

Jan. 6, 1970

H. SHUKAT ET AL
SELF-OPERATING DRAPERY

3,487,875

Filed Jan. 23, 1968

2 Sheets-Sheet 1

FIG. 1

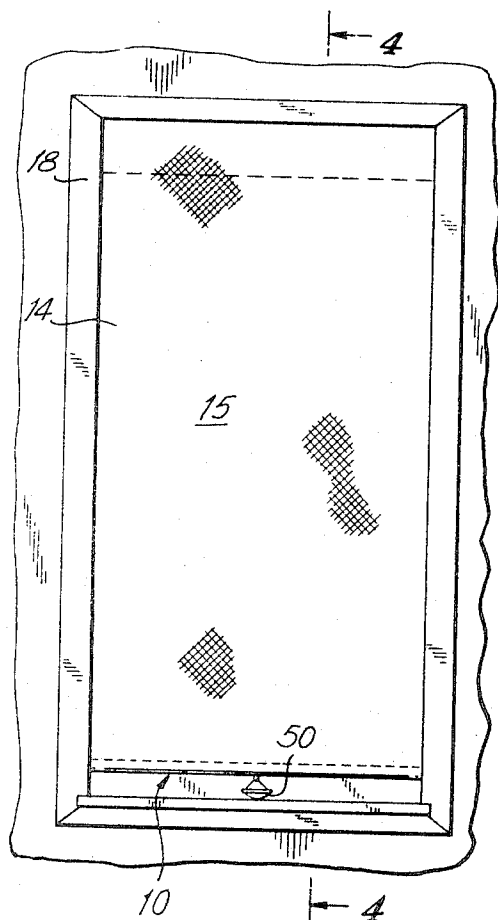
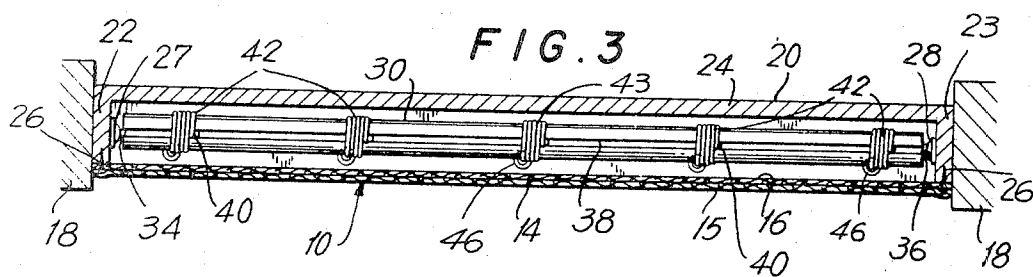
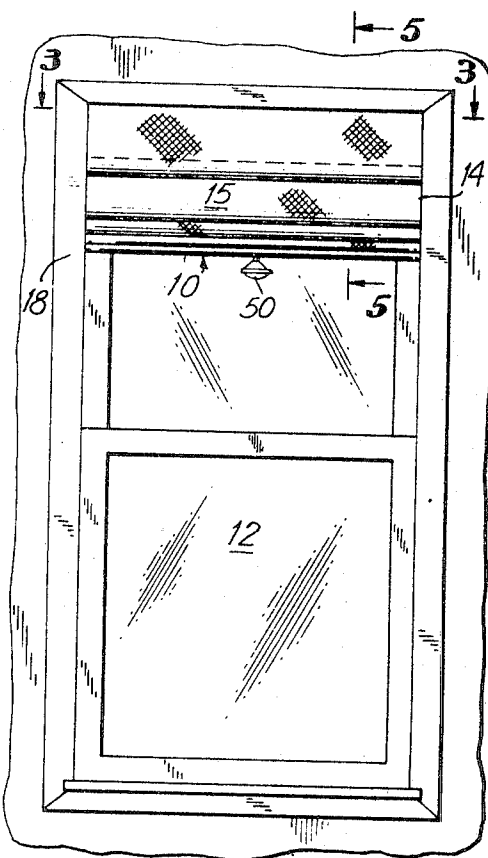


