April 18, 1961 I. RICHER 2,980,260

HANGER LOCK FOR GARMENT SHIPPING CONTAINERS

Filed May 31, 1960

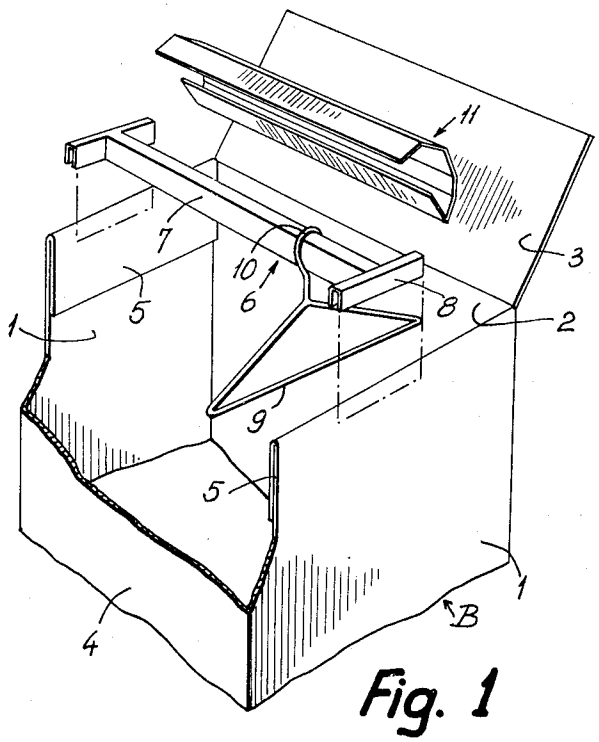


Fig. 1

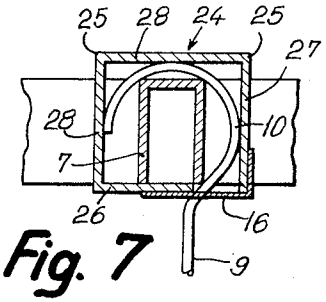


Fig. 7

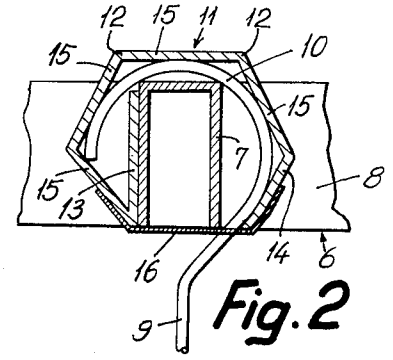


Fig. 2

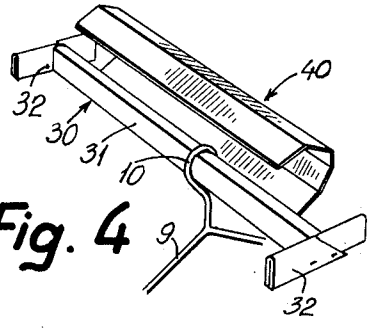


Fig. 4

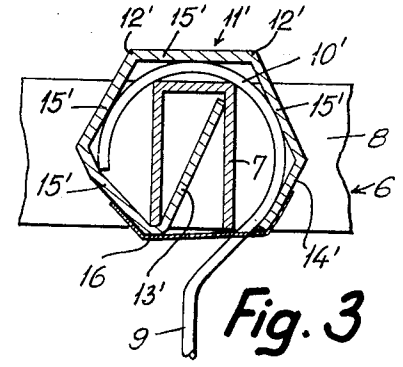


Fig. 3

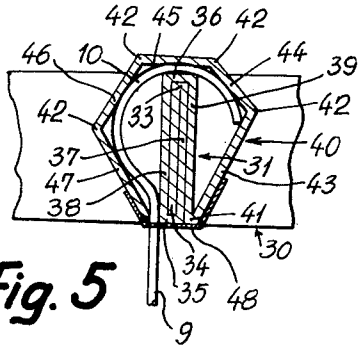


Fig. 5

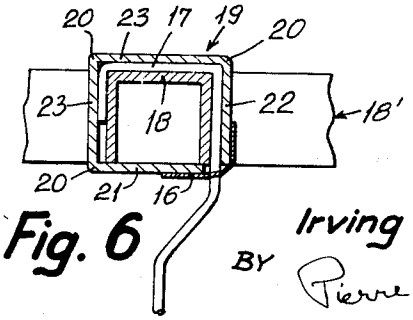


Fig. 6

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HANGER LOCK FOR GARMENT SHIPPING CONTAINERS

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10 Claims. (Cl. 211—124)

The present invention relates to garment shipping containers of the type in which several garments are suspended from hangers themselves supported on a suspension bar extending across the top of the container.

