Nov. 3, 1925. 1,560,122

W. N. VANCE

SHELF AND RACK CONSTRUCTION

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Fig. 2.

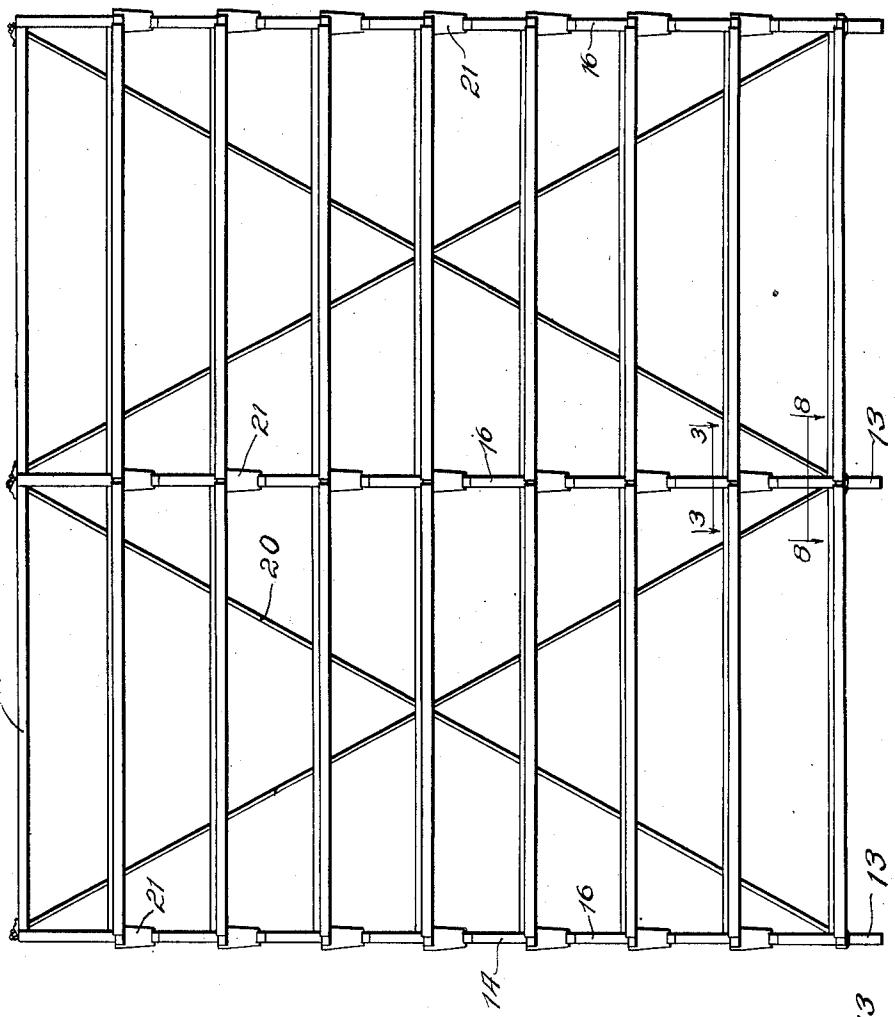
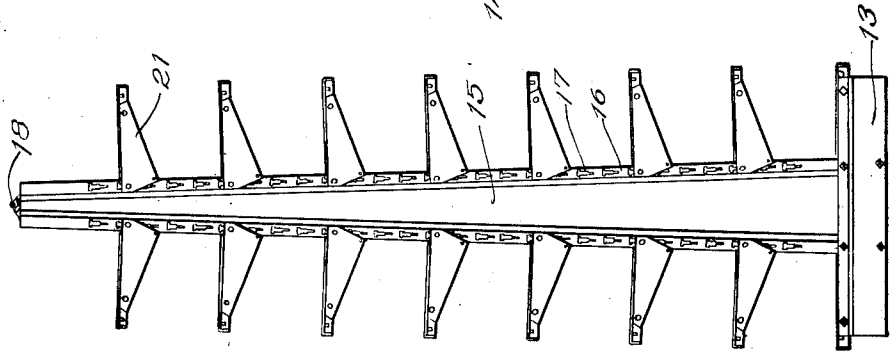


Fig. 1.



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Fig. 3.