FIG. 2



INVENTORS
HARRY SHUKAT
ERIC HARMAN

BY

Blum, Moscovitz, Freedman, Blum, Kaplan
ATTORNEYS

Jan. 6, 1970

H. SHUKAT ET AL
SELF-OPERATING DRAPERY

3,487,875

Filed Jan. 23, 1968

2 Sheets-Sheet 2

FIG. 4

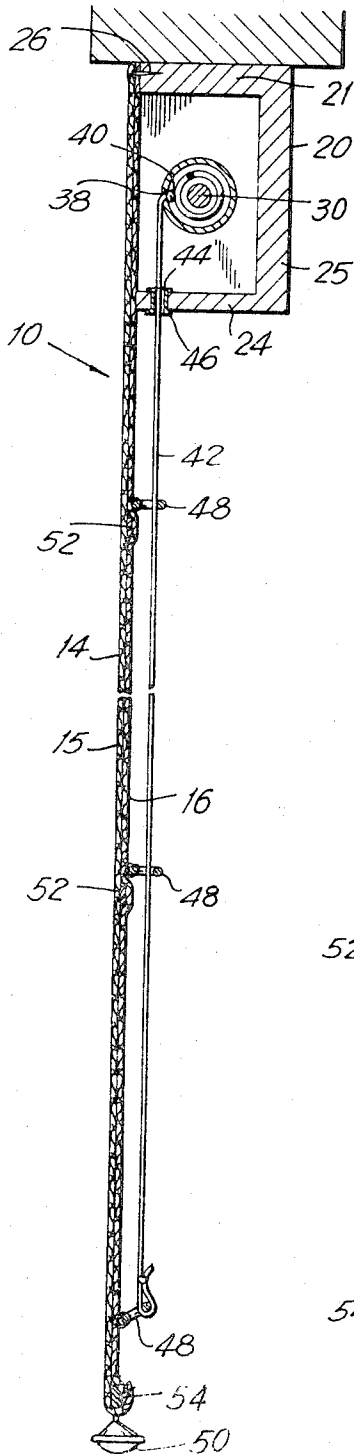


FIG. 5

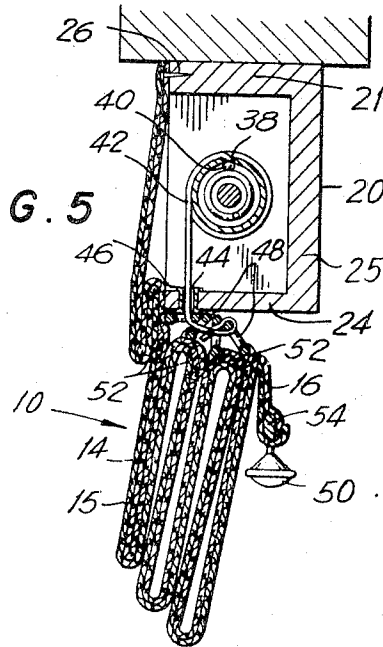
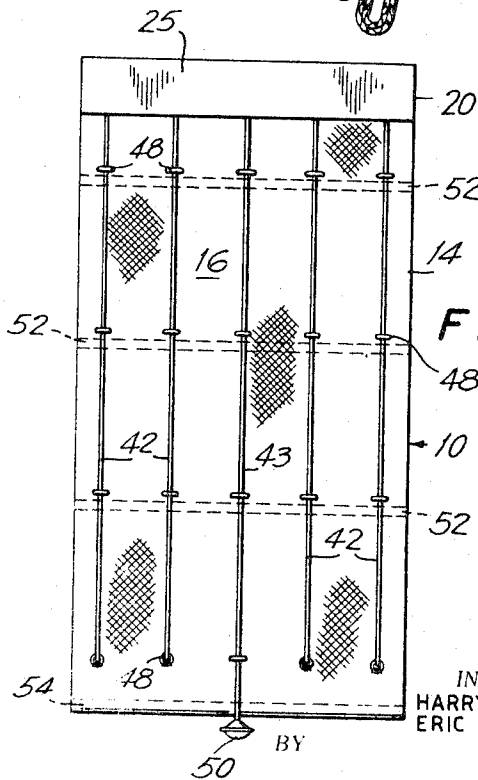


FIG. 6



INVENTORS
HARRY SHUKAT
ERIC HARMAN

BY

Blum, Moscovitz, Friedman, Blum & Kaplan
ATTORNEYS

1

2

3,487,875

SELF-OPERATING DRAPERY

Harry Shukat, Glendale, N.Y., and Eric Harman, Norwood, N.J., assignors to Tudoran Tradeshop, Inc., New York, N.Y., a corporation of New York

Filed Jan. 23, 1968, Ser. No. 699,867

Int. Cl. A47h 5/00; E06b 3/94

U.S. Cl. 160—84

3 Claims

ABSTRACT OF THE DISCLOSURE

A self-operating drapery having a sheet member secured at its top to a support means and raised and lowered by means of a shade roller also mounted on said support means. The shade roller is connected to the sheet member by a plurality of control strings and a plurality of spaced retaining members secured to the back face of said sheet member and is operated by an operating string secured thereto. A series of horizontal pleats are formed in said sheet member upon the raising of said drapery.

