

April 15, 1952

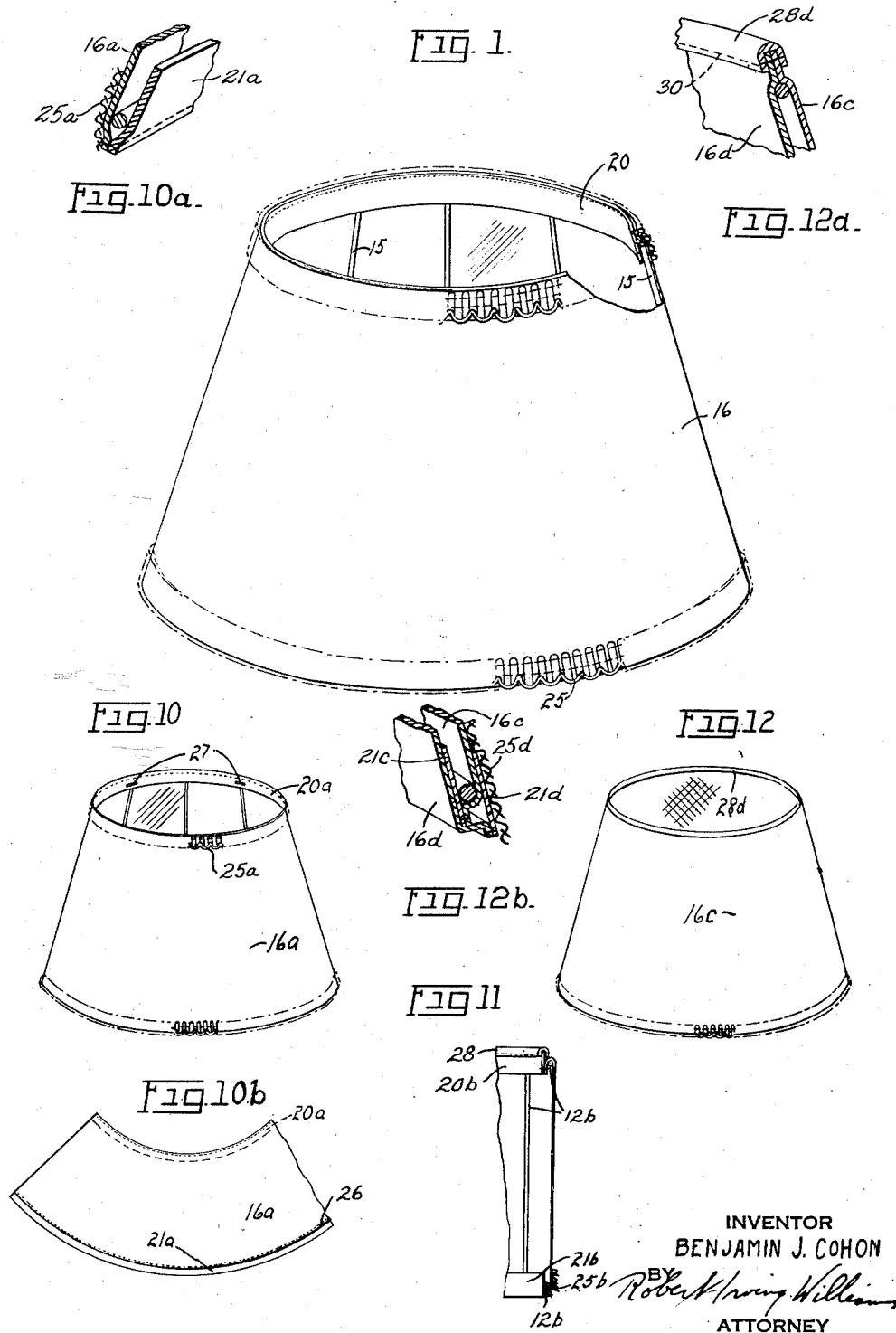
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2,593,272

LAMP SHADE HAVING SHADE MATERIAL SECURED TO
FRAME BY MEANS OF STIFF BUT FLEXIBLE STRIPS

Filed July 31, 1947

2 SHEETS—SHEET 1



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2 SHEETS—SHEET 2

FIG. 2.

