

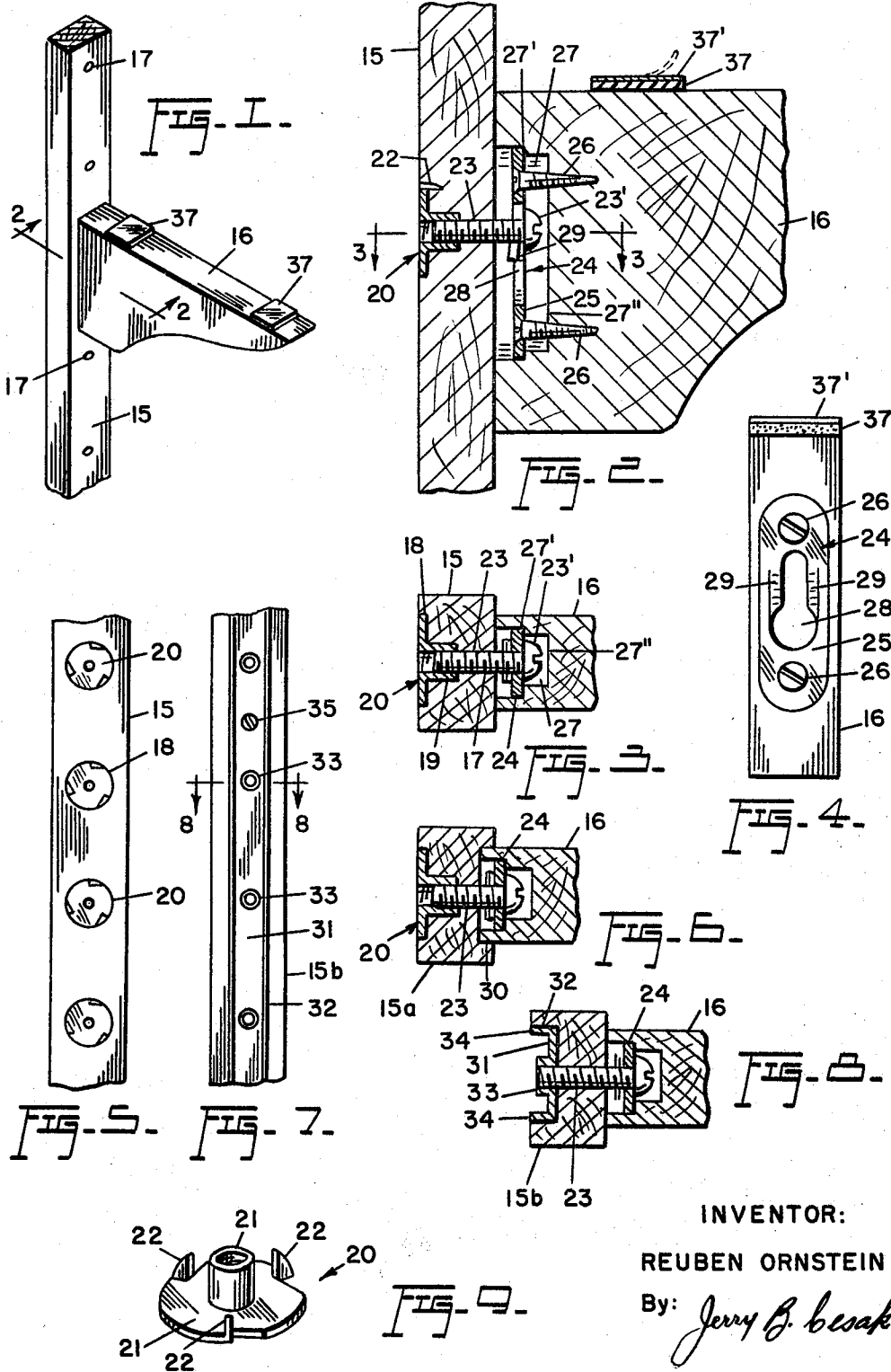
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R. ORNSTEIN

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FURNITURE CONSTRUCTION

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INVENTOR:

REUBEN ORNSTEIN

By: *Jerry B. besak*

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FURNITURE CONSTRUCTION

Reuben Ornstein, 30 Maujer St., New York, N.Y.

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This invention relates to new and useful improvements in furniture construction, and in particular the invention concerns itself with a shelf arrangement wherein a shelf panel is supported by brackets which are adjustably mounted on vertical standards so that the height or elevation of the shelf panel may be varied.

