

[54] **KNOCK-DOWN KIT FOR FORMING LAMP SHADES**

[76] Inventor: **Walter Mainieks**, 6145 Sheridan Rd., Chicago, Ill.

[22] Filed: **Mar. 10, 1972**

[21] Appl. No.: **233,497**

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

[51] **Int. Cl.**..... **F21v 1/00**

[58] **Field of Search**..... 240/108 R, 108 A, 240/108 D; 220/60 R, 76; 229/4.5

[56] **References Cited**

**UNITED STATES PATENTS**

3,385,963	5/1968	Washick.....	240/108 R
1,157,041	10/1915	Raynolds.....	220/60 R
3,557,362	1/1971	White et al. ....	240/108 A
3,109,252	11/1963	Schellenberg.....	240/108 R
3,516,286	7/1950	Yeidel.....	240/108 R
3,187,178	6/1965	De Sentmenat.....	240/108 R
1,061,297	5/1913	Johnson.....	240/108 R
3,142,446	7/1964	Okamoto.....	240/108 R
3,023,307	2/1962	Okamoto.....	240/108 R

Primary Examiner—Samuel S. Matthews  
 Assistant Examiner—Russell E. Adams, Jr.  
 Attorney—Dominik et al.

[57] **ABSTRACT**

A knock-down kit for forming a lamp shade, a wastebasket and other similar types of articles. The knock-down kit includes as its principal elements a side wall member and a pair of hoop members which are formed with a U-shaped channel for receiving therein the upper and lower edges, respectively, of the side wall member. The hoop members include locking means within the U-shaped channel which, when the upper and lower edges of the side wall member are inserted within the U-shaped channel, lockingly affix the hoop members to the side wall member. In the case of a lamp shade, the kit further includes a spider member having spider arms, the ends of which are secured to the hoop member affixed to the upper edge of the side wall member, to complete the construction of the lamp shade. In the case of a wastebasket or the like, one of the hoop members is provided with a center wall which, when the hoop member is affixed to the lower edge of the side wall member, provides a closed bottom on the side wall member, hence forming a wastebasket.

**10 Claims, 10 Drawing Figures**

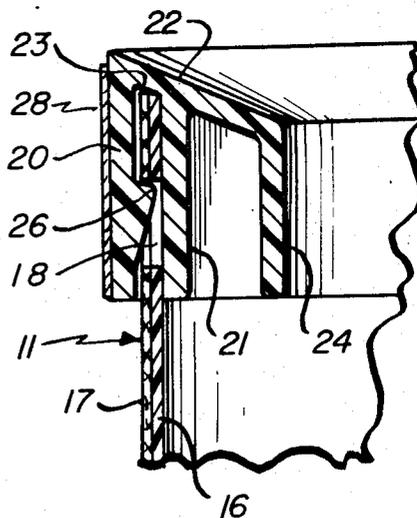
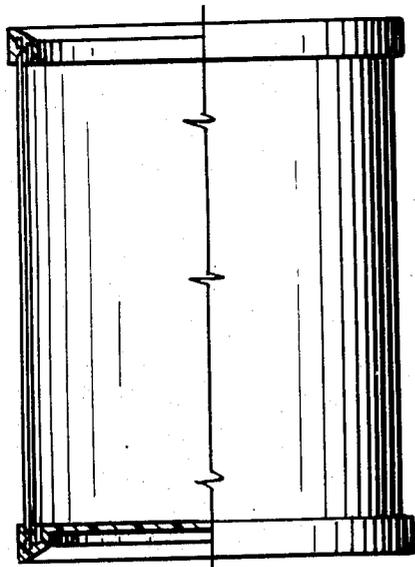


