

[72] Inventors **Forest G. Stark**
Jamestown;
Burdette Bruce Hook, Ashville, N.Y.
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 [73] Assignee **Art Metal-Knoll Coporation**
Jamestown, N.Y.

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Primary Examiner—Marion Parsons, Jr

Attorneys—Robert S. Dunham, P. E. Henninger, Lester W.
 Clark, Gerald W. Griffin, Thomas F. Moran, Howard J.
 Churchill, R. Bradlee Boal, Christopher C. Dunham,
 and Robert Scobey

[54] **FURNITURE BASE**
1 Claim, 4 Drawing Figs.

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(G); 211/134, 177

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ABSTRACT: An upright furniture support for use in a freestanding article of furniture wherein one or more elements such as horizontal shelves or vertical display boards are mounted between a pair of such supports. Each support includes an upright hollow metal tube of square cross section and a base comprising a solid metal post of square cross section press fitted within the lower end of the tube and having beveled vertical edges, and a pair of rigid elongated members fixedly secured to and projecting in opposite directions horizontally from the lower end portion of the post for engaging the floor. The two elongated members may be downwardly opening channel members which are welded to the lower end of the post and have sidewall portions extending toward each other over the side surfaces of the post.

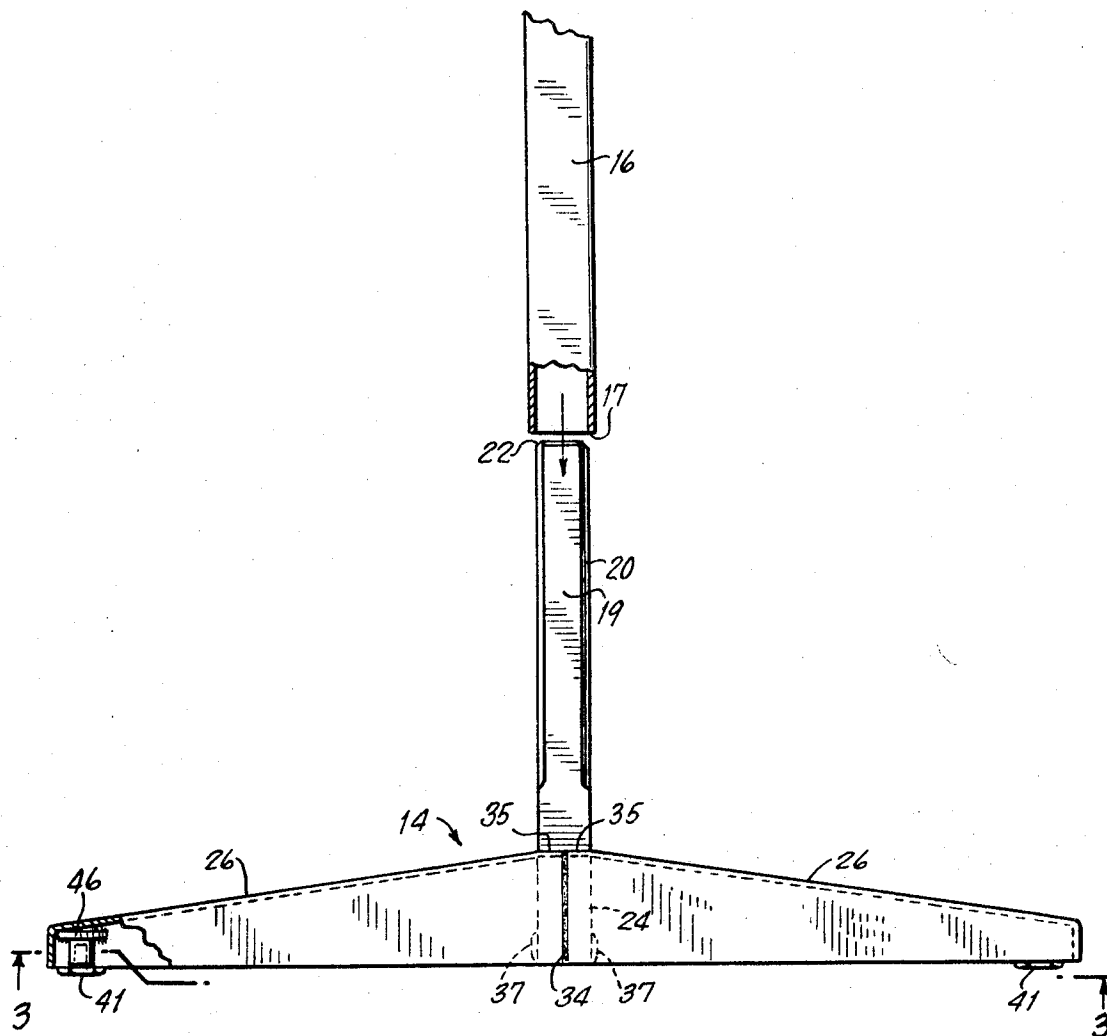


Fig. 1.

