July 7, 1925. 1,545,165

J. B. O'CONNOR

TRUCK

Filed Jan. 6, 1922

Fig. 1.

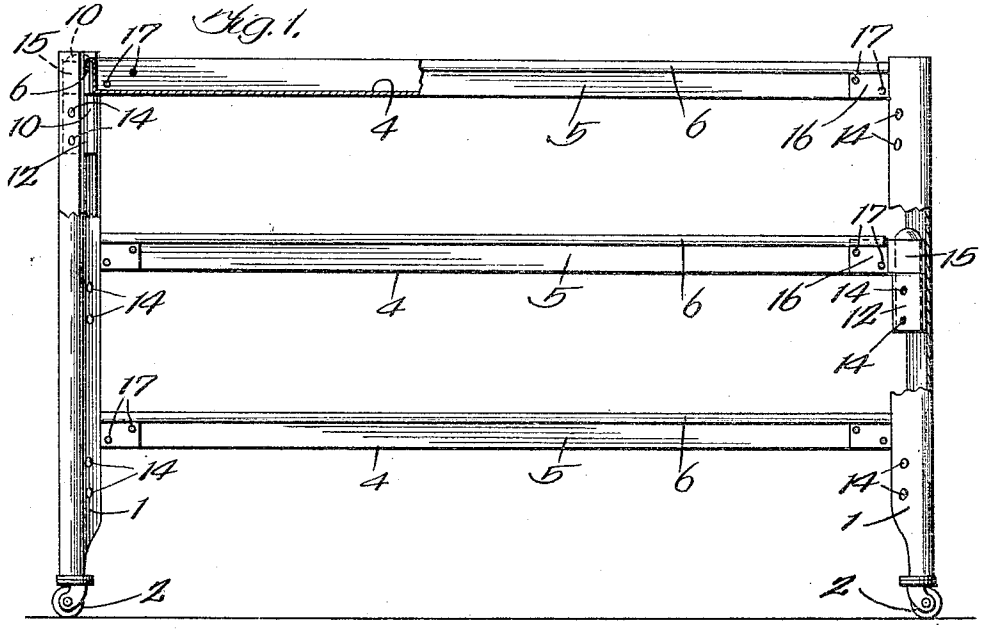


Fig. 2.

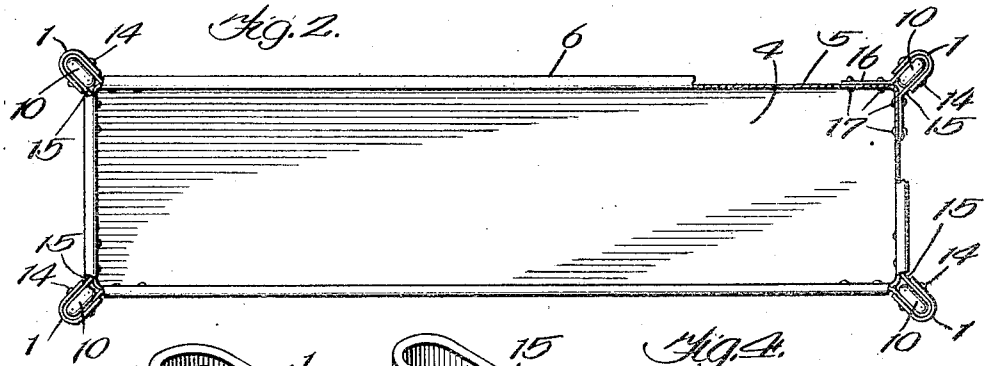


Fig. 3.

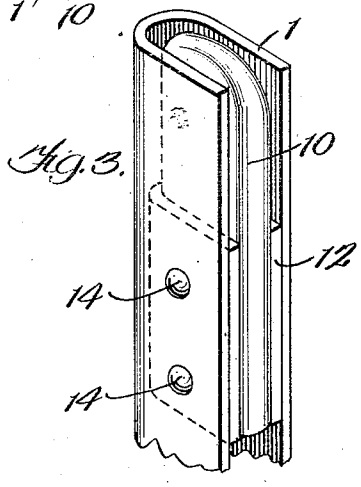
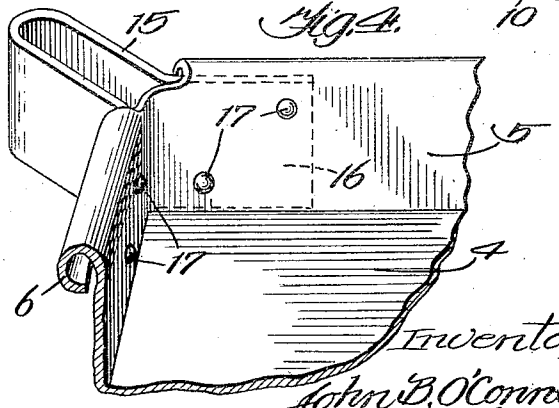


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN B. O'CONNOR, OF AURORA, ILLINOIS, ASSIGNOR TO LYON METALLIC MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

TRUCK.

Application filed January 6, 1922. Serial No. 527,354.

To all whom it may concern:

Be it known that I, JOHN B. O'CONNOR, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a certain new and useful Improvement in Trucks, of which the following is a specification.

