Feb. 25, 1964 F. A. MITCHELL 3,122,290

DRAPERY PLEATING

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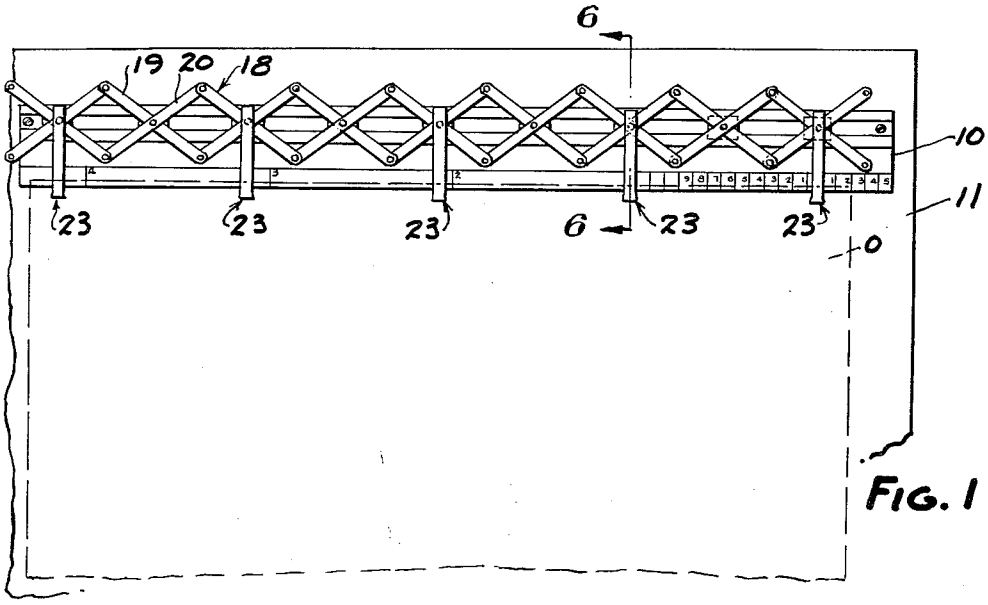


FIG. 1

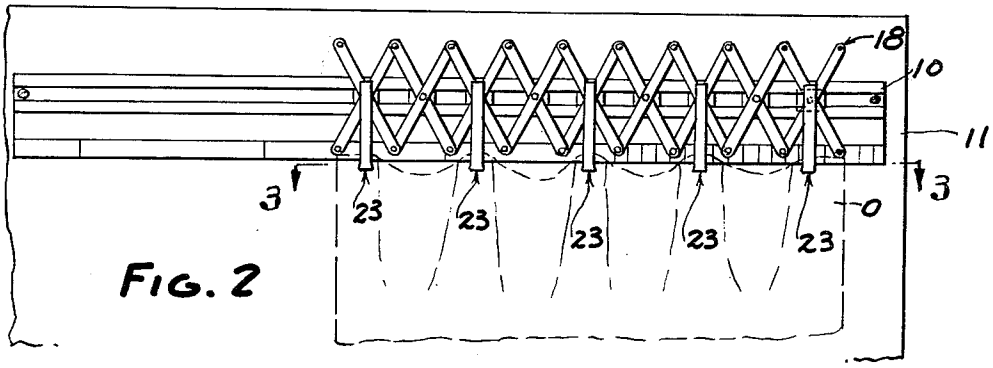


FIG. 2

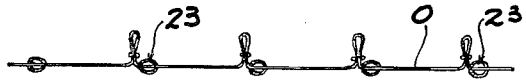


FIG. 3

INVENTOR.
FLEETA A. MITCHELL
BY
Barnes, Kisselle, Raisch & Choate
ATTORNEYS

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DRAPERY PLEATING

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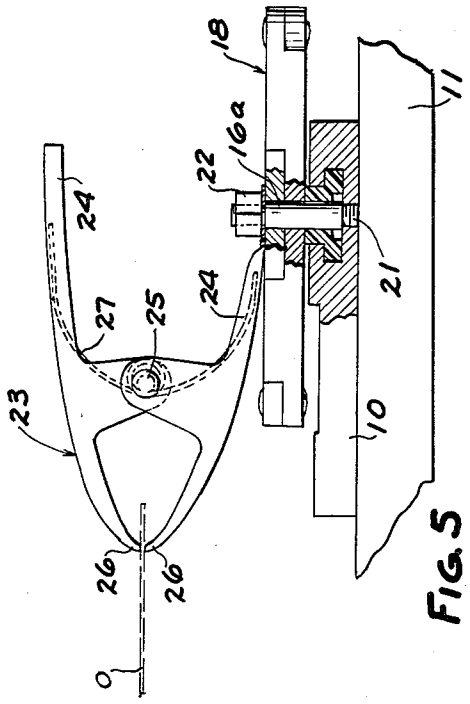