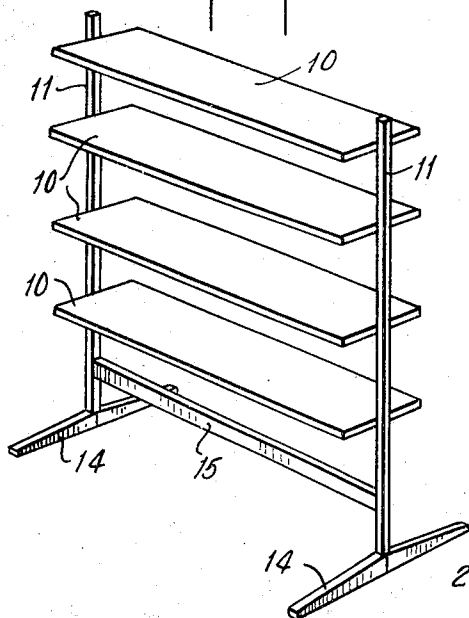


Fig. 4.

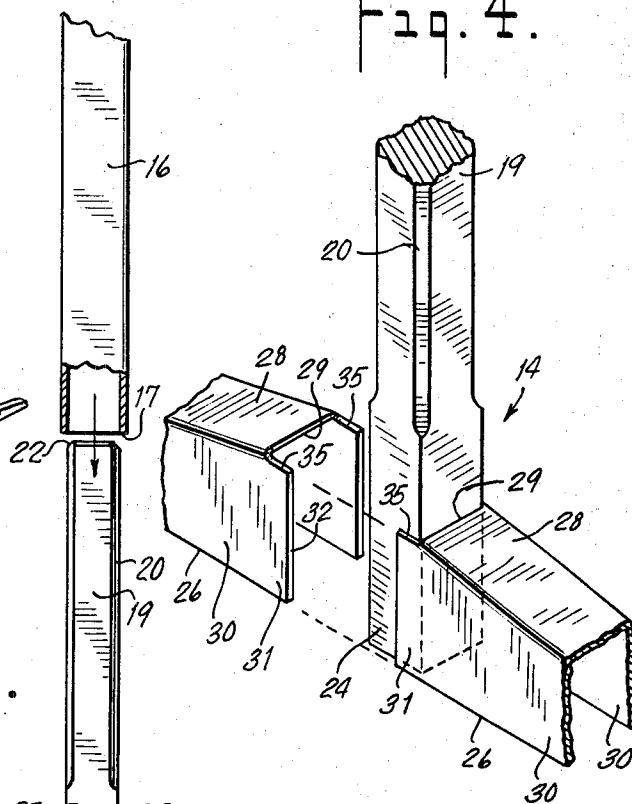


Fig. 2.

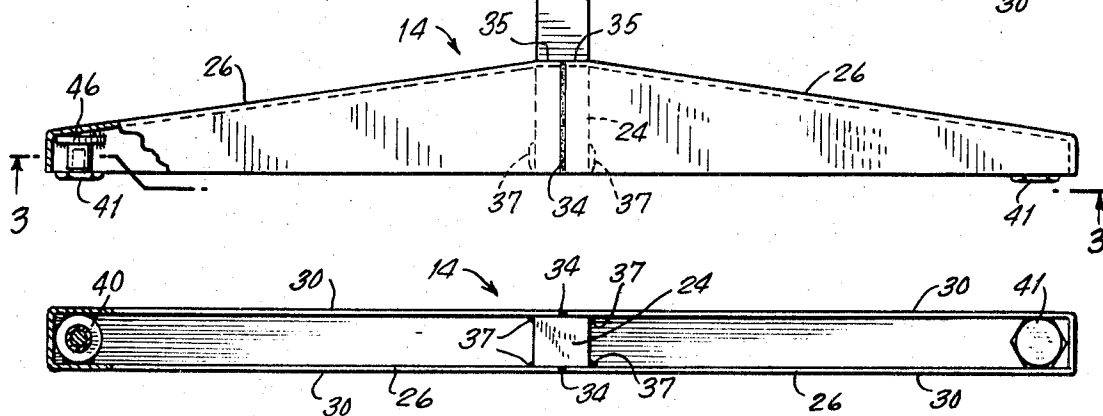


Fig. 3.

