

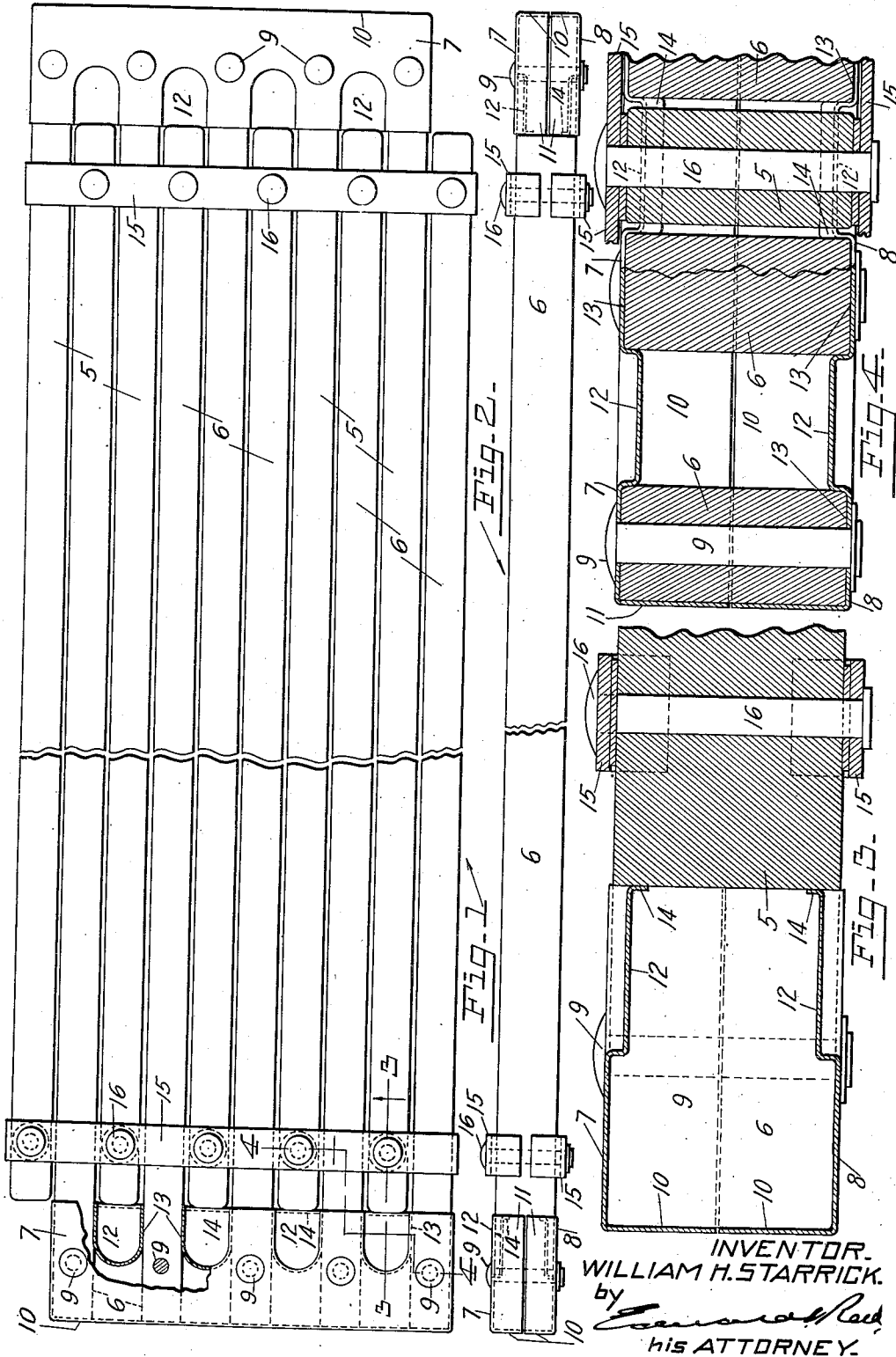
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EXTENSIBLE WORK SUPPORTING STRUCTURE

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EXTENSIBLE WORK SUPPORTING
STRUCTURE

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This invention relates to an extensible work supporting structure or the like. One form of extensible work supporting structure commonly employed by paper hangers comprises two members, each consisting of a plurality of sets of parallel bars spaced laterally one from the other, the bars of each set being arranged between adjacent bars of the other set and being slidable lengthwise thereof. The bars of each set project beyond the bars of the other set at the respective ends of the structure and the projecting ends of the bars are connected one to the other. Usually this connecting means consists of a bolt extending transversely through the ends of the several bars of the one set, spacing blocks being interposed between adjacent bars. Such a connection is satisfactory when the structure is new but in time the bars, which are of wood, will shrink and the combined shrinkage of the several bars permits of a substantial transverse movement of the individual bars with relation to the bolt and also permits of a turning movement of the bars. Further, the end portions of the bars are exposed and the rough handling to which the structure is usually subjected often results in the splitting or chipping of the bars, all of which is highly objectionable and interferes with the use and manipulation of the structure. The other or inner ends of the bars of each set are usually connected one to the other by relatively thin metallic cross bars extending for the full width of the structure but connected with the bars of the one set only.

