United States Patent [19]

Korach

[11] **3,787,676**

[45] **Jan. 22, 1974**

[54] **COLLAPSIBLE LAMPSHADE**

[76] Inventor: **Irving S. Korach,** 17135 Gunther St., Granada Hills, Calif. 91344

[22] Filed: **Oct. 30, 1972**

[21] Appl. No.: **301,956**

[52] **U.S. Cl.** ..... **240/108 R**

[51] **Int. Cl.** **F21v 1/06**

[58] **Field of Search** ..... 240/108 R, 108 A, 108 D

[56] **References Cited**

UNITED STATES PATENTS

1,660,883	2/1928	Ober	240/108 D
2,637,805	5/1953	Jacobs	240/108 D
3,023,307	2/1962	Okamoto	240/108 D
2,817,008	12/1957	Ober	240/108 D
3,022,417	2/1962	Linderoth	240/108 D

FOREIGN PATENTS OR APPLICATIONS

294,722	8/1928	Great Britain	240/108
1,294,280	4/1962	France	240/108

Primary Examiner—Joseph F. Peters, Jr.

Attorney, Agent, or Firm—Allan M. Shapiro

[57] **ABSTRACT**

A lampshade comprising an outer covering of a flexible covering material permanently formed into a continuous, open-ended configuration having bonded to the inner surface thereof a set of preformed flexible retainers having endwise directed channels for each detachably receiving a separate wire lampshade hoop to form a collapsible and re-assemblible lampshade.

12 Claims, 7 Drawing Figures

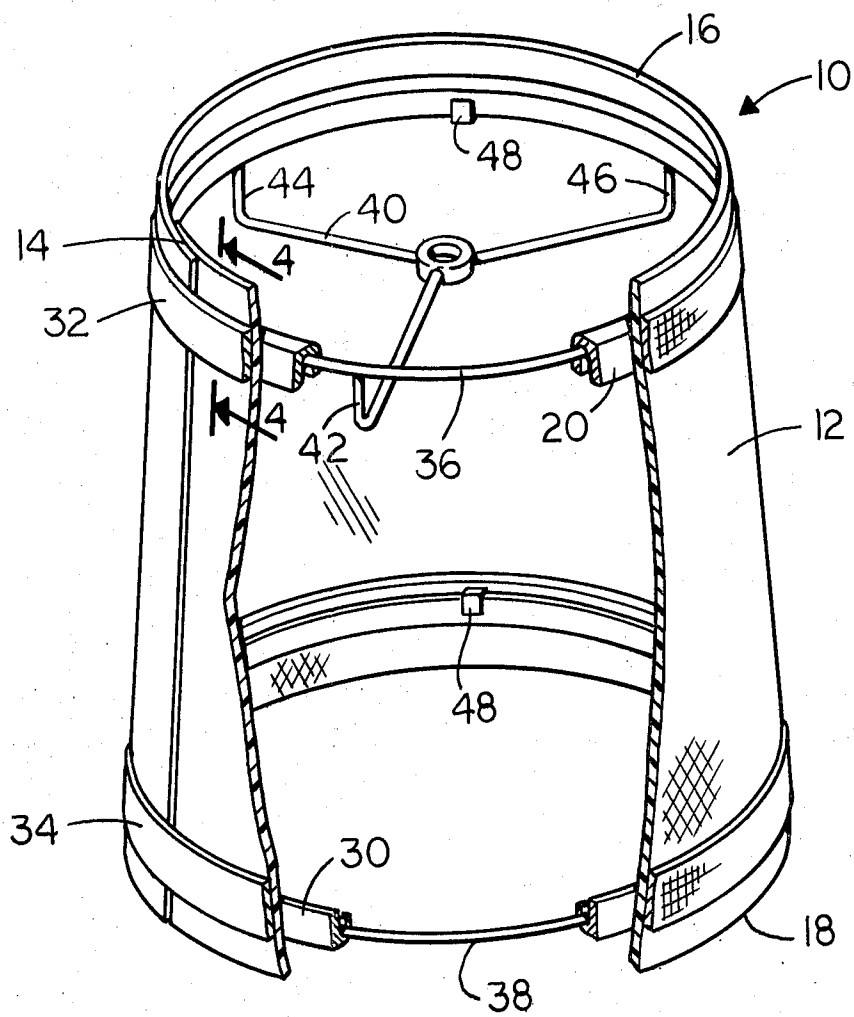


FIG. 1.

