permanent securing means. The inner shells are usually formed into a configuration simulating the surface contour of the instrument or article for which the case is designed, or formed into pockets or compartments for holding separately a number of instruments or parts. The liner material is usually cemented or glued to the inner surface of the inner shell; however, in some less expensive carrying cases, the liners are secured directly to the inner surface of the outer shell, i.e. the only shell, and the contoured structure is formed by separate blocks, lugs and clips. The conventional case of the outer and inner shell construction has had a number of disadvantages which have caused difficulty in fabrication and use of the case, including the difficulty of assembling and securing the inner liner in the outer shell and making readily interchangeable inner liners for carrying a variety of different types of instruments and articles. It is therefore one of the principal objects of the present invention to provide a carrying case of the outer and inner shell type construction in which the inner shell can be easily pre-formed to the desired contour and readily secured firmly in place in the outer shell by merely snapping the two shells together with the edges of the inner shell and cloth liner seated behind and held in by the frame along the inner edges of each shell.

Another object of the invention is to provide a carrying case having an outer and an inner shell, in which the inner liner is of snap-in construction and is spaced from the outer shell throughout most of the area therebetween to form a space for insulating effect and for minimizing the effect of shock, bumps and vibration on the instruments or articles in the case.

Still another object of the invention is to provide a relatively simple, easily assembled inner shell construction for carrying cases, which can readily be formed to the required contour of the instrument or article to be carried and which is installed in the outer shell without the use of any rivets, screws, clips or other means separate from the shells and without the use of any special tools or equipment.

A further object is to provide a carrying case of the aforesaid type which is light in weight, sturdy in construction, and which is neat in appearance and convenient to use.

Additional objects and advantages of the invention will become apparent from the following description and accompanying drawings, wherein:

FIGURE 1 is a top plan view of the carrying case showing the case in open position and showing only one section in full;

FIGURE 2 is a vertical cross sectional view of the carrying case shown in FIGURE 1, the section being taken on line 2—2 of the latter figure;

FIGURE 3 is an enlarged fragmentary elevational plan view of a portion of the frame and inner shell of the carrying case shown in FIGURE 1;

FIGURE 4 is an enlarged fragmentary cross sectional view of the frame and inner and outer shell construction, the section being taken on line 4—4 of FIGURE 3;

FIGURE 5 is an enlarged fragmentary plan view of a modified form of the present carrying case construction embodying the present invention, the view being similar to that shown in FIGURE 3; and

FIGURE 6 is an enlarged fragmentary cross sectional view of the modified form, the section being taken on line 6—6 of FIGURE 5.

Referring more specifically to the drawings, and to FIGURE 1 in particular, numeral 10 designates generally the complete carrying case having an upper section 12 and a lower section 14, the two sections being joined to one another by a plurality of hinges 16 spaced along the adjacent edges of the two sections. While the case is referred to herein as having an upper and lower section, the carrying case is normally set in such a position that the two sections are side by side with the hinges at the bottom; however, in opening the case, it is normal to lay it on the side of either of the two sections and pivot the other section upwardly therefrom. The carrying case shown in FIGURE 1 has a conventional handle 18 and latches 20 and 22 disposed along the side opposite hinges 16. The particular construction and operation of the handle, latches and hinges are not important to the full understanding of the present invention.

The two sections 12 and 14 may, for the purpose of the present invention, be considered identical in basic construction, consisting of an outer shell 30 and an inner shell 32 secured to the outer shell by an interlocking construction involving a frame 34 secured to the peripheral inner edge of outer shell 30 and retaining the inner shell 32 firmly in place in the outer shell. In the embodiment of the invention illustrated in FIGURES 1 through 4, the frame, which forms an important part of the present construction, consists of a body portion 40 and two strips 42 and 44 secured to the body portion 40 throughout their length. The body portion 40 and the members 42 and 44 form a groove or slot 46 for receiving the marginal edge 48 of the outer shell. In order to secure the frame to the outer shell, margin 48 of the outer shell is seated in groove 46 and inner member 44 is deflected inwardly to engage the sharp peripheral edge of flange 50 with the inner surface of the outer shell, the sharp edge penetrating the inner surface of the shell slightly, as illustrated at numeral 52, and thereby locking the frame to the edge of the shell. The upper surface of body 40 is provided with a bead 54 or other suitable configuration for forming an interlocking construction with the frame member around the periphery of upper section 12, the frame of the upper section being identical to the frame just described with the exception that a groove is provided to receive rib 54.

The outer shell 30 is formed of plastic or other suitable material of essentially rigid construction and consists of a panel and four sides formed integrally with the panel, the inner edges of the sides being straight as illustrated in FIGURES 2 and 4 for receiving frame 34. The inner shell is preferably formed of plastic material of relatively rigid construction and is contoured to form a configuration approximating the external contour of the instrument or article to be carried in the case.