INVENTORS
 FOREST G. STARK
 BY BURDETTE BRUCE HOOK
 Christopher C. Dunham
 ATTORNEY

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FURNITURE BASE

BACKGROUND OF THE INVENTION

This invention relates to furniture constructions and more particularly to upright supports for freestanding articles of furniture of the type wherein elements such as shelves or display boards are mounted between a pair of these supports. In a specific sense, the invention is directed to new and improved base construction for such supports.

Freestanding backboards or other display boards are commonly mounted between a pair of upright supports, each having a foot or base portion of inverted T-shape engaging the floor. Also, freestanding sets of shelves have been designed wherein the shelves are mounted between a pair of similar upright supports. It is often desirable to construct the upright supports of metal, especially to provide freestanding display boards and/or sets of shelves as components of a complete line of esthetically related articles of metal office furniture. In the construction of such metal upright supports it is important that the support and its base be rigidly secured together for proper stability of the produced article of furniture. It is also desirable that the interconnecting parts constituting each support and its base have sufficiently broad dimensional tolerances to enable manufacture practicably and economically. In addition, it is desirable that such supports be easy to manufacture and assemble, yet provide an esthetically pleasing finished appearance.

SUMMARY OF THE INVENTION

The present invention contemplates the provision of a furniture support comprising a vertical rigid hollow metal tube of square cross section open at its lower end; an axially vertical solid metal post of square cross section, dimensioned to fit tightly within the tube and having in its upper portion beveled longitudinal edges extending upwardly to the upper end of the post, press fitted in the open lower end of the tube with a lower end portion of the post projecting below the tube; and a pair of rigid elongated members respectively rigidly secured to the lower end portion of the post on opposite sides thereof and extending substantially horizontally therefrom in opposite directions for engaging the floor. Each of the elongated members may comprise a downwardly open channel member of depth decreasing outwardly from the post. The transverse walls of the channel members terminate at their inner ends in horizontal edges squarely abutting opposite flat sides of the post, while the sidewalls of the channel members project beyond these edges to overlap the other two of the opposite side surfaces of the post. The portions of the channel member sidewalls overlapping each post surface have vertical edges that may be spaced apart to define a vertical trough that is filled with weld material. The channel members are also welded to the post at the four lower corners of the post. The portions of the channel member sidewalls overlapping the post are squared off in a plane containing the horizontal edges of the transverse walls, and the lower end of the metal tube abuts these coplanar horizontal edges. The described structure provides a base and upright very rigidly interconnected, yet easy and economical to manufacture and having conveniently broad dimensional tolerances.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a freestanding set of shelves incorporating upright supports that embody the present invention in a particular form;

FIG. 2 is an enlarged exploded elevational view of the base portion of one of the supports in the structure of FIG. 1;

FIG. 3 is a view taken along the line 3-3 of FIG. 2; and

FIG. 4 is a fragmentary exploded perspective view of the base of the support shown in FIGS. 2 and 3.

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DETAILED DESCRIPTION

Referring to the drawings, FIG. 1 shows a freestanding set of shelves including four rigid rectangular horizontal shelves 10, e.g. fabricated of particle board or the like, mounted at their ends by suitable brackets in vertically spaced parallel relation on a pair of identical upright supports 11 each having a base 14 resting on the floor. A bracing bar 15 extends horizontally between, and is secured at its ends to, the lower portions of the two supports 11 below the shelves.

In accordance with the invention, each support 11 includes an axially vertical rigid hollow steel tube 16 of square cross section (e.g. 1-inch square tube), open at its lower end 17, which is squared off. The base 14 comprises an axially vertical solid steel post 19 of square cross section, dimensioned to fit tightly within tube 16, and in its upper portion having four vertical beveled edges 20 (e.g. each such edge having a 1/4-inch 45° bevel) extending upwardly to the upper end of the post. This upper portion of the post is press fitted within the open lower end of tube 16; the beveled edges afford conveniently broad manufacturing tolerances of the tube and post, since they permit slight outward bending of the tube walls if the tube internal dimension is slightly smaller than the post, without loss of desired tightness of press fit as necessary for stability of the structure. The upper end edges 22 of the post may also be beveled to facilitate initial insertion of the post in the tube.

