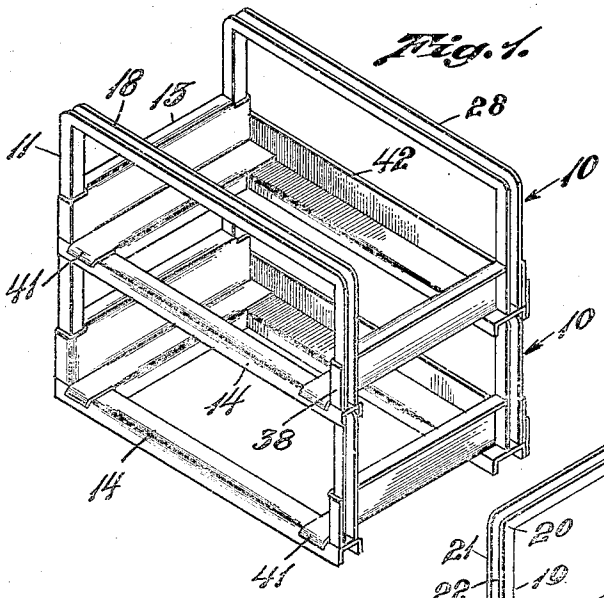
June 30, 1936. T. SHAW 2,046,095

RACK OR SUPPORTING STRUCTURE

Filed Feb. 7, 1935



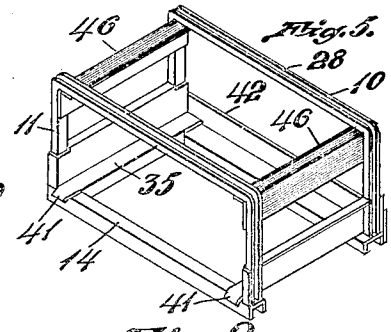
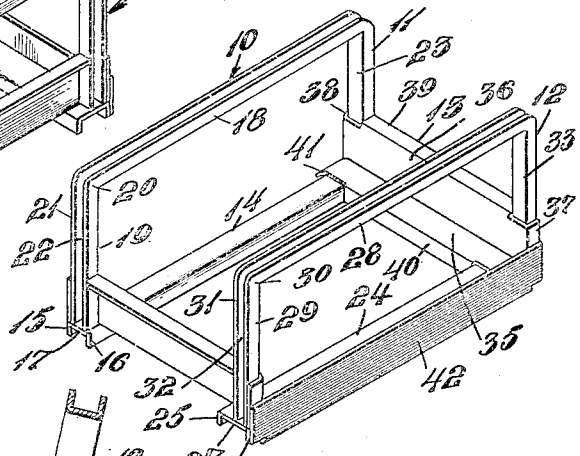




Fig. 2.



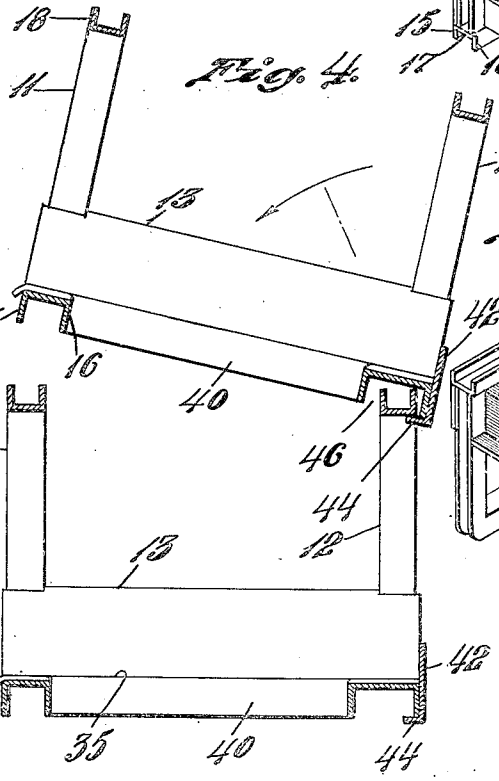
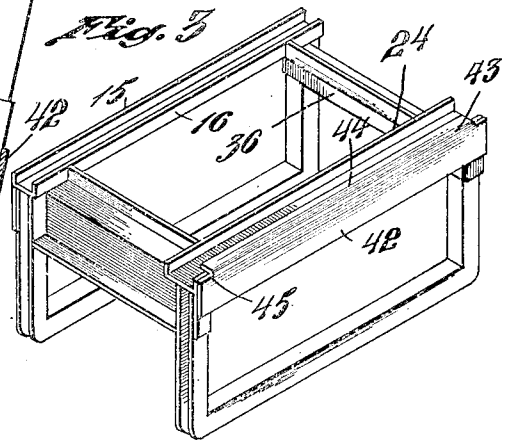




Fig. 4.

