Nov. 17, 1942. A. McD. HESS 2,302,630

PLEATING OF DRAPES, ETC

Filed Oct. 11, 1940

FIG. 2

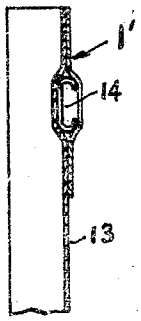


FIG. 1

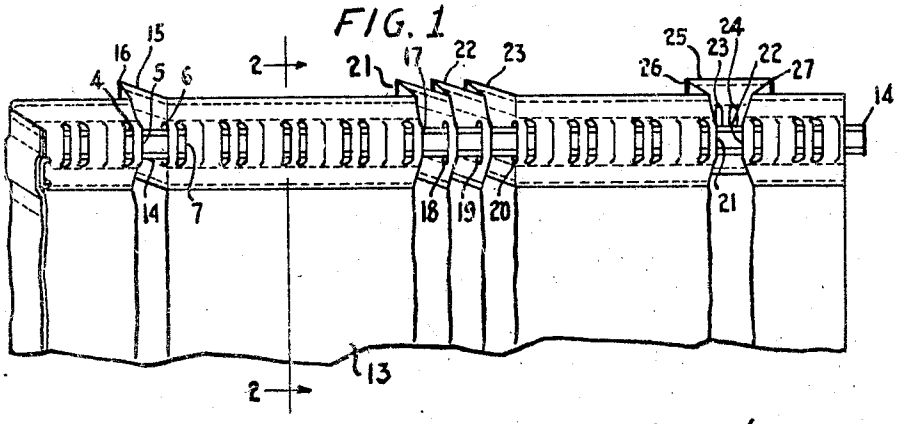


FIG. 3

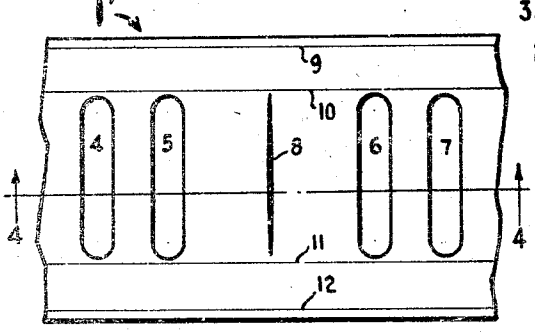


FIG. 4

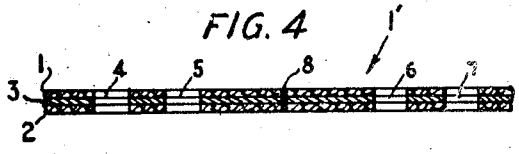


FIG. 5

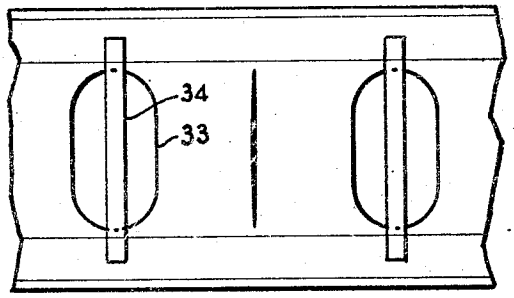


FIG. 6

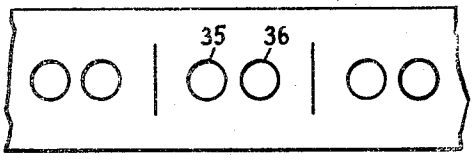


FIG. 7

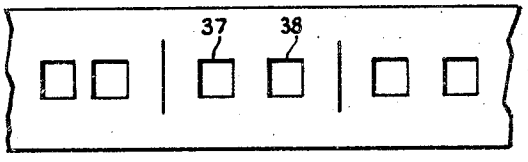


FIG. 8

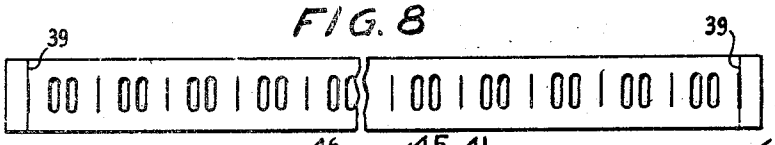
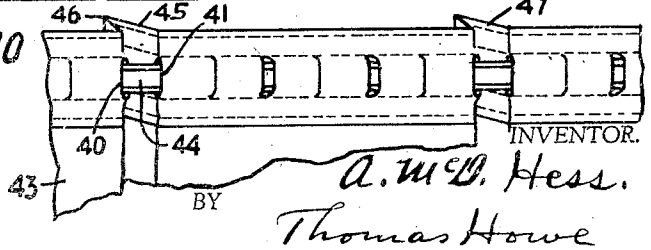


FIG. 10



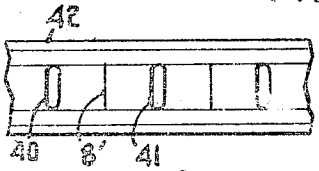


FIG. 9

INVENTOR.

A. McD. Hess.

BY

Thomas Howe

ATTORNEY

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PLEATING OF DRAPES, ETC.

Alexander McDonald Hess, Jamaica, N. Y.

Application October 11, 1940, Serial No. 360,726

5 Claims. (Cl. 160—387)

The present invention relates to the pleating of draperies, such as curtains and the like.

The main object of the invention is to provide an inexpensive and simple pleating means.

A further object of the invention is to provide a pleating means which shall not require snap or other metal fastenings.

A further object of the invention is to provide means whereby the pleats are accurately located.

A further object of the invention is to provide means whereby the pleats shall be properly formed.

A further object of the invention is to provide a pleating tape having a plurality of layers.

A further object of the invention is to provide a pleating means whereof the holes shall be insured against fraying without the use of grommets or stitching about the edges of the holes.