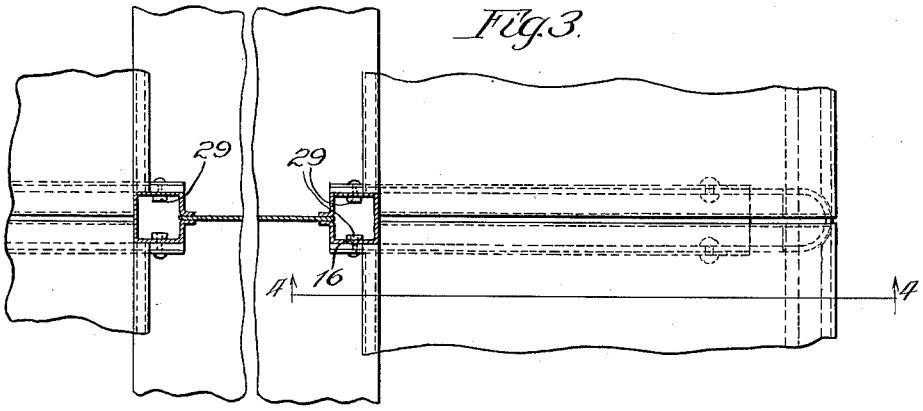


Fig. 4.

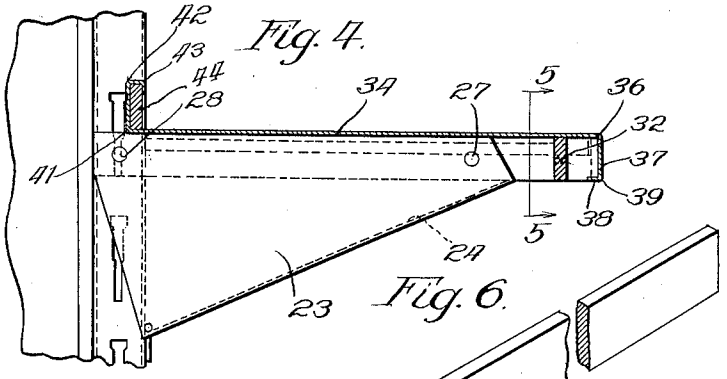


Fig. 6.

Fig. 5

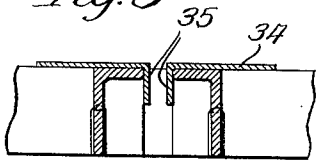
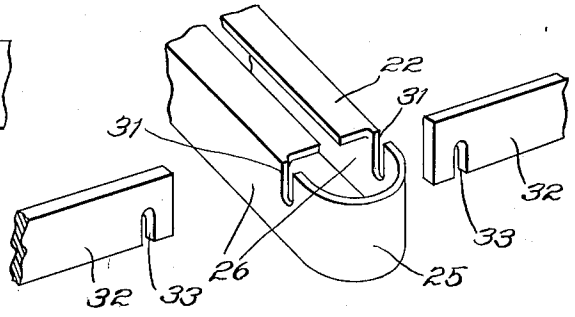


Fig. 7.



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SHELF AND RACK CONSTRUCTION

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Fig. 8.

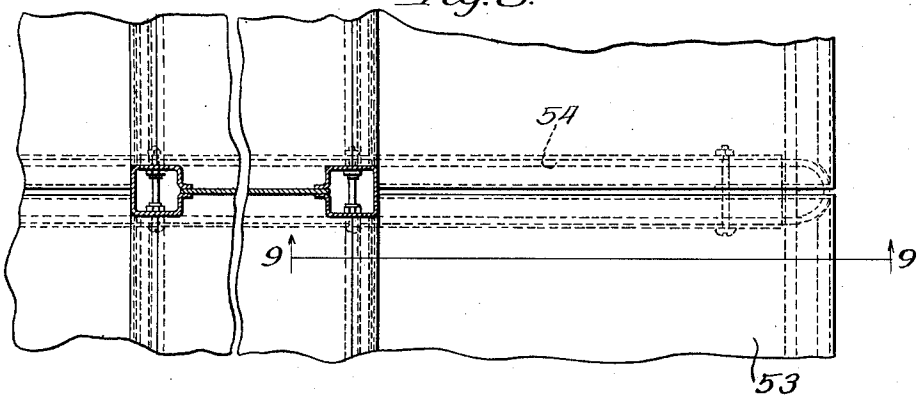


Fig. 9.