FIG. 2

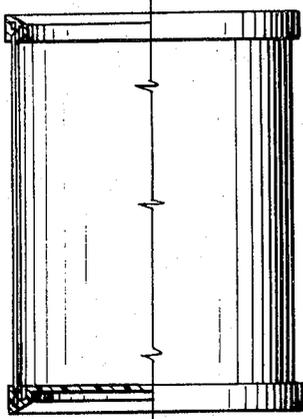


FIG. 1

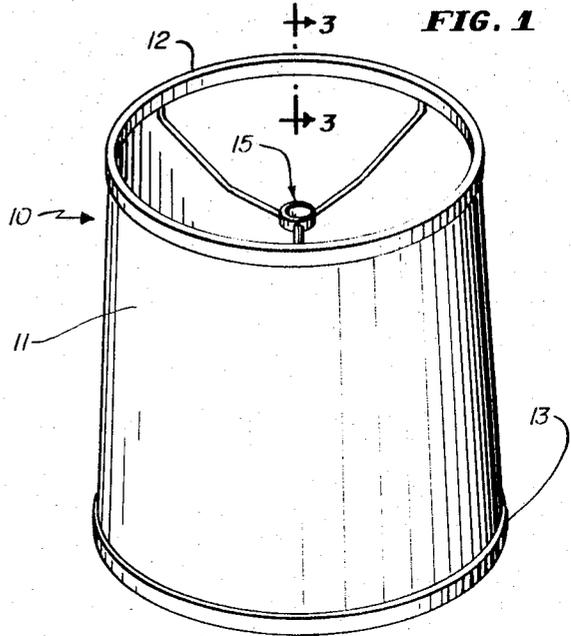


FIG. 4

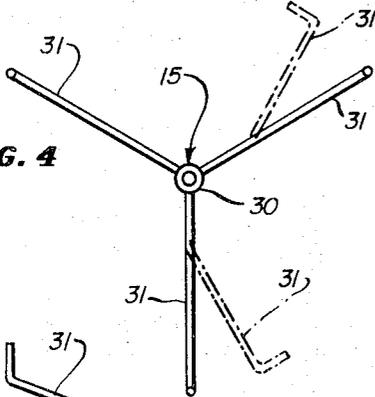


FIG. 5

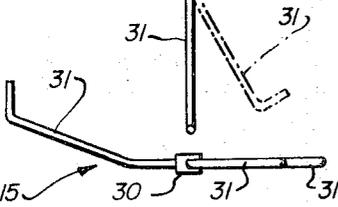


FIG. 3

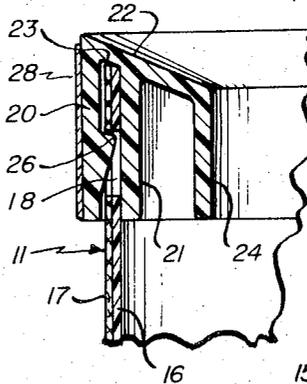


FIG. 6

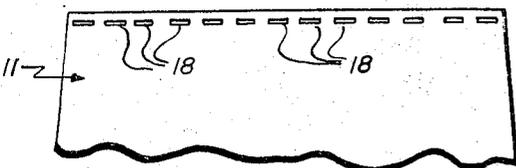


FIG. 9

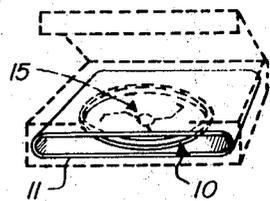


FIG. 10

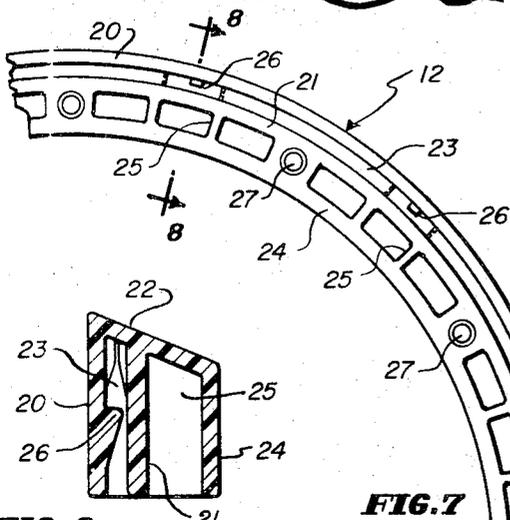
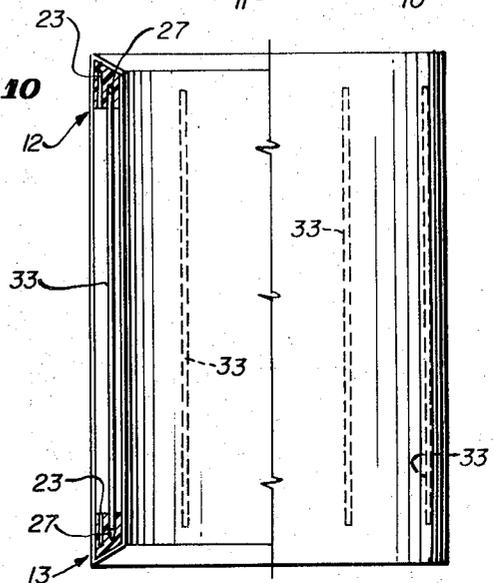
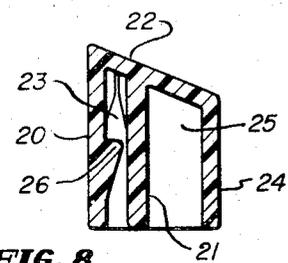


FIG. 8

FIG. 7



## KNOCK-DOWN KIT FOR FORMING LAMP SHADES

This invention relates, in general, to improved lamp shades and, in particular, to improved collapsible or knock-down lamp shades. More particularly still, the invention relates to a knock-down kit for forming lamp shades, wastebaskets and the like.

The majority of the lamp shades presently manufactured are formed or erected, prior to being shipped. It, therefore, is readily apparent that these lamp shades consume or require considerable storage space, particularly in the case of a cylindrical-shaped lamp shade which does not lend itself to being nested or stacked. For this reason, a great many lamp shades are fustroconical in shape so that they can be nested. While lamp shades of the latter type can be more readily stored and/or shipped, these lamp shades generally have a decorative trim strip which extends about its periphery at one or both of the upper and lower edges thereof and, when nested, in many cases, the lamp shades are damaged as a result of these trim strips being inadvertently torn or otherwise damaged.

The fact that lamp shades of the above type require considerable space for the storage and/or shipment thereof adds substantially to the shipping costs, hence the cost of the lamp shades. While, as indicated above, some of these lamp shades can be nested, in many cases, they cannot be and to ship a single lamp shade across country is so expensive that, at the present time, it is almost prohibitive. In particular, the costs involved render it impractical to sell individual lamp shades on a mail order basis.

