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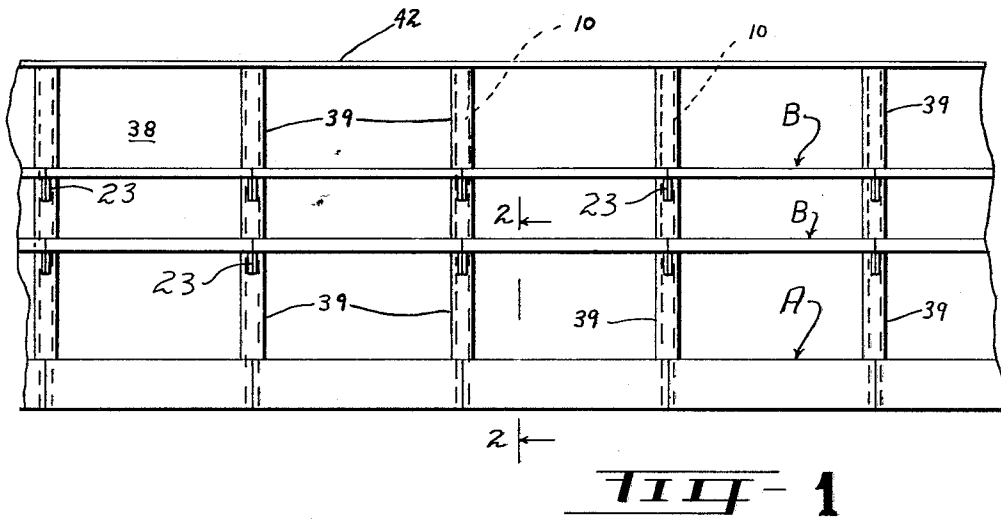
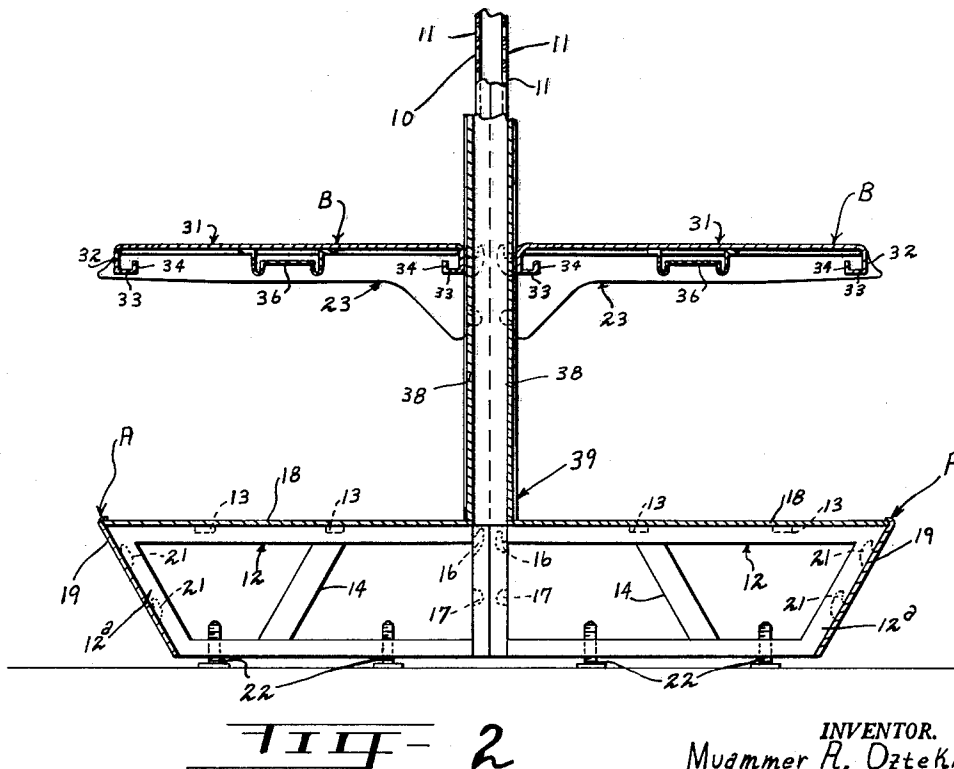
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3,044,634