A further object of the invention is to provide means for coloring the two sides of the tape so as to be of the same or different colors.

A further object of the invention is to provide means whereby the pleats will maintain their shape after having been formed.

A further object of the invention is to provide a pleating tape which shall not be liable to injury from wetting or laundering.

Other and ancillary objects of the invention will appear hereinafter.

In the accompanying drawing which illustrates the invention:

Fig. 1 is a perspective view of the back of the upper portion of a curtain to which the invention is applied;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a view, partly broken away, and on an enlarged scale, of the pleating tape separate from the curtain;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is a view of a modified construction of tape;

Fig. 6 is a face view, partly broken away, but on a smaller scale, showing a tape similar to that of Figs. 3 and 4 except that the holes for the reception of a curtain rod are round instead of oblong;

Fig. 7 is a face view of a tape similar to Fig. 6 except that the holes for the curtain rod are square;

Fig. 8 is a view of a tape, on a reduced scale, the same as Figs. 3 and 4 except that the tape of Fig. 8 is supplied with markings for designating lengths of tape without the necessity of measurement;

Fig. 9 is a face view, partly broken away, of a tape similar to that of Figs. 3 and 4, except that there is a single curtain rod opening, instead of a pair of such openings, between successive slits; and

Fig. 10 is a perspective view, partly broken away, of the back of the upper portion of a curtain to which the tape of Fig. 9 is applied.

