May 14, 1957 P. RAND 2,792,491

COLLAPSIBLE LAMPS

Filed Feb. 24, 1955

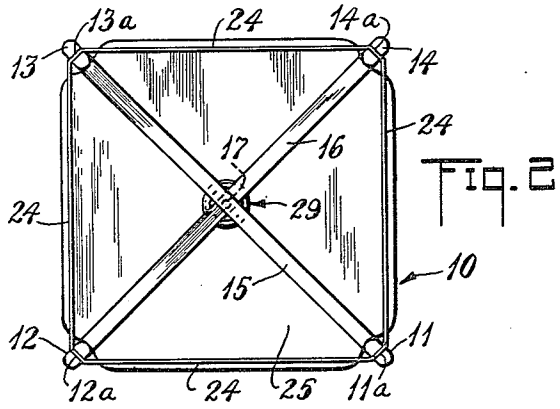


Fig. 2

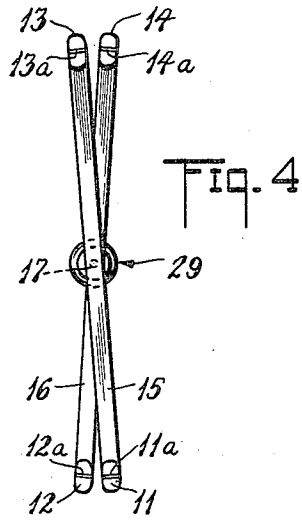


Fig. 4

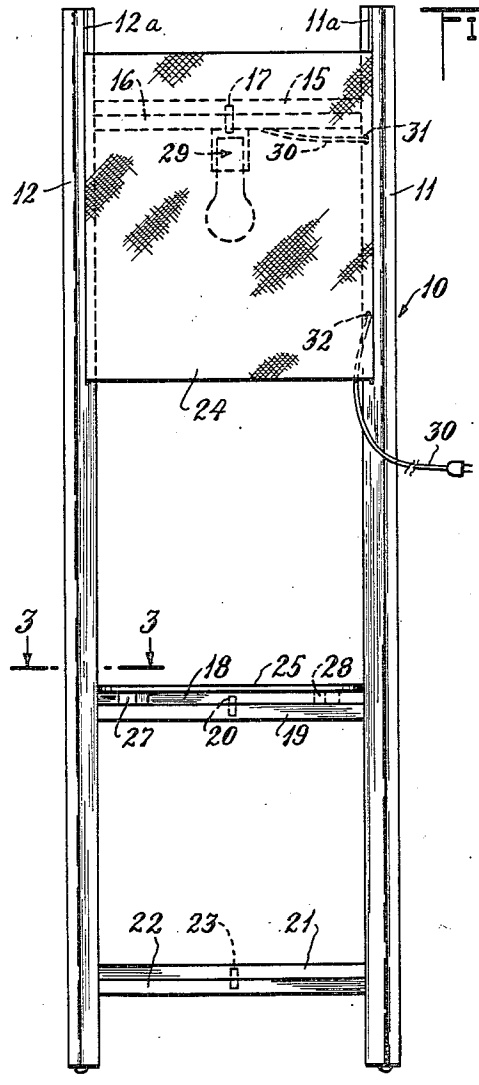


Fig. 1

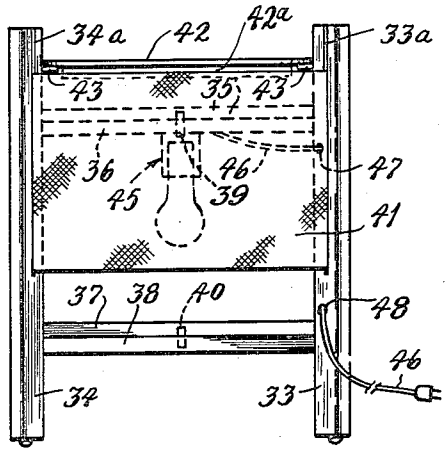


Fig. 5

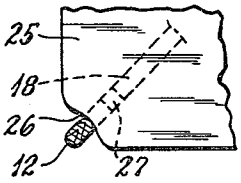


Fig. 3

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United States Patent Office 2,792,491 Patented May 14, 1957

