July 9, 1957 K. EMMONS 2,798,596

PAPER SLEEVE LAMP WRAPPER

Filed April 15, 1953 2 Sheets-Sheet 1

Fig. 1

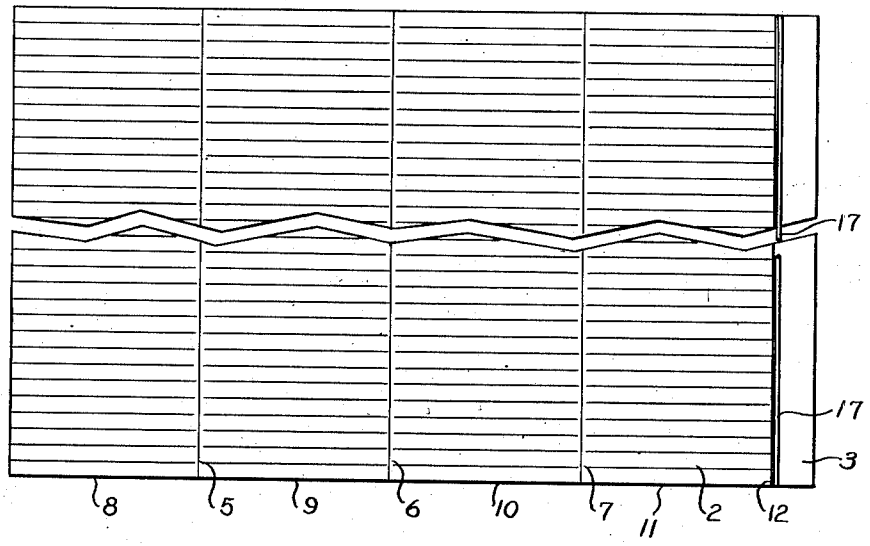

Fig. 2

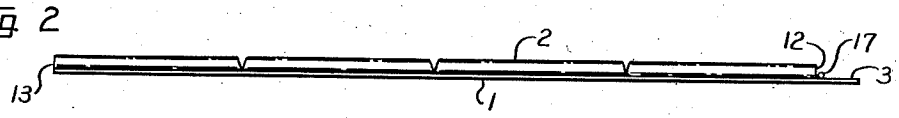

Fig. 3

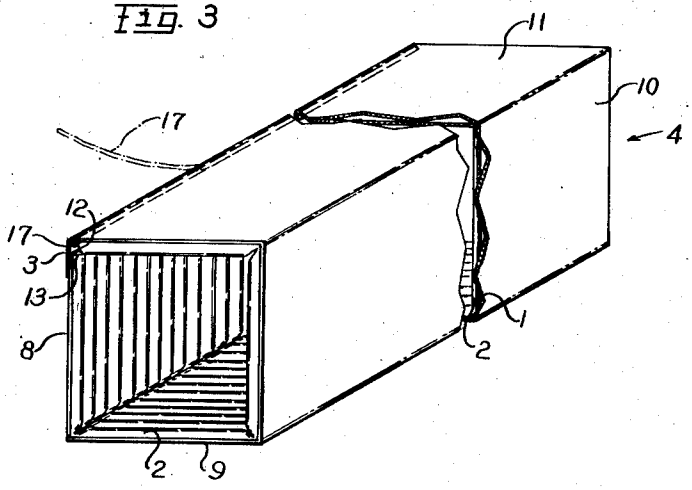

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Fig. 5

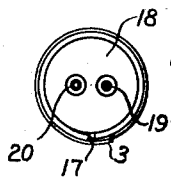


Fig. 4

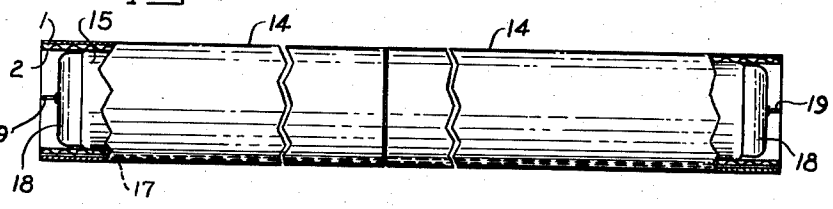


Fig. 6

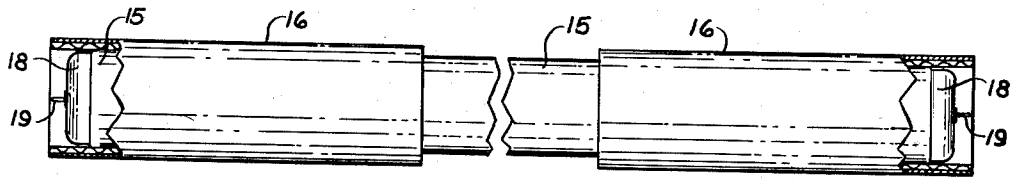
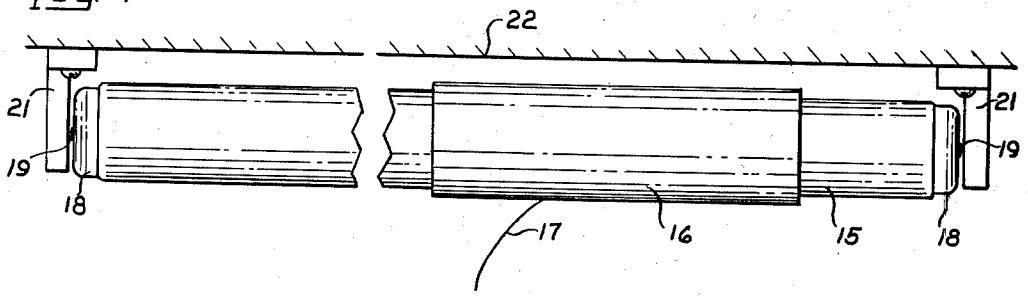


Fig. 7



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2,798,596

PAPER SLEEVE LAMP WRAPPER

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Application April 15, 1953, Serial No. 349,029

3 Claims. (Cl. 206—46)

The present invention relates to paper wrappers for fragile articles, such as elongated double-ended tubular lamps having a glass envelope.

The principal object of the invention is to provide a protective paper wrapper in the form of an elongated sleeve for jacketing the lamp and which may be removed from the lamp without relative longitudinal movement between the lamp and the wrapper. Another object of the invention is to provide an inexpensive wrapper of this kind capable of manufacture on automatic mass production wrapper making machines. A further object of the invention is to provide a combination of a double-ended tubular lamp having a base at each end thereof and a protective paper wrapper around the lamp in which the lamp is mountable in a pair of spaced lamp holders with the wrapper thereon and the wrapper is removable from the lamp while the latter is so mounted. A still further object of the invention is to provide a method of mounting such a lamp in lamp holders without handling the lamp directly. Further objects and advantages of the invention will appear from the following detailed description of species thereof and from the appended claims.

Heretofore, in mounting double-ended tubular lamps, such as the present commercial fluorescent electric discharge lamps, in the usual spaced lamp holders or sockets provided for supporting such lamps, it has been necessary to remove the protective paper sleeve wrapper or wrappers in which the lamps are customarily shipped before the bases at the ends of the lamps