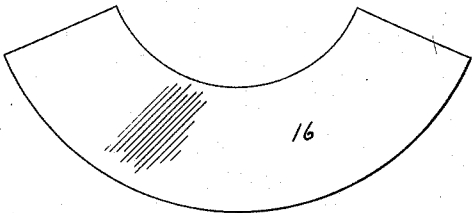


FIG. 5.

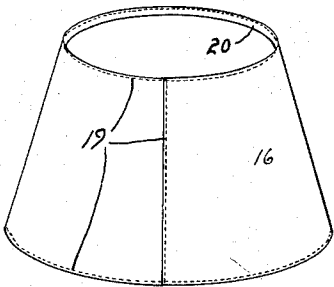


FIG. 3.

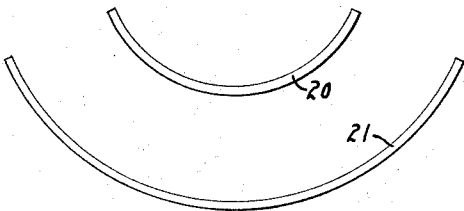


FIG. 6.

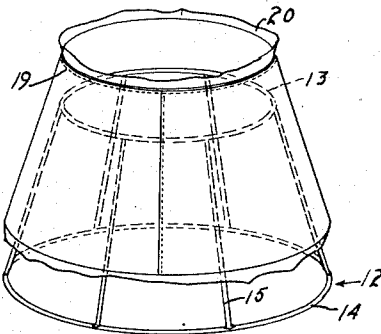


FIG. 4.

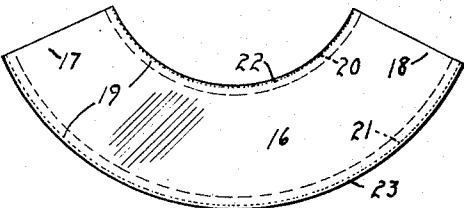


FIG. 8.

FIG. 9.

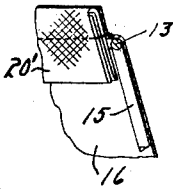
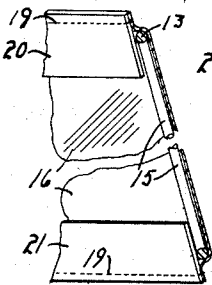
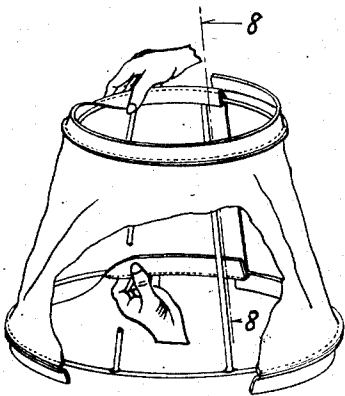


FIG. 7.



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LAMP SHADE HAVING SHADE MATERIAL
SECURED TO FRAME BY MEANS OF STIFF
BUT FLEXIBLE STRIPS

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Application July 31, 1947, Serial No. 764,942

8 Claims. (Cl. 240-108)

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This invention relates to lampshades and particularly to lampshades of the type wherein a cloth or other shade-body is stretched over a wire or other frame.

Various means for securing the shade-body on the frame have been used and proposed for use, but all of them have been subject to various drawbacks, the most important of which have been the necessity of many hand operations in the assembly of the shade and the use of a large amount of highly skilled labor in the production thereof. Other difficulties include difficulty in obtaining uniformity of stretch, difficulty in obtaining evenness of the disposition of the fabric, insecurity of mounting the shade-body, and the expense of required materials.

