June 9, 1953 E. J. MARTENS 2,641,315

DRAPERY PLEATER

Filed Dec. 6, 1948 4 Sheets-Sheet 1

FIG. 1.

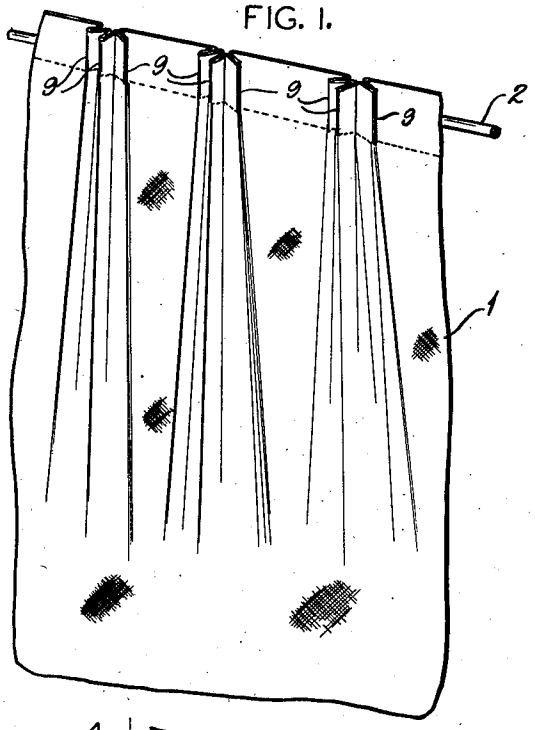


FIG. 7.

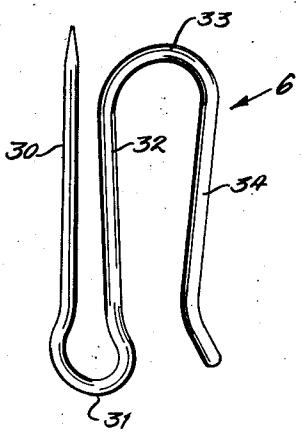


FIG. 3.

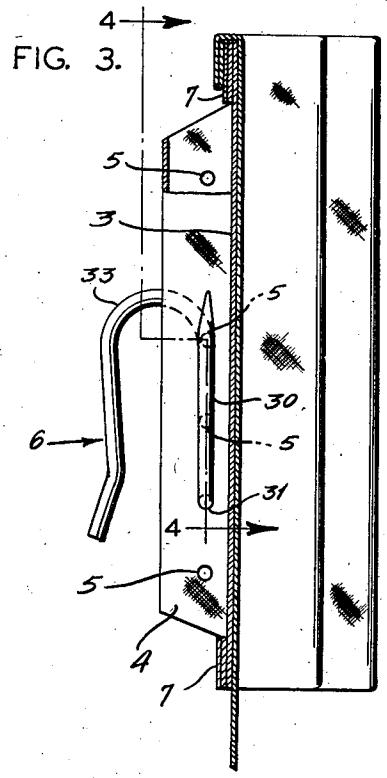
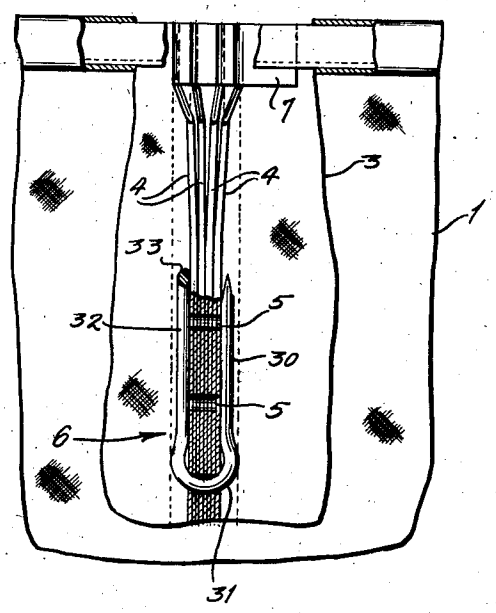


FIG. 4.