BACKGROUND OF THE INVENTION

This invention relates generally to coverings for window openings, and more particularly, to coverings of the shade type. Such window shades are generally made of a heavy paper such as parchment, which is secured to and wound about a shade roller. Such conventional window shades have very little decorative effect, particularly when disposed in the raised position. For this reason, window shades are generally limited to purely functional purposes requiring the addition of further window coverings such as drapes and or valances in order to create desired decorative effects.

SUMMARY OF THE INVENTION

Generally speaking, in accordance with the invention, a self-operating drapery is provided which includes a sheet member preferably sized to at least substantially cover a window opening, support means secured to a fixed support and having the sheet member secured thereto, a shade roller rotatably mounted on said support member and operated by an operating string secured thereto, a plurality of spaced retaining members secured to the sheet member and projecting from the back face thereof, and a plurality of control strings. Each of the control strings is secured at one end to the shade roller, secured at its other end to the lowermost region of said sheet member and extends loosely through a companion set of retaining members therebetween. A handle is provided at the other end of the operating string.

When the shade roller is operated to raise the drapery, a series of horizontal pleats is formed in the sheet member. The sheet member may be formed of a wide variety of fabrics having any desired design thereon. This combination of pleats plus the use of fabrics will permit the creation of many pleasing decorative effects.

Accordingly, it is an object of this invention to provide a self-operating drapery utilizing a shade roller which creates a pleasing decorative effect in both the lowered and raised positions.

Another object of the invention is to provide a self-operating drapery wherein substantially all of the operative mechanisms are concealed when the drapery is viewed from the front in both the raised and lowered positions.

A further object of the invention is to provide a self-operating drapery which is easily assembled, installed and operated.

Still another object of the invention is to provide a

self-operating drapery that forms a series of horizontal pleats in the raised and intermediate positions.

Another object of the invention is to provide a self-operating drapery particularly adapted for covering window openings.

Still other objects and advantages of the invention will in part be obvious and will in part be apparent from the specification.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be indicated in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the invention, reference is had to the following description taken in connection with the accompanying drawings, in which:

FIG. 1 is a front elevational view of one type of drapery for covering window openings constructed in accordance with the invention and disposed in a window opening in the lowered position;

FIG. 2 is a front elevational view of the drapery of FIG. 1 disposed in the raised position;

FIGS. 3 and 5 are enlarged sectional views taken along lines 3—3 and 5—5, respectively, of FIG. 2;

FIG. 4 is an enlarged sectional view taken along the lines 4—4 of FIG. 1 with the central portion broken away; and

FIG. 6 is a rear elevational view of the drapery of FIG. 1.

DESCRIPTION OF PREFERRED EMBODIMENT

Referring now more particularly to the drawings, the drapery 10 is shown mounted in a window opening 12. The drapery has a sheet member 14, sized to at least substantially cover the window opening 12 when fully extended, said sheet member being preferably formed of a fabric. The embodiment of the invention shown in the drawings is formed of two separate plies of fabric. The front ply 15 and the back ply 16 are preferably secured together by stitching.

Secured to the sash 18 at the top of the window opening 12, is support means 20. The support means comprises a top wall 21, a pair of laterally spaced side walls 22 and 23 depending from the top wall and a bottom wall 24 laterally spaced from top wall 21 and secured to side walls 22 and 23. In addition, support means 20 may be provided with rear wall 25 adapted to enclose the substantially rectangular box formed by the top, side and bottom walls. The top portion of the sheet member 14 is secured to support means 20, preferably by means of nails 26. In the embodiment shown in the drawings, the nails 26 extend only through back ply 16 of sheet member 14. By this arrangement, front ply 15 of the sheet member covers the heads of nails 26, so that the means for securing the sheet member to the support means is not visible when the drapery is viewed from the front.

Rotatably mounted by means of brackets 27 and 28 between side walls 22 and 23 of support means 20 is shade roller 30. The shade roller is of conventional design well known in the prior art. Thus, the cylindrical body 32 of the shade roller has a stub shaft 34 fixed to one end, said shaft being rotatable in a corresponding socket formed in bracket 27. A second shaft 36 extends from the other end of cylindrical body 30, terminating in a flattened portion that rests in a corresponding socket in bracket 28. The second shaft 36 extends into cylindrical body 30 and is rotatable in relation to the cylindrical body.