Accordingly, for this as well as many other reasons, numerous attempts have been made to construct a collapsible or knock-down lamp shade that can be compactly packaged for ease in storing them, and more particularly, for reducing the cost of shipping them. Various ones of these prior collapsible lamp shades are disclosed in, for example, U.S. Pat. No. 3,557,362 and U.S. Pat. No. 3,435,205. At the present time, collapsible lamp shades have not been generally acceptable to the industry, or to the purchasers thereof, for various different reasons. One of the principal reasons is the difficulty of assembling or constructing the lamp shades. While many of these collapsible lamp shades are assembled before being sold, in the majority of the cases, the lamp shades ultimately are assembled by the purchaser, usually a housewife. Accordingly, in order to stimulate the acceptance and the purchase of collapsible lamp shades, the latter must be of a construction such that the housewife can quickly and easily assemble them.

While the present invention is particularly directed to providing a collapsible or knock-down lamp shade, the concept of the invention is such that a knock-down kit can be provided for forming a lamp shade, a wastebasket and other similar types of articles. More particularly, the knock-down kit includes as its principal elements a side wall member and a pair of hoop members which are formed with a U-shaped channel for receiving therein the upper and lower edges, respectively, of the side wall member. The hoop members include locking means within the U-shaped channel which, when the upper and lower edges of the side wall member are inserted within the U-shaped channel, lockingly affix the hoop members to the side wall member.