The lower end portion 24 of post 19 projects below the tube 16 and has squared-off (i.e. nonbeveled) corner edges. Welded to this post portion 24 are a pair of identical rigid elongated members 26 projecting horizontally in opposite directions from the post lower end. Specifically, each member 26 is a downwardly opening channel member (e.g. fabricated of 14-gauge cold rolled steel) of depth decreasing outwardly from the post 19. The lower edges of the two channel members are horizontal and coplanar.

Each channel member 26 has a transverse wall 28 terminating at the post in a horizontal edge 29 which squarely abuts one flat vertical surface of the post. The two sidewalls 30 of each channel member extend horizontally beyond the edge 29, as tabs 31 overlapping portions of two opposed side surfaces of the post, the last-mentioned surfaces being perpendicular to the surfaces abutted by the edges 29. Each of the tabs 31 extends less than half way across the post and terminates in a vertical edge 32, so that on each of the two post surfaces that is overlapped by tabs 31, the two facing tabs of the two channel members define between them a vertical trough or open seam 34 extending along the post surface at a centrally disposed locality thereof. Each tab 31 also has an upper edge 35 squared off in a horizontal plane containing the channel member edge 29. Alternately, the edges 32 may merely abut each other, in which case only the welding joints 37 described below would be relied on for structural support.

As the two channel members are assembled on the post 16 as shown in FIG. 4, they are welded to the post (within their respective channels) at and adjacent to the four lower corners of the post, as indicated at 37. Also, the two vertical troughs 34 are filled with metal by welding. The outer surfaces of the weld metal in the troughs are then sanded flat, and the two channel members (including the welded troughs) may then be plated (e.g. chrome plated) on all exposed surfaces, to provide a smooth continuous finish appearance. The exposed surfaces of tube 16 may also be chrome plated.

Within the extremity of the channel of each channel member 26 there may be welded a downwardly opening hollow stud or glide support 40, e.g. of conventional character within which may be mounted a conventional furniture glide 41.

Preferably, all the welding operations described above are performed by the so-called "metal-inert-gas" welding technique, wherein weld metal as fed in wire form surrounded by an inert gas (e.g. carbon dioxide), with a positive charge on the wire feed and a negative charge on the object to be welded, to effect resistance welding. The inert gas contains the heat within the immediate area of the weld.

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The external spacing between the channel member sidewalls 30 is equal to the corresponding external dimension of the tube 16, while the channel width is substantially equal to the thickness of post 19. In the assembled support, the edges 29 and 31 of the two channel members lie in a common horizontal plane, and the lower end 17 of tube 16 (press fitted over the post 19) butts squarely against these edges. In this way there is provided an upright support that is highly rigid, and pleasing in appearance, yet easy to manufacture and assemble, having conveniently broad dimensional tolerances throughout.

After the two supports 11 are completed, the shelves 10 and bar 15 are assembled therewith. The supports may be used to support other elements (e.g. a vertically oriented blackboard, bulletin board, or other display board) instead of shelves.

We claim:

1. A furniture support adapted to be placed on a floor, comprising:

- a. an axially vertical rigid hollow metal tube of square cross section open at its lower end;
- b. an axially vertical post of square cross section, shaped and dimensioned for insertion into said tube to fit tightly within said tube and fitted in the open lower end of said tube with a lower end portion of the post projecting below the tube, said lower end portion of said post having four plane vertical surfaces; and
- c. a pair of rigid elongated members, respectively rigidly

secured to said lower end portion of said post on opposite sides thereof and extending substantially horizontally therefrom in opposite directions for engaging the floor, each of said elongated members being a downwardly opening channel member of depth decreasing outwardly from said post and including a transverse wall and two vertical sidewalls, said transverse walls of said channel members terminating adjacent said post in horizontal edges respectively squarely abutting two opposite plane vertical surfaces of said post, said vertical walls of said channel members including tab portions projecting beyond said first-mentioned two vertical surfaces across and in contiguous relation to the other two opposite plane vertical surfaces of said post and having vertical terminal edges, the facing terminal vertical edges of the two channel members on each side of said post being spaced apart to define a vertical trough between them, each said trough being weldedly filled with weld metal, each said channel member being further welded to the post at the lower extremities of two longitudinal edges of the post enclosed by the channel member, each said tab portion having a horizontal edge at its upper extremity coplanar with said horizontal edges of said transverse walls, and the lower end of said tube abutting said coplanar horizontal edges.

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