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June 9, 1953 E. J. MARTENS 2,641,315

DRAPERY PLEATER

Filed Dec. 6, 1948 4 Sheets-Sheet 2

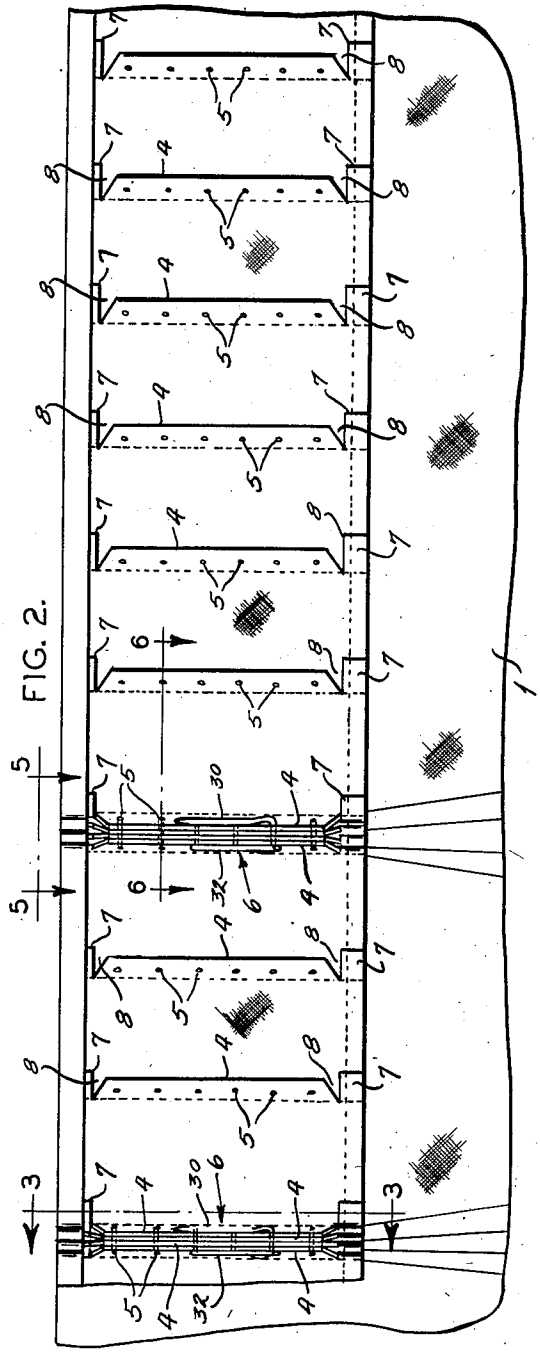


FIG. 2.

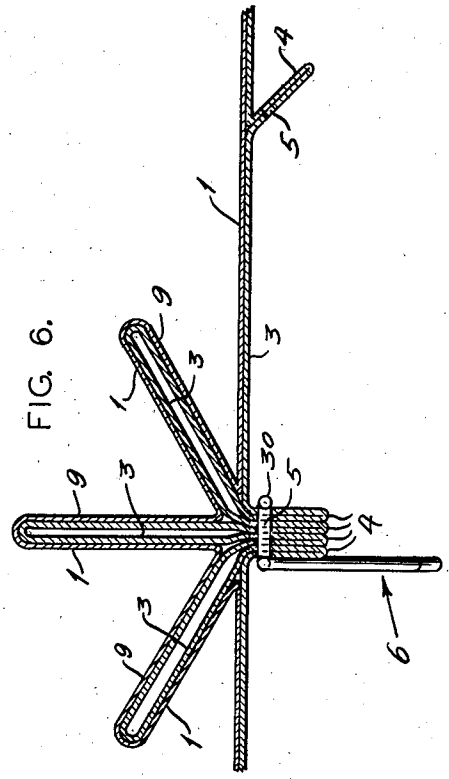


FIG. 6.