Referring to the drawing and first to Figs. 1 to 4 inclusive, and Fig. 8, the tape 1' comprises a plurality of layers 1 of relatively stiff material, such as buckram, and a layer 2 of another material, which may be any desired, as for instance sateen, to give that face of the tape a more finished appearance, the relative stiffness of the buckram causing the tape, when bent to form the pleats, to more firmly retain its shape. The plies 1 and 2 are adhered together by a layer 3 of suitable adhesive such as pyroxylin. The tape thus formed is impregnated as to either or both layers with a water and laundry-resisting compound so that the tape, either by itself or upon the curtain, may be wetted or laundered without detriment. Such water-repellent substance may be of any suitable composition, but a suitable substance of the desired characteristics is as follows:

	Percent
Nitro cotton (15–20 seconds)	1
High melt paraffin wax	4
Napthene base mineral oil	6
Butyl stearate	2
Butyl acetate	4
Ethyl acetate	25
Gasolene	13
Toluol	45

This substance, when hardened, solidifies the fabrics and prevents fraying at the edges of the rod holes as 4, 5, 6 and 7 at the edges of the slits as 8. The elongated holes or slots 4, 5, 6 and 7 for the curtain rod are formed in pairs, such as 4 and 5, 6 and 7, etc., by punching out the material of the tape to form the desired shape and size of opening, and the slit 8, which is an opening formed by merely a cut in the tape, is located approximately midway between the pair of openings 4, 5 on the one hand and the pair of openings 6, 7 on the other hand. It will be observed that the openings of one pair as 4 and 5 are closer together than are the openings of different pairs as the openings 5 and 6.

It will be apparent that the tape may be extended for any desired length, the arrangement of curtain rod openings and slits being repeated indefinitely as indicated, for instance, in Fig. 8.

As a guide to the housewife in sewing the tape to the curtain, lines 9, 10, 11 and 12 are marked on the tape where the seams should be made.

The tape having been constructed as described it is sewed to the curtain 13 (see Fig. 1) extending horizontally across the same, adjacent to the top. The curtain rod 14, which may be of a familiar oval cross section as shown, is inserted beneath the tape (between it and the curtain) it passing through holes in the tape where it is desired to form pleats, the tape and the curtain being bent with one of the slits 8 at each of the apices of the pleats. Thus the rod passes beneath the tape to the left (Fig. 1) of the slot 4, through the slot 5 and then again beneath the tape through the slot 6. The relatively stiff tape and the curtain are creased or folded between the slots 5 and 6 to form a pleat 15 with the slit 8 at its apex 16. A single pleat is thus formed at this location. From the slot 6 the curtain rod passes beneath the tape for a certain distance to a location where one or more other pleats are desired. At this location the rod emerges through the slot 17 in the tape, passes through the pair of slots including the slot 18 in the tape, through a pair of slots including the slot 19 in the tape and then through the slot 20, whence it passes again beneath the tape. Between the pairs of slots including the slots 17 and 18 respectively and between the pairs of slots including the slots 18 and 19 respectively and between the slot 20 and the pair of slots including the slot 19, the tape and the curtain are folded together into the pleats 21, 22 and 23, the slits, as 8, between the pairs of slots, being at the apices of the pleats. It will thus be seen that there is by this construction, a plurality or series of pleats formed at this location and that the pleats are securely held in position from the fact that the pole passes through slots at the bases of all of the pleats so that they are firmly held against distortion or displacement.

From the slot 20 the rod passes beneath the tape containing pairs of slots and slits as shown to the slot 21 whence it passes through the tape to the slot 22 whence it again passes beneath the tape to the edge of and emerges from the curtain and tape. Between the slots 21 and 22 are included in the tape a pair of slots 23 and 24 there being a slit, as 8, between the pair of slots 23 and 24 and the slot 21 on the one hand, and between the pair of slots 23 and 24 and the slot 22 on the other hand, the tape, and with it the curtain, being formed into a box pleat 25 having a slit, as 8, at each of its corners 26 and 27.

By having the folds of the pleats at the slits 8, the continuity of the tape is broken at that point and hence the pleats will retain the shape in which they are formed without tending to straighten out the corners which would result from the resiliency of the tape if the slit did not break the continuity.

Also the slits define the crease formation and location of the pleats, so that they are always of the same form and of the proper location. Were the fabric bent in the pleats by simply pushing the fabric together along the rod, and without the slits, the pleats or folds would be likely to be not vertical in form, or irregularly shaped in other respects, and might not be desirably located along the rod. The slits 8, however, fix the locations of the pleats and also insure that they shall be practically straight and not be deformed in any particular.

