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HANGER BAR CONSTRUCTION

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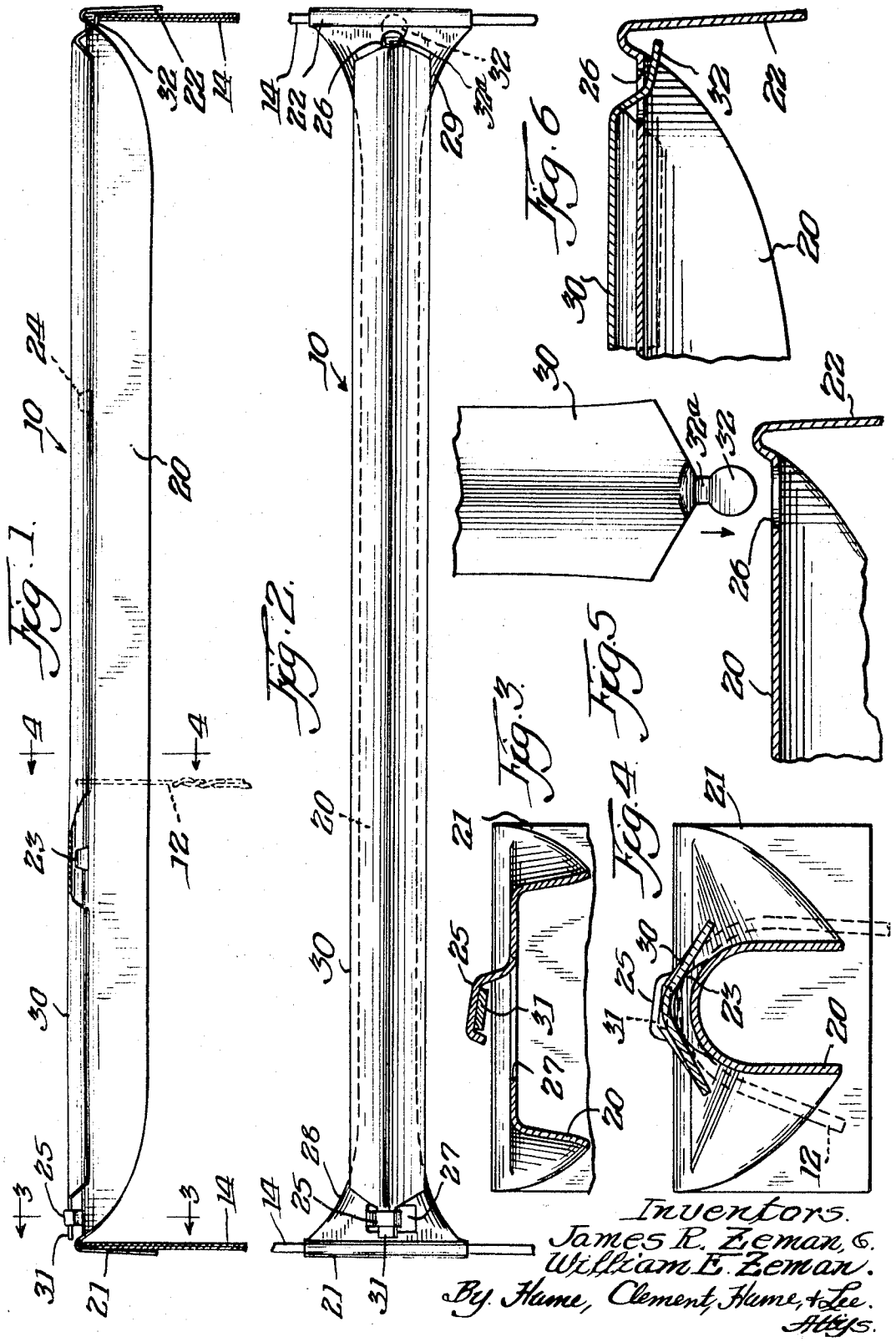

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HANGER BAR CONSTRUCTION

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ABSTRACT OF THE DISCLOSURE

An improved construction for supporting garment hangers within a shipping container. A U-shaped supporting channel member, from which the hangers are hung, has a bendable ear near one end and a longitudinal slot near the other. A continuous V-shaped securing member overlies the channel member. A pair of tabs at the ends of the securing member cooperate with the ear and the slot to hold the securing member firmly against the channel member and garment hanger hooks.

The present invention relates to an improved hanger bar construction. While the invention is useful in numerous applications, it has particular utility in those circumstances where it is necessary to insure that garment hanger hooks will be maintained firmly in place on a main supporting member. Thus the present invention is especially suitable for use in garment shipping containers, movers' cartons, and like environments.

A typical conventional hanger bar construction for use in shipping containers is disclosed in United States Patent No. 2,870,917, issued Jan. 27, 1959. Such constructions have proved unsatisfactory, however, in that the garment hangers are able to slip off the bar when the container is subjected to rough handling. Numerous means for holding the hangers in place on the bar have been devised, but these have been characterized either by unsatisfactory performance, or by undue complication and expense. Accordingly, there has arisen a need for a hanger bar construction which has the capability of maintaining the hangers in place under extreme handling conditions, and yet may be simply and inexpensively fabricated and installed.

The present invention fills this need by providing a main channel member, from which the hangers are hung, in combination with a securing member adapted to fit over the convex surface of the channel member to hold the hangers in place. Holding means are provided at the extreme ends of the securing member and near the ends of the channel member. The position of these holding means with respect to the securing member is particularly significant, since it permits the securing member to have a continuous securing contact with the hangers and channel member over nearly the entirety of the latter's length. Moreover, placement of the garment hangers is virtually unobstructed, and the securing means may be installed with a minimum of inconvenience. In addition, due to the novel construction of the holding means, the necessity for bending metal parts is minimized, and the useful life of the hanger bar greatly extended.

The invention will be more fully understood by considering the following description, with illustrative reference to the drawing, in which:

FIGURE 1 is a side elevational view of an exemplary embodiment of the invention;

FIGURE 2 is a top view of the embodiment of FIGURE 1;

FIGURE 3 is a fragmentary sectional view, somewhat enlarged, taken about the line 3—3 in FIGURE 1;

FIGURE 4 is a sectional view, somewhat enlarged, taken about the line 4—4 in FIGURE 1;

FIGURE 5 is a side sectional view of the right-hand portion of FIGURE 1, showing additionally how various elements are fitted together; and

FIGURE 6 is a view similar to that of FIGURE 5, except that the elements are in final fitted configuration.

Description of exemplary embodiment

With specific reference to FIGURES 1 and 2, there is shown an exemplary embodiment of a hanger bar construction, generally denoted by the numeral **10**, in accordance with the present invention. The hanger bar construction **10** is designed to support a garment hanger **12** within a shipping container, of which latter only the bar supporting portions **14** are shown.

The hanger bar construction **10** essentially comprises a channel member **20** and a securing member **30**. The channel member **20** is preferably U-shaped, although any cross-sectional configuration suitable for supporting hanger hooks may be employed. The ends of the channel member **20** are curved to provide supporting fixtures **21** and **22**, which rest on the supporting portions **14** of the shipping container. Note that the supporting fixtures **21** and **22** are designed so that the convex surface of the channel member **20** is positioned upwardly. Near the ends of the channel member **20**, on the convex surface thereof, are an ear **25** and a longitudinal slot **26**. The ear **25** is preferably formed from bending material from a cut-out portion **27** in the convex surface of the channel member **20**. Also formed on the convex surface of the channel member **20** are protuberances **23** and **24** which serve to separate the garment hangers and serve to provide engaging surfaces for the securing member **30**.

The securing member **30**, as shown, is a continuous, unbroken element having a shallow V-shape. Although the V-shape is preferable, any cross-sectional configuration may be employed which will enable the securing member **30** to press firmly against the protuberances **23** and **24** and the hanger hook **12**. This firmly engaging relationship of the securing member **30**, the protuberance **23**, the hanger **12** and the channel member **20** is best shown in FIGURE 4. It should be understood, of course, that the protuberances **23** and **24** could be omitted, and in such case the securing member **30** would engage only the hanger **12** and those portions of the convex surface of the channel member **20** where it begins to flatten out, as at **28** and **29**.

As best shown in FIGURES 5 and 6, the securing member **30** has at its extreme right end a circular web **32**, joined to the securing member by a narrow neck **32***a*. The tab **32** and the neck **32***a* are dimensioned and shaped such that the tab can be inserted into the slot **26** in the channel member **20** when the securing member **30** is positioned at an acute angle to the channel member. As shown in FIGURE 5, this angle is essentially vertical, but this is for purposes of illustration only. The significant dimensional relationship of the tab **32** and the slot **26** is such that the tab may be inserted into or withdrawn from the slot only when the securing member **30** is moved away from its final position overlying the channel member **20**. When the securing member **30** overlies the channel member **20**, as in FIGURE 6, the tab **32** cannot be withdrawn from the slot **26**.

At the other end of the securing member **30** is a rectangular tab **31**. Once the circular tab **32** has been positioned within the slot **26**, the rectangular tab **31** is moved into position under the ear **25**. This is most effectively accomplished by moving the securing member **30** sideways so that the tab **31** slides under the ear **25**. The relationship of the circular tab **32** and the slot **26** allows substantial horizontal pivoting of the securing member **30**.

The relationship of the tab **31** and the ear **25** is best shown in FIGURE 3. The ear **25** may be bent downward slightly from the position shown in FIGURE 3 in order to lock the tab **31** securely in place. It should be appreciated that the ear **25** is the only element in the entire construction which needs to be bent at all; and since the required degree of bending is very slight, the useful life of the hanger bar construction **10** is much increased. Unlocking of the ear **25** from the tab **31** may be accomplished by manually bending the ear slightly upwardly, or by twisting the securing member **30** so that it exerts an upward bending force on the ear.

Due to the novel features of construction and design, placement of the securing member **30** over the channel member **20** is greatly facilitated. In addition, the fact that the tabs **31** and **32** are located at the extreme ends of the securing member **30** results in a continuous, unbroken contact surface between the securing member **30** and the elements which is overlies.

Although an embodiment constructed in accordance with the present invention has been described with the requisite particularity, the disclosure is of course only exemplary. Consequently, numerous changes in details of construction, in size, configuration and arrangement of components and materials, and in modes of application will be apparent to those familiar with the art and may be resorted to without departing from the scope of the invention as set forth in the following claim.

What is claimed is:

1. A hanger bar construction comprising: a channel member having appropriate cross-sectional shape and dimension to accommodate hanger hooks; a support member at each end of said channel member; a plurality of hanger-spacing protuberances in the convex surface of said channel member; a bendable ear affixed to said convex surface near one end of said channel member; a relatively short longitudinal slot in said convex surface near the other end of said channel member; a securing member adapted to overlie said convex surface of said channel member; a first tab at one end of said securing member adapted to underlie and be secured by said ear; and a second tab at the other end of said securing member and coextensive therewith, said second tab being shaped for vertical planar insertion into said slot and for horizontal planar holding within said slot.

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