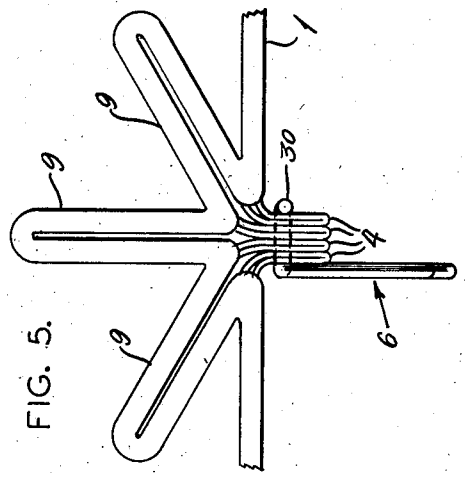


FIG. 5.

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June 9, 1953 E. J. MARTENS 2,641,315

DRAPERY PLEATER

Filed Dec. 6, 1948 4 Sheets-Sheet 3

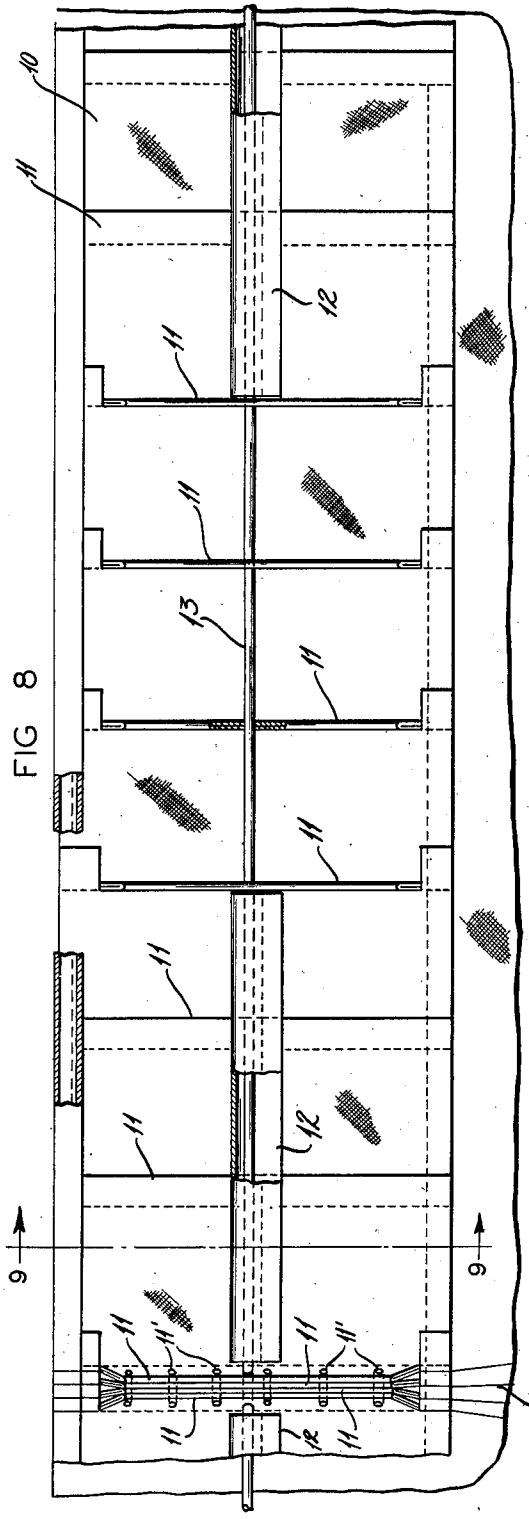


FIG 8

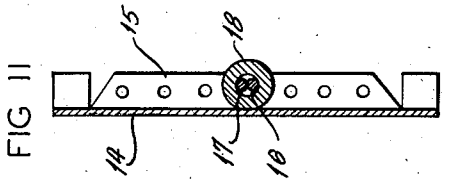


FIG 11

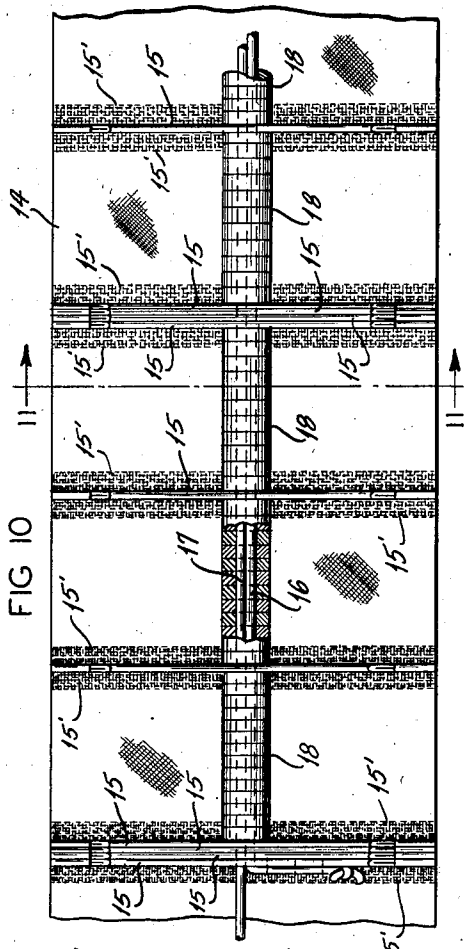


FIG 10