Fig. 3




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## RACK OR SUPPORTING STRUCTURE

Thomas Shaw, Greenwood, R. I.

Application February 7, 1935, Serial No. 5,427

8 Claims. (Cl. 211—71)

This invention relates to a skeleton supporting structure comprising a plurality of units which may be assembled one upon the other; and has for one of its objects the provision of unit sections which may be built one upon the other and locked by the act of placing them in assembled relation.

Another object of the invention is to provide a storage system which may be added to or subtracted from or built in different shapes to accommodate itself to different available storage space for orderly storage of different sorts of merchandise in generally box-like containers.

Another object of the invention is the provision of a construction which will not readily tip one unit upon the other by reason of the arrangement which occurs in the assembly of the parts.

Another object of the invention is the provision of a construction of units which will be strongly supported so that the same will withstand great weight or pressure without separation of its parts.

Another object of the invention is the provision of an upright post at the corner portion of the rack, which will rest directly upon the horizontal bottom bar to be directly supported thereby so that the end thrust will not tend to pull the structure apart.

Another object of the invention is the provision of slide tracks which are of such shape as to be supported by reason of their angular flanges or extensions and also of such formation as to lock with the uprights and horizontal bars to securely hold the parts in assembled relation and yet at the same time provide guideways for sliding the container into the rack.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a perspective view of a pair of unit sections in assembled relation one on the other;

Fig. 2 is a perspective view of one of these sections looking at the top and back side thereof;

Fig. 3 is a perspective view of this section turned upside down and looking at the bottom and back thereof;

Fig. 4 is a sectional view through two of the sections in partially assembled relation.

Fig. 5 is a perspective view showing a modified section.

With reference to the drawing, I have provided a plurality of units, each of which is designated 10. These units being assembled one on top of the other, as illustrated in Figure 1. Each unit consists generally, of a front frame 11 and a back frame 12, which frames are suitably connected together by slideway structures 13 at the opposite side thereof.

This front frame 11 consists of a lower bar 14 which is generally channel-shaped in construction with its side walls 15 and 16 extending downwardly from the top wall or connecting bridge wall 17. The other part of this generally rectangular frame consists of a channel member bent into a generally inverted U-shape to provide an upper bar 18 and side bars 19, the bends being generally right angular as at 20, and the opposite walls 21 and 22 extending outwardly from the connecting bridge wall 23. The ends of the side bars 19 rest upon the top wall 17 of the bottom bar 14 so that any pressure from above, such as a thrust along the vertical bar 19 will be well supported upon this horizontal bar 14. The distance between the side walls 21 and 22 of the upper bar 18 is such as to fit between the side walls 15 and 16 of the net unit when assembled thereon.

The back frame 12 is similarly formed. It consists of a lower bar 24 of generally channel-shape with its opposite walls 25 and 26 extending downwardly from the top or connecting bridge wall 27. The remainder of the back frame consists of a channel member bent into an inverted U-shape to provide a top bar 28 and side bars 29, the same being folded to form a right angle as at 30 and each comprising the opposite walls 31 and 32 connected by a connecting bridge wall 33. These side walls extend outwardly from the bridge or connecting wall 33. The ends of the upright or vertical side bars 29 are supported upon the lower bar 34 in the same manner as described in connection with the front frame 11.

The bottom channel bar 24, however, has its walls 25 and 26 spaced apart a much greater distance than the distance between the walls 31 and 32 of the top bar 28 for a purpose which will be presently described.