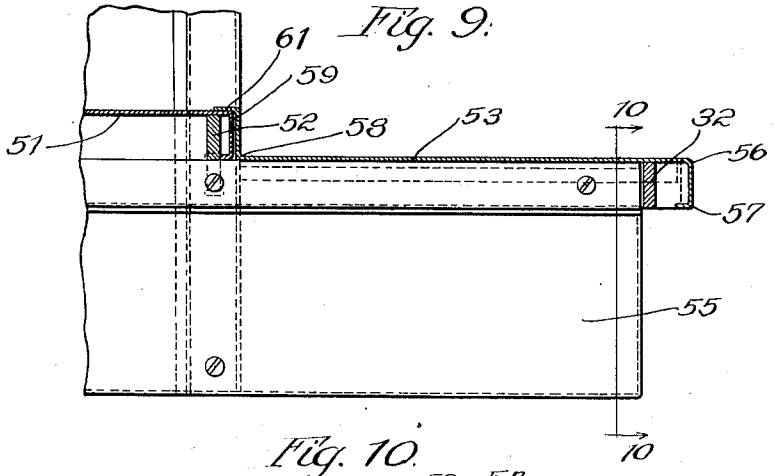
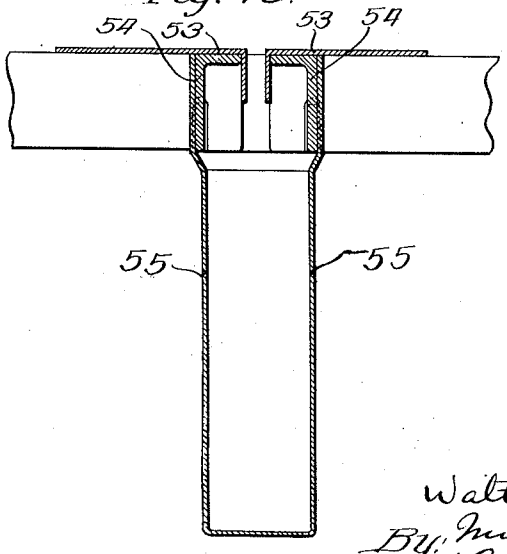


Fig. 10.



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Patented Nov. 3, 1925. 1,560,122

UNITED STATES PATENT OFFICE.

WALTER N. VANCE, OF CHICAGO HEIGHTS, ILLINOIS, ASSIGNOR TO DURAND STEEL LOCKER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SHELF AND RACK CONSTRUCTION.

Application filed February 24, 1920. Serial No. 360,979.

To all whom it may concern:

Be it known that I, WALTER N. VANCE, a citizen of the United States, residing in Chicago Heights, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Shelf and Rack Construction, of which the following is a specification.

This invention relates in general to shelf or rack construction and more particularly to such construction adapted to be furnished in knocked down condition.

The invention has for a principal object the provision of a strong and sturdy construction comprising a skeleton supporting frame work adapted to be arranged centrally in the assembled structure and carrying vertically adjustable arms extending outwardly and supporting shelves.

The invention also has for an important object the provision of a knocked down structure possessing the foregoing and other advantages which may be readily and cheaply manufactured, easily assembled by inexperienced labor and without requiring special instructions and which may be readily again taken apart and reassembled.

Numerous other objects and advantages will be apparent as the invention is better understood from the following description when considered in connection with the accompanying drawings illustrating a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is a end elevation of a construction embodying my present invention;

Fig. 2 is a side view thereof;

Fig. 3 is a partial section taken substantially on the line 3—3 of Fig. 2;

Fig. 4 is a section taken substantially on the line 4—4 of Fig. 3;

Fig. 5 is a section taken on the line 5—5 of Fig. 4;

Fig. 6 is a partial perspective view of the bar used to reinforce a shelf edge;

Fig. 7 is a partial perspective view with the parts separated, and of an end of a cantilever arm and the cross connecting members;

Fig. 8 is a partial plan view of the shelf arrangement provided at the base on line 8—8 of Fig. 2;

Fig. 9 is a section taken substantially on the line 9—9 of Fig. 8; and

Fig. 10 is a section taken substantially on the line 10—10 of Fig. 9.

For the purpose of illustrating my invention I have shown on the drawings an embodiment of it comprising a frame-work of the character shown and described in my co-pending application Serial No. 356,220, filed February 2, 1920, for improvements in bar racks. Particular description of the frame-work will not therefore be required in this specification. It should however be stated that the frame work shown on the drawing comprises spaced uprights each formed of a base 13 from which vertical members generally indicated at 14 extend up. Each of these vertical members consists of a central metal sheet 15 to the edges of which are secured tubes 16 in the sides of which are slots 17. The tubes 16 are preferably inclined slightly from the vertical and toward each other. The uprights are arranged at intervals in the frame-work and are connected at the top and bottom by horizontally extending parts 19 and by diagonal braces 20 all as in my application co-pending herewith and above identified.

