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ABSTRACT
A hanger intended for use to support fabric lengths in pendent, vertical roll form. The hanger includes a main member, supported horizontally at its midpoint, with fabric securing units fixed to its ends. Each securing unit includes an arm supported below and transversely of the main member by a support. Two spaced, pointed pins secured to the arm are adapted to pierce and pass through edges of the fabric to hold it on the arm. The arm is stiffened by a rigid brace extending upwardly to the main member. A safety bar spaced above the arm rests on the pins to cover the points. The safety bar has an opening surrounding the support, which permits it to slide up and down the support without rotation.

2 Claims, 7 Drawing Figures
HANGER FOR FABRIC AND SUPPORTING ASSEMBLY THEREFOR


BACKGROUND OF THE INVENTION

This invention relates to a hanger for fabric, of the type which is commonly used by fabric retailers for storing piece length fabrics in pendent, vertical roll form.

In the purveying of fabrics at the retail level, it is often necessary for the retailer to store piece lengths of fabric as hanging vertical rolls where the nature of the fabric requires it to prevent crushing (e.g. velvet). Frequently the fabric is supplied to him by the wholesaler or manufacturer on a reel of the type disclosed generally in Williams Pat. No. 3,347,484, from which the material must be unwound and transferred to a hanger type of support.

One such hanger previously in use comprises a straight, horizontal, rigid bar with a hook at its midpoint for attachment to a suitable rack and with fabric securing units secured to its opposite ends. Each securing unit includes two slender rods secured to opposite sides of the bar extending downwardly in spaced parallel disposition. At their lower ends the rods are bent through 90° to form transverse arms extending horizontally in opposite directions from the bar. The arms at their transverse extremities are bent upwardly to form pins sharpened at their upper extremities. In use the fabric length is wound round and round the hanger with the pins being forced through the selvedge edges of the fabric to support the fabric as a pendent vertical roll from the hanger.

To avoid the obvious dangers to eye and limb caused by the exposed, upwardly pointing pin members projecting through the fabric on the hanger, the previous hanger has utilized a safety bar spaced above and generally coextensive with the transverse arms. The safety bar rests on the upper points of the pins thereby keeping them safely shielded, but can be slid upwardly to expose the points when it is desired to attach fabric to the hanger.

Although generally satisfactory, certain problems have been associated with earlier hangers of the type described. For example, the use of a straight horizontal rod has required the vertical support rods to be relatively lengthy to position the transverse arms at an adequate distance below the attachment hook by which the hanger is supported on the rail, to provide easy access for the retailer's hand and arm to remove the hanger from the rail when necessary. As a result, this has permitted the safety bar to have an excessive vertical range of movement along the supports, which unfortunately permits the safety bar to become vertically cantled on frequent occasions exposing one or other of the pointed pins. When this happens, the exposed points can injure the retailer, and in addition the safety bar can become wedged against the inside of one of the pins causing considerable inconvenience in the mechanics of placing the fabric on the pin points and removing it. Further compounding the problem, the slender stalk-like nature of the supports may permit them sufficient play to allow the arm to move relatively out of vertical alignment with the safety bar, again exposing the points.

SUMMARY OF THE INVENTION

The present invention provides a hanger for fabric, intended to obviate or minimize problems of the type previously noted. More specifically, the present invention provides a hanger in which the possibility that one or other of the pins may inadvertently become exposed and cause harm or inconvenience to the user of the hanger, is substantially eliminated.

In another aspect of the invention, the hanger is associated with a supporting assembly which permits the manufacturer and retailer to dispense with the steps of reeling and unreeling the fabric on to and off an intermediate reel used only for transportation.