The present invention avoids the foregoing and other difficulties by the provision of a greatly improved type of securing means, which, while exceedingly simple in construction, mounts the shade-body firmly and effectively in place and can be provided and put in place with the utmost ease. In accordance with the invention securing means in the form of one or more strips of stiff but flexible material are provided at the edges of the shade-body, the strips and the shade-body being so formed and associated that the shade-body will lie against one side of the frame (more commonly the outside) and the strips will lie against the other side of the frame (more commonly the inside) and will hold the shade-body smoothly, tightly, and firmly on the frame. In various of its more specific aspects the invention contemplates the provision of one or more strips each having an arcuate or otherwise curved edge corresponding to the edge of one of the top or bottom openings of the shade, the cutting of such strips out of flat material with curved edges so that the strip when fitted inside the top or bottom opening in the shade will conform to the shape of and lie smoothly against the frame, the attachment of the strips to the shade-body in especially desirable ways and in one or more desirable positions, the duplication of shade-bodies in certain instances, and the use of certain types of materials and of certain arrangements of parts in the formation of the shade.

The strips when affixed to the outer edge of the upper and lower arcs of the shade form inverted cuffs which, because of the flexibility of the strips, may be turned backward and inward from the shade material which is in the shape of a sleeve. The stiff cuff material then forms a relatively rigid band which tends not to deviate

from its position because of its curve. It stretches the shade material to the desired shape thereof and at the same time covers both the top and bottom rings of the frame so that no other binding is necessary in order to complete the shade, the ornamentation of any of a variety of types may be provided when desired. The time and cost of production are greatly reduced.

The strips may be formed of a wide variety of types of material. Examples of these are "plasticized" papers (e. g. resin-impregnated paper), cellulose acetate and like heavy flexible resin films, parchmentized papers (e. g. heavy oiled paper), leather, leatherette, stiffened buckram, plasticized cloth, cardboard, starched cloth, heavy canvas, duck, thin flexible plywood, fiber board, and flexible "plasticized" fiber glass. The thickness of the strips may vary considerably, depending somewhat on the size of the shade. Leather and leatherette such as used in ordinary hat-band, may be employed, for instance. In the following list there are given point-thicknesses in which strips of desirable materials may be effectively used in three common shade sizes:

Shade Sizes (diameter of top and bottom openings in inches)	4½ x 8	8½ x 12	13 x 19
Shade Materials:			
Plasticized paper, plasticized cloth, plasticized fibreglass, fibre board, cellulose acetate films.....	5-15	7-15	10-20
Stiffened cloth (starched, etc.), buckram.....	8-20	10-22	12-30
Parchmentized paper, cardboard.....	7-15	10-16	12-40
Leather, leatherette, etc.....	18-40	20-45	32-55
Heavy "vinyl acetate" (a copolymer of polyvinyl acetate and polyvinyl chloride), polyethylene, and like films.....	12-20	15-35	18-40

In its preferred form, however, the invention contemplates the use of materials in thicknesses wherein the tendency to tear is effectively minimized, and which provides a firm, certain, holding-action. For such use the thicknesses in the following list are desirable:

Shade Sizes	4½ x 8	8½ x 12	13 x 19
Shade Materials:			
Plasticized paper, plasticized cloth, plasticized fibreglass, fibre board, cellulose acetate films.....	7-10	10-12	12-18
Stiffened cloth (starched, etc.), buckram.....	10-12	12-14	14-20
Parchmentized paper, cardboard.....	10-12	12-14	14-16
Leather, leatherette, etc.....	30-37	37-40	40-47
Heavy "vinyl acetate," polyethylene, and like films.....	15-18	18-20	25-30

The shade-body may be formed of a wide variety of materials ranging from ordinary cloth to stretchable solidified-plastic films such as vinyl acetate and other solidified plastic films on which have been laminated unidirectional fibers or threads of stretchable material such as rayon, nylon, or cotton, for example.

The invention accordingly comprises the features of construction, combinations of elements, and arrangement of parts, and the several steps and the relation and order of one or more of such steps with respect to each of the others thereof, all of which will be exemplified hereinafter and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a perspective view, partly broken away, of a lampshade embodying the invention; Fig. 2 is a reduced-scale view of the shade-body of Fig. 1 in blank form;

Fig. 3 is a view of the securing-strips of Fig. 1 in blank form;

Fig. 4 shows the shade-body and securing-strips in assembled relationship;

Fig. 5 shows, on a slightly larger scale, the assembly of Fig. 4 formed and fastened in frusto-conical shape;

Fig. 6 shows the assembly of Fig. 5 in the process of being nested over a frame;

Fig. 7 is a view of the assembly in the process of being secured on the frame;

Fig. 8 is a large-scale fragmentary sectional view along the line 8—8 of Fig. 7;

Fig. 9 is a fragmentary sectional view of a lampshade having securing-strips formed from somewhat different material;

Fig. 10 is a perspective view of a shade wherein the lower securing strip is differently-secured to the shade-body; Fig. 10a is a similar view showing a fragment of the shade of Fig. 10 on an enlarged scale.