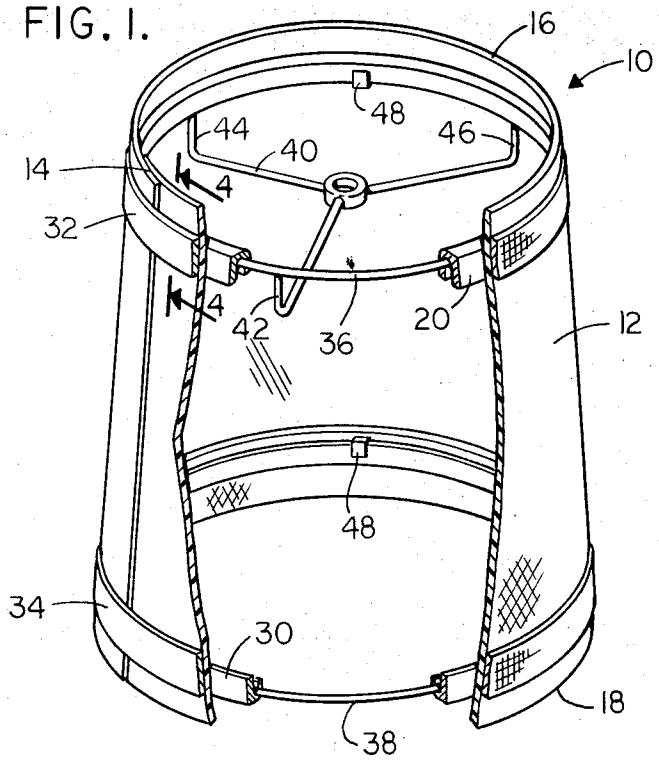


FIG. 2.

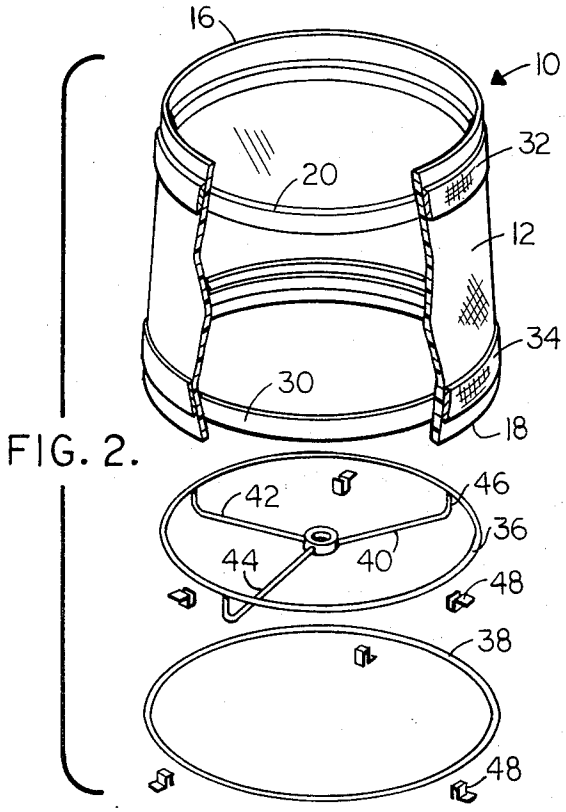


FIG. 3.

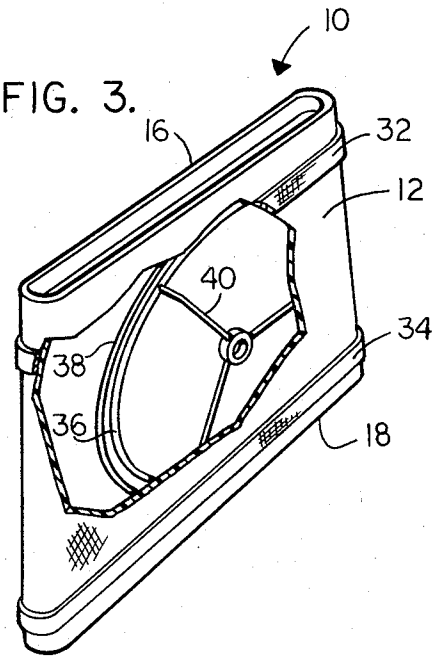


FIG. 4.