In the case of a lamp shade, the kit further includes a spider member having spider arms, the ends of which are secured to the hoop member affixed to the upper edge of the side wall member, to complete the construction of the lamp shade. In the case of a wastebasket or the like, one of the hoop members is provided with a center wall which, when the hoop member is affixed to the lower edge of the side wall member, provides a closed bottom on the side wall member, hence forming a wastebasket.

Accordingly, an object of the present invention is to provide an improved lamp shade and, more particularly, an improved collapsible or knock-down lamp shade.

Another object is to provide an improved collapsible or knock-down lamp shade which can be easily and quickly assembled by, for example, a housewife.

Still another object is to provide an improved collapsible or knock-down wastebasket which can be easily and quickly assembled by, for example, a housewife.

A still further object is to provide a knock-down kit for forming a lamp shade, wastebasket or the like.

The above and other objects, features and advantages of the present invention will become more apparent from the consideration of the following detailed description when taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of a lamp shade constructed from a collapsible or knock-down kit, in accordance with the present invention;

FIG. 2 is a side plan view, partially sectionalized, of a wastebasket;

FIG. 3 is a partial sectional view generally illustrating the manner in which the hoop members are lockingly affixed to the upper and lower edges of the side wall member;

FIG. 4 is a top plan view of the spider member;

FIG. 5 is a side plan view of the spider member of FIG. 4;

FIG. 6 is a partial side view of the side wall member, generally illustrating the elongated slots which are preferably formed therein adjacent the upper and lower edges thereof;

FIG. 7 is a partial bottom plan view of one of the hoop members;

FIG. 8 is a sectional view taken along lines 8—8 of FIG. 7.

FIG. 9 is a view generally illustrating the manner in which the collapsible or knock-down lamp shade is packaged for shipment or storage; and

FIG. 10 is a partial side plan view, partially sectionalized, illustrating the manner in which the hoop members can be used in conjunction with upright braces to construct a soft shade.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to the drawings, in FIG. 1 there is illustrated a lamp shade 10 constructed in accordance with the present invention; by assembling the hoop members 12 and 13 with the upper and lower edges, respectively, of a side wall member 11, and by affixing a spider 15 to the top hoop member 12. The side wall member 11, in the case of the lamp shade, forms the shade member which can be a conventional hardback shade. More particularly, the side wall or shade member 11 can be fustroconical in shape, as illustrated, or any one of numerous other shapes such as cylindrical, rectangular, or

ovular. Furthermore, the side wall or shade member 11 can be formed of any suitable flexible, semi-rigid materials, such as, paper, parchment, plastic or stiffened fabric material, as well as material such as the above having a fabric material adhered thereto, as illustrated in FIG. 3, where a fabric material 17 is shown affixed to a heavy weight paper 16. In this respect, the side wall or shade member 11 can be of virtually any material which is sufficiently flexible so that it may be shipped and stored in the knock-down condition generally illustrated in FIG. 9.

The hoop members 12 and 13 can be of any suitable substantially rigid material such as metal, wood or plastic. Preferably and advantageously, however, the hoop members 12 and 13 are molded of plastic. Such hoop members can be easily fabricated and furthermore, are light-weight, so that they do not add substantially to the weight of the lamp shade. In the illustrated embodiment, the hoop members 12 and 13 are annular in shape and, in the case of a fustroconical lamp shade, the hoop member 12 is of a smaller diameter than the hoop member 13. In the case of a cylindrical-shaped lamp shade, obviously the hoop members 12 and 13 would be of the same diameter. Furthermore, it will be appreciated that the hoop members 12 and 13 can be other than annular shaped, such as, for example, rectangular shaped or ovular shaped.

