ENERGY SAVING CURTAINS

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Appl. No.: 14/062,015

Filed: Oct. 24, 2013

Publication Classification

Int. Cl.  
A47H 13/00 (2006.01)  
A47H 23/00 (2006.01)

U.S. Cl.  
CPC ................ A47H 13/00 (2013.01); A47H 23/00 (2013.01)

A window curtain includes a panel having a rod pocket; a first slit in a front side of the rod pocket at a location spaced a first distance from a first vertical edge of the panel, wherein a portion of the panel adjacent to the first vertical edge forms a first return portion; a second slit in the front side of the rod pocket at a location spaced the first distance from a second vertical edge of the panel, wherein a portion of the panel adjacent to the second vertical edge forms a second return portion; a first fastener positioned adjacent to the first vertical edge of the panel; and a second fastener positioned adjacent to the second vertical edge of the panel; wherein the first and second fasteners are configured to hold the first and second vertical edges of the panel adjacent to, or in contact with, a wall.
ENERGY SAVING CURTAINS

FIELD OF THE INVENTION

This invention relates to window curtains.

BACKGROUND

Window curtains are typically mounted adjacent to interior sides of windows for personal privacy or to block light that passes through the window. Curtains that include a rod pocket are constructed to hang from a rod that passes through the rod pocket. The rod can extend between interior surfaces of a window casement, or it can be supported by standoffs that extend outward for walls adjacent to the window. In each case, a gap exists between the edges of the curtain and the casement or wall, allowing for drafts that can result in energy loss in the room.

Since drafts from windows can result in a significant loss of energy, it would be desirable to have a window curtain that reduces the amount of energy lost due to drafts.

SUMMARY

In one aspect, the present invention provides a window curtain including a panel having a rod pocket; a first slit in a front side of the rod pocket at a location spaced a first distance from a first vertical edge of the panel, wherein a portion of the panel adjacent to the first vertical edge and having a width substantially the same as the first distance forms a first return portion; a second slit in the front side of the rod pocket at a location spaced a second distance from a second vertical edge of the panel, wherein a portion of the panel adjacent to the second vertical edge and having a width substantially the same as the second distance forms a second return portion; a first fastener positioned adjacent to the first vertical edge of the panel; and a second fastener positioned adjacent to the second vertical edge of the panel; wherein the first and second fasteners are configured to hold the first and second vertical edges of the panel adjacent to, or in contact with, a wall.

In one aspect, the present invention provides a window curtain including a panel having a first rod pocket; a first slit in a front side of the first rod pocket at a location spaced a first distance from a first vertical edge of the first panel, wherein a portion of the first panel adjacent to the first vertical edge and having a width substantially the same as the first distance forms a first return portion; a second panel having a second rod pocket; a second slit in the front side of the second rod pocket at a location spaced a second distance from a first vertical edge of the second panel, wherein a portion of the second panel adjacent to the first vertical edge and having a width substantially the same as the second distance forms a second return portion; a first fastener positioned adjacent to the first vertical edge of the first panel; and a second fastener positioned adjacent to the first vertical edge of the second panel; wherein the first and second fasteners are configured to hold the first vertical edges of the first and second panels adjacent to, or in contact with, a wall.

These and other aspects of the present invention will be more apparent from the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevation view of a window curtain panel constructed in accordance with an embodiment of the invention.

FIG. 2 is a rear elevation view of the window curtain panel of FIG. 1.

FIG. 3 is a front elevation view of another window curtain panel constructed in accordance with an embodiment of the invention.

FIG. 4 is a rear elevation view of the window curtain panel of FIG. 3.

FIG. 5 is a front elevation view of another window curtain panel constructed in accordance with an embodiment of the invention.

FIG. 6 is a rear elevation view of the window curtain panel of FIG. 5.

FIG. 7 is a front view of a magnet encased in a plastic pouch.

FIG. 8 is a front view of a metallic plate encased in a plastic pouch.

FIG. 9 is a front view of a magnet.

FIG. 10 is a rear view of the magnet of FIG. 9.

FIG. 11 is a front view of a metallic plate.

FIG. 12 is a rear view of the metallic plate of FIG. 11.

FIG. 13 is an isometric view of an end of a window curtain positioned on a curtain rod.

