VANISHING DESIGN WALL

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ABSTRACT

A vanishing design wall operable to hold pieces of cloth in a substantially assembled position to permit evaluation of a design appearance before sewing the assembly. A preferred embodiment includes a flannel-backed vinyl-faced sheet that may be deployed to form a vertically oriented planar working surface in proximity to a foundation to expose the flannel side. Pieces of cloth may be adhered to the flannel working surface by compressing the design wall between the piece of cloth and the foundation. The design wall may then be collapsed (e.g., by furling onto a spring-loaded roller) to store the wall in an out-of-the-way location. Design elements may be trapped inside the furling design wall for temporary storage. A design wall may be placed in a stored configuration substantially inside an ornamental box and out of casual observation. A preferred box includes a structurally supportive shelf on which items may be displayed.
VANISHING DESIGN WALL

RELATED APPLICATIONS

This application claims the benefit under 35 U.S.C. 119(e) to the filing date of Provisional Application Ser. No. 61/279,819 filed Oct. 26, 2009, and titled “VANISHING DESIGN WALL”.

BACKGROUND

This invention relates to collapsible structure on which items may be placed for temporary and removable display, critique of an arrangement, and/or temporary storage of the items. Certain embodiments are particularly adapted for use in a craft activity, such as quilt making.

Quilts manufactured by individuals (Quilters) in a home-sewing or crafting environment are typically made from sections of 100% cotton. Quilters often use a “design wall” to pose sections of material forming a design portion that may be assembled to form a portion of a quilt. Sometimes the design portion may form an individual square of a multi-square quilt. The individual sections of material inherently self-adhere to a flannel design wall, and may be easily arranged, rearranged, and reviewed as desired for aesthetics and other reasons before sewing the individual sections together.

Many Quilters do not have a designated studio, or dedicated sewing room, in which to work. Instead, they temporarily occupy a room, or portion of a room. For example, they may set up their sewing machine on a dining room table, or in a guest bedroom. Even Quilters having a dedicated sewing room may not have an entire wall that may be permanently dedicated to suspending design arrangements. In some such cases, Quilters may temporarily hang a length of flannel material over a closet door opening, or on a wall. However, those Quilters face the undesirable requirement to remove the flannel for various reasons, such as to enter the closet, or to permit unfettered occupation of the bedroom. Therefore, the repetitive need to hang and remove their design wall presents an irritating dilemma for many Quilters.

BRIEF SUMMARY OF THE INVENTION

This invention provides a design wall including a working surface on which a first section of cotton fabric and a second section of cotton fabric can be adhered to permit removable display of a design including the first and second sections of fabric. Preferred embodiments of such design wall are structured to form a display configuration at which the working surface is oriented as a substantially vertical and planar surface area. Further, preferred embodiments provide a stored configuration effective to reduce a size of the design wall to permit storing the design wall, and any design elements adhered there-to, in a smaller space than required to accommodate a deployed and substantially planar working surface area.

Typically, a design wall includes a first or front side that forms the working surface to which a first section of cotton fabric inherently will self-adhere. Also, a second or rear side, disposed on an opposite side from the first side, is desirably structured to resist adherence of the first section of cotton fabric. A currently preferred design wall includes an area of flannel-backed vinyl material. The flannel backing forms the working surface on which to removably adhere one or more piece of cloth.

It is desirable to provide a suspension mechanism adapted to hold the design wall in an operable position. One exemplary suspension mechanism is configured for anchoring to a vertical surface (like a wall) such that, in the display configuration, the substantially planar working surface area is disposed in a substantially vertical plane. In a preferred arrangement, the suspension mechanism is configured to dispose the rear side of the design wall in close proximity to a vertical foundation surface, and to orient the working surface away from the foundation. Desirably, the design wall is suspended in sufficiently close proximity to the foundation that sections of cloth may be adhered to the working surface while the foundation acts like a backstop to facilitate adhering a piece of cloth to the working surface.

Preferred embodiments of design walls include a retraction mechanism operable to urge an exposed working surface area from a deployed configuration toward a stored configuration effective to reduce a size of the design wall. Such an arrangement permits storing the design wall in a smaller space than required to accommodate the deployed working surface area. One operable retraction mechanism includes a storage roller onto which the design wall may be furled. An alternative workable retraction mechanism may cause folding of the design wall, or pleating of the design wall in sections.

The currently preferred retraction mechanism includes a biased return mechanism with a torsion spring that may be biased to urge furling a portion of the design wall onto a storage roller. In an alternative workable arrangement, a retraction mechanism may include a manually actuated storage roller. A currently preferred design wall is anchored to a roller element such that furling the design wall onto the roller element is operable to trap a cloth element adhered to the working surface between the front working surface and a portion of the opposite rear surface that is already furled onto the roller element.