In more detail, a hanger for fabric constructed in accordance with the present invention, includes a longitudinally extending main member having an attachment, such as a hook, which may be connected to a rail, for supporting the main member in generally horizontal disposition. Two securing units are connected with opposite longitudinal ends of the main member and each includes at least one horizontal arm spaced beneath and extending transversely of the main member carried by a support extending downwardly from the adjacent end of the main member. Two upright, transversely spaced, pointed pins secured to the arm, are adapted to pierce and pass through the fabric to hold it on the arm. A brace connected with the arm extends upwardly to the main member at a point spaced inwardly from the end thereof. To cover the exposed ends of the pins, a safety bar extending between the pins rests on their points. The safety bar has an opening receiving the support which permits the safety bar to slide upwardly to expose the points when this is necessary, while preventing rotation about the support.

It will be appreciated that each safety bar is limited in upward motion relative to the associated support by impingement with the adjacent end of the main member. To insure against accidental exposure of the points, the main member is arced downwardly in both directions from its midpoint so that the vertical extent of movement of the safety bar between its extreme upper and lower positions is substantially less than the vertical distance between the arm and the midpoint of the main member. By reducing the extent of vertical travel of the arm in this way, the likelihood that the safety bar will become misaligned with the pins is greatly reduced.

The brace, by adding to the rigidity of the support, further prevents the arm from flexing out of alignment with the safety bar, so that the sharp points of the pins do not accidentally become exposed.

BRIEF DESCRIPTION OF THE DRAWINGS

A hanger for fabric and supporting assembly therefor, constructed in accordance with the one preferred embodiment of the invention, is illustrated in the accompanying drawings in which:

FIG. 1 is a perspective view of a hanger for fabrics, and supporting assembly therefor, constructed in accordance with the preferred embodiment of the invention;

FIG. 2 is an exploded perspective view of portions of the hanger and supporting assembly shown in FIG. 1;
FIG. 3 is an end view of one end of the hanger for fabrics shown in FIG. 1; FIG. 4 is a side view of the portion of the hanger for fabrics shown in FIG. 3; FIG. 5 is a top view of a safety bar forming a part of the hanger shown in FIG. 1; FIG. 6 is a perspective view of a hook connection forming a part of the hanger for fabrics shown in FIG. 1, shown in an upright position; and FIG. 7 is a side view of this portion of the hook connection shown in FIG. 6.

**DETAILED DESCRIPTION**

Referring to FIG. 1 of the drawings, a hanger for fabrics and supporting assembly therefor, constructed in accordance with one preferred embodiment of the invention, is there shown.

The assembly includes a longitudinally extending rectangular wooden base 2 which has a vertical shaft 4 detachably connected to the base adjacent its midpoint. Releasably secured to the upper end of the vertical shaft 4 is a hanger supporting a piece length of fabric 8, as a hanging vertical roll. The hanger 6 includes a main member 10 in the form of a rigid bowed metal rod having securing units 12 at its opposed longitudinal extremities, to which the fabric 8 is releasably secured.

The fabric may be wound on the hanger 6, and the supporting assembly comprising shaft 4 and base 2, at the factory, and the assembled unit packed for shipment in a suitable carton 14 (FIG. 1) to the retailer. The base 2 is generally coextensive with the floor of the carton 14 to locate the assembly securely within the carton. The shaft 4 and base 2 maintain the vertical spacing between the upper and lower ends of the fabric roll in the vertical carton 14, so that the upper end of the fabric roll does not fall to the bottom of the carton and become crushed and creased. The lower end of the fabric is spaced about one-fourth inch above the base, and is held in position during transit by knotted tie cords 14c (FIG. 1) threaded through the lower selvage edge of the fabric (using a needle or the like) and passed through lateral holes 14b (FIG. 2) extending through the base. Once at the retailers, the hanger may be removed from this carton and hung on any convenient rail by an attachment hook 15 (FIG. 2) secured to the main member, after which the base 2 and shaft 4 are removed and returned to the manufacturer, or discarded. By the use of the supporting assembly comprising the base 2 and shaft 4 in association with the hanger 6 it is possible to obviate the intermediate steps of transferring fabric to and from the usual winding reel to the hanger thereby effecting significant savings in time and expense.