The impregnating compound of the layers respectively of the tape may each be artificially colored with a suitable pigment so that the faces of the tape will be of the same or different colors so as to be readily adapted to the fabric of a curtain or the like to which it is to be applied.

Referring to Fig. 5, the tape is the same as the tape of Figs. 3 and 4, and is applied to the drape in the same way, except that the tape of Fig. 5 differs from that of Fig. 3, in that instead of, as in Fig. 3, forming a pair of rod openings (as 4 and 5 or 6 and 7) of separate punched openings, each pair of holes in Fig. 5 is formed by one opening 33 across which passes the strip 34 secured at its ends to the tape by sewing or in any other suitable manner.

Fig. 6 represents a tape constructed and applied as described in connection with the tape of Figs. 3 and 4 except that instead of having oblong rod-receiving openings, as 4 and 5, the tape of Fig. 6 has circular rod-receiving openings as 35 and 36.

In Fig. 7 is shown a tape which is the same in construction and application as that of Fig. 3 except that the rod-receiving openings in the tape as 37 and 38 are square.

It is very often inconvenient, either in the selling of the tape in the store or in the application of the tape to the drape in the house, to measure desired lengths of the tape with a measure. This is avoided and the tape is readily cut off in the desired lengths, without applying a measure to it, by supplying marks 39 (see Fig. 8) on the tape (in this case coinciding with slits 8) at predetermined distances apart.

It will be observed, referring particularly to Fig. 1, that but one of the slots of a pair is used, that is, the curtain rod passes through but one of the slots of a pair, except where the pleats are closely grouped together as the pleats having the apices 21, 22 and 23. Where, therefore, such closely grouped pleats are not required, a form of tape as shown in Fig. 9 may be employed which is the same as the tape of Fig. 3 except that the tape of Fig. 9 has a single slot instead of each pair of slots. This tape of Fig. 9 has a single oblong, punched-out slot 40 in place of the pair of slots 4 and 5 of Fig. 3, and the oblong, punched-out slot 41 in place of the pair of slots 6 and 7, midway between which the slit 8' is located, such slit corresponding to the slit 8 of Fig. 3. The alternating slots and slits may be indefinitely repeated for an indefinite length of tape, as shown in the broken away portion of Fig. 9. The tape 42 of Fig. 9 may be applied to the curtain or drape 43, as shown in Fig. 10, by sewing thereto as described in connection with Figs. 1 to 4, and the curtain rod 44 between the tape and the curtain (except at the pleats) will pass through the slots 40 and 41, the pleat 45 being formed by creasing the tape, and with it the curtain, at the apex 46 of the pleat, at which apex the slit 8' is located.

At a distance from the pleat 45 another pleat 47 may be formed in a similar manner and so the pleats may be formed at desired locations to any desired extent.

While the invention has been illustrated in what are considered its best applications, it may have other embodiments without departing from its spirit and is not, therefore, limited to the structures shown in the drawing.

What I claim is:

1. A fabric having in substantial alignment a series of slits and rod-receiving openings, said openings being arranged in pairs and said slits

being arranged between succeeding pairs of said openings.

2. A fabric having in substantial alignment a series of slits and rod-receiving openings, said openings being arranged in pairs and said slits being arranged between succeeding pairs of said openings, said openings being of greater width than said slits.

3. A fabric having in substantial alignment a series of slits and rod-receiving openings, said openings being arranged in pairs and said slits being arranged between succeeding pairs of said openings, said fabric having a plurality of layers, one of said layers being of stiffer material.

4. A fabric having in substantial alignment a series of slits and rod-receiving openings, said slits being arranged between succeeding rod-receiving openings.

5. A fabric having in substantial alignment two rod-receiving openings and a slit between said openings.

ALEXANDER McDONALD HESS.