DETAILED DESCRIPTION

Referring to the drawings, FIG. 1 is a front elevation view of a window curtain panel 10 constructed in accordance with an embodiment of the invention. The panel includes a rod pocket 12 spaced from the top edge 14 by a header 16. First and second openings 18 and 20, also called slits, in the form of vertical button holes in this embodiment, are provided in the rod pocket. The openings are spaced a distance from first and second edges 22 and 24 of the panel. When mounted on a curtain rod, not shown in this view, the curtain rod extends through the portion 26 of the rod pocket between the openings, and the ends of the curtain rod protrude through the openings. Curtain rod standoffs, not shown in this view, extend through the portions 28 and 30 of the rod pocket. Then return portions 32 and 34 of the panel would be positioned in planes that may be substantially perpendicular to walls adjacent to the window. The edges 22 and 24 would then be positioned adjacent to the walls. Side hems 36 and 38 are provided along the vertical edges of the panel and a bottom hem 40 is provided along the bottom of the panel.

FIG. 2 is a rear elevation view of the window curtain panel 10 of FIG. 1. A thermal lining 42 is attached to the back of the panel. In one embodiment, the top 44 of the thermal lining is sewn into a hem positioned along the bottom of the rod pocket and the side edges of the thermal lining are sewn into the hems 36 and 38 along the vertical edges of the panel 10. The bottom edge 46 of the thermal panel is not attached to the panel. A bottom hem 48 is provided along a bottom edge of the thermal panel. The thermal lining is not attached to the front panel at the bottom to allow the front panel to drape properly. The bottom edge of the thermal panel is illustrated as having a wave to show that it can move away from the front panel.

Fastening means are provided to attach the vertical edges of the panel to the adjacent wall. In this embodiment, a first component of a hook and loop fastener (e.g., Velcro) is attached to the panel adjacent to the vertical edges at four locations 50, 52, 54 and 56. A second component of the hook and loop fasteners can then be mounted on the walls. When the curtain is mounted on a rod adjacent to a window, the first
and second components of the hook and loop fasteners can be coupled to each other to hold the vertical edges of the panel close to, or in contact with, the walls. This reduces or prevents drafts around the vertical edges of the panel. In other embodiments described below, the fastening means includes magnets and ferromagnetic plates, with either the magnets or plates being attached to the curtain and either the magnets or plates being attached to the wall.

[0023] In one example of the embodiment of FIGS. 1 and 2, the panel has a width of about 54 inches (137.16 cm) and length of about 84 inches (213.36 cm), the top header has a height of about one inch (2.54 cm), the bottom hem has a height of about three inches (7.62 cm), the side hems have a one inch (2.54 cm) width, the slits are positioned four inches for the edges of the panel, the rod pocket has a height of about 2.5 inches (6.35 cm), the slits are button holes having a height of about 2.25 inches (5.72 cm), the top fasteners are about 42 inches (106.68 cm) below the top of the rod pocket, and the bottom fasteners are about one inch (2.54 cm) above the bottom hem. While two fasteners are shown along each edge of the panel, a single fastener, or more than two fasteners could be positioned along the edges of the panels, or fastening strips could extend along the edges of the panels.

[0024] FIG. 3 is a front elevation view of another window curtain panel 60 constructed in accordance with an embodiment of the invention. The panel 60 is a left panel and includes a rod pocket 62 spaced from the top edge 64 by a header 66. An opening 68, also called a slit, in the form of a vertical button hole in this embodiment, is provided in the rod pocket. The opening is spaced a first distance from the edge 70 of the panel. When mounted on a curtain rod, not shown in this view, the curtain rod extends through portion 72 of the rod pocket, and an end of the curtain rod protrudes through the opening. A curtain rod standoff, not shown in this view, extends through portion 74 of the rod pocket. Then return portion 76 of the panel would be positioned in a plane that may be substantially perpendicular to a wall adjacent to the window. The edge 70 would then be positioned adjacent to the wall. Side hems 78 and 80 are provided along the vertical edges of the panel and a bottom hem 82 is provided along the bottom of the panel.