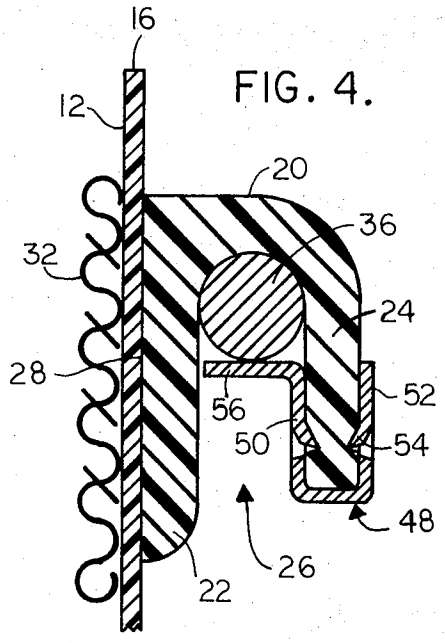


FIG. 5.

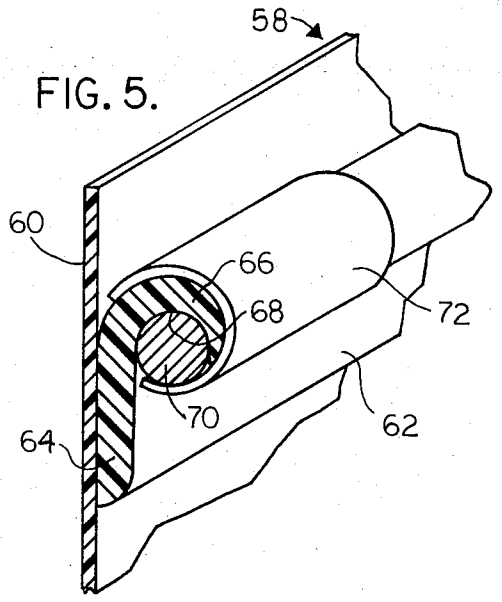


FIG. 6.

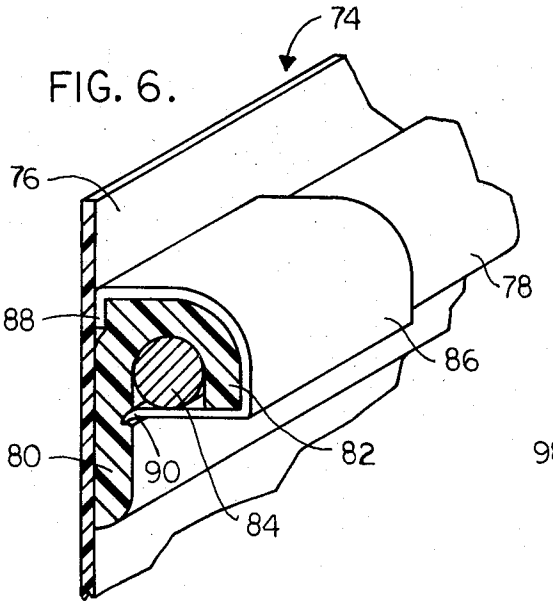
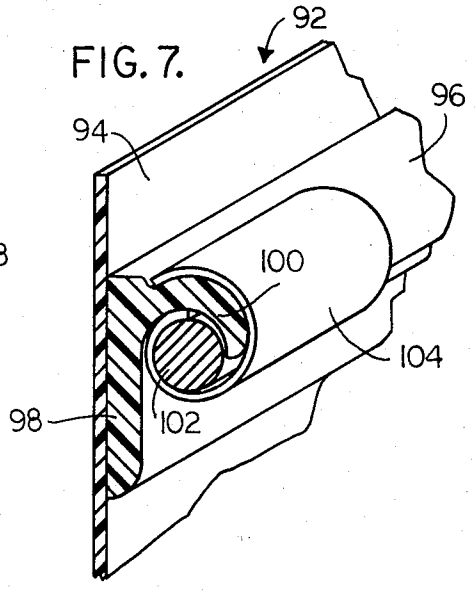


FIG. 7.



COLLAPSIBLE LAMPSHADE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to common hardback lampshades and more particularly to collapsible lampshades wherein a flexible decorative covering material is affixed to a set of upper and lower wire hoops to form a lampshade.

2. Description of the Prior Art

Lampshades are well-known in the art. They usually comprise a hollow structure of translucent material which is sufficiently thin that it is not totally self-supporting. Therefore, the usual prior art lampshades have a set of rings positioned within the covering at the top and bottom thereof. Often, the covering is of heavy, translucent paperstock formed in frustoconical configuration, with open top and bottom. Overlapped and cemented edges permit this frustoconical structure to be formed from such stock. The support rings are positioned at the top and bottom of the covering, and the covering is rolled around it to form the top and bottom of the lampshade and retain the rings in place. The frusto-conical configuration is preferred so that the finished lampshades can be nested for shipping. Sometimes, the prior art lampshades are formed in purely cylindrical shape but, in this configuration, they cannot be nested and thus pose additional shipping and warehousing problems by their substantial volume.

