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CHANNEL STRUCTURE FOR HANGERS.

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1,172,664. Patented Feb. 22, 1916.

Fig. 1.

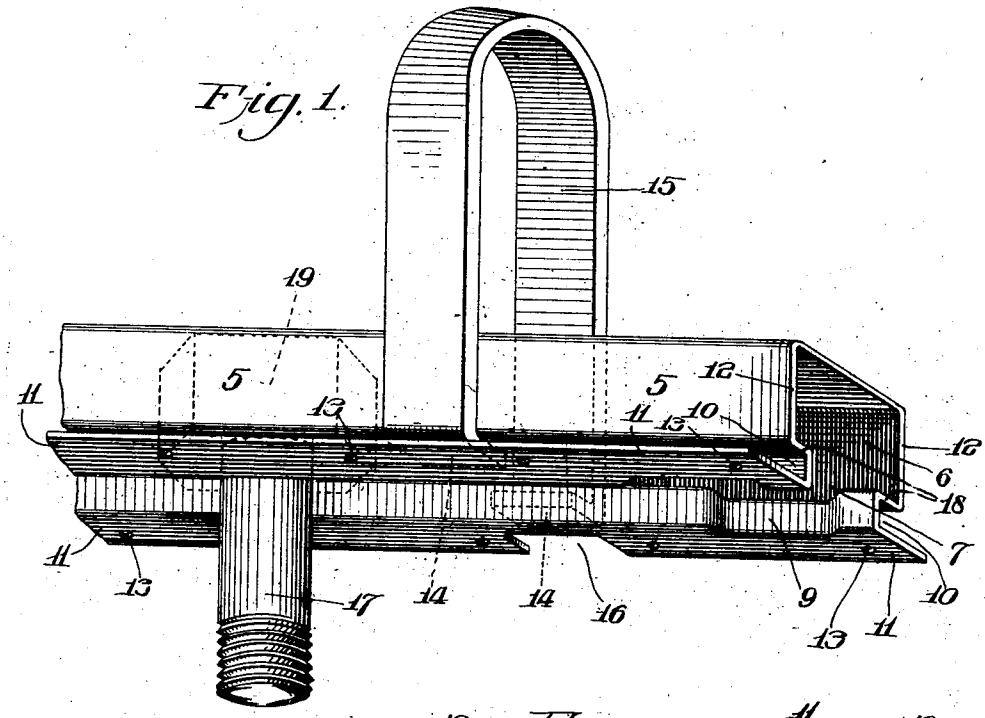


Fig. 2.

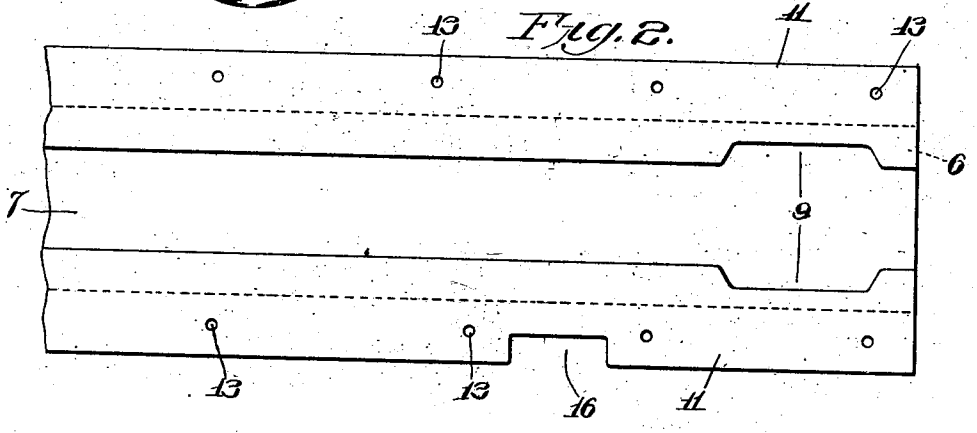
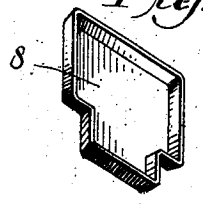


Fig. 3.



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CHANNEL STRUCTURE FOR HANGERS.

1,172,664. Specification of Letters Patent. **Patented Feb. 22, 1916.**

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To all whom it may concern:

Be it known that I, WALTER D. BANES, a citizen of the United States, residing at Germantown, in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Channel Structure for Hangers, of which the following is a specification.

My invention relates to channels or recesses for hangers or bolts and is adapted for use in connection with concrete structures.

The object is to provide in connection with concrete construction simple and efficient means for securing recesses, channels or sockets in which to engage the heads of bolts or other hanger structures.

Referring to the drawings, which illustrate merely by way of example, suitable means for the embodiment of my invention—

Figure 1 is a view in perspective of such channel structure with a bolt and anchoring means connected therewith. Fig. 2 is a view of the under side of said channel structure. Fig. 3 is a perspective view of a cap adapted to close the end of the channel structure.