are engaged with the lamp holders. This has necessitated direct handling of the light-transmitting glass envelope of the lamp while removing the wrapper and mounting the lamp, because removal of the wrapper from the lamp has been accomplished heretofore by slipping the lamp lengthwise out of the jacketing wrapper. This has frequently resulted, particularly in machine shops or the like, in soiling the light-transmitting glass envelope by grease or other light-absorbing materials from the hands of the person handling the lamp.

In accordance with the present invention this disadvantage is avoided by providing a protective paper wrapper with an integral means, such as a rip cord, for splitting the wrapper lengthwise to make possible its removal from a mounted lamp without relative longitudinal movement between the lamp and the wrapper. Thus, in accordance with my invention, the lamp wrapper and the wrapped lamp are so adapted and arranged that the lamp is mountable in its sockets with the wrapper thereon for protecting the glass envelope of the lamp from soiling by the hands of the manipulator, and the wrapper is readily removable from the mounted lamp without need for touching the glass envelope and without the need of special tools.

In the drawings accompanying and forming a part of this specification species of lamp wrappers embodying my invention are shown in which:

Fig. 1 is a top plan view of a blank suitable for forming a wrapper and embodying the invention;

Fig. 2 is an end elevational view of the blank shown in Fig. 1;

Fig. 3 is a perspective view of a wrapper, rectangular in cross section, formed from the blank shown in Figs. 1 and 2;

Fig. 4 is a side elevational view of a pair of wrappers each embodying the invention and shown with their outer end portions broken away to show both ends of a tubular fluorescent lamp within the wrappers;

Fig. 5 is an end view of a wrapper and of the lamp shown in Fig. 4;

Fig. 6 is a view similar to that of Fig. 4 and showing the wrappers of Figs. 4 and 5 made shorter in length to enclose the end portion only of the lamp; and

Fig. 7 is a side elevational view of a fluorescent lamp mounted in a pair of conventional lamp holders or sockets and a wrapper provided with a rip cord.