2,792,491

COLLAPSIBLE LAMPS

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Application February 24, 1955, Serial No. 490,207

3 Claims. (Cl. 240—4)

This invention relates to lamps and more particularly to free standing lamps which are collapsible for purposes of shipping and storage and in which the shade assembly is fully integrated in the supporting frame.

Packaging, shipping, and storing contribute heavily to the cost of lamps, particularly free standing floor lamps. Also costly and in many cases troublesome to the consumer are the lamp shades, which are essential to the control of the light source as well as to the appearance of the lamp. Conventional shade designs are inherently expensive, are often difficult to work into the decorating scheme of a room, and are relatively perishable.

One object of the present invention, therefore, is to provide a novel design for a free standing lamp which enables the framework of the lamp to be flattened for purposes of storage and shipment.

Another object of the invention is to provide a standing lamp construction in which the shade assembly is fully integrated in basic framework of the lamp.

Still another object of the invention is to provide a standing lamp, the shade of which can be readily removed or replaced by the consumer with another shade which the consumer can himself make with minimum difficulty and which can, therefore, be easily harmonized with any interior decorating scheme.

In accordance with the present invention there is provided a standing lamp framework comprising a plurality of uprights bridged by cross braces radiating outwardly from a central axis about which the uprights may be swung from their normal supporting attitude toward a common plane to present a flattened unit for storage or shipment. The upper ends of the uprights can be formed with suitable means such for example as longitudinal slots into which a shade in the form of an endless band of fabric or other flexible sheet material can be fitted, with the spacing of the uprights drawing the sheet material into a taut polygon circumscribing the central axis of the lamp. An upper set of cross braces can carry along the axis of the lamp, a socket for receiving a bulb and on a lower set at a convenient height from the floor there can be mounted a removable shelf. If desired, the shelf can be notched at its corners to receive and thereby hold the uprights in their open position.

If desired, the lengths of the uprights can be arranged at table height so that a glass or other sheet-like top can be supported thereby to form a combination table and light source for more or less indirectly illuminating a room and creating a decorative effect.

Representative embodiments of the invention from which the above and other features and objects thereof will be readily apparent are described in detail below having reference to the accompanying drawings in which:

Figure 1 is a view in side elevation of a standing, floor-type lamp formed in accordance with the present invention;

Figure 2 is a top view of the lamp of Figure 1;

Figure 3 is a fragmentary view of a portion of the lamp

of Figures 1 and 2 taken on the lines 3—3 of Figure 1 looking in the direction of the arrows;

Figure 4 is a top view of the lamp corresponding to Figure 2 but showing the lamp in its collapsed or folded position; and

Figure 5 is a view in side elevation showing a modification of the lamp structure of Figure 1 in which a combination table and lamp is provided.

Referring to Figures 1 and 2, the invention is illustrated as embodied in a lamp **10** which is in the nature of a free standing floor lamp comprised of four uprights or legs **11, 12, 13** and **14**. The basic frame is completed by several sets of axially spaced cross braces joined to the legs. The cross braces can take the form of a first and upper set of articulated diagonal braces **15** and **16** pivotally connected at their crossover point, which is on the vertical central axis of the lamp, by a pin or dowel **17**, the brace **15** being joined to the diagonally opposed legs **11** and **13**, as by end nailing, doweling or the like, and the brace **16** similarly joined to the legs **12** and **14**, all as best seen in Figure 2. A second set of diagonal braces **18** and **19**, pivotally connected at their crossover point by a pin **20**, join diagonally opposed legs **11, 13** and **12, 14**, respectively, intermediate their ends, and a third set **21** and **22**, pivotally connected at their crossover point by a pin **23**, join the legs similarly near the floor.