Similar numerals refer to similar parts throughout the several views.

5 represents a channel structure made of pressed sheet metal. This structure is provided with a large channel 6 and the more restricted channel portions 7 opening thereto, thus forming a convenient receptacle for the head of a bolt or other hanger structure which may be adjustably located in any desired position along the extension of said structure 5. The enlarged portion 9 of the restricted channel 7 is provided for inserting the head of the bolt into channel 6. The walls of structure 5 are so bent and formed as to provide the two exterior flanking channels 10 running throughout the entire length of structure 5 and flanking the restricted channel 7. Below the channels 10 project the flanges 11, which extend a sufficient distance beyond the vertical plane of the sides 12, to allow room for inserting or driving nails through the apertures 13 provided in said flanges.

The channels 10 are adapted to receive the converging ends 14 of the anchor member 15 as shown in Fig. 1. These ends 14 of member 15 may be inserted over the end of the channel member 5, or if the bar or member 5 is a very long one it may be more convenient to provide one of the flanges 11 with one or more of the recesses 16, so that while one end 14 is inserted in channel 10 the other end may be sprung into position through such recess 16.

The member 8 consists of a thin sheet metal blank adapted to be pressed into the end of the member 5 to form a closure thereof, the member 5 itself corresponding to the die and a punch being used to force member 8 into same. This member 8 is preferably made into concave formation as shown in Fig. 3, which forms an additional recess for receiving the concrete.

The member 5 may be of any length required. For example, it may be used in a number of short sections such as twelve inch sections, extending in line end to end, or it may be used in sections of several feet each.

In operation a suitable number of anchor members 15 are placed along the member 5 with the ends 14 projecting into channels 10, and the member 5 is then placed with flanges 11 against the form. The flanges 11 are then nailed to said form by nails projecting through the apertures 13. The ends of said member 5 are closed by the caps or covers 8 or other suitable means. The concrete is then filled in, and when the same becomes set, and the form removed, the flanges 11 will be flush with the surrounding wall of the structure, the channel 7 being exposed to view. The necessary bolts 17 are then put in position, by inserting the heads thereof through the enlargement 9 of the channel 7, and then moving along into the narrower portion of said channel with the head projecting into the enlarged channel 6. Where the channel members 5 are short, one such enlarged opening 9 is sufficient. Where such channel members are long, say several feet, two or more such enlargements may be provided with advantage.

It will be noted that the anchor member 15 may be made of very heavy metal, while the metal of the channel member 5 may be much lighter in weight. It will be noted that the ends 14 project beneath the wall 18, forming part of the underside of channel 6, and being the wall which engages the head 19 of the bolt 17. It will thus be seen that the ends 14 of anchor member 15 engage the wall which receives the greatest

stress, that is, the weight of the hanger, and thus places the resisting strength where the same is most needed. It will also be noted that when the concrete sets, the same filling the interior of member 15, said member 15 forms a very complete anchor in said concrete. It will also be obvious that the loop formed by U shaped member 15 between the ends 14 which engage with the channel member 5, is adapted to receive a reinforcing bar when such bars are used, as in reinforced concrete construction. It will also be noted that when the concrete is filled in about member 5 it fills channels 10, thus greatly reinforcing said channel member 5.

By the means above described it is possible to provide at minimum cost, an extremely simple and efficient device for securing hanger bolts and the like in sockets or channels provided in connection with concrete structures.

What I claim is:—

1. A pressed metal channel structure comprising angularly extending walls forming a main longitudinally extending channel and a narrower channel parallel and communicating therewith, formed between parallel walls of relatively short vertical extension, longitudinally extending flanges in the plane of the outer margin of said narrower channel, one flange provided with a recess in its outer margin, for permitting the passage therethrough of one end of an anchor member, said flanges forming with the outer walls of the narrower channel and part of the walls of the main channel oppositely disposed exterior channels and an anchor member having converging free ends engaging in said exterior channels.

2. A pressed metal structure comprising angularly extending walls forming a main longitudinally extending channel and a narrower channel parallel and communicating therewith, longitudinally extending flanges in the plane of the outer margin of said narrower channel, said flanges forming with the outer walls of the narrower channel and part of the walls of the main channel oppositely disposed exterior channels and a U-shaped anchor member having converging free ends engaging in said oppositely disposed exterior channels.

3. A channel structure for hangers, comprising angularly extending walls forming a main longitudinally extending channel and a narrower channel parallel and communicating therewith, longitudinally extending flanges in the plane of the outer margin of said narrower channel forming with the outer walls of the narrower channel and part of the walls of the main channel oppositely disposed exterior channels, a U-shaped anchor member having converging free ends for engaging in said oppositely disposed exterior channels and a closure for the open end of said structure comprising a sheet metal blank of similar contour but greater dimension than the end of the channel structure forced into said open end thereby upsetting the marginal portions into a flange having frictional engagement with the parallel walls of the channel structure.

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