FIG. 5

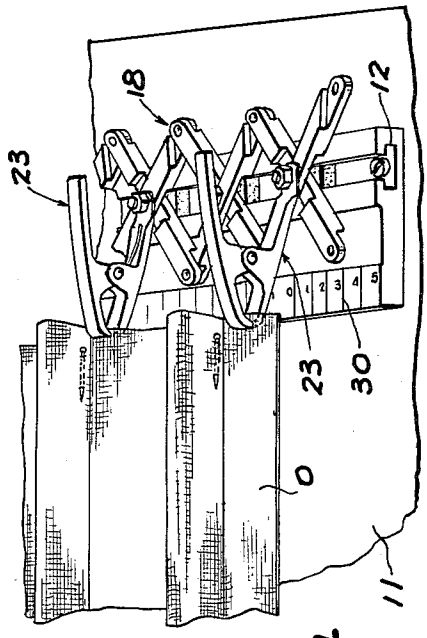


FIG. 4

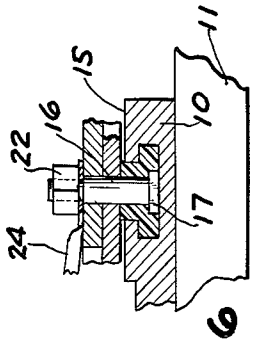


FIG. 6

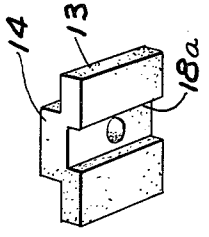


FIG. 7

INVENTOR.

FLEETA A. MITCHELL

BY

Barnes, Kisselle, Raisch & Choate

ATTORNEYS

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DRAPERY PLEATING

Fleeta Alma Mitchell, % 1556 Penobscot Bldg., Detroit, Mich.

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5 Claims. (Cl. 223—28)

This invention relates to drapery pleating and particularly to drapery pleating on a commercial scale.

At the present time in the forming of drapes commercially, it is necessary for a worker to measure individually each width of drapery material at successive points and to form individually successive loops in said material which loops serve as guides for the subsequent workers in making the pleats.

It is an object of this invention to provide a method and apparatus for quickly and accurately dividing a width of fabric material simultaneously into a plurality of loops in position to be pinned for the subsequent sewing of the pleats.

It is a further object of the invention to provide a drapery pleating machine which is relatively simple to operate.

It is a further object of the invention to provide such a drapery pleating machine which can be readily adapted without any adjustment to making pleats of various sizes.

Basically, the invention comprises grasping the edge of the width of fabric material at a plurality of spaced points and simultaneously moving those points as by a lazy tong mechanism together equal distances to bunch up the fabric so that loops can be formed by drawing the fabric taut between the spaced points.

In the drawings:

FIG. 1 is a plan view of the drapery pleating machine embodying the invention showing the fabric in position before formation of the loops.

FIG. 2 is a plan view similar to FIG. 1 showing the machine in the operative position after reducing the width of the fabric material to form the loops.

FIG. 3 is a sectional view taken along the line 3—3 in FIG. 2.

FIG. 4 is a fragmentary perspective view showing the machine in the position of FIG. 2.

FIG. 5 is an end view of the machine shown in FIGS. 1 and 2, parts being broken away.

FIG. 6 is a fragmentary sectional view taken along the line 6—6 in FIG. 1.

FIG. 7 is a perspective view of a pivot support block used in the machine.

Referring to the drawings, the drapery pleating machine comprises a base 10 which is adapted to be fixed on a table 11. Base 10 is formed with a groove 12 which has a T-shape providing re-entrant portions in the base of the groove. The groove 12 defines a track in which a plurality of pivot support blocks 13 are provided. Blocks 13 have the general shape of the groove 12 and are made of a low friction material such as nylon. As shown in FIGS. 5 and 6, the center portion 14 of each block 13 extends upwardly above the face 15 of the base 10. A pivot shaft 16 is mounted in each block 13 and is provided with a head 17 at the lower end thereof engaging a slot 18*a* in the base of the block 13.

A lazy tong 18 is mounted on the base 10 by the shafts 16. Lazy tong 18 comprises a plurality of pairs of cross arms 19, 20 which are pivoted intermediate their ends on the shafts 16 and are pivoted at their outer ends to the adjacent cross arms. As shown in FIG. 5, one of the shafts 16*a*, preferably at the extreme end of the lazy tongs, is provided with a threaded extension 21 which is threaded into the base 10 thereby fixing the pivot shaft 16*a* of the endmost pair of cross arms 19, 20. A nut 22 is threaded

on each shaft 16. Clamps 23 are mounted at equally spaced pivot shafts 16. Each clamp 23 comprises a pair of sections 24 pivoted to each other by a pin 25. One end of the sections 24 form jaws 26 which are yieldingly urged toward one another for gripping the edge of a piece of drapery fabric material by a torsion spring 27 through which the pin 25 extends, the ends of the torsion spring engaging the sides of the section 24 to yieldingly urge the jaws toward one another. The other end of one of the sections 24 is flattened and mounted on the shaft 16, being held in position by nut 22, while the other end of the other section 24 provides a handle for opening the clamp 23.