The legs **11, 12, 13** and **14** are formed at their upper ends with longitudinal slots **11***a*, **12***a*, **13***a*, and **14***a*, respectively, the slots preferably being at right angles to the adjacent or corresponding diagnoal braces of the frame. Fitted in the slots **11***a*, **12***a*, **13***a* and **14***a* is a shade **24** which can take the form of an endless flexible band formed, for example, of fabric or other suitable material. The shade **24** is mounted on the frame simply by slipping it into the slots of the legs from which it can be readily removed for purposes of cleaning or replacement. Also, the shade being itself of simple, frameless construction, interchangeable shades can be readily fashioned by the owner.

The intermediate cross braces **18** and **19** support a shelf **25** which, as best seen in Figure 3, is formed at its four corners with shallow rounded notches **26** to receive the legs, the edges of which are preferably slightly rounded. So that the shelf **25** might rest squarely on the superimposed braces **18** and **19**, spacer blocks **27** and **28** can be affixed either to the lowermost brace **19** or to the underside of the shelf **25** adjacent the slotted corners. It will be seen that when the shelf **25** is dropped into position with the four legs entering the four corresponding corner slots the frame is fully stabilized against collapsing. Alternatively, one or several sets of cross braces can be releasably clamped at their pivot points or the shade can be clamped in its slots by pinching, with screw means for example, the slotted upper ends of the several legs together, all to hold the frame in position.

Referring now to Figure 4, with the shelf **25** removed and preferably with the flexible shade **24** removed, the frame can be folded about the pivot pins **17, 20** and **23** into a relatively flat unit for shipping or storing. In this connection, each of the pivot pins is preferably secured as by gluing to one of the cross braces, entering the complementary brace in a sliding and freely turning fit.

The lamp is completed by means of a suitable light socket assembly **29** supported by the brace **16** at its pivot point. The socket assembly **29** preferably consists of a decorative exterior cup of wood, for example, housing an inner porcelain socket. The dowel or pin **17** can be used to mount the socket assembly **29** by passing loosely through the lower brace **16** to be secured as by gluing to the brace **15** above and to the socket assembly below. This arrangement also serves to hold the entire frame

against axial separation. The electric cord 30 is brought out along one brace and then down the corresponding leg, such as the leg 11, which can be formed with holes 31 and 32 through which the cord can be laced. A suitable switch control, such as a pull chain, finger switch or the like can be provided at the socket assembly 29, or alternatively a switch can be provided on the cord at a point beneath the shade 24 or it can be mounted on a leg.

If desired, the general frame structure of Figures 1–4 can be adapted as best seen in Figure 5 to form a combination lamp and table. To this end legs 33 and 34, the only two of the total of four which are visible in Figure 5, are shortened to table length and two sets of diagonal braces 35, 36 and 37, 38 pivotally connected at their crossover points by pins 39 and 40, respectively, are provided near the top and the bottom to complete the basic frame. As in the foregoing arrangement, the legs are slotted, as represented by longitudinal slots 33*a* and 34*a*, to receive a flexible, endless band type shade 41 needing no individual framework. A rigid sheet-like table top 42 of wood, translucent plastic, pressed board, or the like, can be mounted above the upper set of braces 35, 36 on the level, for example, of the top edge of the shade 41 as by dowel supports 43 projecting inwardly from each of the four legs. The shape of the top 42 can be similar to that of the shelf 25 of Figures 1 and 3. Altternatively, the top ends of the legs can be utilized to support an enlarged top (not shown) overhanging the legs.

The upper set of diagonal braces 35 and 36 of the frame carry an electric light socket assembly 45, similar to the socket assembly 29 of Figure 1, and the cord 46 of which is preferably brought out along one of the braces and laced through holes 47 and 48 (in the leg 34). A suitable switch control can be provided as a convenient location such as on one of the legs or on the free cord.