KNOCK-DOWN SHELF CONSTRUCTION

Filed April 29, 1960

3 Sheets-Sheet 1



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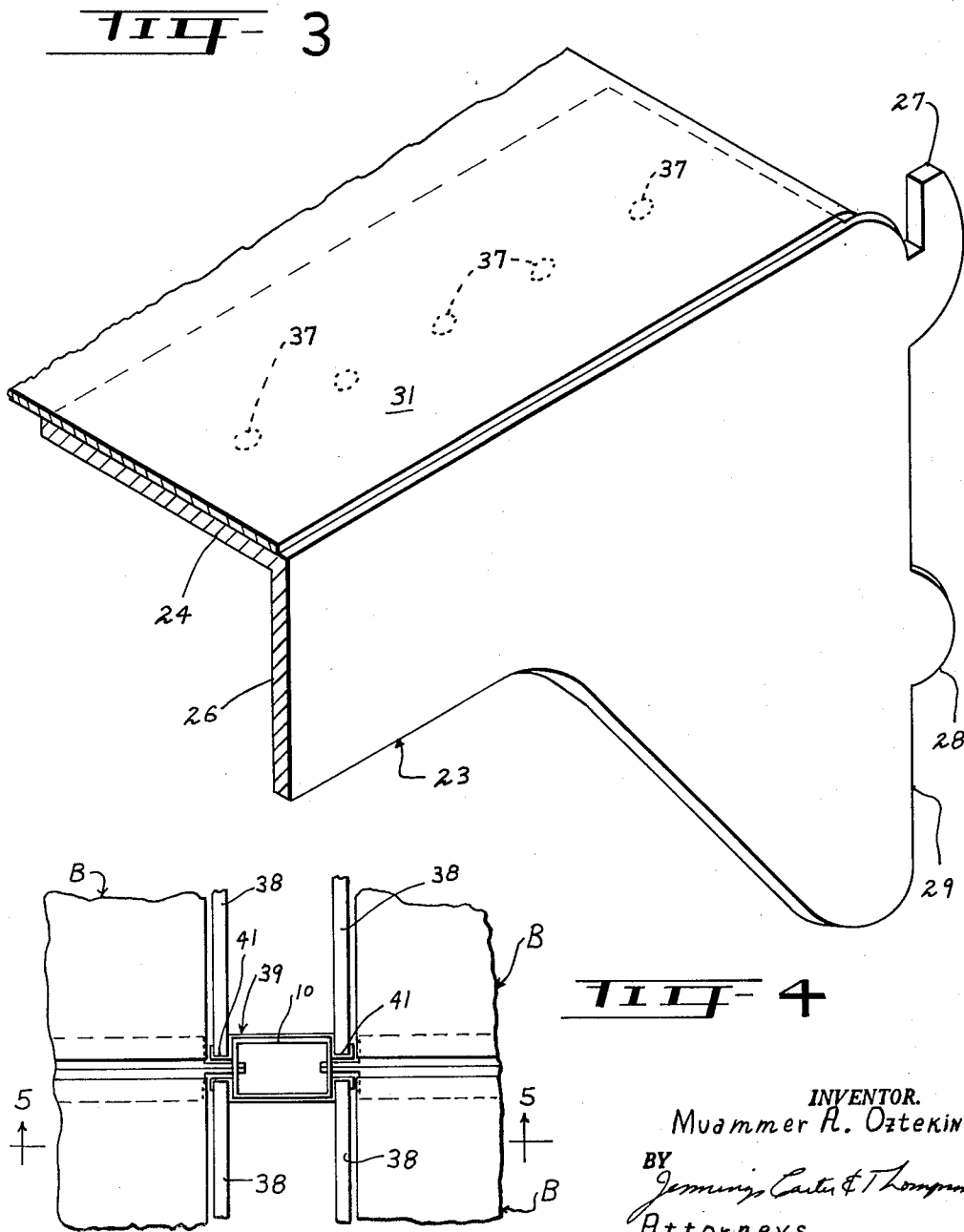
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KNOCK-DOWN SHELF CONSTRUCTION