Fig. 10b is a view similar to Fig. 4 showing a step in the formation of the shade of Fig. 10;

Fig. 11 is a fragmentary sectional view of a shade of modified shape and construction;

Fig. 12 is a perspective view of a shade having duplicated shade-bodies each held by a securing-strip only at its bottom end; Fig. 12a is a similar view showing a fragment of the shade of Fig. 12 on an enlarged scale; and

Fig. 12b is another similar view showing another fragment of the shade of Fig. 12 on an enlarged scale.

In the form of construction exemplified in Figs. 1-8 the lampshade comprises a frame 12 of frusto-conical shape composed of an upper annular wire 13 defining an opening which is four and one-half inches in diameter, a lower annular wire 14 defining an opening which is eight inches in diameter, and sloping connecting wires 15. While this type of frame is conventional and generally desirable for use, it will be understood that the invention is not limited to frusto-conical shades, to wire frames, or to open-work frames; but is adapted for application with and use on any of a wide variety of types of frames. The particular wire frame exemplified is composed of round 11-gage wires.

On the outside of the frame in the present instance is a shade-body 16 which, as will be seen

from Fig. 2, is a single piece of material. It is formed in the present instance of stretchable cloth in the form of a vinyl acetate film having unidirectional rayon fibers laminated thereon.

The lateral edge-portions 17 and 18 of the shade-body are united by stitching 19 or other adhering-means. As shown in Fig. 1 the shade-body is stretched over the frame so that its top and bottom portions respectively lie partly, or preferably wholly over the top and bottom wires. The material of which the shade-body is composed may have more or less stretchability depending on the requirements of a particular case, but, other things being equal, it is desirable that it be readily stretchable and be cut shorter than the distance over which it will extend when the securing strips are in place.

The shade-body is, in the present instance, mounted on the frame with a high degree of security, but at the same time with easy removability, by upper and lower strips 20 and 21, respectively, which, pursuant to the invention, are formed of stiff but flexible material such, for example, as plasticized paper, of a thickness of about nine points, or one of the other types of material indicated above. The upper and lower arcuate edge portions 22 and 23 of the shade-body 16 are secured respectively to the upper edge portion of the strip 20 and the lower edge portion of the strip 21 as by stitching 19 or other suitable means, so as to give a good adhesion without excessive spacing of the points of adhesion and at the same time to allow easy flexibility. The central portion and the remaining edge portion of each strip lies firmly and permanently inside the frame, and the fastened edge portions of the strips project just enough for the easy application of the stitching or other fastening means when applied. The strips may, of course, be extended further upwardly or downwardly for ornamental or other purposes but this is by no means essential. The strips 20 and 21 thus form turned-over cuffs at the ends of the sleeve provided by the shade-body 16.

If desired, ornamentation, as, for example, the lace-work strips 25, may be provided to cover the upper and/or lower stitching or for other suitable purposes.

In the formation of the shade of Fig. 1, pieces with arcuate top and bottom edges and with lateral edge portions defined by converging lines are cut as from cloth to provide the shade-body blank as in Fig. 2, and as from stiff flexible material to provide the strips shown in Fig. 3. The blank for the shade-body 16 is laid over the strips 20 and 21 as shown in Fig. 4; and the upper portion of the shade-body stitched to the upper portion of the upper strip 20, and the lower portion of the shade-body stitched to the lower portion of the lower strip 21. Either before, or preferably, after the strips are stitched on, the assembly is bent around so that the lateral edges 17 and 18 meet, and these are then fastened together as by the stitching 19 (Fig. 5). The strips 20 and 21 may be bent outwardly before, after, or during the nesting of the frame in the shade-body assembly. In the present instance this is done first, and the shaped assembly is then dropped over the frame 12 as shown in Fig. 6, whereupon the strips may be bent over behind the wires. Preferably the upper and lower strips are bent over together, as shown in Fig. 7, so that they will simultaneously dispose themselves in the permanent position where they