The principal object of the invention is to provide, in a shelf arrangement as above outlined, simple and effective means for quickly and easily mounting the shelf bracket in a selected one of a plurality of vertically spaced locations along the standard, such mounting means being readily attachable and detachable so that the location of the bracket on the standard may be conveniently changed, when so desired.

The shelf arrangement of the invention is particularly well suited to be made from wood, and one of its important advantages is that the shelf panel to bracket and the bracket to standard fastening means are hidden from view, so that the entire assembly has a highly aesthetic appearance, unmarred by exposed nail or screw heads, and the like.

With the foregoing more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention will be understood from the following description taken in conjunction with the accompanying drawings, wherein like characters of reference are used to designate like parts, and wherein:

FIGURE 1 is a fragmentary isometric view showing the standard and shelf bracket of the invention;

FIGURE 2 is an enlarged, fragmentary vertical sectional detail, taken substantially in the plane of the line 2-2 in FIGURE 1;

FIGURE 3 is a fragmentary horizontal sectional detail, taken substantially in the plane of the line 3-3 in FIGURE 2;

FIGURE 4 is an end view of the shelf bracket with its locking member;

FIGURE 5 is a fragmentary elevational view showing the back face of the standard;

FIGURE 6 is a fragmentary sectional detail, similar to that shown in FIGURE 3, but illustrating a modified arrangement;

FIGURE 7 is a fragmentary elevational view showing the back face of a modified standard;

FIGURE 8 is a fragmentary sectional detail on an enlarged scale, taken substantially in the plane of the line 8-8 in FIGURE 7, with the bracket applied to the front face of the standard; and

FIGURE 9 is an enlarged perspective view of one of the T-nuts used in the embodiment of FIGURES 1-6.

Referring now to the accompanying drawings in detail more particularly to FIGURES 1-5 inclusive, the shelf arrangement of the invention embodies a vertical standard 15 on which is adjustably mounted a shelf supporting bracket 16, the adjustment being such that the bracket may be positioned at a selected one of a plurality of vertically spaced locations along the standard in order to support a shelf at a desired height or elevation. One feature of the invention resides in the provision of means for mounting the bracket on the standard, as will be presently described.

Both the bracket and the standard are preferably made of wood, and the standard 15 is drilled with a plurality of vertically spaced apertures 17, extending rearwardly

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from the front face of the standard. The back face of the standard is milled to form a circular seat 18 and a counterbore 19 coaxially with each of the apertures 17 as is best shown in FIGURE 3, to accommodate a T-nut 20 shown in perspective in FIGURE 9. The T-nut 20 includes a disc-shaped base 21 which fits flush into the seat 18 and an internally screw-threaded tubular boss 21 which is received in the counterbore 19, as will be apparent from FIGURES 2 and 3. The circumferential edge portion of the base 21 has a plurality of pointed prongs 22 struck out therefrom, these prongs being embedded into the body of the standard 15 when the T-nut 20 is installed in position. It will be understood, of course, that several of the T-nuts 20 are provided in the back face of the standard as shown in FIGURE 5, one T-nut being in register with each of the apertures 17. A screw-threaded fastener 23 is insertable selectively through the apertures 17 into engagement with the screw-threaded boss 21 of the associated T-nut 20, the fastener 23 having an enlarged head 23' disposed somewhat forwardly from the front face of the standard for engagement with a cooperating locking member 24 in the shelf bracket 16.

The locking member 24 assumes the form of a vertically elongated plate 25 which is mounted by a pair of screws 26 in a recess 27 formed in the rear end of the bracket 16, the recess being stepped as at 27' for seating the plate 25 in spaced relation from the inner or forward wall 27'' of the recess. The plate 25 is formed with a keyhole slot 28, the large end of which is its lower end and is sufficiently large to permit the screw head 23' to pass there-through when the bracket is applied to the front face of the standard. The upper, narrow end portion of the slot 28 is provided at its opposite sides with a pair of inclined or slanted wedging surfaces 29, so that after the screw head 23' has been passed through the large end of the slot and the bracket 16 is slid downwardly somewhat along the standard 15, the inclined surfaces 29 wedgingly engage the screw head and, as a result, the rear end of the bracket is drawn tightly against the front face of the standard. In this manner the bracket is firmly held in a selected position on the standard, but may be readily removed therefrom by simply reversing the installation procedure already described.