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3 Sheets-Sheet 2



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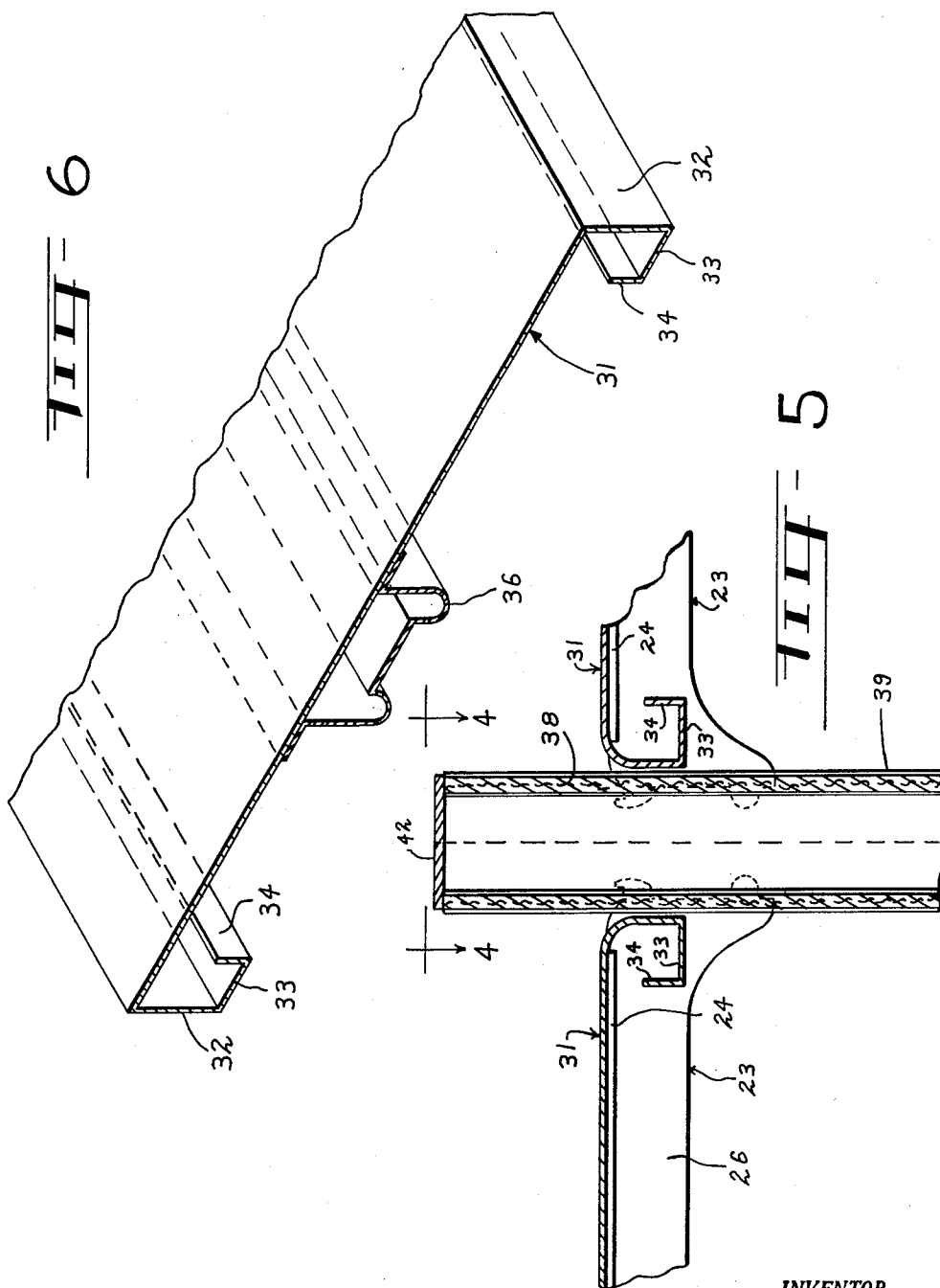
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KNOCK-DOWN SHELF CONSTRUCTION

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3 Sheets-Sheet 3



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KNOCK-DOWN SHELF CONSTRUCTION

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1 Claim. (Cl. 211-148)

This invention relates to knock-down, self-supporting shelf construction and has for an object the provision of shelving particularly adapted for the display of merchandise in stores such as supermarkets, department stores and the like.