Cantilever arms 21 are arranged at intervals to extend out from each tube 16 and these arms may be arranged at various vertical heights as conditions may require. They are constructed in the main like the arms in my application for patent for improvements in bar racks already mentioned each consisting of a bent angle member 22 and a body or reinforcing sheet 23. As in my co-pending application this sheet is bent on lines of bend 24 to provide wings extending up in parallelism, and the angle member 22 is bent upon itself at 25 to provide two halves or legs 26 arranged in parallelism. The horizontal flange of the angle member is cut away at the bend, i. e., the center of the angle member and again near the ends to permit these ends to extend past and lie against the slotted side faces of the tubes 16. The metal sheet is arranged with the

side wings on the outer sides of the angle member to which it is riveted or otherwise secured at 27 and 28, the rivets 28 near the arm end having tails 29 for engagement in appropriate slot parts of the uprights. Slots 31 are provided in the angle member at or near the free end and these slots are adapted to receive slotted cross connecting members 32. These members have slots 33 near their end so that when they are positioned as may be observed by comparing Figs. 5 and 7 the tops of the members 32 lie substantially in the plane of the tops of the angle member.

So much of the structure as has just been described may advantageously be used in bar rack construction to stiffen the arms, but in the illustration of the invention shown on the drawing the cross members 32 have additional use in supporting shelves 34. Each of these shelves consists of a metal sheet adapted to extend between and rest upon adjacent cantilever arms located at the same height. The edges of the sheets at the end are preferably bent down to form flanges 35 which fit over and down into the slot or opening formed between the horizontal flanges of the angle iron part of the arm. The forward edge of each shelf rests upon the appropriate cross connecting member 32 and is bent down there beyond at 36 to provide a facing flange 37, the extremity 38 being bent in at 39 to stiffen the shelf construction and to improve the appearance. The rear edge of the shelves is preferably bent up at 41 adjacent the slots in the uprights, forwardly at 42 and downwardly at 43 forming an embracing portion of the sheet to embrace a shelf stiffening bar 44 which extends throughout the length of the shelf between adjacent uprights and bears at its end through the sheet and upon the ends of the angle members located at the sides of the adjacent tubes of the uprights.

In accordance with the construction in the application for patent on bar racks already mentioned I have provided a shelf 51 resting upon the cross connecting frame members 52 and bottom shelves 53 are provided to rest at their ends on the base arms 54 like the base arms in my co-pending application mentioned. The base arms 54 are extended out beyond the body 55 of the base and are cross connected by cross connectors 32 therebeyond. The shelf 53 is bent down at 56 and back at 57 in the manner of the shelves 34 already mentioned. At the rear edge it is bent up at 58 alongside the edge 59 of the shelf 51 and back upon the top of this shelf at 61 to support the rear edge of the shelf 53.

It is thought that the invention and many of its attendant advantages will be better understood from the foregoing description and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a shelf or rack construction, the combination of a number of uprights, cantilever arms extending out therefrom and each consisting of a metal member returned upon itself and secured at its ends to an appropriate upright and shelf members resting at their ends upon halves of said arms.

2. In a shelf or rack construction, the combination of a number of uprights, cantilever arms extending out therefrom and each consisting of a metal member returned upon itself and secured at its ends to an appropriate upright, means connecting the outer ends of adjacent arms, and shelf members resting at their ends upon halves of said arms.

3. In a shelf or rack construction, the combination of a number of uprights, cantilever arms extending out therefrom and each consisting of a metal member returned upon itself and secured at its ends to an appropriate upright, means connecting the outer ends of adjacent arms, and shelf members resting at their ends upon halves of said arms and upon said connecting means.

4. In a shelf or rack construction, the combination of a plurality of spaced uprights having shelf supports removably engaged therewith and extending oppositely therefrom, removable means for connecting the outer ends of the arms of adjacent uprights, shelf members extending from within the uprights to the ends of said arms and having upturned flanges between said uprights, stiffening members disposed in an upturned shelf flange between said uprights, said shelf members being removably engaged with adjacent arms and resting upon said outer connecting means.

5. In a shelf and rack construction, the combination of spaced uprights having shelf supporting arms loosely engaged therewith and extending laterally therefrom, each said arm consisting of a metal member returned upon itself and secured at its ends to opposite sides of an upright, and shelf members resting at their ends upon halves of said arms.

6. In a shelf and rack construction, the combination of spaced uprights having shelf supporting arms loosely engaged therewith and extending laterally therefrom, each said arm consisting of a metal member returned upon itself and secured at its ends to opposite sides of an upright, shelf members resting at their ends upon halves of said arms, and horizontally disposed connectors

removably engaging in recesses formed in the halves of adjacent arms and supporting the outer portions of said shelves.

7. In a shelf or rack construction, the combination of a plurality of spaced uprights, shelf supporting arms extending out therefrom and being recessed at their outer ends, horizontally disposed connectors having recesses engaging in the recesses of said arms and having their top portions in the plane of the top of said arms, and shelves resting upon said arms and said connectors.

WALTER N. VANCE.