Under normal circumstances the top 42 which is removable for storage, shipment, cleaning and the like, will serve to stabilize the frame against inadvertent folding although if desired other suitable anchoring means can be provided similar to those described above having reference to Figure 1.

In order to block a possible line of sight view of the bare bulb between the upper edge of shade 41 and the top 42 in the lamp of Figure 5, a depending flange or strip 42*a* can be affixed to the underside of top 42 inside the perimeter of shade and extending downwardly well below the upper edge of the shade. In the lamp of Figure 1, in the event it is desired to block a possible direct view of the bare bulb through the top, a diffuser member (not shown) which can take the form, for example, of a perforated or semi-transparent plate, can be supported by the upper cross braces 15 and 16.

It will be understood that the lamp arrangement of all figures can be opened partially to create a generally elongated rectangular rather than perfectly square shape. In such cases, the shade 41 should be slightly shorter in its total length if it is to be pulled taut. In general, it is possible to release the tension on the shades, whether the ultimate configuration be square or elongated by partly folding the frame parts together.

It will be understood that the shades, being readily removable, represent a useful device for carrying advertising or other legends for purposes of illuminated display. The lamp-table of Figure 5 is particularly adapted for display purposes by utilizing the single light source both to illuminate from below a merchandise display supported on the table and to illuminate explanatory words on the shade.

It will be understood, moreover, that certain details

of the lamps can be varied within the scope of the invention. The lamps can be formed, for example, of any one of several basic materials, such as, wood, metal or plastic and, if desired, horizontal or radial braces can be formed integrally with the legs. Furthermore, the dimensions of the lamp of Figure 5 can be reduced to form a lamp to rest on a table. The invention should not, therefore, be regarded as limited except as defined by the following claims.

I claim:

1. A collapsible, free standing lamp comprising a frame including a plurality of vertical legs normally arrayed about the central axis of the lamp, brace means radiating outwardly from the central axis to engage the legs, said brace means including a plurality of vertically spaced sets of cross-braces, each set including one brace crossing at least one other brace on the axis of the lamp, pivot pin means on the center axis to mount the brace means and legs for relative swinging movement about said axis, said pivot pin means joining crossed braces, whereby the frame can be folded into a flattened shape, electric light socket means carried by the frame, said electric light socket means being carried beneath one set of cross-braces, said pivot pin means for the latter set of braces also supporting the socket assembly, the pivot pin means being affixed to both the uppermost brace and to the socket assembly beneath, but passing freely through the intermediate braces, whereby the collapsible frame is secured against axial separation, means to hold the frame in its open position, complementary shade mounting means on said vertical legs surrounding said electric light socket means and spaced laterally therefrom, and a shade comprising a flexible band joined to said legs by said mounting means.

2. A lamp as set forth in claim 1 wherein the means to hold the frame in its open position comprises a shelf carried by one of said sets of cross-braces, said shelf being formed with notches at its edges to receive said legs, whereby the shelf serves to hold the lamp frame in its assembled operating position.

3. A collapsible, free-standing lamp comprising a plurality of at least four uprights normally arrayed about the central axis of the lamp, a plurality of vertically spaced sets of cross-braces joining the uprights, each set comprising a pair of diagonal braces each joining a different pair of diagonally opposed uprights, said braces intersecting at a cross-over point on the lamp axis, and a vertical axis pivotal connection joining the braces at said point, whereby the frame can be folded into a flattened shape, electric lamp socket means carried by at least one set of cross-braces, each of said uprights being formed at its upper end with an elongated vertical slot extending above and below said socket, a shade in the form of an endless band of flexible material received in the slots and stretched taut between the uprights when the lamp frame is opened, said uprights being of substantially table height, a rigid sheet-like table surface supported by the uprights above the lamp socket means, and a depending flange on the underside of the table surface circumscribing the area of the lamp's socket and extending downwardly below the upper edge of the shade, thereby to block a direct line of sight view to the socket between the table surface and the shade.

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