The front and back frames 11 and 12 are connected together by the slideways designated generally 13 and formed of a sheet metal member comprising a horizontal part or rest 35 and a vertical part or guide 36 arranged at right angles to each other and engaging at their ends the horizontal lower bars 14 and 24 and the vertical side bars 23 and 33 so as to form a right angular corner for supporting some box-like structure upon the portion 35 to slide therealong and be guided by the vertical walls 36 at either side

thereof. The ends 37 and 38 of this vertical portion 36 are bent about the side vertical bars, while the upper edge of the vertical portion 36 is bent outwardly as at 39 to provide a flange extending between the vertical side bars for stiffening and strengthening structure; likewise the flange 40 is formed on an edge portion of the horizontal portion 35 between the front bar 14 and the back bar 24 of the lower portion of the frames 11 and 12 to stiffen and support this portion of the structure; while the front end of this slide is curved downwardly as at 41 over the edge of the lower front bar 14 to assist in guiding a box-like receptacle into the structure so that it may slide along the support 35.

To complete this unit, a vertical back member 42 is secured across the back frame and ends of the slideways 35, as shown in Figures 2 and 3, and is folded as at 43 to provide a lip 44 extending inwardly over the back channel wall 26 while it is notched as at 45 at its end for the reception of the vertical post 33 of the next unit below.

To assemble these units, referring to Figure 4, the upper unit is tipped at an angle, as shown in Figure 4, so that the bar 28 of the unit below will slip through the opening 46 between the edge of the lip 44 and the wall 25 and the bar 28 is then slid into position so that the lip 44 engages thereunder, after which it may be slipped back and swung down into position so that the walls 15 and 16 of the front channel extend along the opposite surfaces of the bar 18. The sections of the rack are then rigidly locked together and ready for filling with boxes or the like, while each is readily individually available independent of the others.

In Figure 5 I have shown a similar structure but reinforced by angle stock members 46 at the corners of the frames.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a frame-work of generally regular geometrical shape at the back and front thereof, and angular slideways at the opposite sides connecting the side and lower portions of said frame-work, a portion of said slideway extending beyond the front framework and curved downwardly to provide guides to said slideways.

2. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a frame-work of generally regular geometrical shape at the back and front thereof, and angular slideways at the opposite sides connecting the side and lower portions of said frame-work, said side and lower portions of the slideway each being flanged outwardly of the unit to stiffen said slideway, a portion of said slideway extending beyond the front of the frame-work and curved downwardly to provide guides to said slideways.

3. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a frame-work of generally regular geometrical shape at the back and front thereof, and angular slideways at the opposite sides connecting the side and lower portions of said frame-work, said side and lower portions of the slideway each being flanged outwardly of the unit to stiffen said slideway and said flanges being notched at their ends to receive said frame-work and the opposite ends of the vertical portion of the slideway, being bent about said frame-work.

4. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a generally rectangular frame-work at the front and back, consisting of a lower horizontal bar and a U-shaped bar forming the top and sides with the ends of the sides resting on the top of the lower horizontal bar, slideways connecting said frames together along the opposite sides thereof, and an L-shaped member secured to the lower portion of the rear frame-work to engage a portion of and interlock with the section below.

5. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a generally rectangular frame-work at the front and back, consisting of a channel-shaped lower horizontal bar and a U-shaped channel bar forming the top and sides with the ends of the sides resting on the top of the lower horizontal bar, and locking means secured to the rear lower horizontal bar for connecting said frames together.

6. A supporting structure comprising a plurality of sections assembled one on top of another and each providing an opening for the reception of a box-like structure, each section comprising a generally rectangular frame-work at the front and back, consisting of channel-shaped lower horizontal bar and a U-shaped channel bar forming the top and sides with the ends of the sides resting on the top of the lower horizontal bar, sheet metal slideways connecting said frames together along the opposite sides thereof, and an interlocking member secured to the rear lower horizontal bar and extending above thereof to provide an abutment for the box-like structure.

7. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a generally rectangular frame-work at the front and back, consisting of a channel-shaped lower horizontal bar and a U-shaped channel bar forming the top and sides with the ends of the sides resting on the top of the lower horizontal bar, and locking means connecting said frames together, the lower bar being of a width to receive the upper channel bar of the section below and between the side walls thereof.

8. A supporting structure comprising a plurality of sections assembled one on top of another, each section comprising a generally rectangular frame-work at the front and back, consisting of a channel-shaped lower horizontal bar and a U-shaped channel bar forming the top and sides with the ends of the sides resting on the top of the lower bar being of a width to receive the upper channel bar of the section below and between the side walls thereof, the back lower bar being considerably wider than necessary to receive said upper bar, and a lip on the rear wall thereof extending inwardly to hook under the upper bar of the frame below and interlock therewith.

THOMAS SHAW.