The inner shell is provided with outwardly extending flange 60 having offset marginal lugs 62 secured integrally to flange 60 spaced at intervals along one edge of flange 60, the lugs being adapted to seat under inwardly extending flange 64 on the inner side of body 40 of the frame. With the lugs being offset, as illustrated in FIGURE 4, the upper surfaces of body 40 and flange 60 are on substantially the same plane. The bottom of the inner shell is formed to provide a number of protrusions 66 which engage the inner surface of the outer shell and form a support for the inner shell. The inner shell is locked in the outer shell by seating the inner shell in place and deflecting flange 60 and the side walls of the inner shell sufficiently to permit lugs 62 to snap beneath flange 64 of frame 34. With the lugs in this position, the outer edge edge 68 of flange 60 is parallel to and urged toward the inner edge of flange 64, thus providing an effective clamp for liner material 70. The liner material is secured to the inner side of the inner shell and extends over flange 60 into the space between flange 60 and flange 64, thus securing the edge of the liner material firmly along its margins. The inner shell can be readily removed by deflecting flange 60 and lug 62 and the side walls of the inner shell inwardly until the lugs are disengaged from beneath flange 64, thus permitting the shell to be removed and replaced by other inner shells for carrying different types of instruments or articles.

In the embodiment of the invention illustrated in FIGURE 5, the frame, having body 80 and two downwardly extending members 82 and 84, is secured to the peripheral edge of shell 30 by a sharp edge 86 of member 84, thus forming an inwardly extending shoulder 88 which functions in the same manner as inwardly extending flange 64. The inner shell 32 is provided with an outwardly extending flange 90 having lugs 92 similar to lugs 62 for seating beneath shoulder 88, thereby locking the inner shell in place and holding the edge of the liner firmly beneath frame 34'. The construction and operation of the carrying case of the embodiment of the present invention illustrated in FIGURES 5 and 6 are otherwise the same as that shown and described with reference to the preceding figures.

While only two embodiments of the present invention have been described in detail herein, various changes and modifications may be made without departing from the scope of the invention.

I claim:

1. A carrying case for instruments, articles and the like, comprising two sections, hinge means pivotally connecting said sections, each section having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls and having a body and two members connected to said body and extending along the internal and external sides of the marginal edges of said walls, a lip on the inner member with a sharp edge for engaging the adjacent wall for securing said frame on the walls, a flange on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a contoured panel and four walls joined to one another and to said panel, said panel having protrusions thereon for urging said shell toward the flange on said frame for engaging the inner surface of said outer shell and holding the inner shell in spaced relation to said outer shell, liner material on the surface of said inner shell, a yieldable outwardly extending flange on the marginal edge of the walls of said inner shell, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

2. A carrying case for instruments, articles and the like, comprising two sections, hinge means pivotally connecting said sections, one of said sections having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls and having a body and two members connected to said body and extending along the internal and external sides of the marginal edges of said walls, a lip on one of said members with a sharp edge for engaging the adjacent wall for securing said frame on the walls, a flange on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a panel and four walls joined to one another and to said panel, said panel having protrusions thereon for engaging the inner surface of said outer shell and holding the inner shell in spaced relation to said outer shell, liner material on the surface of said inner shell, a yieldable outwardly extending flange on the marginal edge of the walls of said inner shell, said protrusions urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

3. A carrying case for instruments, articles and the like, comprising two sections, hinge means pivotally connecting said sections, one of said sections having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls and having a body and two members connected to said body and extending along the internal and external sides of the marginal edges of said walls, a lip on one of said members with a sharp edge for engaging the adjacent wall for securing said frame on the walls, means on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a panel and four walls joined to one another and to said panel, liner material on the surface of said inner shell, an outwardly extending flange on the marginal edge of the walls of said inner shell, means engaging said outer shell and urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

4. A carrying case for instruments, articles and the like, comprising two sections, hinge means pivotally connecting said sections, one of said sections having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls, a flange on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a contoured panel and four walls joined to one another and to said panel, said panel having protrusions thereon for engaging the inner surface of said outer shell and holding the inner shell in spaced relation to said outer shell, liner material on the surface of said inner shell, a yieldable outwardly extending flange on the marginal edge of the walls of said inner shell, said protrusions urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

5. A carrying case for instruments, articles and the like, comprising two sections, one of said sections having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls, a flange on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a panel and four walls joined to one another and to said panel, liner material on the surface of said inner shell, a yieldable outwardly extending flange on the marginal edge of the walls of said inner shell, means engaging said outer shell and urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned

flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

6. A carrying case for instruments, articles and the like, comprising two sections, one of said sections having an outer shell formed by a panel and four walls joined to one another and to said panel, said walls having a straight marginal edge, a substantially rigid frame secured to said walls, means on said frame forming an inwardly extending shoulder, a flexible inner shell formed by a panel and four walls joined to one another and to said panel, a yieldable outwardly extending flange on the marginal edge of the walls of said inner shell, means engaging said outer shell and urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell.

7. A carrying case for instruments, articles and the like, comprising two sections, one of said sections having an outer shell with a peripheral edge, a substantially rigid frame secured to the edge of said shell, means on said frame forming an inwardly extending shoulder, a flexible inner shell having a marginal edge, liner material on the

surface of said inner shell, a yieldable outwardly extending flange on the marginal edge of said inner shell, means engaging said outer shell and urging said inner shell toward the shoulder on said frame, and spaced lugs on said last mentioned flange for snapping beneath the shoulder on said frame for holding said inner shell in place in said outer shell and clamping the margin of said liner.

References Cited

UNITED STATES PATENTS

2,200,972	5/1940	Stein	190—49
2,666,548	1/1954	Lund	220—15
2,828,844	4/1958	Arlitt	190—28
2,832,448	4/1958	Axtell	190—49

FOREIGN PATENTS

1,108,287	8/1955	France.
1,174,621	11/1958	France.

JOSEPH R. LECLAIR, *Primary Examiner.*

FRANKLIN T. GARRETT, *Examiner.*