Several types of suspension bars for hangers are known, but they all have the common disadvantage that the hooks of the hangers often spread apart and bend open under the weight of the garments supported thereby during shipping and handling of the box or container. Thus, the garments fall to the bottom of the container and become wrinkled.

It is therefore the general object of the present invention to provide means for preventing the lateral spreading of the hanger hooks, such that the hooks will always remain in engagement with the suspension bar, even if the box and content thereof are subjected to impact or vibration.

A specific object of the present invention resides in the provision of a hanger lock in the form of an envelope surrounding the hanger hooks which will engage the open ends of the hanger hooks with sufficient resistance to prevent lateral spread of said ends under pressure due to the weight of the garments suspended therefrom.

A more specific object of the present invention resides in the provision of a hanger lock which will engage opposite sides of the hanger hooks and resist outward pressure tending to spread the hooks open under the weight of the garment.

Another important object of the present invention resides in the provision of a hanger lock of the character described which is adaptable to any type of suspension bar and hanger hooks.

A further important object of the present invention resides in the provision of a hanger lock of the character described which may be made an integral or a separate part of the suspension bar and which is of relatively inexpensive construction being preferably made of corrugated fiberboard.

The foregoing and other important objects of the present invention will become more apparent during the following disclosure and by referring to the drawings, in which:

Figure 1 is an exploded partial perspective view of a garment shipping container, a suspension bar, a hanger, and the hanger lock in accordance with a first embodiment of the present invention;

Figure 2 is a cross-sectional view of the assembled suspension bar, hanger hook and hanger lock in accordance with the first embodiment;

Figure 3 is a similar cross section showing a second embodiment of the hanger lock;

Figure 4 is a perspective view of a suspension bar provided with an integral hanger lock;

Figure 5 is a cross-section of the assembled elements of Figure 4;

Figure 6 is a cross-section of a suspension bar, square hanger hook and modified embodiment of the hanger lock in assembled position; and

Figure 7 is a cross section of still another modification.

Referring now more particularly to the drawings in which like reference characters indicate like elements throughout, reference character B indicates a garment shipping container of the wardrobe type entirely made of corrugated fibreboard and comprising a pair of opposed side walls **1**, a back wall **2**, a closure flap **3**, a front wall **4**, partially shown, and flanges **5** depending from the top edge of side walls **1**. The container B may be closed in any manner desired.

Reference numeral **6** indicates one of the common types of suspension bars made of metal and having a double T formation consisting of a main leg **7** of inverted channel shaped cross section and two transversely extending end legs **8**, also of inverted channel shaped cross section, and adapted to fit over the top marginal portions of side walls **1** and depending flanges **5**, so as to be supported by the side walls of the box B. In a garment shipping container of this type, the garments are draped over the hangers **9**, the hooks **10** of which are suspended on the main leg **7** such that the hooks will fit over and encircle the leg **7**. Under impact or vibration and due to the weight of the garments supported on the hanger **9**, the hooks **10** frequently bend open and the garments fall to the bottom of the box. In accordance with the invention, means are provided for preventing the spreading apart of the hanger hooks. These means essentially comprise an elongated piece of corrugated fibreboard folded to fit over the several hanger hooks **10** on the bar **6** and secured by means of tape, cord, or the like, around the bar at longitudinally spaced points along the main leg of the bar, to positively hold the locking piece around the bar and hooks.