[0025] FIG. 4 is a rear elevation view of the window curtain panel of FIG. 3. A thermal lining 84 is attached to the back of the panel. In one embodiment, the top 86 of the thermal lining is sewn into a hem positioned along the bottom of the rod pocket and the side edges of the thermal lining are sewn into the hems 78 and 80 along the vertical edges of the panel 60. The bottom edge 88 of the thermal panel is not attached to the panel 60. A bottom hem 90 is provided along a bottom edge of the thermal panel. Fastening means are provided to attach the vertical edge of the panel to the adjacent wall. In this embodiment, magnets 92 and 94 are attached to the panel adjacent to the vertical edge 70 of panel 60 at two locations. Metal plates 96 and 98 are attached to the panel adjacent to the vertical edge 100 at two locations. Both the magnets and metal plates can be sewn into the hems 78 and 80 adjacent to the vertical edges of the panel. The magnets and metal plates can be encapsulated in a waterproof casing, such as plastic. Metal plates can then be mounted on the wall at locations such that magnets 92 and 94 will couple to the metal plates to hold the vertical edge 70 of the panel close to, or in contact with, the walls. This reduces or prevents drafts around the vertical edges of the panel. In addition, magnets in the hem of an adjacent panel can be coupled to the metal plates 96 and 98 to hold adjacent edges of adjacent panels together.

[0026] FIG. 5 is a front elevation view of another window curtain panel 110 constructed in accordance with an embodiment of the invention. The panel 110 is a right panel and includes a rod pocket 112 spaced from the top edge 114 by a header 116. An opening 118, also called a slit, in the form of a vertical button hole in this embodiment, is provided in the rod pocket. The opening is spaced a second distance from the edge 120 of the panel. When mounted on a curtain rod, not shown in this view, the curtain rod extends through portion 122 of the rod pocket, and an end of the curtain rod protrudes through the opening. A curtain rod standoff, not shown in this view, extends through portion 124 of the rod pocket. Then return portion 126 of the panel would be positioned in a plane that may be substantially perpendicular to a wall adjacent to the window. The edge 120 would then be positioned adjacent to the wall. Side hems 128 and 130 are provided along the vertical edges of the panel and a bottom hem 132 is provided along the bottom of the panel.

[0027] FIG. 6 is a rear elevation view of the window curtain panel of FIG. 5. A thermal lining 134 is attached to the back of the panel. In one embodiment, the top 136 of the thermal lining is sewn into a hem positioned along the bottom of the rod pocket and the side edges of the thermal lining are sewn into the hems 128 and 130 along the vertical edges of the panel 110. The bottom edge 138 of the thermal panel is not attached to the panel. A bottom hem 140 is provided along a bottom edge of the thermal panel. Fastening means are provided to attach the vertical edge of the panel to the adjacent wall. In this embodiment, magnets 142 and 144 are attached to the panel adjacent to the vertical edge 146 at two locations. Metal plates 148 and 150 are attached to the panel adjacent to the vertical edge 120 at two locations. Both the magnets and metal plates can be sewn into the hems 130 and 128 adjacent to the vertical edges of the panel. The magnets and metal plates can be encapsulated in a waterproof casing, such as plastic. Metal plates can then be mounted on the wall at locations such that magnets 142 and 144 will couple to the metal plates to hold the vertical edge 120 of the panel close to, or in contact with, the walls. This reduces or prevents drafts around the vertical edges of the panel. In addition, magnets in the hem of an adjacent panel can be coupled to the metal plates 148 and 150 to hold adjacent edges of adjacent panels together.

[0028] FIG. 7 is a front view of a disk-shaped magnet 142 encased in a plastic pouch 152.
[0029] FIG. 8 is a front view of a rectangular metallic plate 148 encased in a plastic pouch 154.
[0030] FIG. 9 is a front view of a disk-shaped magnet 144, which can be encapsulated in a plastic layer 156.
[0031] FIG. 10 is a rear view of the disk-shaped magnet of FIG. 9, with a peel-off, non-oil adhesive layer 158.
[0032] FIG. 11 is a front view of a rectangular metallic plate 150, which can be encapsulated in a plastic layer 160.
[0033] FIG. 12 is a rear view of the rectangular metallic plate of FIG. 11, with a peel-off, non-oil adhesive layer 162.
[0034] FIG. 13 is an isometric view of an end of a window curtain 170 positioned on a curtain rod 172. The curtain rod includes a horizontal rod 174 supported by a standoff 176. The horizontal rod passes through a pocket 178 in the curtain panel and an end 180 of the rod passes through a slit 182 in the pocket. The standoff also passes through the pocket. A return portion 184 of the panel is positioned in a plane substantially
perpendicular to the wall 186. In this embodiment, the fastening means includes magnets 188 and 190 sewn in a hem of the panel and ferromagnetic plates 192 and 194 that are adhesively attached to the wall. In another embodiment, the magnets and plates can be replaced by components of a hook and loop fastener, with one of the components attached to the panel adjacent to a vertical edge thereof, and the other component adhesively attached to the wall.