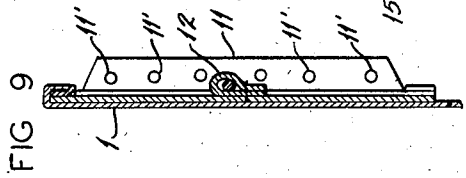


FIG 9

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June 9, 1953 E. J. MARTENS 2,641,315

DRAPERY PLEATER

Filed Dec. 6, 1948 4 Sheets-Sheet 4

FIG. 12.

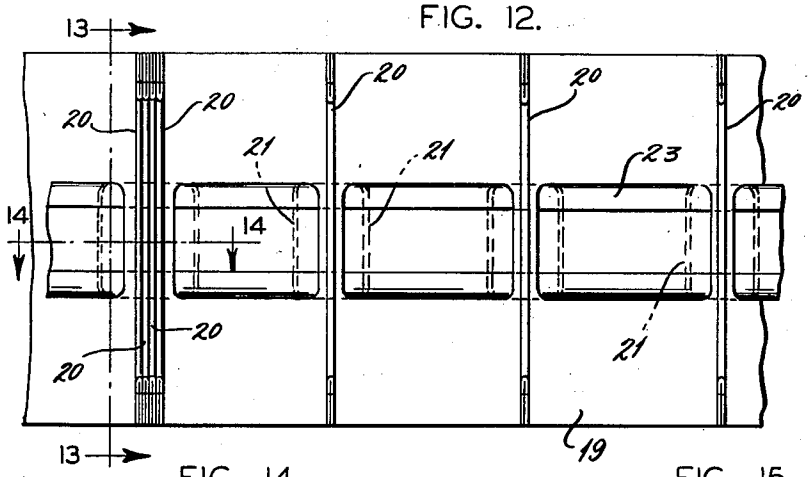


FIG. 13.

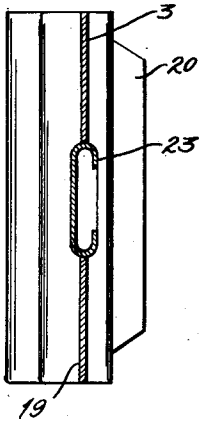


FIG. 14.

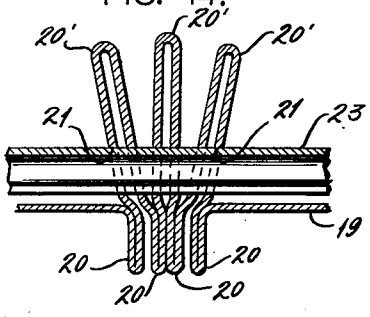


FIG. 15.