An object of my invention is to provide shelving of the character designated in which the shelf units proper are fabricated from side members and a panel, both of which require only minimum forming, bending, notching, and other operations, resulting in shelving which is extremely simple to manufacture and even simpler to erect.

A more specific object is to provide shelf construction in which the supporting brackets for the shelves proper are provided with inturned horizontal flanges and in which the shelf panel is secured to the horizontal flanges by spot welding or otherwise, thereby eliminating the expensive, complicated and unsightly appearance of prior shelving in which the shelf panel was bent over at the ends and secured to the vertical side portions of the supporting brackets.

My invention also contemplates improved knock-down, adjustable shelving in which the supporting brackets are so constructed that the rear edges of the shelves are spaced away from the posts by an amount to permit a full length, full width back panel to be removably secured in brackets supported on the posts by the simple expedient of dropping the brackets and the back panels in place after assembly of the shelf units to the posts.

A more general object is to provide knock-down, adjustable shelving structure which may be completely assembled without the use of any tools whatsoever, including the assembly of the back panels and their attaching brackets, and which shall be extremely strong and readily adjustable to accommodate articles of different heights to be placed on the shelves.

Shelf construction illustrating features of my invention is shown in the accompanying drawings in which:

FIG. 1 is a somewhat diagrammatic front elevational view of a plurality of assembled shelf units;

FIG. 2 is a fragmental detail sectional view taken generally along line 2-2 of FIG. 1 and drawn to an enlarged scale;

FIG. 3 is a detail fragmental and sectional view drawn to a still further enlarged scale and showing a portion of the rear or connecting part of the upper or intermediate shelf supporting bracket;

FIG. 4 is a fragmental plan view of the assembled shelving taken at one of the posts and looking generally in the direction of the lines 4-4 of FIG. 5;

FIG. 5 is a detail fragmental sectional view taken generally along line 5-5 of FIG. 4; and,

FIG. 6 is a detail fragmental sectional view taken transversely through one of the shelf panels for one of the intermediate units.

In general, my improved shelf construction may embody a base shelf unit A and a plurality of intermediate or upper shelf units B. It will be understood that my improved shelving may embody any practical number of the units B above the base unit A. Further, the units B preferably are identical in construction.

Referring now to the drawings for a better understanding of my invention and particularly to FIG. 1, my improved shelving may embody a series of posts 10 which in practice preferably are rectangular tubes. In the front sides of the posts, namely, on the sides viewed when

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standing in front of the shelving, are a series of evenly spaced elongated slots 11.

My improved base unit A may comprise a pair of longitudinally spaced frames indicated generally by the numeral 12 and which may be generally rectangular as viewed in side elevation. The frames 12 may be connected together by cross members or braces 13 and each may be internally braced by a member 14. Further, each frame may have locking lugs 16 and other lugs 17 spaced to fit in the slots 11 in the posts 10.

Spanning the frames 12 is the base panel member 18 which may be a sheet of steel or the like and which is supported by the upper horizontal members of the frames 12 and the cross members 13. A front or kick panel 19 may be provided and may lock into a series of holes in the vertical members 12^a of the frames 12 by means of hooks 21. The frames 12 may be provided with leveling screws 22.

The intermediate and upper shelf units B each comprise a unitary prefabricated structure which may be attached to the posts as will now be explained. Thus, each of the shelf units B comprises a pair of side supporting brackets indicated generally by the numeral 23 and each of which embodies a horizontal leg 24 and a vertical leg 26. As will presently appear, the horizontal leg 24 is slightly shorter at the rear end of the brackets 23 than the leg 26.

At the rear end each supporting bracket 23 is provided with an upper hook 27 and a lower lug 28 so spaced as to fit in the slots 11 of the posts. It will further be noted that the vertical leg 26 of each of the supporting brackets 23 is vertically elongated at the rear end, thereby to provide a good bearing area for the rear edge 29 against the side of the post.