The external mechanism of shade roller 30 (not shown) comprises a ratchet carried on shaft 36, one or more

pawls hingedly secured within cylindrical body 32 and adapted to operatively engage the ratchet and a spring connecting the second shaft 36 to the cylindrical body 32. The spring is biased to rotate the cylindrical body with respect to the second shaft to rewind a shade or the like about the shade roller upon the release of the pawl. The pawls are generally released from engagement with the ratchet wheel by a sharp downward pull on the shade or the like. The operating mechanism of the shade roller as described above is merely one possible arrangement. The detailed design of said operating mechanism is not critical to the drapery according to the invention, and any shade roller having similar functional characteristics could be utilized therein.

The shade roller 30 is formed with a longitudinal channel 38 extending along the face of cylindrical body 32. Spaced within longitudinal channel 38 are five substantially cylindrical end elements 40 secured to one end of lengths of string 42 and 43. The channel is narrower at its opening than at its base, so that the end elements 40 are retained in the channel. The end elements may be removed by displacing them to the end of the channel. Each length of string 42 and 43 extends from the shade roller 30 through apertures 44 in support means bottom wall 24. Set in apertures 44 are bearings 46 which prevent chafing of the lengths of string as they pass through the apertures.

Secured to sheet member back ply 16 are a plurality of spaced retaining members 48 preferably aligned to define a plurality of substantially horizontal and vertical lines. One of the lengths of string 42 and 43 are aligned with and correspond to the retaining members defining each of said vertical lines. The retaining members 48 are preferably formed in the shape of a ring and sewn to sheet member back ply 16. Operating string 43 extends loosely through the central opening of the corresponding ring-shaped retaining members 48 so as to slidably engage said retaining members. Secured to the other end of operating string 43 is handle 50.

Each of the control strings 42 extends through the central opening in the top three of the corresponding ring-shaped retaining members 48 and are secured to the bottommost of said corresponding retaining members, preferably by being passed through the central opening therein and being tied off. Disposed between the front and back plies of sheet member 14 are three longitudinal stiffening members 52. These stiffening members 52 extend laterally of the sheet member 14 adjacent the horizontal lines defined by retaining members 48. A further stiffening member 54 is disposed between the front and back plies of sheet member 14 substantially along the bottommost horizontal line defined by the retaining members. Further stiffening member 54 is heavier than stiffening members 52, and serves as a weight to prevent curling and wrinkling of sheet member 14. Stiffening members 52 and 54 are secured between the plies by stitching.

The drapery according to the invention is operated in the same manner as a conventional shade. However, instead of pulling on a string secured directly to a sheet member which is, in turn, wound around and secured to a shade roller, the drapery according to the invention is operated by pulling on handle 50 secured to operating string 43, which in turn operates shade roller 30. Thus, if the drapery 10 is in a fully extended position as in FIGS. 1, 4 and 6, it is raised by sharply pulling on handle 50 which releases the pawl within shade roller 30, permitting the spring-loaded shade roller to rotate. As the shade roller rotates, lengths of string 42 and 43 are wound about the shade roller, thereby lifting the bottom portion of sheet member 14 along the horizontal line defined by the bottom-most of retaining members 48. As the sheet member is raised, the portion of the sheet member between each pair of adjacent horizontal lines of retaining members 48 extend outwardly to define a pleat while the horizontal lines of retaining members are gathered

in sequence and carried upward by the bottommost line of retaining members.

The drapery in the fully raised position is shown in FIGS. 2 and 5. In this position, a series of overlapping pleats are formed by the sheet member 14, presenting a pleasing decorative effect. The drapery may be raised to any intermediate position, in which case a number of pleats, depending on the amount the drapery is raised, will be formed at the bottom of sheet member 14. Accordingly, the pleasing decorative effect caused by the pleats is also present when the shade is in an intermediate position.

While the embodiment of the invention shown in the drawings has four control strings 42 secured at their bottom end to sheet member 14, the precise number of control strings 42 will depend on the width of sheet member 14 and the nature of the material of which the sheet member is formed. Operating string 43, which operates the shade roller, need not be centrally located, but could be placed in any position along shade roller 30. The vertical line of retaining members 48, slidably engaging operating string 43, is not essential to the operation of the drapery according to the invention and can be eliminated. In addition, control strings 42 may be secured directly to the lowermost region of sheet member 14 rather than to the bottommost line of retaining members.

The above described arrangement permits the use of a wide variety of fabrics and therefore a wide variety of decorative effects. In addition, since the shade is not operated by applying force to sheet member 14 itself, as in the case of conventional shades, the sheet member may be formed of relatively fragile fabrics.