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hold the shade-body stretched over the frame, but other types of assembly actions may be employed where desirable. Even if the stiff material develops lateral tears at this stage, the tough qualities of the parchmented or plasticized papers, buckram, leatherette, or the like, will, if the tears are not unduly multiplied, enable them to hold their shape and position, so that the reduced holding action will still be sufficient to hold the shade-body stretched and in place. Substantial continuity of arcuate strip-
portions of substantial length is, however, important.

Fig. 8 shows the shade of Fig. 1 in cross section.

In Fig. 9 there is exemplified an arrangement wherein buckram strips are employed as at 20' instead of parchmented-paper strips. As will be seen the basic principles of the construction are substantially similar, as they are for other types of strips employed in accordance with the invention.

A very great degree of ease in applying the shade, and, for that matter, in removing and replacing it if necessary, is thus made possible; and at the same time there is provided a shade which is exceedingly strong, durable, and attractive. In addition, great economies may be effected by the employment of the constructions and procedures of the invention.

Various changes may be made in the construction just exemplified without departing from the invention. For example, it is not necessary that the securing means at both the top and bottom of the shade be in the form of strips, although this is desirable. Similarly, the strips may be fastened to the shade-body in various relationships other than that of Fig. 4. For example, and particularly when the strips are to be bent into large openings, the strips may be so fastened to the shade-body that they will be turned inside-out when bent over. A shade having a bottom strip so fastened is shown in Fig. 10, and the relationship of the strip to the shade-body is shown in Fig. 10a. In this exemplification there is provided a shade-body 16a to which an upper strip 20a is secured, like the strip 20, against the inside of the shade-body. Desirably, where the shade-body is formed of a film on which strands are laminated, the side formed of the fibres or threads is used as the inside of the shade-body and the side formed of the film is used as the outside of the shade-body. In the present instance, the lower strip 21a, instead of being secured against the inside of the shade-body, like the strip 21, is secured against the outside of the shade-body and extends beyond the same, as shown in Fig. 10b, and is fastened thereto, as by stitching, on a line 26. Ornamentation 25a is provided at the upper and lower edges as in the case of the shade of Fig. 1. In order to positively assure against accidental displacement of the strips 20a and 21a during shipment or use, staples 27 or other fastening means may be applied at spaced points to bind the strips and the shade-body to each other and/or to the frame after the shade has been fully mounted on the frame. The strip 21a provides a smoother finish than the strips 23, 24, and 25a, but the strip 21a tends to fit less readily inside the frame. Though differently secured, the strips 21 and 21a both form effective cuffs on the sleeve 16 and 16a respectively.

A cuff such as provided by the strip 21a may be employed both at the top and bottom of the

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frame. In Fig. 11 there is shown a vertical-sided frame 12b, which may be a twelve-inch frame. The top and the bottom strips 20b and 21b are both fastened on the outside of the shade-body in a manner similar to the way the strip 21a is fastened. As will be seen, the exemplified strips are secured "in series" with the shade-body (to use an electrical analogy), it being desirable in most instances that the strips overlie the shade-body to a substantial extent when first secured thereto. However, in accordance with the invention in its broader aspects, the strips may be initially secured in other relationships to the shade-body, and still give effective results in many instances. In the present instance ornamentation 25b is provided at the lower edge of the shade, but the upper edge is merely covered by binding 28.