In the slightly modified arrangement shown in FIGURE 6 the front face of the standard 15a is provided with a vertical, channel-like groove 30 which is of substantially the same width as the width or thickness of the bracket 16. When the bracket is mounted, its rear end portion fits into the groove 30 and the side walls of the groove prevent the bracket from turning or twisting about the axis of the screw 23.

The further modified arrangement of the standard shown in FIGURES 7 and 8 dispenses with the plurality of individual T-nuts 18 and in their place utilizes a metal strip 31 which is embedded in a vertical groove 32 formed in the rear face of the standard 15b. The strip 31 is drilled, extruded and screw-threaded as at 33 at vertically spaced points to selectively receive the screw 23, the single strip thus serving in place of the plurality of individual T-nuts. To improve its rigidity, the strip 31 may be provided with side flanges 34 and any suitable means may be employed for securing the strip in the groove 32, as for example, by press-fitting, or by adhesive, or by one or more screws 35 as shown in FIGURE 7.

A suitable shelf panel (not shown) may be retained in position on the shelf bracket 16 in any suitable manner, preferably by cushion pads 37 of rubber, plastic, or the like, which are adhesively secured to the upper edge of the bracket, these pads being adhesively coated on the top surface thereof so as to adhesively retain a shelf panel in position. The numeral 37' designates protec-

tive paper, or the like, which initially covers the adhesively coated top surface of the pads and is peeled off as indicated by the dotted lines in FIG. 2, before the shelf panel is applied to the pads.

While in the foregoing there have been described and shown the preferred embodiments of the invention, various modifications may become apparent to those skilled in the art to which the invention relates. Accordingly, it is not desired to limit the invention to this disclosure, and various modifications and equivalents may be resorted to, falling within the spirit and scope of the invention as claimed.

What is claimed as new is:

1. In furniture construction, the combination of a vertical standard of non-metallic material provided at vertically spaced points with apertures, metallic insert means embedded in said standard and provided with screw-threaded bores in register with said apertures, a screw-threaded fastener received selectively in the apertures of said standard and anchored in the registering one of said screw-threaded bores, a shelf bracket vertically adjustable on said standard according to the location of said fastener, said bracket having an inner end portion in abutment with the standard and formed with a recess, said fastener having a head portion projecting into said recess, and a wedge-type locking member mounted in said recess, said head portion of said fastener being in separable wedging engagement with said locking member whereby to removably secure said bracket to said standard, said locking member comprising a plate formed with a keyhole slot having a relatively large end receiving the head portion of said fastener therethrough and a relatively narrow end portion with inclined surfaces at opposite sides thereof to wedgingly engage the head portion of the fastener after the latter is passed through the large end of said slot.

2. In furniture construction, the combination of a vertical standard provided at vertically spaced points with screw-threaded apertures, a bolt having a screw-threaded shank selectively and adjustably received in said apertures, said shank projecting outwardly from said standard and said bolt also having an enlarged head adjustably spaced from the standard in accordance with adjustment of the shank in the selected one of said apertures, a shelf bracket vertically adjustable on said standard according to the location of said bolt, said bracket having an inner end portion in abutment with the standard and provided

with a vertically elongated recess open in the direction of the standard, said bolt projecting into said recess, and a wedge-type locking member mounted in the recess of said bracket, said locking member comprising a vertically elongated plate provided with a keyhole slot including a relatively large lower end portion of sufficient size to pass the head of said bolt therethrough and a relatively narrow upper end portion wide enough to receive only the bolt shank, said narrow upper end portion of said slot being disposed centrally with respect to said large lower end portion of the slot and regions of said plate at opposite sides of the narrow slot portion being upwardly inclined to provide wedging surfaces slanting progressively further away from the inner end of said bracket, said wedging surfaces engaging the head of said bolt whereby upon proper adjustment of the bolt shank in its selected screw-threaded aperture the bolt head coacting with said locking member may firmly draw the inner end of said bracket into abutment with said standard.

3. The device as defined in claim 2 wherein said bolt constitutes sole bolt means for connecting said bracket to said standard, said standard being provided with a vertical channel-shaped groove, said inner end portion of said bracket being received in and of substantially the same width as said groove, whereby to prevent the bracket from turning relative to the standard about said sole bolt means.

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45 FRANK B. SHERRY, *Primary Examiner*.
J. T. McCALL, *Assistant Examiner*.