As mentioned above, sheet member 14 of the embodiment of the invention shown in the drawings is formed of two plies of fabric. In this embodiment, the front ply 15 would be a decorative fabric of the color, design and texture to create the desired decorative effect. The back ply 16 will generally be of a more functional fabric adapted to serve as insulation between the room and the window opening or to provide body and support for the more fragile fabric of the front ply. However, the drapery according to the invention could be formed with a single ply sheet member, if desired. While the sheet member 14 is preferably sized to at least substantially cover the window opening 12, a drapery according to the invention could be utilized to cover an entire wall or section thereof having one or more window openings therein, in which case the sheet member would be sized accordingly. A drapery according to the invention could also be utilized to cover a wall or section thereof having no window openings therein.

A large factor in the pleasing decorative effect created by the drapery according to the invention is the fact that the operating mechanism of the drapery including the support means 20, the shade roller 30, the retaining members 48, the lengths of string 42 and 43, and the stiffening members 52 and 53 are substantially concealed when the drapery is viewed from the front in both the raised and lowered positions. This effect can be enhanced by adjusting operating string 43 so that even handle 50 is concealed from view. Handle 50 can also be concealed from view by an additional short length of fabric depending from sheet member 14 below further stiffening member 54, if desired.

It will thus be seen that the objects set forth above, and those made apparent from the preceding description, are efficiently attained and since certain changes may be made in the above constructions without departing from the spirit and scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrated and not in a limiting sense.

What is claimed is:

1. A self-operating drapery comprising support means adapted to be secured to a fixed support; a decorative

sheet member of predetermined size and shape secured at its top edge to said support means a shade roller rotatably mounted on said support means adjacent to said top edge; an operating string secured at one end to said roller and depending downwardly therefrom at the rear face of said sheet member for operative manipulation of said roller for raising and lowering said sheet member a plurality of spaced retaining members secured to said sheet member and projecting from the rear face thereof; a plurality of control strings secured at one end to said roller and extending loosely through a companion set of retaining members and secured at the opposite end to a lowermost region of said sheet member, said control strings raising and lowering said sheet member in response to the movement of said operating string of said roller said retaining members being aligned to define a plurality of substantially horizontal and vertical lines, each of said vertical lines of retaining members forming the companion set for one of said control strings, said control strings being secured to said sheet member along a further substantially horizontal line; a further plurality of retaining members secured to said sheet member rear face and aligned with said operating string in a substantially vertical line a plurality of longitudinal stiffening members, one of said stiffening members extending laterally of said sheet member adjacent each of said horizontal lines defined by said retaining members; and a further stiffening member extending laterally of said sheet member adjacent said further horizontal line, said stiffening members being secured to said sheet member, whereby a series of horizontal pleats are formed in said sheet member upon the raising thereof.

2. A self-operating drapery as recited in claim 1, wherein said sheet member is formed from at least front and rear plies of fabric secured together said drapery including means for securing said rear ply to said support means, said opposite end of said control strings and said retaining members being secured to said rear ply, said front ply overlapping said securing means, support means, shade roller, rear ply, stiffening members, retaining members and control strings.

3. A self-operating drapery comprising support means adapted to be secured to a fixed support; a decorative

sheet member of predetermined size and shape secured at its top edge to said support means a plurality of end elements; a shade roller rotatably mounted on said support means adjacent to said top edge, said shade roller being formed with a longitudinal channel along its face open at least one end, said end elements being retained within said channel and being removable upon the longitudinal displacement thereof to said open end an operating string secured at one end to an end element and depending downwardly therefrom at the rear face of said sheet member for operative manipulation of said roller or raising and lowering said sheet member; a plurality of spaced retaining members secured to said sheet member and projecting from the rear face thereof; a plurality of control strings secured at one end to end elements and extending loosely through a companion set of retaining members and secured at the opposite end to a lowermost region of said sheet member, said control strings raising and lowering said sheet member in response to the movement of said operating string of said roller.

References Cited

UNITED STATES PATENTS

25	1,326,249	12/1919	Batty	160—84
	1,482,978	2/1924	Edwards	160—84
	2,049,518	8/1936	Schier	160—84
	2,149,481	3/1939	Van Bosch et al.	160—5 X
	2,260,101	10/1941	De Falco	160—84
30	2,310,014	2/1943	Apfel	160—84 X
	3,322,182	5/1967	Palella	160—34 X
	3,371,700	3/1968	Romano	160—84
	3,389,737	6/1968	Arnold et al.	160—176 X

FOREIGN PATENTS

35	545,971	7/1956	Italy.
----	---------	--------	--------

DAVID J. WILLAMOWSKY, Primary Examiner

PHILIP C. KANNAN, Assistant Examiner

U.S. Cl. X.R.

160—344