

[54] ARTICLE OF FURNITURE

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[57] ABSTRACT

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[51] Int. Cl..... A47b 57/00

[58] **Field of Search**..... 108/60, 111, 114;
312/107, 108, 257 R; 211/148

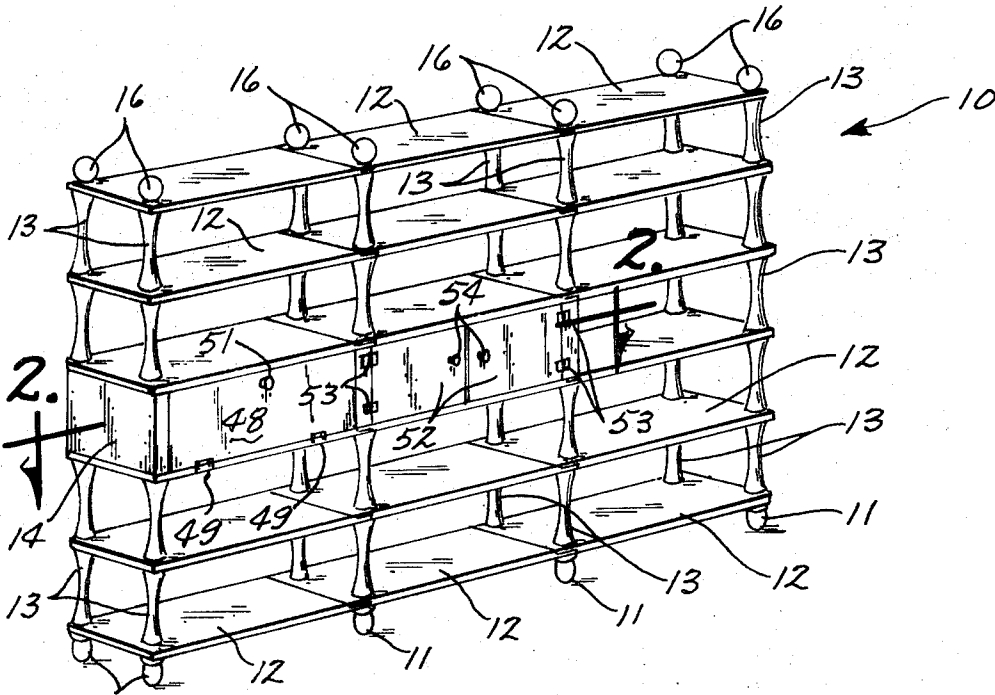
An article of furniture comprised of a number of individually available pieces which may be assembled in any fashion by the purchaser, then disassembled and reassembled as a different article of furniture, and which includes a side wall unit having one or more vertical grooves therein for combination with a rear wall, and being connectable with other elements by a single male-dual female connecting unit.