One attempt to overcome the problems of the excessive volume during shipping and warehousing is represented by B. E. White U.S. Pat. No. 3,557,362. In that case, the patentee teaches that the lampshade should be shipped and stored as a kit, and the final assembly operations, including the forming of the covering into hollow form, be performed at the retail location. However, since this patentee teaches that the final assembly operation includes the forming of the covering into its hollow form and that this be performed away from the original manufacturing site, the personnel doing the final assembly need be, but usually are not, as skilled as those at the factory. This results in workmanship of lower quality. Accordingly, the prior art does not provide lampshades which can be shipped in high packing density form, and can be assembled into hardback lampshades by mere assembly operations where all manufacturing operations have been performed in the factory.

SUMMARY OF THE INVENTION

In order to aid in the understanding of this invention, it can be stated in essentially summary form that it is directed to a collapsible lampshade. The collapsible lampshade has a fully assembled flexible hollow covering which has a preformed, flexible retainer having a channel. The covering with the retainer is folded substantially flat for shipping and storing. The lampshade includes a substantially rigid hoop which is inserted into the channel to hold the covering open in the lampshade configuration when the lampshade is to be used.

It is an object of this invention to provide a method for manufacturing a lampshade in mass production that preserves all of the existing visual and aesthetic characteristics, as well as the structural characteristics of the commonly accepted lampshade, while providing a practical method for manually collapsing the lampshade and re-assembling the lampshade components to the original lampshade configuration without degradation of any of the component parts and without the use of manufacturing steps. A still further object of the invention is to provide a collapsible lampshade that will reduce the shipping volume by a percentage sufficient to produce a tariff classification change, thereby reducing the cost of shipping such lampshades. A still further object of the invention is to provide a collapsible lampshade that will reduce the volume of storage space required by reducing the storage volume of the collapsible lampshade by a percentage of at least 75 percent of its assembled volume, thus benefiting manufacturers and retailers by reducing warehouse requirements. A still further object of the invention is to provide a means for constructing a collapsible lampshade that will provide a completely unencumbered exterior surface, including the top and bottom edges for the purpose of allowing the discretionary application of decorative trim without the requirement of concealing overlapped structural edge members. A still further object of the invention is to provide a means for constructing a lampshade of collapsible characteristics that will eliminate the existing shadow images formed by the top and bottom edge members of present lampshades by allowing the dis-cretionary use of any part of the entire interior surface of the covering material for the purpose of attaching a set of standard wire lampshade hoops.

It is another object of the invention to construct a lampshade wherein the support hoops for the lampshade cover can be installed intermediate the open ends of the lampshade, and to provide flexible decorative trim on the outside of the lampshade cover outside of the hoop installation so that shadow images formed by the hoops within the lampshade cover will not be visible.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with the further objects and advantages thereof, may be best understood by reference to the following description, taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the collapsible lampshade of this invention, with parts broken away to show the interior and constructional details thereof.

FIG. 2 is a view of the collapsible lampshade of this invention, with a portion of the cover broken away, and showing the rings in exploded position ready for installation within the covering.

FIG. 3 is a perspective view, with parts broken away, showing the lampshade in its collapsed configuration, and showing the upper and lower wire hoops contained within the folded lampshade covering.

FIG. 4 is an enlarged partial section through the lampshade of this invention, taken generally along the line 4—4 of FIG. 1.

FIG. 5 is a view, partially isometric and partially in section, showing another embodiment of the structure for attaching the hoops within the covering.

FIG. 6 is a view similar to FIG. 5 showing another embodiment.