Like numbers denote like parts in the figures.

Referring to Figs. 1 and 2 of the drawings, the blank illustrated consists of the usual elongated rectangular sheet **1** of smooth surface paper having the corrugated lining paper sheet **2** pasted on and covering completely one of its faces except for a longitudinally extending strip **3** at one side which forms the pasting flap for holding together the wrapper formed from the blank, such as the wrapper **4** of Fig. 3.

In Fig. 1 of the drawings the blank is shown as broken transversely to indicate that it is of greater length than shown in this figure. The sleeve wrapper **4** is also shown broken transversely in Fig. 3 for the same purpose.

A conventional length of such wrappers is approximately 24 inches and a conventional width of the completed wrapper is 1½ inches on each side. Thus the wrapper is adapted for use on a tubular lamp having a diameter of 1½ inches and a length of approximately 24 inches, or two of such wrappers may be used on a lamp of the same diameter and having a length of approximately 48 inches, and this is the present practice in packing commercial fluorescent lamps.

In making the wrapper **4** of Fig. 3 from the blank of Figs. 1 and 2, the lining paper sheet **2** is scored longitudinally of the blank along three spaced parallel fold lines **5**, **6** and **7** and across the corrugations of the sheet **2**. This facilitates folding of the blank at the scores to form the four panels **8**, **9**, **10** and **11** of the sleeve wrapper **4** which is rectangular in cross section. The corrugated lining paper sheet **2** is inside the wrapper **4** and the corrugations thereof extend transversely to the length of the wrapper **4**. The longitudinal edges **12** and **13** of the corrugated sheet **2** are juxtaposed when the flap **3** is pasted to the panel **8**, as shown in Fig. 3, to hold the wrapper **4** together.

In making each of the cylindrical wrappers **14** shown in Fig. 4 a blank similar to that shown in Figs. 1 and 2 is used. For wrapping lamps of the same diameter the blank for making a wrapper **14** need not be as wide as the blank for making a wrapper **4**, however, because of the cylindrical shape of wrapper **14** as compared with the rectangular shape of wrapper **4**. Also this blank may be left unscored because it is not necessary to have sharp angle folds therein when forming it to cylindrical shape.

Each of the cylindrical wrappers **14** of Fig. 4 is conveniently formed by wrapping its blank tightly around the lamp **15**, thus using the lamp as a mandrel. The flap **3** may then be pasted to the outside surface of the smooth paper sheet **1** to hold the wrapper **14** together around the lamp. Of course, the cylindrical wrapper **14** may be formed from the blank before the lamp is inserted

therein, when desired, by wrapping the blank around a removable mandrel and pasting the flap **3** as above to hold the wrapper **14** together.

Whether the wrapper **14** is formed on the lamp **15** or on a removable mandrel, the longitudinal edges **12** and **13** of the lining paper **2** are juxtaposed, as shown in Fig. 5, when the wrapper is completed.

The wrapper **14** shown in Figs. 4 and 5 cover the entire length of the lamp, which may be a 40-watt fluorescent lamp, 48 inches long and 1½ inches in diameter. By using two wrappers each 24 inches in length the disadvantages in handling a single long wrapper are avoided.

The wrappers **16** shown in Fig. 6 of the drawings are of the same structure but are each shorter than the wrappers **14** shown in Figs. 4 and 5. The combined length of the wrappers **16** is considerably less than the length of the lamp **15** on which they are used. Each wrapper **16** covers an end portion only of the lamp **15** and is made approximately 16 inches in length when used on a lamp 48 inches long. A saving in packing material as well as the added convenience in handling shorter wrappers thus is obtained without sacrifice in protection for the lamp **15** during shipment.

In accordance with my invention the wrappers of Figs. 3, 4, 5 and 6 are provided with an integral rip cord **17** by which the wrappers may be split lengthwise for removal from the wrapped lamp without slipping the wrapper over the end of the lamp.

As shown in Figs. 1 and 2, the rip cord **17** is positioned on the pasting flap **3** and extends alongside the longitudinal edge **12** of the corrugated sheet **2**. Preferably the rip cord **17** is applied to the flap **3** at the same time the adhesive, which is usually glue, is applied thereto. The rip cord **17** is held firmly on the flap by the adhesive which also holds the wrappers **4**, **14** and **16** together around the lamp **15** after these have been shaped as described above.