My invention relates to shelving, more particularly in the form of portable shelving or trucks, and one of the objects of the invention is to provide a simple but rigid interlocking construction whereby the shelves and the supporting posts may be readily taken apart or assembled. This characteristic applies not only to the structure as a whole, but includes the fact that single shelves may be removed or replaced without disturbing the structure as a whole. Another object is to provide a concealed joint which will not only add to the appearance of the structure but will protect the joints, and to a certain extent the shelves, from damage due to contact with external objects. Another purpose of the invention is to obtain great rigidity in the assembled structure notwithstanding the fact that the same is readily collapsible. I obtain my objects by the mechanism illustrated in the accompanying drawings in which

Figure 1 is a side assembly view, certain of the parts being broken away to show the structure more in detail.

Figure 2 is a top plan view showing one corner of the structure in section for better revealing the internal structure.

Figure 3 is a fragmentary perspective showing on an increased scale the locking pin and sheath-like construction of the post to which it is attached.

Figure 4 is a perspective view showing a corner of the post and illustrating, in connection with Figure 3, the manner in which the parts may be assembled.

Like numerals denote like parts throughout the several views.

I have chosen to illustrate the invention as applied to shelved trucks for industrial uses. In this type there are four corner posts 1, these being provided with castors 2. The posts are U-shaped in horizontal section, the opening of the U facing inward toward the shelf as illustrated. The shelves or trays in the present case have bottoms 4 having upstanding flanges 5 at the margins, these flanges being preferably rolled at the upper edge 6 for strengthening the shelf and imparting a finished appearance to it.

Pins 10 are fastened within the posts at suitable intervals, vertically, the pins being preferably short sections of flat metallic bars rounded at the edges and top, as best shown in Figure 3. The pins are located within the posts and are substantially coaxial with them but are spaced from them by means of U shaped spacers 12. The spacers and pins are secured to the posts by rivets 14 or other appropriate fastening devices, and the result is that when the parts are fastened together the pins will extend upward a short distance from the top of the spacers. Consequently a U-shaped space will be formed between the pin and the post. This space is for accommodating straps or loops 15 secured to the corners of the shelves or trays. According to the present design these loops extend obliquely outward from the corners of the shelves and have lugs 16 which pass to the outside surface of the flanges 5 and are secured to them by rivets 17 or other appropriate means. In the form illustrated the height of the loops is greater than their diameter, thus imparting a bracing effect to the structure.

In practice, the structure is erected by holding the corner posts upright and passing the loops 15 over the top of the pins 10 until they rest upon the spacers 12. When this act of assembly has been repeated for each corner of each tray, it will be found that the structure is extremely rigid under best conditions, the loops fit reasonably snugly to the pins, and the U-shaped posts themselves fit reasonably snugly over the outside of the loops, there being just sufficient play to enable the parts to be assembled and disassembled. It will be evident that there is a considerable amount of bearing surface, and that an interlocking effect is obtained which effectually prevents wracking.

Of course the shape of the parts may be modified somewhat but in its best form one of the characteristics of my invention is the effective interlocking of the parts, the straps not only fitting over the pins and hence making contact on the inside, but fitting into the posts and hence making con-

tact on the outside of the loops. As the pins 10 are short, the loops may be caused to disengage them by being moved upward a slight distance, and the result is that the topmost shelf may be removed without disturbing the rest of the structure always. By proper manipulation the middle shelf may be taken out so that articles of much larger bulk may be placed upon the lower shelf. In practice, the shelves and posts are made to standard sizes, and the result is that the parts may be kept in stock and may be shipped, knocked down, to their place of use, thus effecting a saving in transportation and handling charges. Another advantage of this construction is that the posts project outward at the corners an appreciable distance and thus serve to a certain extent as guards for preventing any surrounding objects from running into and damaging the shelves, which are usually of lighter gauge metal than the posts. Furthermore as the joints are enclosed—that is, the loops 15 and the pins are sheathed within the posts, there is practically no danger that the joints can become damaged by contact with external objects. Nothing short of a very severe blow will change the configuration of the parts sufficiently to make assembly difficult.

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

1. A structure of the class described having shelves, posts for supporting them, and upstanding pins parallel to and spaced from the sides of the posts, the lower portions of the pins being fastened to the posts and loops at the corners of the shelves adapted to fit over the pins and to pass between the pins and the sides of the posts to brace the parts and rigidify the structure.

2. A collapsible structure of the class described having a plurality of shelves at different heights, corner posts for supporting them, upstanding pins arranged at the side of the posts and being supported at the bottom by the posts, the pins being substantially oblong in cross section and having flat sides and loops at the corners of the shelves adapted to pass horizontally around the pins and make surface contact with their sides for bracing the structure.

3. In a structure of the class described, shelves, U-shaped posts facing inward toward the shelves, upstanding pins supported within said posts, approximately coaxially with them but spaced from them, and shelves having loops adapted to engage the pins and occupy the space between the pins and the posts.

4. In a structure of the class described, shelves, U-shaped posts located at the corner of the shelves and facing obliquely inward, U-shaped spacers fitting within the posts and fastened to them, pins fastened to said spacers, and loops projecting obliquely from the corners of the shelves and adapted to fit over the pins and into the posts for supporting the shelves.

In witness whereof, I have hereunto subscribed my name.

JOHN B. O'CONNOR.