FIG. 7 is a view similar to FIG. 5 showing a further embodiment.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The preferred embodiment of the collapsible lampshade is generally indicated at **10** in FIGS. **1** through **3.** The lampshade **10** has a covering **12** which is illustrated as being a hollow frustoconical configuration. A cylindrical structure of the covering is also included within the scope of the definition of the hollow lampshade covering. Covering **12** is made of a single sheet of flexible material. Many types of flexible, resilient materials can be utilized for this covering material. Conventionally, the covering **12** is translucent. Oiled paper stocks and other types of paper are often employed in this service. These paper materials may be coated with a polymer composition material to enhance the finish or texture, or the cleanability of the lampshade. Covering material in the form of vinyl polymer resilient sheeting is the preferred material. On the other hand, laminated covering stock can be employed to get the benefits of the characteristics of several types of materials. The particular covering for the lampshade **10** of this invention needs to be resilient but, aside from that, no particular or special characteristic is required for employment in the lampshade of this invention. Covering **12** is cut to size, with overlapping edges, so that a lap seal **14** is formed. Lap **14** is secured in the manufacturing process, and the permanent joining of lap **14** can be accomplished by any convenient manufacturing process, including sewing, adhesive bonding, high-frequency heat welding, thermal heat welding, or ultrasonic welding, depending upon the joining characteristics of the covering material. By this means, the hollow covering **12** is permanently fashioned into a continuous flexible structure having open ends. The finished covering has an upper edge **16** and a lower edge **18** at the open ends and has a central axis extending out of the open ends.

As is best seen in FIG. **4,** upper retainer **20** is of generally inverted U-shaped configuration, having a securement leg **22** and a retainer leg **24.** Retainer channel **26** is formed in the space therebetween. Outer face **28** of securement leg **22** is substantially flat. The material from which retainer **20** is made is such that the finished retainer is resiliently flexible. An extruded polymer composition material is eminently suitable, especially when the securement characteristics of retainer **20** are such that it can be conveniently attached to the inner surface of covering **12.** It is for this reason that the outer face **28** is substantially flat so that a large area of retainer **20** can come into engagement with the inner surface of covering **12** for secure attachment thereto. As an extruded section, retainer **20** is preferably extruded of a vinyl polymer compound, with sufficient plasticizer to produce the desired flexibility. Furthermore, the thickness of the legs of the retainer and the width of retainer channel **26** are designed so that adequate flexibility is obtained.

The lampshade covering material is flexible, but has no substantial resiliency. Therefore, the covering cannot be stretched to engage the retainer. Thus, the retainer channel is directed toward an open end, preferably the larger open end of a frustoconical configuration, so the rigid hoop can be inserted into the fully assembled covering.

In assembly, the extruded retainer material is cut to a proper length for retainer **20,** and the retainer is positioned in circular form in position within the already permanently lapped covering **12** at the desired location. When placed in position, upper retainer **20** is located so that its retainer channel **26** is open in the downward direction, away from upper edge **16** and toward lower edge **18.** When in the desired position, retainer **20** is permanently secured in place. The manner of attachment depends upon the material of retainer **20** and of covering **12.** However, the preferred attachment is permanent, as by adhesive bonding, high frequency heat welding, thermal heat welding, or ultrasonic welding. These latter types of attachments are eminently successful, when both the covering **12** and retainer **20** are of vinyl polymer material.

Retainer **20** is the upper retainer, as is seen in FIG. **1.** Additionally, retainer **30** is the lower retainer. Retainer **30** is preferably identical to retainer **20** in material and in cross section; thus, retainer **30** can be cut from the same extrusion material. However, in installation within covering **12,** retainer **30** will be of longer length than retainer **20,** when covering **12** is formed in frustoconical shape. Additionally, retainer **30** is installed and secured within covering **12** with an orientation such that the channel therein is opened in the upward direction, facing upper edge **16.** Retainer **30** is permanently installed within covering **12,** preferably by the same method of attachment as retainer **20.**

As another method of assembly, during the original manufacturing process, when the flexible outer covering is cut out as a blank and it is not yet rolled into a hollow form, the retainers **20** and **30** can be attached thereto. Attachment at this time permits the attachment step to be taken while the covering is in the flat, blank position and thus makes the attachment step more convenient for some manufacturing processes. The positionings of retainers **20** and **30,** as well as their lengths, are such that, after such attachment in the blank position and as a part of the complete manufacturing operation of the lampshades, the flexible material **12,** now carrying retainers **20** and **30,** is formed into a hollow structure by lapping and permanently attaching the edges of the flexible material **12.** The retainers **20** and **30** are cut to such length and are positioned so that, when such lapping takes place, the opposite ends of the respective retainers are butted together. Thereupon, securement of the lap **14** is accomplished by any permanent manufacturing method, as described above. Thereupon, the folded, flexible portion of the lampshade **10** is ready for flat position insertion into a box in the configuration illustrated in FIG. **3.** In such configuration, the hoops are included therewith. Furthermore, the thus fully-manufactured lampshade is capable of final assembly by insertion of the hoops into their retainers, with clips holding the hoops in place.