One object of the present invention is to provide a structure of this kind having improved means for connecting the ends of the bars of the respective sets of bars.

To this end it is a further object of the invention to provide rigid connecting members to which the individual bars are separately connected and which are of such a character as to protect the ends of the bars against injury.

A further object of the invention is to provide connecting members having means for spacing the bars one from the other and for maintaining each bar in its proper position with relation to the other bars.

A further object of the invention is to provide connecting members which will constitute stops to limit the relative movement of the two sets of bars.

Other objects of the invention may appear as the structure is described in detail.

In the accompanying drawing Fig. 1 is a plan view of an extensible structure embodying my

invention and partly broken away; Fig. 2 is a side elevation of such a structure, partly broken away; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is a section taken on the line 4—4 of Fig. 1.

In this drawing I have illustrated one embodiment of my invention and have shown the same as applied to an extensible structure comprising two sets of parallel bars 5 and 6. The bars of each set are spaced laterally one from the other and are arranged between the adjacent bars of the other set, so that the bars of the two sets are arranged alternately in a common plane. The ends of the bars 5 project beyond the adjacent ends of the bars 6 at one end of the structure and the ends of the bars 6 project beyond the adjacent ends of the bars 5 at the other end of the structure. The projecting ends of the bars of each set are rigidly connected one to the other by a connecting device of such a character as to hold each bar in its proper position with relation to the other bar. Preferably this connecting device comprises one or more plates mounted on the projecting ends of the bars and secured to the individual bars. As here shown, it comprises two metallic plates 7 and 8 arranged respectively above and below the projecting ends of the bars of one set and rigidly secured to the individual bars by suitable connecting devices, such as rivets 9 which extend through both plates and the respective bars. Both plates are provided with flanges 10, which engage the ends of the several bars, and with side flanges 11 which engage the lateral surfaces of the outermost bars of that set. Thus the two flanged plates constitute a housing which embraces the projecting end portions of the bars and protects the same against injury.

Rivets 9 hold the respective bars firmly against displacement with relation to the connecting plates, and the flanges engaging the ends and sides of the bars prevent the pivotal movement of the bars on their respective rivets. However, if desired, additional means may be provided for more positively holding the bars against relative movement. For this purpose the inner portion of each connecting plate is depressed, as shown at 12, the depressed portions being arranged between adjacent bars and thus providing each connecting plate with recesses 13 which receive the edge portions of the respective bars and form seats in which the bars fit snugly, and which positively prevent any lateral movement or any turning movement of the bars with relation one to the other or to the connecting

plates. The depressed portions 12 of the connecting members extend into the paths of the corresponding bars of the other set of bars and thus form stops to limit the inward movement of the two sets of bars with relation one to the other. Preferably the inner edges of these depressed portions are flanged, as shown at 14, to provide the same with relatively wide contact surfaces.

The inner ends of the bars of each set may be connected one to the other in any suitable manner and, in the present instance, this connecting means comprises relatively thin cross bars 15 arranged above and below the bars of both sets and extending entirely across the structure but connected with the bars of one set only, as by means of rivets 16.

While I have shown and described one embodiment of my invention I wish it to be understood that I do not desire to be limited to the details thereof as various modifications may occur to a person skilled in the art.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates mounted on the projecting ends of the bars of the respective sets, means for separately securing the ends of said bars to the respective plates, said plates having means for holding said bars and said plates against relative movement due to shrinkage, and other means for connecting the other ends of the bars of each set one to the other.

2. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates arranged above and below the projecting ends of the bars of each set of bars, separate fastening devices extending through said plates and the respective bars, other devices carried by said plates and engaging said bars to hold the latter against turning movement about said fastening devices, and means for connecting the other ends of the bars of each set one with the other.

3. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates arranged above and below the projecting

ends of the bars of the respective sets of bars and having flanges at three edges thereof to engage the end portions of said bars, rivets extending through said plates and the respective bars, and other means for connecting the other ends of the bars of each set one with the other.

4. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, a housing embracing the projecting ends of the bars of each set, separate means for securing the respective bars to said housing, and other means for connecting the other ends of the bars of each set one with the other.

5. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates mounted on the projecting ends of the bars of the respective sets, each plate having recesses to receive the edge portions of the respective bars, fastening devices to secure said bars in said recesses, and other means for connecting the other ends of the bars of each set one with the other.

6. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates mounted on the projecting ends of the bars of the respective sets, means for separately securing the ends of said bars to the respective plates, each plate having depressed portions arranged in the spaces between adjacent bars, and other means for connecting the other ends of the bars of each set one with the other.

7. In a structure of the character described, two sets of laterally spaced bars, the bars of each set being arranged between adjacent bars of the other set and projecting beyond the bars of said other set at one end of said structure, connecting plates mounted on the projecting ends of the bars of the respective sets, means for separately securing the ends of said bars to the respective plates, each plate having depressed portions arranged in the spaces between adjacent bars and having parts forming stops to engage the bars of the other set and limit the relative movement of the two sets of bars, and other means for connecting the other ends of the bars of each set one with the other.

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