Each of the previously mentioned securing units 12 (FIG. 3) by which the fabric is secured to the hanger 6 includes two transversely spaced, parallel support rods 16 secured to opposite sides of the main member 10 extending downwardly from the longitudinal end thereof. Each support rod 16 at its lower end is bent through ninety degrees to form a horizontal arm 17. The arms 17 extend transversely away from the main member 10 in opposite directions. Fixedly secured to the undersides of the arms 17 extending across the gap between the adjacent support arms 16 is a rigid link 18 which imparts added rigidity to the structure. Each arm 16 at its extremity remote from the main member 17 is bent to an upright position to form a vertical pin 20 which is sharpened to a point at its upper end.

To attach the fabric to the hanger the selvage edge of the piece length of fabric is spiked over the pins 20 as the material is looped around the hanger. The pins 20 pierce and pass through the fabric holding it on the arms 16 so that the hanger supports the fabric as a pendant vertical roll. As the sharp, exposed points of the pins 20 would obviously constitute a serious safety hazard if left uncovered once the fabric had been wound on the hanger, a safety bar 22 is provided to guard the points. The safety bar 22 is generally rectangular provided with dimpled portions 24 at its opposite ends which receive and rest lightly upon the points of the pins 20 in a lower position of the safety bar. The safety bar 22 is guided for vertical travel from the pins by a central, narrow elongate slot 26 (FIGS. 4 and 5) through which the support rods 16 pass. The slot is of only slightly greater width than the thickness of the support rods 16 and of only slightly greater length than the maximum distance between them so that although vertical sliding motion of the safety bar 22 can occur, rotation of the safety bar about the support rods out of alignment with the pins is substantially prevented.

Of particular interest in the context of the present invention are the following features intended to prevent accidental exposure of the points of the pins 20 by the safety bar 22. Where the range of travel of the safety bar between the extreme upper and lower positions is relatively great, the safety bar may become canted vertically so that its lower end moves inside and jams against one of the pins 20 leaving the upper end of the safety bar spaced vertically as much as half an inch or more above the exposed point of the other pin 20, creating a substantial hazard. In the present invention, the vertical range of movement of the safety bar is restricted to absolute the minimum necessary to clear the points of the pins so that fabric may be put on it, thereby reducing the free play of the safety bar 22 below that necessary to permit it to become canted in such a manner as to dangerously expose one of the points.

This reduction of vertical movement is achieved by configuring the main member 10 so that it slopes symmetrically downwardly and longitudinally outwardly from its midpoint so that the longitudinal ends of the main member are positioned only a relatively short distance above the horizontal level of the arms 17. It will be appreciated the distance between the underside of the display rail on which the hanger 6 is to be hung and the safety bar 22 when resting on the points (dimension "A" in FIG. 3) is essentially determined by consideration of convenience of access of the retailer's arm and hand when necessary to reach in and grasp the hanger to remove it, and cannot readily be reduced. Part of this distance is provided by the vertical length of the attachment hook 15, and the remainder by the length of the support rods 16. It can be seen from FIG. 3 that if the main member 10 was a straight horizontal rod, the vertical range of travel of the safety bar 22 to its upper position (limited by impingement with the underside of the adjacent end of the main member), would allow the safety bar 22 to move up a substantial distance (represented by dimension "B") so that an end of the safety bar could clear its adjacent pin by a sufficient distance such that subsequent canting of the safety bar could
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cause the lower end to move inside the pin 20 and jam against it upon the next downward movement of the safety bar. If this occurred the other end of the safety bar would expose its associated pin in the manner previously described. By inclining the main member downwardly from its midpoint, however, each end of the main member is placed very much closer to the level of the safety bar resting on the pins, greatly reducing the range of vertical travel of the safety bar between its extreme upper and lower positions represented by the dimension "C". In practice the downward elevation of the end of the member 10 is made so great that while the vertical range of travel of the safety bar 22 permits it to clear the points of the pins sufficiently for the placing of fabric on them, the range of travel is too small to permit the end of the safety bar to clear the associated pins by a distance sufficient to permit the lower end of it to cant inside the pins.