As is illustrated in FIGS. **1, 2** and **4,** retainer **20** is secured not directly even with upper edge **16** and, as is seen in FIGS. **1** and **2,** lower retainer **30** is not directly even with lower edge **18.** If desired, they can be flush or even with these edges. However, in the collapsible lamp-shade of this invention, it is possible to place these retainers away from the edges, in order to achieve a superior appearance. Since the covering **12** is translucent and the retainers **20** and **30** are opaque, in order to prevent the shadows from the retainers from being seen on the outside of the shade, opaque flexible trim strips **32** and **34** are permanently secured to the exterior of covering **12,** outside of the location of the at-

tachment of the retainers. This attachment enhances the beauty of lampshade **10.**

The entire structure so far described is resiliently flexible and is capable of being pushed from the shape of a structure of revolution, such as a frusto cone or cylinder, to a fairly flat shape, as illustrated in FIG. **3.** In order to maintain the assembled lampshade **10** into the open configuration in which it is to be used, conventional wire hoops are provided. Upper hoop **36** and lower hoop **38** are illustrated as being circular in form. They are preferably formed of fairly stiff steel wire of circular cross-section, and are butt-welded to the desired hoop diameter. In addition, upper hoop **36** can be fitted with a spider **40** of any one of several conventional shapes for attachment of the shade **10** to a lamp. As is best seen in FIGS. **1** and **2**, spider **40** is attached to upper hoop **36** by means of legs **42, 44,** and **46,** which extend substantially parallel to the central axis of the general shape of revolution of the lampshade **10.** These legs are attached to upper hoop **36.**

The flexible structure, comprised of covering **12,** secured in a hollow shape with its upper and lower retainers **20** and **30** secured to the interior thereof, can be folded flat, as previously described. It is this flexible structure that is held into the expanded position shown in FIG. **1** by the use of the hoops. Upper hoop **36** is engaged upwardly into channel **26** of upper retainer **20.** Legs **42** permit upper hoop **36** to fully enter the channel and seat at the closed end thereof, as illustraed in FIG. **4.** Gravity normally retains upper hoop **36** in its upper retainer **20,** because of the upward force by the lamp on spider **40** which holds the entire lamp-shade upon the lamp. Lower hoop **38** is inserted into lower retainer **30** and is normally gravity-retained in place.

In order to provide for positive assembly, retainer clips **48** are provided. These retainer clips have legs **50** and **52** which define a U-shaped receptacle which engages over the edge of retainer leg **24.** Furthermore, one or both of legs **50** and **52** can be provided with a tooth **54** which engages into the resilient material of retainer leg **24** to retain retainer clip **48** in place. Retainer clip **48** is provided with flange **56** which closes retainer channel **26** to retain upper hoop **36** therein. Retainer clips **48** are also used to hold lower hoop **38** within lower retainer **30.** Thus, when fully assembled, the lampshade **10** is firm, secure, and rigid. The assembly requires no tools and no manufacturing operations, but mere insertion of several parts in place. Disassembly can be conveniently achieved by removal of the retainer clips **48,** followed by removal of upper and lower hoops **36** and **38.** Thereupon, the covering **12** is returned to its unsupported, flexible condition. By this means, the rigid parts represented by upper and lower hoops **36** and **38** are removed from the flexible parts.

FIGS. **5, 6** and **7** are each directed to a collapsible lampshade having a flexible covering of the type described above, but are directed to different embodiments of retainers. In FIG. **5,** lampshade **58** is of the same general structure of lampshade **10** and has a flexible covering **60.** Within the covering is secured upper retainer **62.** Upper retainer **62** comprises a securement leg **64** and a retainer leg **66** which define therebetween retainer channel **68.** Positioned within retainer channel **68** is upper hoop **70.** The exterior surface of upper retainer **62,** and particularly the outer surface of retainer leg **66,** is cylindrical in shape, particularly incluidng the lower surface of upper hoop **70.** Thus, upper hoop **70** can be retained within retainer channel **68** by means of resilient C-shaped retainer clip **72.** Retainer clip **72** is preferably of resilient, metallic material and has dimensions so that it can be snapped over retainer leg **66** and under upper hoop **70,** as shown in FIG. **5.** Retainer clip **72** can be resiliently removed for disassembly.

FIG. **6** illustrates a lampshade **74** which has a flexible outer covering **76** and an upper retainer **78.** Upper retainer **78** is again configured with a securement leg **80,** permanently attached to flexible covering **76** and retainer leg **82.** Upper hoop **84** is positioned within the channel defined therebetween. Retainer clip **86** is somewhat in the form of an open D-shape, having a flange **88** engaged between upper retainer **78** and covering **76.** Furthermore, clip **86** has a finger **90** which not only closes the open side of the channel in which upper hoop **84** is located, but engages in a notch in securement leg **80.** Finger **90** is retained in the notch by engagement of flange **88.** Retainer clip **86** is sufficiently resilient that it may be snapped in and out of place by resilient deformation.

FIG. **7** illustrates lampshade **92** which has an outer covering **94** and an upper retainer **96.** Upper retainer **96** is of such form as to have a securement leg **98** permanently attached to the interior of flexible covering **94,** and a retainer leg **100** which defines a retainer channel into which upper hoop **102** is inserted. As is seen in FIG. **7,** retainer clip **104** is formed as a hemicylinder which engages halfway around the upper hoop **102.** In this way, the retainer clip **102** swings around upper hoop **102** to clip and unclip itself from upper retainer **96.** The difference in this structure is that retainer clip **104** stays in place, when the hoop is removed and is not a separate part.

In the case of each of the lampshades illustrated in FIGS. **5** though **7,** of course, there is also a lower retainer and lower hoop, each having the configuration and retainer clips, as described in the respective embodiments.

This invention having been described in its preferred embodiment, and several additional embodiments also having been described, it is clear that it is susceptible to numerous modifications and embodiments within the ability of those skilled in the art and without the exercise of the inventive faculty. Accordingly, the scope of this invention is defined by the scope of the following claims.

What is claimed is:

1. A collapsible lampshade comprising:

a continuous flexible lampshade covering, said covering being positionable into a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering, said covering being substantially rigid in a direction parallel to said axis and substantially flexible in a direction radial to said axis;

at least one retainer secured to said flexible covering, said retainer being formed of flexible material so that said retainer can flex with radial flexure of said flexible covering, said retainer having walls defining a retainer channel, said channel being open toward one of said open ends of said flexible covering, and being open in a direction generally parallel to said axis; and

a substantially rigid hoop, said hoop having such dimensions as to be removably positionable within said channel to retain said retainer and the adja-

cent flexible covering attached thereto in the particular configuration required by the shape of said substantially rigid hoop so that said flexible covering and said retainer are retained in a shape dictated by said hoop, said hoop being removable to permit flexure of said lampshade covering.

2. The collapsible lampshade of claim **1** wherein:
said retainer is positioned away from both ends of said flexible lampshade covering.

3. A collapsible lampshade comprising:
a continuous flexible lampshade covering, said covering being positionable into a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering;
an upper retainer positioned adjacent and spaced away from said upper end of said flexible lampshade covering;
a lower retainer positioned adjacent and spaced away from the lower end of said flexible lampshade covering, each of said retainers being formed of flexible material so that each said retainer can flex with radial flexure of said flexible covering, each of said retainers having walls defining a retainer channel, each of said channels being open toward one of said open ends of said flexible covering, and being open in a direction generally parallel to said axis; and upper and lower substantially rigid hoops, said hoops having such dimensions as to be respectively removably positionable within said upper and lower channels to retain said upper and lower retainers and the adjacent flexible covering attached thereto in the particular configuration required by the shape of said substantially rigid hoops so that said flexible covering and said retainers are retained in a position dictated by said hoops.

4. The collapsible lampshade of claim **2** wherein:
there is an upper retainer and a lower retainer, said upper retainer being positioned adjacent one end of said flexbile covering, and said lower retainer being positioned adjacent the other end of said flexbile covering, thus defining the upper and lower ends of said flexible lampshade covering;
each of said retainers having a retainer channel therein, said retainer channels being open substantially axially, said channel in said upper retainer having its open side being directed toward said lower edge of said flexible lamsphade covering.

5. The collapsible lampshade of claim **4** wherein:
said open channel in said lower retainer is directed toward the upper edge of said flexible lamsphade cover.

6. The collapsible lampshade of claim **5** wherein:
there is an upper hoop removably positioned within said channel in said upper retainer and wherein there is a lower hoop removably positioned within said channel in said lower retainer.