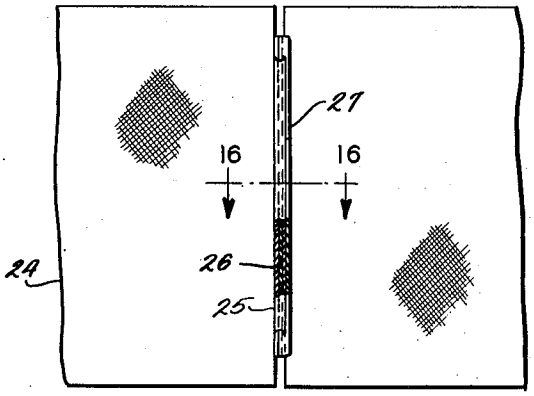


FIG. 16.

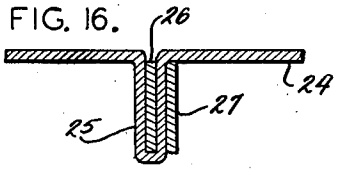


FIG. 17.

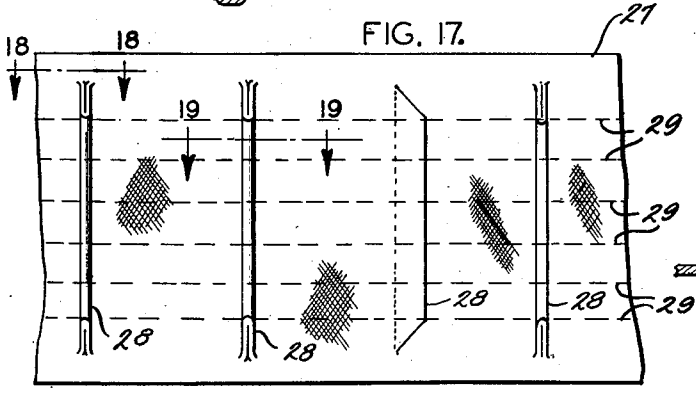


FIG. 18.

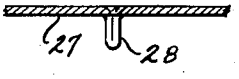
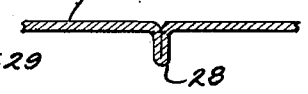


FIG. 19.



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UNITED STATES PATENT OFFICE

2,641,315

DRAPERY PLEATER

Ernest J. Martens, St. Louis, Mo.

Application December 6, 1948, Serial No. 63,697

8 Claims. (Cl. 160—348)

1

This invention relates to drapery and other forms of interior decorating and is more particularly directed to a pleater for drapery or valances wherein the pleater is so formed that the drapery may be hung at different elevations and will have uniformly sized and spaced pleats formed therein in a more expeditious manner.

The object of the invention is to provide a pleater for drapery or valances having uniformly spaced ribs formed thereon transversely disposed to the longitudinal dimension of the strip in which the ribs are collected into groups in order to form uniformly spaced groups of pleats in the drapery.

Another object of the invention is to provide means for reinforcing the ribs formed in a drapery pleater.

A further object of the invention is to provide a drapery pleater having ribs formed thereon, the ribs having longitudinally spaced apertures therein in which drapery hooks are inserted so that when placed in different of the apertures, the drapery may be adjusted toward and away from the floor.

A still further object of the invention is to provide a pleater strip for drapery made from comparatively light weight material having transversely disposed ribs thereon for forming pleats in which the ribs not used for pleats, stiffen the strip between groups of pleats.

This invention consists of a strip of stiff but foldable material having ribs formed thereon by folding or crimping the material at uniformly spaced distances along the length of the strip, each rib being made secure by sewing it at the base thereof or gluing the abutting faces of the ribs together. A plurality of uniformly spaced apertures are cut into each rib. A succession of these ribs are collected together to form a group of pleats in the drapery after the strip of ribbed material has been sewed flatwise along or near the upper edge of the reverse side of the drapery so that the ribs project outwardly therefrom. Groups of pleats are uniformly spaced by arranging a uniform number of ribs between each group of pleats.

The invention also consists in arranging single or double draw strings through selected successive groups of ribs so that when the strings are drawn, the pleats will be formed on the drape. The invention also consists in providing tubular means between groups of pleats or between the ribs intermediate the groups of pleats so that the pleated groups will remain uniformly spaced as well as assist in preventing folding or buckling

2

of the drapery between the groups of pleats. The ribs also stiffen the material in the vertical direction so that the upper portion of the drapery will remain upright.