In the completed wrapper the rip cord **17** extends along the seam between juxtaposed longitudinal edges **12** and **13** of the corrugated paper sheet **2** as shown in Figs. 3 and 5.

The rip cords **17** so positioned with respect to the other parts of the wrappers illustrated are adapted to split the wrappers with the minimum of force exerted by the manipulator because when either end of the cord **17** is gripped by the fingers and pulled away from the wrapper in a direction generally transverse to the longitudinal axis of the wrapper, the cord need rip through only the comparatively thin wall of the paper flap **3**.

In mounting the lamp **15** jacketed by the wrappers **4**, **14** or **16** between the usual spaced lamp holders or sockets **21** (Fig. 7) bolted to a support **22**, which may be part of a lighting fixture, I prefer to first remove one of the two wrappers, such as a wrapper **16**, from the lamp in the usual manner, that is, by slipping the wrapper over an end of the lamp and then move the other wrapper inward of the lamp. In this manner the bases **18** with their projecting pins **19** and **20** at the ends of the lamp **15** are exposed outside the wrapper remaining on the lamp as shown in Fig. 7.

The lamp may then be mounted in the lamp holders **21** without touching its light transmitting glass envelope by grasping the remaining wrapper instead of the lamp envelope while lifting and then turning the lamp to firmly engage the contact pins **19** and **20** with the contacts of the lamp holders **21**. Lamp holders of the type shown in Fig. 7 of the drawings are disclosed and claimed in the Marshaus Reissue Patent 21,545 of August 27, 1940, assigned to the assignee of this application.

This is particularly advantageous for avoiding soiling a new lamp when replacing an old lamp by a new lamp in a machine shop or the like where, under ordinary circumstances, it is difficult to keep the hands free from grease and dirt.

After the lamp **15** has been properly mounted in the lamp holders **21** in the manner described above, the remaining wrapper **16** is removed from the lamp by first pulling the rip cord **17** transversely outward of the wrapper to rip the flap **3** and split the wrapper. The split wrapper is then removed from the mounted lamp by grasping one of its longitudinal sides and then pulling the wrapper transversely from around the lamp.

Of course, when the short wrappers **16** are used both wrappers may be moved inward of the lamp **15** and grasped by hand when mounting the lamp. Removal of both wrappers may be then accomplished by using their rip cords.

From the foregoing it is believed to be apparent that I have provided a paper wrapper of simple structure lending itself to manufacture by automatic wrapper making machines presently used for making conventional wrappers and without requiring extensive modification of such machines and providing advantages not possessed by prior lamp wrappers.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination, an elongated tubular lamp having bases at its ends for engaging lamp holders and elongated protecting paper wrappers around said lamp, the combined length of said wrappers being substantially equal to the over-all length of the lamp, at least one of said wrappers being provided with a longitudinally extending rip cord for splitting said wrapper lengthwise whereby said protecting wrapper provided with said rip cord may be retained on said lamp while mounting said lamp in lamp holders to avoid soiling the lamp and thereafter removed from the mounted lamp without disengaging the lamp bases from the lamp holders.

2. In combination, an elongated double ended tubular lamp having bases at its ends for engaging lamp holders and a pair of elongated protecting paper wrappers around said lamp and extending inwardly from the ends of the lamp, the combined length of said wrappers being less than the length of the lamp whereby the lamp bases may be exposed for engagement with said lamp holders by moving the wrappers inwardly of the lamp, each of said wrappers being provided with a rip cord extending longitudinally from end to end thereof for splitting said wrapper lengthwise whereby said protecting wrappers may be retained on said lamp while mounting said lamp in lamp holders to avoid soiling said lamp and thereafter removed from the mounted lamp without disengaging the lamp bases from the lamp holders.

3. In combination, an elongated double-ended tubular lamp having bases at its ends for engaging lampholders and at least two elongated protecting paper wrappers around said lamp normally positioned with an end of each wrapper extending over the bases, at least one of said wrappers being provided with a longitudinally extending rip cord for splitting it lengthwise whereby said one wrapper may be displaced on said lamp to a position intermediate its ends and grasped manually while mounting said lamp in lampholders to avoid soiling the lamp and thereafter removed from the mounted lamp without disengaging the lamp bases from the lampholders.

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