By including a side return portion, edges of the window curtain panels can be positioned close to or touching the walls adjacent to the window and the edges of the curtain panels. Embodiments of the window curtain panels of this invention can achieve a significant energy saving improvement over flat panels of the identical material.

The curtain panels may be made of any suitable material, including thermal-type window curtain materials known in the art.

Whereas particular embodiments of this invention have been described above for purposes of illustration, it will be evident to those skilled in the art that numerous variations of the details of the present invention may be made without departing from the invention.

What is claimed is:

1. A window curtain comprising:
a first slit in a front side of the rod pocket at a location spaced a first distance from a first vertical edge of the panel, wherein a portion of the panel adjacent to the first vertical edge and having a width substantially the same as the first distance forms a first return portion;
a second slit in the front side of the rod pocket at a location spaced the first distance from a second vertical edge of the panel, wherein a portion of the panel adjacent to the second vertical edge and having a width substantially the same as the first distance forms a second return portion;
a first fastener positioned adjacent to the first vertical edge of the panel; and
a second fastener positioned adjacent to the second vertical edge of the panel;
wherein the first and second fasteners are configured to hold the first and second vertical edges of the panel adjacent to, or in contact with, a wall.

2. The window curtain of claim 1, comprising:
a thermal lining positioned adjacent to a rear surface of the panel.

3. The window curtain of claim 1, wherein the first fastener comprises:
a portion of a hook and loop fastener.

4. The window curtain of claim 1, wherein the first fastener comprises:
a magnet.

5. The window curtain of claim 4, wherein the magnet is encapsulated in a plastic layer.

6. The window curtain of claim 4, wherein the magnet is contained in a plastic pouch.

7. A window curtain comprising:
a first panel having a first rod pocket;
a first slit in a front side of the first rod pocket at a location spaced a first distance from a first vertical edge of the first panel, wherein a portion of the first panel adjacent to the first vertical edge and having a width substantially the same as the first distance forms a first return portion;
a second panel having a second rod pocket;
a second slit in the front side of the second rod pocket at a location spaced a second distance from a first vertical edge of the second panel, wherein a portion of the second panel adjacent to the first vertical edge and having a width substantially the same as the second distance forms a second return portion;
a first fastener positioned adjacent to the first vertical edge of the first panel; and
a second fastener positioned adjacent to the first vertical edge of the second panel;
wherein the first and second fasteners are configured to hold the first and second vertical edges of the first and second panels adjacent to, or in contact with, a wall.

8. The window curtain of claim 7, further comprising:
a first thermal lining positioned adjacent to a rear surface of the first panel; and
a second thermal lining positioned adjacent to a rear surface of the second panel.

9. The window curtain of claim 7, wherein the first fastener comprises:
a portion of a hook and loop fastener.

10. The window curtain of claim 7, wherein the first fastener comprises:
a magnet.

11. The window curtain of claim 10, wherein the magnet is encapsulated in a plastic layer.

12. The window curtain of claim 10 wherein the magnet is contained in a plastic pouch.

13. The window curtain of claim 7, further comprising:
a third fastener configured to couple a second edge of the first panel to a second edge of the second panel.

14. The window curtain of claim 13, wherein the third fastener comprises:
a portion of a hook and loop fastener.

15. The window curtain of claim 13, wherein the third fastener comprises:
a magnet.

16. The window curtain of claim 15, wherein the magnet is encapsulated in a plastic layer.

17. The window curtain of claim 15 wherein the magnet is contained in a plastic pouch.

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