In the drawings:

Fig. 1 is a perspective view of a drape having the improved pleater assembled therein,

Fig. 2 is a rear elevational view of the drapery showing the pleater applied thereto with some of the ribs of the pleater strip collected together to form groups of pleats,

Fig. 3 is a sectional view taken substantially along the line 3—3 of Fig. 2,

Fig. 4 is a sectional view taken substantially along the line 4—4 of Fig. 3,

Fig. 5 is a plan view of a group of pleats taken substantially along the line 5—5 of Fig. 2,

Fig. 6 is a sectional view taken substantially along the line 6—6 of Fig. 2,

Fig. 7 is a perspective view of a drapery hook,

Fig. 8 is a rear plan view of a modified form of pleater strip applied to a drape,

Fig. 9 is a sectional view taken substantially along the line 9—9 of Fig. 8,

Fig. 10 is a rear view of another modified form of pleater strip,

Fig. 11 is a sectional view taken substantially along the line 11—11 of Fig. 10,

Fig. 12 is a rear elevational view of still another form of pleater strip,

Fig. 13 is a sectional view taken substantially along the line 13—13 of Fig. 12,

Fig. 14 is a sectional view taken substantially along the line 14—14 of Fig. 12,

Fig. 15 is an elevational view, partly in section, of an improved rib for a pleater strip,

Fig. 16 is a sectional view taken substantially along the line 16—16 of Fig. 15,

Fig. 17 is a rear elevational view of a woven pleater strip,

Fig. 18 is a sectional view taken along the line 18—18 of Fig. 17; and

Fig. 19 is a sectional view taken substantially along the line 19—19 of Fig. 17.

The invention is embodied in the structure illustrated in Fig. 1 of the drawings in which the numeral 1 designates a drapery hung from a rod 2 securable to a window frame in the usual manner. The pleats for the drapery are formed by the use of a pleater strip 3 which is preferably a "pyroxylin" or a buckram material, sewed on the reverse side and usually along the upper edge of the drapery material.

The strip 3 has a plurality of uniformly spaced outwardly projecting ribs 4 formed therein which

are made by folding or crimping the strip of material and gluing the abutting faces of the crimped material together or sewing them at the base of the ribs to retain it in position as well as to maintain uniform spacing thereof. Each rib has a plurality of uniformly spaced apertures 5 cut therein and through which an improved drapery hook 6 is inserted. The details of the hook 6 are hereinafter described in greater detail. Tabs 7 are formed at the end of each rib by cutting a V notch 8 therein, which tabs are sewed flat against the strip 3 when it is sewed flatwise to the drapery 1. The cuts forming the tabs permit ribs 4 to project outwardly from strip 3. The pleats in the drapery are formed by collecting four ribs into a group and inserting hook 6 through one of the aligned apertures therein and, when so collected, the pleats 9 are formed on one side of the drape. Another series of ribs 4 may be collected to form a second series of pleats 9 and by spacing a predetermined number of ribs 4 between the ribs collected and held by a drapery hook, the spacing of the pleats will be uniform along the upper edge of the drapery.

The number of ribs collected in the above and in the succeeding disclosure is always one greater than the number of pleats formed. The ribs not collected, stiffen the material between groups of pleats, thereby obviating the use of a heavy stiff material therefor and permitting the use of lighter weight "pyroxylin" or buckram.

The modified form of pleater shown in Figs. 8 and 9 is processed in a manner similar to that shown in Fig. 2 with the exception that the cuts forming the tabs 7 are omitted. The pleater 10 has ribs 11 uniformly spaced thereon, each being provided with uniformly spaced apertures 11' for receipt of the drapery hook. The pleater 10 is then sewed along the upper edge of the drapery in the customary manner and groups of ribs 11 are collected to form pleats similar to those illustrated in Figs. 5 and 6 and are held in position by insertion of the drapery hook through a selected aperture in each of the collected ribs. A tube 12 is sewed to the pleater 10 between groups of pleats, thus assisting in maintaining a uniform spacing of the pleats. A draw string 13 is secured to one of the vertical edges of the drapery and is inserted through tube 12 and through one of the apertures in each of the ribs to be collected, or through a special one for the purpose of forming pleats, and when pleater 10 is moved relative to the draw string, the ribs through which the draw string 13 passes, will be collected in groups of four, thereby forming groups of three pleats, or any other number, such as illustrated in Figs. 5 and 6. Drapery hooks are then inserted through selected apertures in the ribs to further assist in holding the groups of pleats in assembled condition. The tube 12 prevents buckling or folding of the drapery material between the groups of pleats.