Another problem with previous, relatively lengthy, support rods 16 has been that their slenderness has permitted them to flex to a sufficient extent to move the pins 20 away from the path of descending travel of the safety bar 22, with the result that the points also become uncovered. To avoid this, the present invention provides a diagonal brace 28 (FIG. 4) which is a rigid metal rod having its lower end passing between the support rods 16 and fixedly secured to the link 18. At its upper end the brace 28 is welded to the underside to the main member 10 at a point spaced inwardly of its longitudinal extremity.

When the hanger is assembled on the shaft 4 for transportation in the container 14, as previously disclosed, it is necessary to fold the hook 15 down to reduce package height. For this purpose, the hook 15 (FIGS. 6 and 7) is provided with a vertical straight shank 30 having an enlarged ball 32 at its lower end. The ball 32 is received within a mating, circular socket housing 33 fixedly secured to the main member 10 at the midpoint thereof. One side of the housing 32 is sufficiently cut away to provide an opening 36 which permits the neck portion of the hook 15 to swing down so that the hook 15 can lie in a folded position flat against the main member 10, as shown by the dotted lines.

Two alternative embodiments of the hook 15 may be noted. In one situation the hook may be completely detachable from the main member for transit and be secured once the hanger is removed from the carton by a securing device such as a screw thread or other engaging part. In the other, the hook extends upright during transit and carries the hanger from a horizontal transverse rail mounted at the upper end of the carton 14.

The previously mentioned shaft 4 (FIG. 2) is provided at its lower end with a reduced portion 40 which may be slid into a mating vertical opening 42 extending downwardly through the base 2. A transverse cotter pin 38 is slid through laterally aligned openings in the base 2 and the assembled shaft 4 to releasably secure them together. At its upper end the shaft 4 is provided with transversely extending cutaway slots 46 to receive the main member 10.

I claim:

1. A combination comprising, an elongate hanger member, each said fabric support including,
two fabric supports secured to opposite ends of said hanger member, each said fabric support including,
two generally horizontal arms extending transversely on opposite sides of said hanger member, each said arm having an upwardly directed pointed pin at its outer extremity, a vertical support releasably attached at its upper end to said hanger member and positioned generally centrally between said pins, and
a piece length of fabric, said piece length of fabric being wound in successive loops around said fabric supports with an upper selvedge edge of the fabric being forced over each of said pins in sequence and onto the adjacent arm thereby forming said piece length of fabric into a pendent roll secured to and extending downwardly from said fabric supports and at least partially enclosing said vertical support.

2. A method of supporting piece lengths of fabric utilizing a hanger having an elongate main member which is provided with two fabric supports adjacent its opposite ends, each fabric support including two generally horizontal arms extending transversely on opposite sides of the main member with each arm being provided with an upwardly directed pointed pin at its outer extremity, the method including the steps of: attaching the main member to the upper end of a vertically extending support, winding the piece length of fabric in successive loops about a vertical axis extending generally centrally between the upwardly directed pointed pins; and forcing an upper selvedge edge of the fabric over each of the pointed pins in succession and onto the adjacent portion of the adjacent arm as each loop of fabric is formed, thereby creating a pendent roll of fabric secured to and extending downwardly from the hanger and at least partially enclosing the support.

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 3 844 499
DATED : October 29, 1974
INVENTOR(S) : Milton Berkowitz

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In the Related U.S. Application Data change
"Division of Ser. No. 104,362, Jan. 6, 1971, abandoned"
to read
--Division of Ser. No. 104,362, Jan. 6, 1971, now
Patent No. 3 720 324, issued on March 13, 1973.--

In column 5, line 49, change "part" to read --parts--

Signed and Sealed this
second Day of March 1976

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks