June 17, 1930. C. L. SNYDER 1,765,107

TIE BAR HANGER

Filed Feb. 13, 1928

Fig. 1.

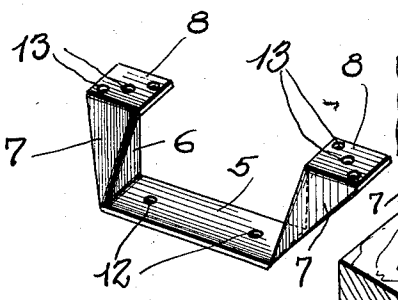


Fig. 2.

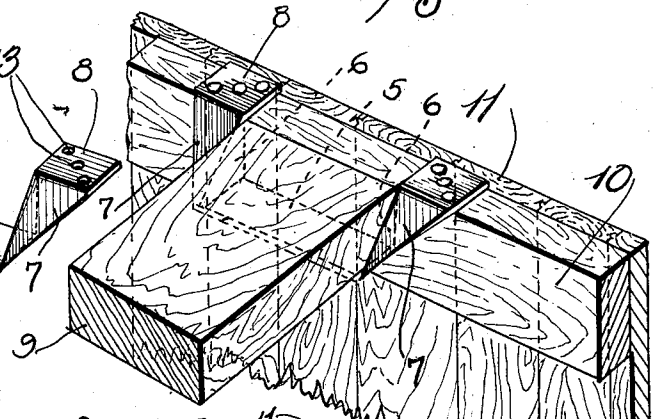
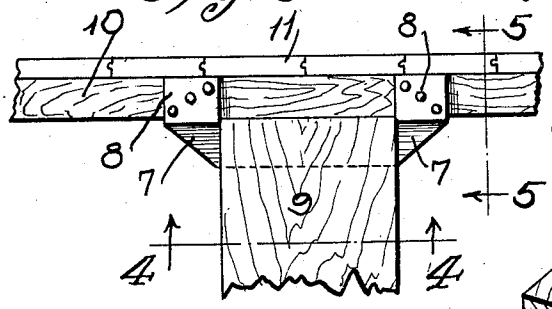


Fig. 3.



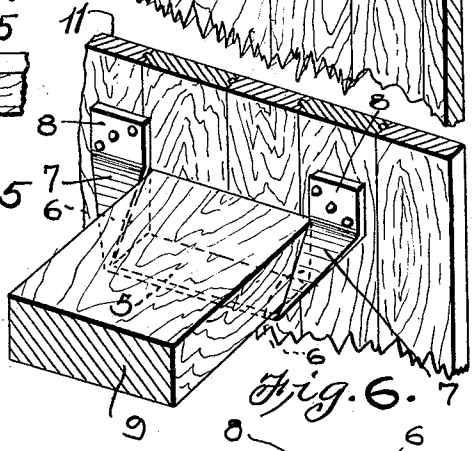


Fig. 4.

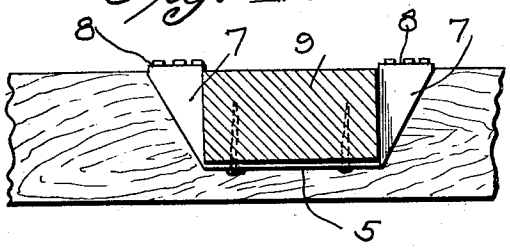


Fig. 6.

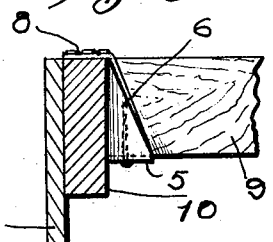
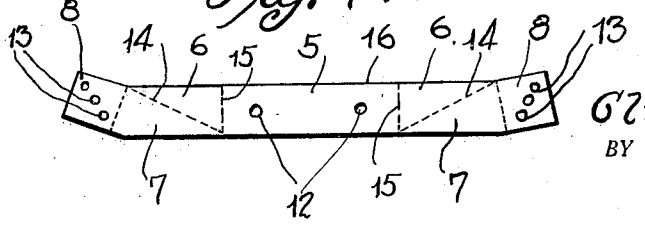


Fig. 5.

Fig. 7.



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Patented June 17, 1930 1,765,107

UNITED STATES PATENT OFFICE

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TIE-BAR HANGER

Application filed February 13, 1928. Serial No. 254,080.

This invention relates to transportation boxes particularly adapted for use in exporting motor vehicles, and has more particular reference to an improved hanger adapted to overcome certain disadvantages of hangers heretofore used for attaching and supporting the tie bars commonly employed for connecting and bracing the opposite side walls of such a box.

In the use of tie bar hangers or supporting cleats, there is always a tendency of the hanger or cleat to draw away from the supporting wall or sill, which is due to the fact that the weight of the tie bar or the load thereon, causes the tie bar to sag in the middle, thus bringing the greatest weight on the toe, front or inner edge of the tie bar seat of the hanger or cleat and at the same time relieving the weight at the back or outer part of the seat. Furthermore, in the use of prior tie bar hangers or supporting cleats, their attaching nails are driven into the side walls of the export box in a direction substantially parallel with the direction in which the hangers or supporting cleats tend to pull away from the supporting wall or sill, with the result that the hangers or supporting cleats are readily pulled loose and the box is deprived of the necessary means for enabling the same to effectively withstand the shocks and stresses to which it is subjected.

An important object of the present invention, therefore, is to provide an improved form of tie bar hanger in which simple and efficient means is provided for transmitting the load which bears on the toe of the hanger seat, directly to the top of the hanger and the supporting wall or sill where the hanger is attached to the latter, thus causing the load to be resisted at all points by the full section of the hanger.

Another object of the invention is to provide means whereby the attaching nails for the hanger are driven in a direction at right angles to the direction in which the hanger tends to pull for its suporting wall or sill, thereby additionally insuring against the hanger pulling loose and permitting the tie bar to be displaced so that it no longer braces the box.

Other advantages of the invention are the provision of a hanger which is of extremely light weight, comparatively great strength, extremely simple in construction, capable of being readily manufactured without material waste of metal and thoroughly efficient in use.

Other objects and advantages will appear as the nature of the invention is better understood, and the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawing and claimed.

In the drawing:—

Figure 1 is a front perspective view of a tie bar hanger embodying the present invention;

Figure 2 is a fragmentary perspective view showing the hanger in use for supporting one end of a tie bar from the top sill of a side wall of a motor vehicle export box;

Figure 3 is a top plan view of the construction shown in Figure 2;

Figure 4 is a section on line 4—4 of Figure 3;

Figure 5 is a section on line 5—5 of Figure 3;

Figure 6 is a view similar to Figure 2, showing the hanger in use for supporting an end of a tie bar from the side wall of an export box at a point below the top sill thereof; and

Figure 7 is a diagrammatic plan view showing a blank and the lines upon which it is folded to form a tie bar hanger in accordance with the present invention.

Referring more in detail to the drawing, the present tie bar hanger embodies a step or seat 5, side members or cheeks 6, wings or face webs 7 extending laterally away from

each other from the front edge of the cheeks 6 and from the ends of the front edge or toe of the seat 5 to the lower or front edges of supporting parts or flanges 8. The supporting parts or flanges 8 are formed by extensions on the upper ends of the wings or face webs 7, and when the hanger is employed for supporting an end of a tie bar 9 from the top sill 10 of the side wall 11 of an export box, said supporting parts or flanges 8 are turned back parallel with the seat 5 to flatly engage the upper edge of the sill 10 and at right angles to the back edges of the cheeks 6, which rest against the inner side of the sill 10 as shown clearly in Figure 6. The step or seat 5 and supporting parts or flanges 8 are respectively provided with nail holes 12 and 13, through which, in the use of the hanger as shown in Figures 1 to 5, inclusive, nails are adapted to be driven vertically or at right angles to the direction in which the hanger tends to be drawn from the supporting sill 10, thus effectively resisting drawing of the same out of the sill 10. In instances where it is desired to use the hanger on the side wall 11 below the sill 10 as shown in Figure 6, the supporting parts or flanges 8 are directed upwardly in a plane parallel with the back edges of the cheeks 6 for flatly engaging the inner face of the wall 11 and being nailed to the latter. As the load is transmitted from the front or inner toe edge of the step or seat 5 to the lower edges of the supporting parts or flanges 8 by the wings or face webs 7, and as said wings or face webs 7 are extended at an upward and outward angle, the direction of pull on the nails is such as to extend at an angle to the direction in which the nails are driven so that they will not readily pull out of the side wall 11. Moreover, as the inner edges of the wings or face webs 7 are joined throughout to the inclined inner or front edges of the cheeks 6, the latter cooperate with the wings 7 to sustain the load so that the latter is resisted at all points by the full section of the hanger.

The present hanger has the advantage, among others, that it can be readily made from blanks of the form shown in Figure 7 stamped from sheet metal in such a way as to reduce the waste of material to a minimum. As shown in Figure 7, the blank consists of a strip of metal which may be stamped from relatively thin sheet or bar material, and which consists of an elongated rectangular intermediate portion forming the step or seat 5, portions joined to the ends of the intermediate portion 5 and each composed of sections adapted to respectively form a side piece or cheek 6 and the associated wing or face web 7 when the wing forming portion 7 is bent at right angles to the cheek forming portion 6 along an oblique line 14 and the cheek forming portion 6 is bent at right angles to the intermediate portion 5 along a transverse line 15 at right angles to the longitudinal axis of the blank, and end portions adapted to form the supporting parts or flanges 8 and forming continuations of the wing forming sections 7 and projecting obliquely of the longitudinal axis of the blank. The parts 8 are directed laterally of a longitudinal edge 16 of the remainder of the blank parallel with the oblique fold or bend lines 14 between the cheek and wing forming sections 6 and 7. It will thus be seen that the side pieces or cheeks 6 gradually decrease in width from the seat 5 to the top supporting parts or flanges 8, and that the wings 7 gradually increase in width in the same direction proportionate to the decrease in width of the cheek pieces 6. It is also apparent that with the end portions of the blank which form the supporting parts or flanges 8, disposed parallel with the fold or bend lines 14 between the cheek and wing forming sections 6 and 7 and projecting laterally beyond a longitudinal edge 16 of the remainder of the blank, said supporting parts or flanges 8 will extend truly at right angles to the longitudinal axis of the blank. When the cheek forming portions 6 are bent upwardly at right angles to the seat or step forming portion 5 and the wing forming portions 7 are directed outwardly at right angles to the cheek forming sections 6 as shown in Figures 1 to 5 inclusive. In other words, the end portions of the blank which form the supporting parts or flanges 8 are directed laterally or offset relative to the remainder of the blank at a definite angle so as to extend truly in continuation of the wings 7 for most effective bearing upon the sill 10 when directed horizontally, or upon the inner face of the wall 11 when directed upwardly or vertically.

From the above description it will be seen that I have provided a hanger in which the load which bears on the toe of the hanger is transmitted through the wings 7 directly to the supporting wall or sill, and in which the association of the wings 7 with the cheek pieces 6 causes the load to be resisted at all points by the full section of the hanger. It will also be apparent that I have provided a hanger which is of extremely light weight, relatively great in strength, simple in form, efficient in use, and capable of manufacture with a minimum waste of material.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim is:—

A sheet metal blank for tie bar hangers, having parallel longitudinal edges and consisting of an elongated central portion adapted to form the seat of the hanger, side portions parallel and co-extensive with said central portion and embodying sections adapted to be bent at right angles to the central portion to form vertical cheeks and further sec-

tions adapted to be bent on oblique lines to form outwardly directed inclined wings on the forward edges of the cheeks, and end portions normally set at an obtuse angle to and projecting laterally of the central and side portions parallel with the wing forming sections, said end portions being adapted to be bent at an angle to the wing-forming sections to form supporting parts.

In testimony whereof I affix my signature.

CLIFFORD L. SNYDER.