Figs. 10 and 11 illustrate another modified form of the invention in which a pleater strip 14 is provided having a plurality of uniformly spaced ribs 15 formed therein in a manner similar to that described in connection with Fig. 2. Each of these ribs has a plurality of apertures cut therein for receipt of a drapery hook. One end of each draw string 16 and 17 is secured to opposite vertical edges of the drapery and each passes through a suitable aperture provided in each of the ribs. When the strings are drawn so as to move the pleater 14 with respect thereto, the strings will collect some of the ribs into groups of four in order to form three pleats in the drapery, and between the ribs not collected, a plurality of tubular members 18 is arranged, each of which has an aperture therein substantially the size of the two draw strings. The purpose of the tubular members 18 is to maintain uniform spacing between the rings and groups of pleats, thus preventing folding or buckling of the drapery material between the groups of pleats. The ribs 15 may have their mechanical strength increased by weaving into the strip 14 reinforcement threads 15', each rib being reinforced in a similar manner. The rib is formed in the reinforced portion of the strip and may be held crimped by sewing it along the base of the rib, or the abutting faces may be glued, as described above. The ribs of each of the foregoing and the remaining disclosures to be described may be similarly reinforced if so desired.

Figs. 12, 13 and 14 illustrate another form of the invention in which the pleater strip 19 has a plurality of uniformly spaced ribs 20 formed thereon in a manner similar to that described in connection with Fig. 2. Drapery rod apertures 21 are cut in the pleater strip 19 adjacent to each of the ribs 20 and a group of three or more of the ribs are collected together so that pleats 20' may be formed in the drapery to which the pleater strip 19 is sewed. A rod 23 is then inserted through the apertures formed in the strip so that the collected group of ribs will be maintained in collected condition. The rod 23 is not passed through ribs 20 arranged between the groups of ribs so that the spacing between them may be maintained uniform. The ribs 20 do not have apertures cut therein for receipt of drapery hooks for the reason that the drape is suspended from rod 23.

Under certain conditions the "pyroxylin" or buckram material having a simple crimp therein, may not have the required mechanical strength to support the drape and in order to overcome this mechanical weakness the pleater strip 24 having a rib 25 formed therein, has a reinforcing strip 26 placed between the crimped material. This reinforcing strip may be sewed in place or glued thereon, as desired. An additional reinforcing strip, which is a continuation of strip 26, may be positioned adjacent to one of the folds or the ribs 25 and secured thereto by stitching or gluing. This mode of reinforcement may be applied to each rib of the foregoing disclosures and used in each of said disclosures in lieu of that discussed in connection with Figs. 10 and 11.

Another modified form of the invention is illustrated in Figs. 17, 18 and 19 which comprises a pleater strip 27 in which ribs 28 are woven. This is accomplished by uniformly looping some of the warp threads between the sides of the strip to form ribs 28. Other of the warp threads are not so looped and, in combination with the transversely arranged woof threads, will hold the ribs in position and maintain the uniform spacing thereof. The ribs 28 are not provided with apertures, such as shown in Fig. 2, but to enable a drapery hook to be uniformly positioned in each of the collection of ribs whereby pleats are formed after the pleater strip is sewed to the drapery, a variety of colored warp threads 29 are provided in order to serve as a guide for insertion of the drapery hook at the same level. The same result may be achieved by omitting selected warp threads and introducing a given number of larger threads than the warp threads forming

the main body of the pleater strip **27**. Each of these expedients will enable the person hanging the drapery to place the hook in the same relative vertical position on the pleater strip.