Certain embodiments of a design wall may include a housing structured to define a volume having a size in which to substantially contain the design wall in a stored configuration. A currently preferred housing is configured to provide a structural shelf capable of supporting an item for ornamental display of the item. An exemplary structural shelf is adapted to support at least about 5 pounds. One operable shelf is structured to form a decorative box in which to substantially contain the design wall to provide inconspicuous storage of the design wall when the vanishing design wall is placed into a stored configuration.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, which illustrate what are currently considered to be the best modes for carrying out the invention:

FIG. 1 is a front view in elevation of a partially deployed, and currently preferred, device structured according to certain principles of the instant invention;

FIG. 2 is a sectional side view in elevation of the embodiment of FIG. 1, but in a fully stored configuration; and

FIG. 3 is a front view in elevation of a partially deployed alternative device structured according to certain principles of the instant invention; and
FIG. 4 is a end side view of the embodiment illustrated in FIG. 3.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENTS

Reference will now be made to the drawings in which like elements of the illustrated embodiments will be given like numerical designations and in which the invention will be discussed so as to enable one skilled in the art to make and use the invention. It is to be understood that the following description is only exemplary of the principles of the present invention, and should not be viewed as narrowing the claims which follow.

As illustrated in FIG. 1, a first currently preferred embodiment of a vanishing design wall, generally indicated at 100, is anchored over a conventional wall closet, generally 102, having a pair of sliding doors 104. As illustrated, the vanishing design wall 100 may be pulled down in front of the closet opening (as indicated by arrow 106) by a desired amount to provide a display configuration having an exposed working surface area having a size sufficient for a particular use. Sections of material 108, 110 may then be adhered onto the exposed working surface area, generally 112, of the vanishing design wall 100.

When access to the closet 102 is desired, the vanishing design wall 100 may be collapsed (e.g. rolled-up). Desirably, a collapsed vanishing design wall 100 may safely contain one or more partially or completely formed design elements, generally 114, when placing vanishing design wall 100 in a stored configuration, generally 115 (such as illustrated in FIG. 2). Desirably, the stored configuration is effective to reduce a size of the vanishing design wall 100 to permit storing the design wall 100 in a smaller space than required to accommodate the substantially planar surface area 112. When the Quilter is ready to continue the design process, the vanishing design wall 100 may again be deployed (e.g. unfurled) to reveal the stored work-in-progress.

It is currently preferred to manufacture a vanishing design wall 100 from drapable, flannel-backed vinyl material. Other materials are also workable, including a simple flannel sheet. However, it is preferred to provide a working surface 116 on one side of the vanishing design wall 100 to which a design element, such as cloth piece 108, will removably adhere, and for the opposite side 118 of the vanishing design wall 100 to be structured to resist adherence of the design element. The typically 100% cotton material used for design and construction elements of a quilt readily and inherently removably adheres to the exposed working surface 116 provided by the flannel backing in a preferred embodiment. A currently preferred opposite side surface (118, see FIG. 2) can be formed by vinyl facing, or some other surface treatment that desirably offers little or no adherence to a design element 108, and thereby resists separation of design elements (e.g. 108, 110) from the flannel working surface 116 as the currently preferred vanishing design wall 100 is unfurled.

The vanishing design wall 100 illustrated in FIG. 1 is configured to dispose of an exposed surface area 112 of working surface 116 having a desired or operable size on which to adhere cloth sections (e.g. 108, 110) for design review. Typical over-the-closet embodiments, such as illustrated in FIG. 1, are sized in length between about 5 to 6 feet, or so, although other sizes are workable. Logically, the maximum length of a design wall may be determined by the effective length of a foundation on which the design wall is to be suspended. One currently preferred embodiment is 5 feet long, and can be as wide as the elevation of a mounting location permits. It is within contemplation that an embodiment structured according to certain principles of the instant invention may be sized such that an entire quilt could be suspended for review before committing to sewing various portions together. Smaller sizes may be useful, in certain circumstances.

It is currently preferred to provide a suspension mechanism, generally 120, effective to permit disposing an exposed portion 112 of a working surface 116 of a design wall in a substantially vertical plane. It is further preferred for a suspension mechanism 120 to permit storing a vanishing design wall 100 in an inconspicuous, out-of-the-way, location. A preferred suspension mechanism 120 permits rolling-up the working surface 116 (and any design elements adhered there-to), for storage of the vanishing design wall 100 in a small space. Exemplary suspension mechanism 120 illustrated in FIG. 1 permits anchoring the design wall 100 with respect to the wall of a room.