The hoop members 12 and 13 are of a like construction and each has a U-shaped channel 23 formed by an outer wall 20, a concentric inner wall 21 and a top wall 22 interconnecting them. Interiorly of the inner wall 21, each of these hoop members 12 and 13 also and preferably have a support wall 24 which is concentric with the inner wall 21. This support wall 24 is integrally fixed to the inner wall 21 by means of a number of radially spaced spacer flanges 25 and the top wall 22. As can be best seen in FIG. 3, the top wall 22 preferably and advantageously tapers downwardly and inwardly from the outer wall 20 to the support wall 24, to add to the aesthetic or decorative appearance of the hoop members 12 and 13. This support wall 24 functions primarily to add additional rigidity to the hoop members 12 and 13.

Locking means in the form of a number of radially spaced barbs 26 are formed integrally with the outer wall 20 to extend into the U-shaped channel 23, as can be best seen in FIGS. 3 and 8. While, as illustrated, these barbs 26 are provided on the outer wall 20, they could as well be provided on the inner wall 21 or, alternatively, on both the outer and inner walls 20 and 21. These barbs 26, as explained more fully below, are proportioned to lockingly engage with the upper and lower edges of the side wall or shade member 11 to lockingly affix the hoop members 12 and 13 to the side wall or shade member 11 when the edges thereof are inserted within the U-shaped channel 23. A number of radially spaced connector cavities 27 are integrally formed with the inner wall 21, preferably between the inner wall 21 and the support wall 24. These connector cavities 27 function in a dual capacity, in that they are adapted to receive and to retain therein the ends of the spider arms 31 of the spider 15 to affix the spider 15 to the upper hoop member 12 to form the lamp shade 10. These connector cavities 27 also are adapted to receive the ends of upright braces 33 used in conjunction with a soft shade, that is, one having a soft fabric side wall member 11, as explained more fully below. These con-

connector cavities 21 can be of various shapes and preferably are fustroconical shaped cavities so that they are adapted to receive and frictionally retain therein spider arms and upright braces of various diameters.

The outer peripheral surface of the outer wall 20 preferably is a flat vertical surface so that a decorative trim 28 can be adhesively or otherwise affixed to it, as illustrated in FIG. 3. Alternatively, for purposes of decorating the outer wall 20, the latter can be painted or otherwise decorated, to add to the appearance of the hoop members 12 and 13.

The spider 15 is shown in FIGS. 4 and 5, and it can be seen that it includes a central portion 30 having an aperture therein for receiving therethrough the threaded stud on the lamp, for affixing the lamp shade 10 to the lamp. A number of spider arms 31 (three as illustrated) are affixed to the central portion 30, in radially spaced relationship. These spider arms 31 can be fixedly secured to the central portion 30, however, preferably the one end thereof is affixed to the central portion 30 so that the spider arms 31 can be rotated to permit them to be shipped flat, as generally illustrated by the phantom lines in FIG. 4, and thereafter rotated into position for assembly. These spiders 15 generally include at least three spider arms 31, however, in some applications the spiders may have four or more spider arms. For this reason, the hoop members 12 and 13 are provided with sufficient connector cavities 27 so that any of the spiders presently commonly used with lamp shades can be used.

In assembling the lamp shade 10, the hoop members 12 and 13 are fixedly secured to the side wall or shade member 11, by inserting the upper and lower edges thereof into the U-shaped channels 23 in the hoop members. In doing so, the locking barbs 26 disposed within the U-shaped channel 23 are frictionally engaged with the peripheral surface of the side wall or shade member 11. In most cases, particularly when the side wall or shade member 11 has a fabric 17 adhered thereto, the locking barbs 26 frictionally and lockingly engage with the side wall or shade member 11 such that the hoop members 12 and 13 are lockingly secured thereto. Preferably and advantageously, a number of openings in the form of elongated slots 18 are provided about the periphery of the side wall or shade member 11, adjacent both its upper and lower edges, for receiving therein the locking barbs 26, as generally illustrated in FIG. 3. By providing elongated slots 18, substantial leeway is given in affixing the hoop members 12 and 13 to the side wall or shade member 11 to insure engagement of the locking barbs 26 within the elongated locking slots 18. Once the locking barbs 26 are lockingly engaged within the elongated locking slots 18, the hoop members 12 and 13 are lockingly secured to the side wall or shade member 11 in a fashion such that it is relatively difficult if not impossible to remove the hoop members 12 and 13 without damaging the side wall or shade member 11. To complete the assembly of the lamp shade 10, the ends of the spider arms 31 of the spider 15 are inserted and secured within the appropriate ones of the connector cavities 27 in the hoop member 12.