An improved drapery hook **6** is illustrated in Fig. 7 and comprises a pointed member **30**, looped as at **31**, and having a member **32** extending parallel to the pointed member **30**. It also has a loop **33** formed therein and a continuation thereof in member **34** constitutes, with member **32**, the hook which is placed over a suitable support or drapery rod. The plane in which members **30** and **32** lie, is preferably disposed at right angles to the plane in which the members **32** and **34** lie. This right angle plane arrangement of the hooks enables the members **30** and **32** to act as a clamp for the ribs on the pleater strips held by loop **31**, thus clamping the group of ribs so that the pleats may be more perfectly formed in the drapery. The members **32** and **34** are thereby better enabled to support the drape in the desired position. The drapery hook **6** is formed from a single piece of wire and constitutes an effective and efficient accessory for the various pleater strips illustrated and described.

What I claim is:

1. A drapery pleater comprising a strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced outwardly projecting ribs formed in said strip vertically positioned with respect to the drapery material and having a plurality of vertically spaced drapery hook apertures in each of said ribs; and a tab formed by cutting a notch near the end of each rib and secured to said strip of material for enabling the ribs to project from the strip and for reinforcing the ends of each of the pleats formed in the drapery.

2. A pleater for drapery comprising an elongated strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip, each of said ribs being provided with a plurality of spaced drapery hook receiving apertures, said ribs arranged at right angles to the length of said strip; tabs formed on the ends of said ribs for enabling the ribs to project from said strip when the tabs are folded against said strip after securement to the drapery; a plurality of successively uniformly spaced ribs collected together for forming uniformly spaced groups of pleats in the drapery; and means disposed between said groups of pleats for holding the groups in spaced relation.

3. A pleater for drapery comprising an elongated strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip, said ribs provided with a plurality of spaced hook receiving apertures, said ribs arranged at right angles to the length of said strip; tabs formed on the ends of said ribs for enabling said ribs to project from said strip when the tabs are folded against said strip on securement to the drapery; a plurality of uniformly spaced ribs collected together for forming a series of uniformly spaced groups of pleats in the drapery; and tubular means arranged between the groups of pleats for holding said groups uniformly spaced.

4. A pleater for drapery comprising an elongated strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip, said ribs provided with a plurality of spaced hook receiving apertures, said ribs arranged at right angles to the length of said strip; tabs formed on the ends of said ribs for enabling said ribs to project from said strip when the tabs are folded against the strip on securement to the drapery; means for collecting a plurality of successively spaced ribs together for forming uniformly spaced groups of pleats on the drapery; and tube means disposed in the ungrouped ribs for aiding in uniformly spacing said groups of pleats.

5. A drapery pleater comprising a strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip vertically positioned with respect to the drapery and having a plurality of vertically spaced drapery hook receiving apertures in each of said ribs; means for reinforcing each rib which includes weaving additional threads into a strip in the portion thereof where each rib is formed; and a tab formed on the end of each rib for enabling the rib to project from the strip.

6. A drapery pleater comprising a strip of material to be secured to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip and disposed at right angles to the longitudinal axis of said strip, said ribs projecting outwardly from said strip and drapery material and having spaced apart apertures along the length of each rib, said ribs adapted to be collected into groups for forming groups of pleats in the drapery material; and means including an elongated clamp a part of which extends through the aligned apertures in the collected ribs for holding the collected ribs in position in said groups, said means clamping the collected ribs over the major portion of the length thereof.

7. A drapery pleater comprising a longitudinally extended strip of material securable to the reverse side of drapery material; a plurality of uniformly spaced ribs formed in said strip each of which extends at right angles to the length of said strip, said ribs having a series of uniformly spaced apertures therein; tabs formed on the ends of said ribs foldable against said strip when it is secured to a drapery for enabling the ribs to project from said strip; and means for reinforcing each of said ribs which includes applying a strip of material to each of said ribs.

8. A drapery pleater comprising a longitudinally extended strip of material securable to the reverse side of drapery material; and a plurality of uniformly spaced ribs formed in said strip each of which extends at right angles to the length of said strip, each of said ribs having a series of uniformly spaced apertures therein along the length thereof.

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