One operable suspension mechanism 120 includes a roller-retracting mechanism structured similarly to that used by a spring-loaded retractable window shade. Such mechanism desirably permits unfurling a desired length of vanishing design wall, and re-furling at least substantially the entire length of a design wall 100 including any adhered design elements. An exemplary such mechanism includes a pair of suspension brackets that can be individually mounted on suitable supporting structure, such as a wall. Conventionally, one suspension bracket provides a round hole in which is received a round axle disposed to protrude along the axis of, and from one end of, a storage roller 122. The other suspension bracket typically includes a slot, in which is received a flat bar that protrudes axially from the other end of the roller 122. As the roller 122 is unfurled, the flat bar is held stationary in the slot, and causes a torsion spring to be wound into a biased position. Energy stored in the wound spring can be used to re-furl the vanishing design wall 100 onto the roller 122.

A most preferred embodiment of a design wall 100 is rolled-up in a direction effective to form the stored configuration 115 illustrated in FIG. 2. Such embodiments permit unrolling the design wall 100 from the rear of the roller 122, with the preferably non-adhering surface 118 (e.g. vinyl) facing a foundation (e.g. the wall 124), and the adhering or working surface 116 (e.g. flannel) being exposed to view. Such arrangement places the exposed portion 112 of a vanishing design wall 100 closer to a foundation (e.g. wall 124) against which the Quilter may press to adhere a section of material to the working surface 116. Also, the rolling action to re-furl the vanishing design wall 100 onto a roller 122 helps to immediately trap the adhered cloth elements inside the rolled-up portion.

As illustrated in FIGS. 1 and 2, a suspension mechanism 120 may be embodied to include a shelf 126, on which various objects may be stored and/or displayed. Desirably, the shelf 126 is embodied as a structural element on which loads may be carried. For example, it is desirable that a shelf 126 can carry a load of at least 5 pounds to enable the shelf to support a picture, or a flower and vase, book(s), or one or more relatively heavy object(s). The vanishing design wall 100 may be operably anchored to the shelf 126, or any other suitable foundation.

In certain preferred embodiments, the shelf 126 is boxed-in on the ends 132 as well as the front 134 to make a decorative box 130 defining a volume in which to at least
substantially contain the collapsed vanishing design wall 100. A currently preferred shelf 126 is operable to shield substantially the entirety of a furled vanishing design wall 100 from casual view. Box ends 132, or bottom surface of a shelf 126, or other intermediary structure of a box 130, may also conveniently support portions of a roller mechanism, such as the aforementioned suspension brackets.

[0028] The shelf 126 may be directly anchored to a wall 124, or other surface, using known fastening techniques. With reference to FIGS. 1 and 2, one anchoring arrangement within contemplation includes one or more anchor brackets 128, as illustrated. Of course, an anchor brackets 128 may alternatively be mounted under the shelf 126, and/or on the ends, as desired. Furthermore, suspension brackets may alternatively be directly anchored to a suitable foundation, such as directly to a wall 124. Such a wall-anchoring arrangement for a suspension bracket arrangement may even replace use of a shelf 126, if desired.

[0029] While currently preferred to collapse a vanishing design wall 100 to a stored configuration by way of rolling, or furling, the working surface 116 onto a roller 122, other collapsing structures are workable. For example, a vanishing design wall 100 may be arranged to collapse into a pleated, or folded arrangement.

[0030] Alternative storage mechanisms are operable to assist in collapsing a vanishing design wall 100. For example, a manually actuated pulley arrangement, generally 136 in FIG. 3, can be used in an alternative storage arrangement. The pulley 138 is affixed to a storage roller 122, and the assembly may be rotated by pulling draw-cord 140 in either a deployment direction, or in a storage direction. A workable draw-cord 140 may be formed from a length of rope, or other flexible cord, chain, beaded line, and the like, that interfaces with sufficient friction in pulley element 138. A tie-off arrangement, generally 142, may be provided for draw-cord 140 to resist undesired rotation of the roller 122. To store the design wall 100, the user simply pulls on the draw-cord 140 to rotate roller 122 in the storage direction.

[0031] Alternatively, or in addition, a storage roller 122 may be arranged to roll toward a support surface to incorporate friction to resist unrolling the storage roller. As illustrated in FIG. 4, a slot 144 may be provided in which to receive an axle element 146 of storage roller 122. A workable slot 144 may be substantially horizontal, or angled, as illustrated, to urge the storage roller 122 toward a friction-causing interface against the wall 124, or rear of a box such as box 130. As the design wall 100 is unfurled, the rolled portion encounters the interface, and friction occurring along the length of the roll resists further unrolling. Desirably, such friction can be over-ridden by a user by pulling more firmly to unroll a desired portion of vanishing design wall.

[0032] It is preferred to provide a pull-handle 150, disposed along a bottom portion of the working surface 116. Desirably, a pull-handle 150 will provide resistance to folding the bottom edge of the working surface 116 out-of-plane. Also, such a pull-handle 150 may assist in keeping the vanishing design wall in a substantially centered position when furling onto a storage roller, such as 122, 122, or 122. Certain pull handles 150 may include, or simply provide, a weight effective to urge the exposed working surface 112 toward a planar configuration.

[0033] While the invention has been described in particular with reference to certain illustrated embodiments, such is not intended to limit the scope of the invention. The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered as generally illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. An apparatus, comprising:
a design wall comprising a working surface on which a first section of cotton fabric and a second section of cotton fabric can be adhered to permit removable display of a design comprising said first section of cotton fabric and said second section of cotton fabric;
wherein:
said design wall is structured to form:
a display configuration effective to dispose said working surface as a substantially planar surface area; and
a stored configuration effective to reduce a size of said design wall to permit storing said design wall, and any design elements adhered there-to, in a smaller space than required to accommodate said substantially planar surface area.

2. The apparatus according to claim 1, wherein said design wall comprises:
a first surface comprising said working surface to which said first section of cotton fabric inherently will self-adhere; and
a second surface, disposed opposite to said first surface, structured to resist adherence of said first section of cotton fabric.

3. The apparatus according to claim 1, further comprising:
a retraction mechanism operable to displace an exposed working surface area from a deployed configuration to a stored configuration effective to reduce a size of the design wall to permit storing the design wall in a smaller space than required to accommodate said substantially planar surface area.

4. The apparatus according to claim 3, wherein:
said retraction system comprises a storage roller onto which said design wall may be furled.

5. The apparatus according to claim 3, wherein:
said retraction mechanism comprises a biased return mechanism comprising a torsion spring that may be biased to urge furling a portion of said design wall onto a roller.

6. The apparatus according to claim 3, wherein:
said retraction mechanism comprises a manually actuated roller mechanism.

7. The apparatus according to claim 1, further comprising:
a housing structure substantially to define a volume sized in which to substantially contain said design wall in a stored configuration.

8. The apparatus according to claim 7, wherein:
said housing is configured to provide a shelf capable of supporting an item for ornamental display of said item.

9. The apparatus according to claim 8, wherein:
said shelf is adapted to support at least about 5 pounds.

10. The apparatus according to claim 2, further comprising:
a suspension mechanism adapted to hold said design wall and configured for anchoring to a vertical surface such
that, in said display configuration, said substantially planar surface area is disposed in a substantially vertical plane.

11. The apparatus according to claim 10, wherein: said suspension mechanism is configured to dispose said second surface in closer proximity to said vertical surface than said working surface.

12. The apparatus according to claim 1, wherein: said design wall is anchored to a roller element such that furling said design wall onto said roller element is operable to trap a cloth element adhered to said working surface between said working surface and a portion of said opposite surface that is already furled onto said roller element.

13. The apparatus according to claim 1, wherein: said design wall comprises an area of flannel-backed vinyl material.

14. The apparatus according to claim 1, further comprising:

a shelf structured to form a decorative box in which to substantially contain said design wall to provide inconspicuous storage of said design wall when said vanishing design wall is placed into a stored configuration.

15. A vanishing design wall, comprising:

a working surface on which a first section of cotton fabric and a second section of cotton fabric inherently adhere to permit removable display of a design assembly comprising said first section of cotton fabric and said second section of cotton fabric; wherein:

said design wall is structured to form:

a display configuration effective to dispose said working surface as a substantially planar and substantially vertically disposed surface area that is exposed for visual observation; and

a stored configuration effective to reduce a size of said design wall to permit storing said design wall, and any design elements adhered there-to, in a smaller space than required to accommodate said substantially planar surface area.

16. The vanishing design wall according to claim 15, wherein:

said working surface is configured for furling onto a storage roller to place said working surface into said stored configuration.

17. The vanishing design wall according to claim 16, further comprising:

a shelf configured to form a decorative box in which to substantially contain said working surface when in said stored configuration, said shelf comprising a structural member capable of supporting a load of at least about 5 pounds to permit ornamental display of one or more items on top of a support member of said shelf.

18. The vanishing design wall according to claim 16, further comprising:

a retractor mechanism adapted to displace said working surface from an unfurled configuration toward a furled configuration.

19. The vanishing design wall according to claim 18, wherein:

said retractor mechanism is biased by a torsion spring element that may be biased to urge furling a portion of said design wall onto a roller.

20. The vanishing design wall according to claim 18, wherein:

said retraction mechanism comprises a manually actuated roller mechanism that incorporates friction, between a rolled-up portion of said vanishing design wall and a foundation structure, to resist unfurling of said design wall.