In accordance with the first embodiment shown in Figures 1 and 2, the hanger lock **11** consists of a generally rectangular piece of corrugated fibreboard provided with longitudinally extending spaced parallel score lines **12** defining marginal sections **13** and **14** and intervening sections **15**. The locking piece **11** is disposed over and around the several hanger hooks **10** engaged with the suspension bar **6**, with the marginal section **13** inserted between the free ends of the hook and the adjacent side of the main leg **7** and flat against said side, as shown in Figure 2. The intervening sections **15** and marginal section **14** have sufficient width and are in such number as to completely surround the hooks with the marginal section **14** extending slightly below the main leg **7**. Then, the locking piece **11** is secured together by cord or by adhesive tape **16** applied to the marginal section **14** and to the intervening section **15** next to section **13**, as shown in Figure 2. The cord or tape is disposed at longitudinally spaced points along the main leg of bar **6**. Thus, the hanger lock forms an envelope surrounding the hooks and is attached at the bottom to thereby positively prevent spreading apart of the hooks and bending open of the same under the weight of the garments supported by the hangers **9**. The tape **16** is preferably of the type having a high tensile strength such as tape incorporating fibre glass.

In accordance with the second embodiment shown in Figure 3, the locking piece **11'** is similar to the locking piece **11** with marginal sections **13'** and **14'** and intervening sections **15'** defined by longitudinally extending spaced parallel score lines **12'**. However in this embodiment, the width of the various sections is modified such that the marginal section **13'** is adapted to enter within the inverted channel shaped main leg **7** of the suspension bar **6**, to extend diagonally from the top rear corner of the same. The locking piece **11'** is secured in closed position by cord or by tape **16** in a manner similar to that shown in Figure 2.

Figure 6 shows still another embodiment, more particu-

larly designed to be used in conjunction with square hanger hooks 17 adapted to fit over the main leg 18 of inverted channel shaped cross section, of a metal suspension bar 18' similar to bar 6. The hanger hook locking piece consists of an elongated rectangular blank 19 of corrugated fibreboard provided with spaced parallel longitudinally extending score lines 20 defining marginal sections 21 and 22 and two intervening sections 23. The sections have such a width so as to completely surround the hooks and the main leg of the bar with marginal section 21 extending underneath the bar and marginal section 22 extending along the back of the hooks, sections 21 and 22 being secured together by adhesive tape 16 along longitudinally spaced points along bar 18'. The locking piece 19 may also be secured by cord, rope or the like, surrounding the same. Thus, the locking piece 19 of Figure 6, forms an envelope of rectangular cross section surrounding the square hanger hooks and the main leg 18 of the suspension bar.

Figure 7 shows also an envelope of generally rectangular cross section used in association with round hanger hooks 10 supported by and surrounding the main leg 7 of the suspension bar 6. The hanger hook locking piece 24 of Figure 7 consists of a rectangular sheet of fibreboard provided with longitudinally extending spaced parallel score lines 25 defining marginal sections 26 and 27 and intervening sections 28. The intervening sections 28 engage the outside of the hooks along the free ends and the top thereof while the marginal section 26 passes underneath the main leg of the suspension bar and section 27 extends alongside the back of the hooks to be joined or tied to section 26 by cord or the like or secured by adhesive tape 16. There again, the locking piece 24 forms an envelope surrounding the several hooks and the suspension bar.

The hanger hook locking element may be made an integral part of the suspension bar when the latter is made of corrugated fibreboard. Figures 4 and 5 show such an embodiment. The suspension bar of these figures is made in accordance with the suspension bar illustrated in Figures 16 to 21 inclusive of applicant's co-pending patent application Serial No. 32,049, filed about April 28, 1960, and entitled "Garment Box."

The suspension bar 30, of Figures 4 and 5, has a double T-shaped formation with a central leg 31 and transverse end legs 32. The bar is made of a single blank of corrugated fibreboard provided with longitudinally extending spaced parallel fold lines 33 defining an end flange 34 and intervening alternate webs 35 and 36 and flanges 37, 38, and 39 which are wound over themselves to form a bar of generally rectangular shape. The top horizontal web 36 engages within the hanger hooks 10. The end legs 32 of the bar are formed and are connected to the main leg in the manner described in the above noted co-pending patent application.