In use, the clamps 23 are opened and a width of fabric is brought into position between jaws 26 adjacent the machine and the clamps are released to grip the edge of the fabric, care being exercised to maintain the fabric in substantially flat relationship between the successive clamps. In this regard, it may be noted that the cross arms 19, 20 are cut away at the pivot points so that the engaging surfaces of the jaws 26 lie in a substantially flat single plane.

After the fabric has been placed in position, the lazy tong 18 is collapsed to a predetermined desired extent. To facilitate the movement of the lazy tong 18, a scale 30 is provided on the base 10. As the cross arms of the lazy tongs are collapsed, the clamps 23 are moved toward one another substantially equal distances so that the fabric between clamps is caused to bunch up a predetermined amount. The operator then manually grips the fabric between clamps producing a loop adjacent each of the clamps as shown in FIG. 3. The operator then pins this loop. The loop forms material from which a subsequent worker makes the desired pleat.

It can be appreciated that by use of the pleating machine it is possible to simultaneously divide a width of fabric into the desired widths of material for pleating. If more material is desired in a pleat, a greater or a larger loop is provided. By using the machine, it is also possible to make provision for overhang, such as is required to go around the corner formed by the end of a drapery rod, by merely extending the outermost end of the fabric beyond the outermost clamp 23, for example, as the overhang O shown in FIGS. 1 and 2.

I claim:

1. A drapery pleating machine comprising a base, means on said base defining a track, said track having a groove and a re-entrant portion, a plurality of pivot supports slidably mounted in said track and having portions thereof extending outwardly through said groove, shafts mounted in said pivot supports and extending outwardly through said grooves, a lazy tong comprising a plurality of cross arms pivoted on said shafts to each other and pivoted at their ends to successive pairs of cross arms, said cross arms being spaced from the adjacent surface of the base, clamps mounted on certain of said shafts at equally spaced points, each said clamp comprising a pair of arms pivoted to each other, one of said arms being fixed on the shaft and the other of said arms forming means for opening said clamp, and spring means tending to separate one end of said arms thereby providing the clamping engagement with a piece of fabric.

2. A drapery pleating machine comprising a base, means on said base defining a track, a plurality of pivot supports slidably mounted in said track, shafts mounted in said pivot supports and extending outwardly therefrom, a lazy tong comprising a plurality of cross arms pivoted on said shafts and pivoted at their ends to successive pairs of cross arms, said cross arms being spaced from the adjacent surface of the base, clamps mounted on certain of said shafts at equally spaced points, each said clamp comprising a pair of arms pivoted to each other, one of said

arms being fixed on the shaft and the other of said arms forming means for opening said clamp, and spring means tending to separate one end of said arms thereby providing the clamping engagement with a piece of fabric.

3. A drapery pleating machine comprising a base, a lazy tong comprising a plurality of cross arms pivoted at their centers to each other and at their ends to successive cross arms, one of said pivots being fixed to said base, means on said base for guiding others of said pivots during expanding and collapsing of said lazy tong, means on some of said pivots for clamping the edge of a piece of drapery material whereby when said lazy tong is collapsed said fabric material is caused to bunch up forming a loop between each pair of said gripping means, and means on said base providing indicia for indicating the extent of collapsing of said lazy tong.

4. A drapery pleating machine comprising a base, means on the base defining a track, a plurality of pivot supports slidably mounted in said track, a lazy tong comprising a plurality of cross arms pivoted at their centers to each other and to one of said pivot supports and pivoted at their ends to successive cross arms, one of said pivot supports being fixed on said track, and means on each said pivot support for clamping the edge of a piece of drapery material whereby when said lazy tong is collapsed a plurality of loops is provided in said drapery material of identical size corresponding to the collapsed spacing of the pivot supports, said means for clamping comprising spring loaded clamps.

5. A drapery pleating machine comprising a base, means on the base defining a track, a plurality of pivot supports slidably mounted in said track, a lazy tong comprising a plurality of cross arms pivoted at their centers to each other and to one of said pivot supports and pivoted at their ends to successive cross arms, one of said pivot supports being fixed on said track, and means on each said pivot support for clamping the edge of a piece of drapery material whereby when said lazy tong is collapsed a plurality of loops is provided in said drapery material of identical size corresponding to the collapsed spacing of the pivot supports, and a scale extending along said base serving as indicia of the collapsed length of the drapery material.

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