The panels for the intermediate and upper shelves B may be sheets of steel or like material indicated generally by the numeral 31. It will be noted that each of the panels 31 is formed from a sheet of material without the necessity of any notching or without the necessity of leaving any extensions along any of its four sides. Further, the front and back edges may be identically formed for strengthening. Thus, the front and back edges of each panel 31 is bent downwardly to provide a skirt 32, thence horizontally at 33 and upwardly at 34. These depending channel shapes provide considerable strength for the panels and likewise the vertical skirts 32 provide means for attaching the usual price marking card holders, not shown. Each panel 31 may be further strengthened by longitudinally extending shaped members 36 which are spot welded or otherwise secured to the under surface of each of the panels.

Along their side edges the panels 31 may be secured to the horizontal flanges 24 of the brackets 23 by spot welding as indicated at 37. It will be noted that the panels 31 extend full width between the inner facing surfaces of the vertical legs 26 of the side brackets 23.

As shown particularly in FIG. 4, it will be seen that the rear edge of each of the intermediate and upper panels is spaced away from the notched side of the post 10 a distance to provide for the reception of the vertically extending back panels 38. The back panels are held in place between the posts 10 by means of an elongated clip or holder indicated generally by the numeral 39. The holder 39 is formed with a transversely disposed section to fit about the sides of the posts and further is provided with channel-shaped sections 41 or sockets which lie alongside the front surfaces of the post. It will further be noted from consideration of FIG. 2 that the holders 39 are long enough to rest on the panels 18 of the base shelf unit A. Therefore, and as will be explained, after the shelving is entirely assembled the holders 39 may

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be dropped in place and then the panels 38 may be installed by sliding them downwardly. The panels 38 are long enough so that they retain the clips and hold them spread apart, in contact with and securely against the posts.

From the foregoing the method of constructing and assembling my improved knock-down shelving may now be explained and understood. Commencing with the required number of side frames 12, these are first installed in pairs by locking them into the selected holes in a pair of the posts 10. The cross members 13 are now connected by snapping suitable lugs into suitable holes provided in the upper frame members of the units 12, these not being shown. The panel 18 is now laid in place and then the kick panel 19 is put in place by engaging the locking lugs 21 in suitable holes, not shown, provided in the members 12^a.

The intermediate shelves are now locked in place by holding their outer edges upwardly relative to the posts and locking the upper locking lugs 27 in a suitable one of the slots 10, the lugs 28 being spaced to fall into another one of said slots. Having now erected the desired number of units of shelving the holders 39 are slid down the posts, the channel shaped parts thereof occupying the space between the front of the post and rear edge of the panels 31. The panels 38 are now put in place simply by sliding them vertically downwardly with their vertical side edges fitting in the sockets or channels 41 of the holders 39. If desired, a cover strip shown at 42 in FIG. 1 may be installed over the upper ends of the posts to cover the openings. Finally, the entire shelving is leveled by means of the screws 22 threadedly connected to the lower part of frame 12.

It is to be especially noted that the entire unit may be erected without the use of any tools or fastenings whatever. Further, when so erected my improved shelving is extremely strong, even though the intermediate and upper units are of the cantilever type. By securing the shelf panels 31 to the horizontal legs 24 of side brackets 23, I am enabled to form the panels 31 of simple, rectangular sheets. Further, the intermediate and upper shelf units may be removed and raised or lowered without disturbing the back panels or the clips or holders 39. That is, the back panels 38 are independent of any of the

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shelf units themselves and therefore in minimum time, and without disturbing the back panels 38, the spacing of the shelves may be changed to suit the needs of the user.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claim.

What I claim is:

In shelf construction, a pair of laterally spaced vertical posts, a base shelf unit extending between the posts and having a horizontal shelf panel with the rear edge substantially in contact with the front of each post, an upper shelf unit supported on each side of the posts with the back edges thereof spaced from the front of the posts, a pair of facing elongated back panel holding members secured to the posts and having elongated channel-shaped sockets located in the space between the rear edges of the upper shelf units, the lower ends of said holders terminating substantially adjacent the upper surface of the lower shelf panel, and vertically extending back panels extending between the posts and having their vertical side edges engaged slidably in the socket members of said holders.

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