In accordance with the invention, the outermost flange 39 is extended by a hanger locking piece 40 which is integrally connected to flange 39 by score line 41. Locking piece 40 has a plurality of longitudinally extending spaced parallel score lines 42 defining sections 43, 44, 45, 46 and 47.

In the use of the embodiment of Figures 4 and 5, the suspension bar 30 is first assembled with the locking piece 40 left opened and whereby the hanger hooks may be suspended on the bar. Then, the locking piece 40 is folded back over the hooks to surround the same, as shown in Figure 5, and the outermost sections 47 of the locking piece is secured to sections 43 by means of adhesive tape 48 at longitudinally spaced points along the main leg of the bar; instead of tape, cord surrounding the locking piece may be used. Thus, this embodiment is also characterised by the fact that the hanger lock is constituted by an envelope surrounding the several hanger hooks and the suspension bar, said envelope being secured around

the hooks so as to close said envelope and positively prevent spreading open of the hooks under the weight of the garments.

It will be noted that in all the embodiments of the invention the hanger lock engages the open ends of the hanger hooks below the top of the suspension bar so as to provide leverage to prevent bending open and slipping of said hanger hooks off said suspension bar.

While preferred embodiments in accordance with the present invention have been illustrated and described, it is understood that various modifications may be resorted to without departing from the spirit and scope of the appended claims.

What I claim is:

1. As a means for locking the hooks of hangers supported by and extending over a suspension bar of a garment shipping container, an elongated sheet provided with spaced longitudinally extending score lines defining sections folded about said score lines to extend in planes at an angle to one another and form an envelope surrounding said hanger hooks and said bar and means to secure said envelope around said hooks such that said envelope engages the open ends of the hanger hooks below the level of the top of said suspension bar whereby said envelope prevents bending open and slipping of said hanger hooks off said suspension bar.

2. As a means for locking the hooks of hangers supported by and extending over a suspension bar of a garment shipping container, an elongated sheet provided with spaced longitudinally extending score lines defining sections folded about said score lines to extend in planes at an angle to one another and form an envelope surrounding said hanger hooks and said bar, and means to secure said envelope around said hooks whereby said envelope engages opposite sides of said hooks and prevents bending open of the latter.

3. The means for locking the hooks of hangers as claimed in claim 1, wherein said sheet is a piece of corrugated fibreboard.

4. The means as claimed in claim 3, wherein said bar has a double T-shape formation with a main leg for supporting said hanger hooks, and end transverse legs, said piece having a length to surround the major part of said main leg.

5. The means as claimed in claim 4, wherein said bar is made of sheet metal and said piece is an element separate therefrom.

6. The means as claimed in claim 5, wherein the main leg of said sheet metal bar has an inverted channel shaped cross section, said piece having a marginal section fitted within said main leg.

7. The means as claimed in claim 1, wherein said securing means consists of adhesive tape extending underneath said bar and adhered to adjacent sections of said piece.

8. The means as claimed in claim 4, said bar being made from an elongated blank of corrugated fibreboard having longitudinally extending spaced parallel score lines defining flanges folded about said score lines and wound over themselves to form said main leg, said hanger locking piece being integrally connected by a longitudinally extending score line to the outermost flange of said main leg, and bent back to surround said hanger hooks.

9. The means as claimed in claim 8, wherein said securing means consist of adhesive tape extending underneath said bar and adhered to adjacent sections of said hanger locking piece.

10. A suspension bar made of corrugated fibreboard for supporting garment hangers in a garment shipping container, said bar adapted to be supported by a pair of opposed side walls of said container, said bar constituted by a plurality of elongated flanges integrally united along longitudinal fold lines, said flanges being wound over themselves, the outermost concentric flanges

encasing and holding together the remainder of said flanges to form a rigid bar, and a hanger locking piece integrally connected to the lower edge of the outermost concentric flange by a longitudinally extending score line, said locking piece having an elongated shape and having spaced longitudinally extending score lines defining sections folded about said last named score lines to extend in planes at an angle to one another and form an envelope surrounding said hanger hooks and said bar, and means to secure said envelope around said hooks

whereby said envelope engages opposite sides of said hooks and prevent bending open of the same.

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