As indicated above, a lamp shade 10 of this construction can be easily and economically shipped in a collapsed or knock-down condition, within a carton, generally as illustrated in FIG. 9. As can be there seen, the side wall or shade member 11 is collapsed, and the

hoop members 12 and 13, together with the spider 15 are disposed within it or atop of it, in a generally flat rectangular-shaped container or box, which can be easily shipped or stored. The lamp shade 10 then is there-  
 after erected or assembled, generally as in the manner  
 described above, simply by affixing the hoop members  
 12 and 13 to the upper and lower edges of the side wall  
 or shade member 11, and then by affixing the spider 15  
 to the hoop member 12. It can therefore be seen that  
 the lamp shade 10 can be easily and quickly erected, by  
 the purchaser, particularly a housewife.

Referring now to FIG. 10, the manner in which a  
 number of upright braces 33 are used in conjunction  
 with the hoop members 12 and 13 to form a so-called  
 soft shade is illustrated. As can be seen, the hoop mem-  
 bers 12 and 13 are supported in spaced apart positions  
 by four or more upright braces 33 which can be metal  
 rods or the like having their ends disposed and retained  
 within the connector cavities 27 in the hoop members  
 12 and 13. The side wall or shade member 11, in this  
 case, is formed of a fabric in the shape of a loop extend-  
 ing completely about the peripheral surface of the  
 hoops 12 and 13, and peripherally about the hoop  
 members 12 and 13, as is conventionally done. The spi-  
 der 15 is attached to the upper hoop member, generally  
 in the manner described above, by inserting the ends of  
 its spider arms within the connector cavities 27. The  
 hoop members 12 and 13 therefore can be used to as-  
 semble both hardback and soft shades, if desired.

In FIG. 2, there is illustrated a wastebasket 40 which  
 is constructed using a pair of hoop members 12a and  
 13a, in combination with a side wall member 11a. In  
 this case, the side wall member 11a, as in the case of  
 the side wall member 11, can be formed of any suitable  
 flexible, semi-rigid materials. The hoop member 12a  
 also can be of a construction identical to the hoop  
 member 12. The hoop member 13, however, is pro-  
 vided with a central wall surface 41 which is integrally  
 formed therewith or otherwise affixed to the hoop  
 member 13a. This central wall surface 41 forms a bot-  
 tom for the side wall member 11a, when the hoop  
 member 13a is affixed thereto, to form a wastebasket  
 or the like. In this case also, it can be seen that the  
 hoop members 12a and 13a and the side wall member 11a  
 can be packaged for storage and/or shipment, in a  
 knock-down configuration, in the same fashion as the  
 lamp shade 10.

It will thus be seen that the objects set forth above,  
 among those made apparent from the preceding descri-  
 ption are efficiently attained and certain changes  
 may be made in the above product. Accordingly, it is  
 intended that all matter contained in the above descri-  
 ption or shown in the accompanying drawings shall be  
 interpreted as illustrative and not in a limiting sense.

Now that the invention has been described, what is  
 claimed as new and desired to be secured by Letters  
 Patent is:

1. A knock-down kit for forming a lamp shade com-  
 prising, in combination: a tubular shade member hav-  
 ing upper and lower edges; and a pair of substantially  
 rigid hoop members having at least an outer wall, a  
 concentric inner wall and a top section interconnecting  
 them to form a generally U-shaped channel for receiv-  
 ing therein respective ones of the upper and lower  
 edges of said shade member, and a plurality of spaced-  
 apart barb-like locking means provided on at least one  
 of said outer and inner walls and extending into said

channel; said hoop members being affixable to said  
 shade member by inserting the upper and lower edges  
 thereof into the U-shaped channel of the respective  
 ones of said hoop members, said U-shaped channel and  
 said barb-like locking means being proportioned such  
 that said barb-like locking means automatically lock-  
 ingly engage with said shade member to secure said  
 hoop member to said shade member.

2. The knock-down kit of claim 1, wherein said shade  
 member has a plurality of spaced-apart openings about  
 its periphery adjacent the upper and lower edges  
 thereof, said locking means being formed to lockingly  
 engage within said openings to secure said hoop mem-  
 bers to said shade member.

3. The knock-down kit of claim 2, wherein said plu-  
 rality of openings in said shade member comprise a plu-  
 rality of spaced-apart elongated slots extending about  
 the periphery of said shade member with the longitu-  
 dinal axis of said slots being generally parallel with the  
 upper and lower edges thereof.

4. The knock-down kit of claim 1, wherein each of  
 said hoop members comprises a third concentric wall  
 spaced inwardly of said inner wall and integrally affixed  
 to said inner wall by means of a plurality of spaced-  
 apart support flanges, said third concentric wall provid-  
 ing additional rigidity to said hoop members.

5. The knock-down kit of claim 1, further including  
 a spider member having a central head portion and a  
 plurality of projecting spider arms, at least one of said  
 hoop members having means on said inner wall thereof  
 for receiving therein the ends of said spider arms,  
 whereby said spider member can be affixed to said  
 hoop member to form a lamp shade.

6. The knock-down kit of claim 5, wherein said  
 means on said inner wall comprise a plurality of  
 spaced-apart cavities for receiving therein the ends of  
 said spider arms.

7. The knock-down kit of claim 4, further including  
 a spider member having a central head portion and a  
 plurality of projecting spider arms, at least one of said  
 hoop members having a plurality of cavities for receiv-  
 ing therein the ends of said spider arms formed be-  
 tween said inner wall and said third wall, whereby said  
 spider member can be affixed to said hoop member to  
 form a lamp shade.

8. The knock-down kit of claim 1, further including  
 a decorative trim strip affixed to said outer wall of at  
 least one of said hoop members.

9. A lamp shade comprising, in combination: a tubu-  
 lar shade member having upper and lower edges; and  
 a pair of substantially rigid hoop members having at  
 least an outer wall, a concentric inner wall and a top  
 section interconnecting them to form a generally U-  
 shaped channel for receiving therein respective ones of  
 the upper and lower edges of said shade member, and  
 a plurality of spaced-apart barb-like locking means pro-  
 vided on at least one of said outer and inner walls and  
 extending into said channel; said hoop members being  
 affixed to said side wall member with the upper and  
 lower edges inserted into the U-shaped channel of the  
 respective ones of said hoop members, said U-shaped  
 channel and said barb-like locking means being propor-  
 tioned such that said barb-like locking means automati-  
 cally lockingly engage with said shade member to se-  
 cure said hoop member to said shade member; and a  
 spider member having a central head portion and a plu-  
 rality of projecting spider arms, at least one of said

7

hoop members having means on said inner wall thereof for receiving therein the ends of said spider arms, whereby said spider member can be affixed to said hoop member to form said lamp shade.

10. The lamp shade of claim 9, wherein said shade member has a plurality of spaced-apart elongated slots extending about its periphery adjacent the upper and

8

lower edges thereof, the longitudinal axis of said slots being generally parallel with said upper and lower edges, said barb-like locking means lockingly engaging within said slots to secure said hoop members to said shade member.

\* \* \* \* \*

10

15

20

25

30

35

40

45

50

55

60

65