Many other modifications are possible. It is sometimes desirable that a fabric securing means, as for example a second shade-body, serve as one of the securing means; the particular one depending on the needs of a particular case. In Fig. 12 there is shown arrangement whereby a fabric extension serves as the upper securing means. In the present instance this fabric extension is continued downwardly inside the frame and is itself secured by a stiff flexible strip at the bottom, giving in effect two shade-bodies, one outside the frame and secured at its bottom by a stiff flexible strip which is bent over against the inside of the frame, and the other inside the frame and secured at its bottom by another stiff flexible strip which is bent over to lie outside the outer shade-body. Each of the shade-bodies is secured at top by being adhered to the other shade-body. In Fig. 12 the outer shade-body 16c is similar to the shade-body 16 and is similarly mounted at its lower end by a stiff flexible strip 21c. The inner shade-body 16d may be formed of the same material as the outer shade-body but in the present instance is formed of woven cotton cloth. It is secured at its lower end by a stiff flexible strip 21d which is secured like the strip 21, and may be bent over the outside of the outer shade-body after the latter has been put in place. The two shade-bodies are united at their upper ends as by stitching 30, and, thus, each serves as the upper securing means for the other. Ornamentation 25d is provided over the strip 21d, and binding 28d is provided on the line where the fabric which forms the shade-bodies is bent over the upper wire of the frame.

Since certain changes may be made in the constructions set forth and in carrying out the above method, and different embodiments of the invention may be provided without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A lampshade comprising a frame, shade material lying taut against one side of said frame, means to secure said material on the lower edge of said frame, and means to secure said material on the upper edge of said frame, said securing means cooperating to hold the material taut, and at least one of said securing means comprising a stiff but flexible strip having an edge portion secured to an edge portion of the shade material and extending substantially continuously and uninterruptedly along the other side of said frame substantially parallel to the shade material, the

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other edge portion of the strip being free and unsecured.

2. A lampshade comprising a frame having a generally frusto-conical contour, shade material lying against said frame, means to secure said material at the lower edge of said frame, and means to secure said material at the upper edge of said frame, at least one of said securing means comprising a strip of stiff flexible material lying smoothly within the frame near one of said edges, with the strip lying substantially entirely flat on one side of the frame parallel to the shade material and conforming generally to frustum of a cone, said strip being secured to said material at one edge portion of said strip and the remainder of said strip being substantially free and unsecured.

3. A lampshade comprising a frame, a shade-body formed of tightly stretched stretchable material and disposed on one side of said frame, means to stretch said shade-body over the lower edge of said frame and secure it in place, and means to stretch said shade-body over the upper edge of said frame and secure it in place, at least one of said securing means comprising a relatively-stiff flexible strip lying substantially parallel to the shade-body on the other side of said frame adjacent the shade-body and having an edge portion of said shade-body secured to an edge portion thereof so that the shade-body will be stretched over the edge of the frame and secured firmly thereon, the other edge of the strip being so shaped that its major edges will be arcuate if the strip is laid flat and being free and unsecured.

4. A lampshade comprising a frame, shade material taut on said frame, and means to secure said material on said frame and comprising a pair of stiff but flexible strips each extending substantially continuously and uninterruptedly along an edge-portion of said frame substantially parallel to the shade material on the opposite side from said shade material and holding the shade material tight on the frame, each strip having an edge portion secured to said material and another edge portion free and unsecured.

5. A lamp shade as set forth in claim 1 wherein the frame comprises wires surrounding upper and lower frame openings, wherein the upper and lower securing means are provided by stiff but flexible strips removably disposed inside respec-

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tive ones of said wires, and wherein the said material is in the form of a sleeve disposed substantially outside said wires.

6. A lamp shade as set forth in claim 1 wherein each of said securing means comprises a stiff but flexible strip having an edge portion secured to an edge portion of the shade material and extending substantially continuously and uninterruptedly along the other side of said frame substantially parallel to the shade material, the other edge portion of each of said strips being free and unsecured.

7. A lamp shade as set forth in claim 1 wherein said strip constitutes one of said securing means and the other of said securing means comprises the shade material itself.

8. An article of manufacture adapted for application to a lamp shade frame comprising shade material adapted to lie taut against one side of the frame, means to secure said material on the upper edge of the frame, means to secure said material against the lower edge of said frame, said securing means being adapted to cooperate to hold the material taut, and at least one of said securing means comprising a stiff but flexible strip having an edge portion secured to an edge portion of said shade material and adapted to extend substantially continuously and uninterruptedly along the other side of the frame substantially parallel to the shade material, the strip having sufficient stiffness to maintain itself in position without additional securing means.

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