7. A collapsible lampshade comprising:
a continuous flexible lampshade covering, said covering being positionable to a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering;
an upper retainer and a lower retainer, each of said retainers being secured to said flexible covering, said upper retainer being positioned adjacent one open end of said flexbile covering and said lower retainer being positioned adjacent the other open end of said flexible covering, thus defining the upper and lower ends of said flexible lampshade covering, each of said retainers being formed of a flexible material so that said retainer can flex with flexure of said flexible covering, each of said retainers having a retainer channel therein, said retainer channels being open substantially axially, said channel in said upper retainer having its open side being directed toward said lower edge of said flexible lampshade covering and said open channel in said lower retainer being directed toward the upper edge of said flexible lampshade covering,
said upper retainer being positioned away from said upper end of said flexible lampshade covering and said lower retainer being positioned away from the lower end of said flexible lampshade covering; and
a substantially rigid hoop removably positionable within said channel in said upper retainer and a substantially rigid lower hoop removably positionable within said channel in said lower retainer, each of said hoops positioning the adjacent flexible covering attached adjacent said retainers into the particular configuration required by the shape of said substantially rigid hoops so that said flexible covering and said retainers are retained in a shape dictated by said hoops.

8. A collapsible lampshade comprising:
a continuous flexible lampshade covering, said covering being positionable into a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering;
at least one retainer secured to said flexible covering, said retainer being formed of flexible material so that said retainer can flex with flexure of said flexible covering, said retainer having walls defining a retainer channel, said channel being open toward one of said open ends of said flexible covering, and being open in a direction generally parallel to said axis;
a substantially rigid hoop, said hoop being removably positioned within said retainer, a retainer clip engaging said hoop and said retainer to hold said hoop within said channel;
said retainer clip comprising legs which resiliently engage said retainer and having a flange engaging said hoop to retain said hoop within said channel, said hoop retaining said retainer and the adjacent flexible covering attached thereto in the particular configuration required by the shape of said substantially rigid hoop.

9. A collapsible lampshade comprising:
a continuous flexible lampshade covering, said covering being positionable into a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering;
at least one retainer secured to said flexible covering, said retainer being formed of flexible material so that said retainer can flex with flexure of said flexible covering, said retainer having walls defining a retainer channel, said channel being open toward one of said open ends of said flexible covering, and being open in a direction generally parallel to said axis;

a substantially rigid hoop, said hoop being removably positioned within said retainer, a retainer clip engaging said hoop and said retainer to hold said hoop within said channel;

said retainer clip comprising legs which resiliently engage said retainer and having a flange engaging said hoop to retain said hoop within said channel, said hoop retaining said retainer and the adjacent flexible covering attached thereto in the particular configuration required by the shape of said substantially rigid hoop.

10. The collapsible lampshade of claim **9** wherein:

said retainer clip engages around said hoop so that said retainer clip is movably mounted upon said hoop.

11. A collapsible lampshade comprising:

a continuous flexible lampshade covering, said covering being positionable into a configuration having a continuous closed side and open ends and having an axis extending through said open ends of said flexible covering;

at least one retainer secured to said flexible covering, said retainer being formed of flexible material so that said retainer can flex with flexure of said flexible covering, said retainer having walls defining a retainer channel, said channel being open toward one of said open ends of said flexible covering, and being open in a direction generally parallel to said axis;

a substantially rigid hoop, said hoop being removably positioned within said retainer, a retainer clip engaging said hoop and said retainer to hold said hoop within said channel;

said retainer clip comprising legs which resiliently engage said retainer and having a flange engaging said hoop to retain said hoop within said channel, said hoop retaining said retainer and the adjacent flexible covering attached thereto in the particular configuration required by the shape of said substantially rigid hoop.

12. A collapsible lampshade comprising:

a lampshade covering having a continuous side and open ends and having an axis extending through said open ends, said covering being flexible in a direction radial to said axis and rigid in the direction substantially parallel to said axis so that said lampshade covering can be flexed to a substantially flattened position;

an upper flexible retainer attached to the interior of said lampshade covering adjacent one end thereof to define the upper end of said lampshade covering, said upper flexible retainer having an open channel therein directed substantially parallel to said axis and open in a direction away from said upper end of said covering;

a lower flexible retainer attached to the interior of said flexible covering adjacent the other end thereof to define the lower end of said lampshade, said second retainer having an open channel therein directed substantially axially toward the upper end of said shade, both said upper and lower flexible retainers being capable of flexing with said lampshade cover;

a substantially rigid upper supporting hoop configured to be supported by a lamp and to engage in said channel in said upper retainer so that said lampshade covering hangs on said upper hoop to retain said covering on said upper hoop; and

a lower substantially rigid hoop engaged in and gravitationally restrained in said channel in said lower flexible retainer, so that said hoops substantially define the opening of said flexible lampshade covering.

* * * * *