[56] **References Cited**

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2 Claims, 4 Drawing Figures



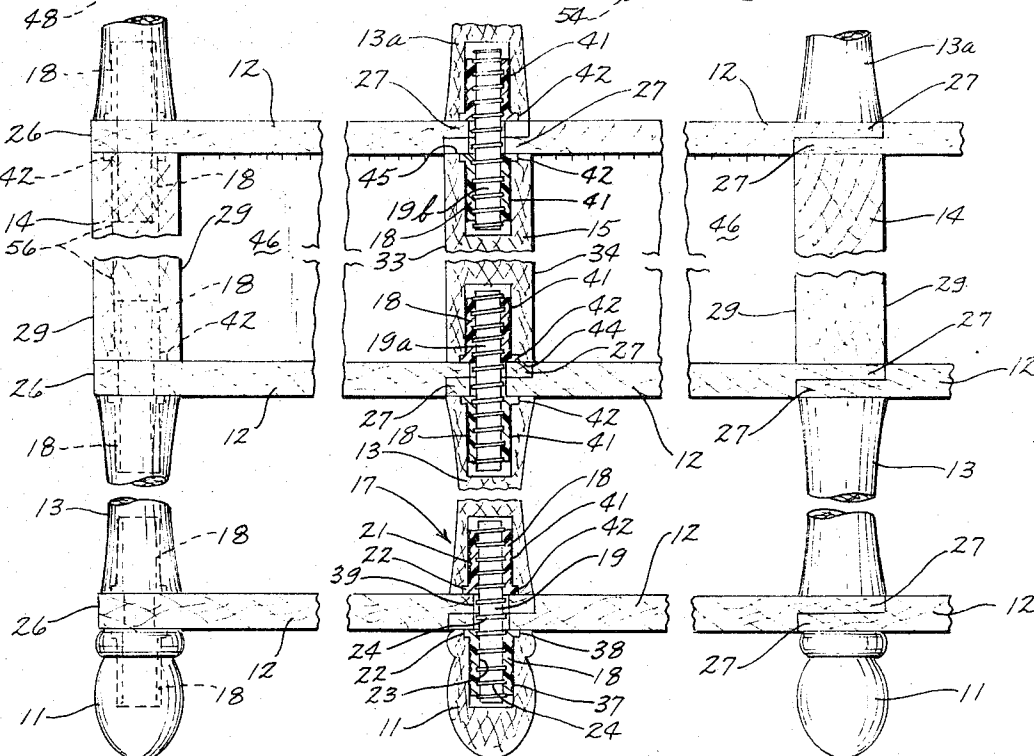
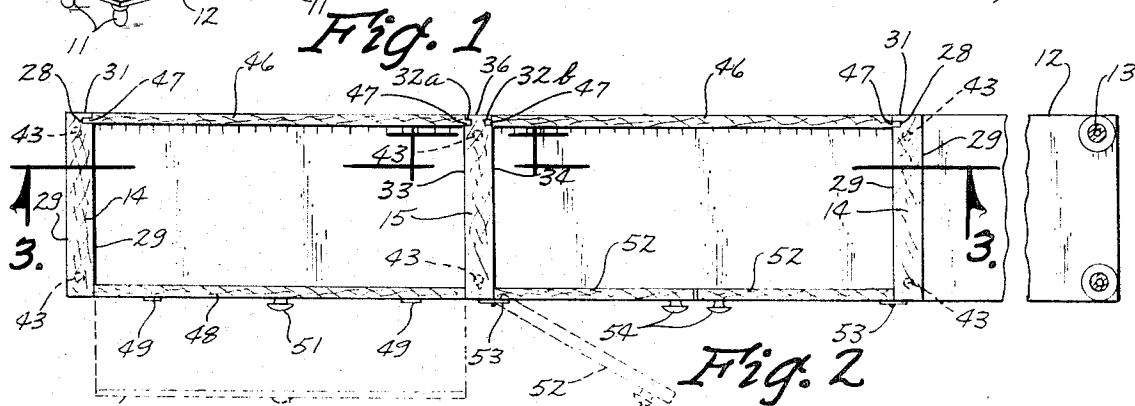
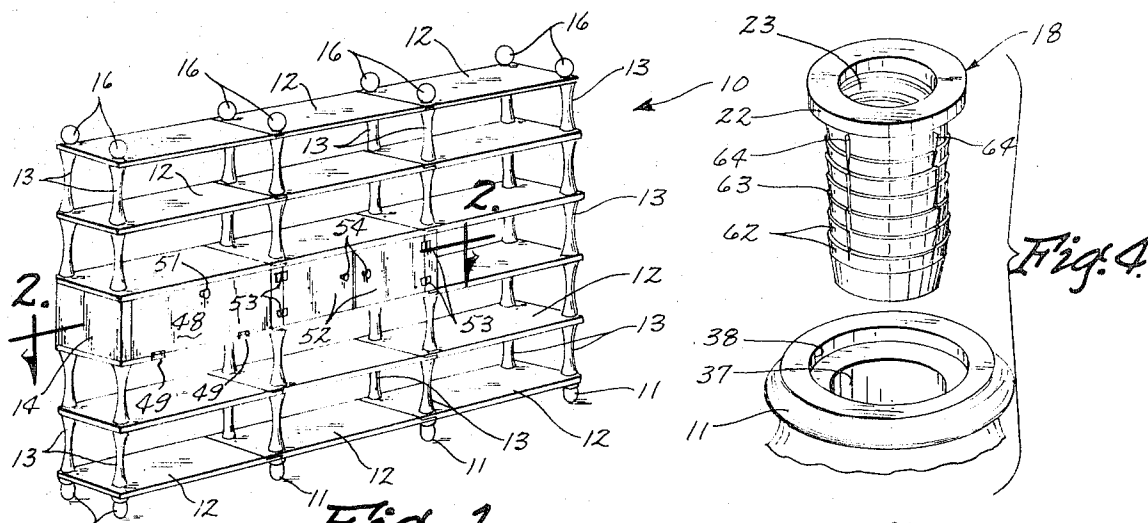


Fig. 3

ARTICLE OF FURNITURE

BACKGROUND OF THE INVENTION

The provision of do-it-yourself components for persons who desire, for one reason or another, to build their own articles of furniture is of course known. The conventional arrangement takes the form of room dividers, shelf groupings, and coffee tables and the like. These arrangements include a plurality of spindles, shelves, and connecting units. To applicant's knowledge, missing from this prior art is the provision of vertical members whereby walls, cabinets, drawers and the like may be included. One reason believed for the absence of this additional article of furniture from the do-it-yourself components was the lack of a suitable connecting unit therefor.

SUMMARY OF THE INVENTION

An article of furniture comprising legs or other supports, one or more shelves, posts, and at least a pair of upright walls with or without a connecting wall which form at least a partial enclosure, and all connected by a single male-dual female connecting unit, the female part of which may be factory installed for ease of assembly in the home.

It is an object of this invention to provide an improved article of furniture.

It is another object of this invention to provide a new and novel wall unit for a spindle-modular shelf assembly of components particularly adapted for do-it-yourself assembly.

Yet another object of this invention is to provide such a wall unit in combination with a new and novel connector unit whereby the wall connection is secure and the joint connection is completely hidden, thus enhancing the beauty of the article of furniture.

It is another object of this invention to provide a wall unit in an article of furniture which is capable of fulfilling the above designated objectives, and which unit is simple, economical and efficient.

These objects and other features and advantages of this invention will become readily apparent upon reference to the following description when taken in conjunction with the following drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an article of furniture embodying this invention;

FIG. 2 is an enlarged, fragmentary sectional view taken along the line 2—2 in FIG. 1, and using dotted lines for clarification of features of the invention;

FIG. 3 is a further enlarged, fragmentary, sectional view taken along the line 3—3 in FIG. 2, and showing certain parts in section with others not enlarged for clarity of the invention; and

FIG. 4 is an enlarged exploded view of an insert part of a connector unit.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, a preferred embodiment of the article of furniture of this invention is illustrated at 10 in FIG. 1. It comprises a plurality of legs or supports 11, horizontally disposed shelves 12, upright spindle posts 13, a pair of upright outer walls 14 (See FIG. 2), an intermediate wall 15, and a plurality of ball fini-

als 16, all interconnected by a plurality of connector units 17.

The supports 11, shelves 12, posts 13, and finials 16 are identical and further explanation is believed unnecessary. It will be noted in FIG. 3 that when assembled the shelves 12 are reversed so that their shoulders 27 mate as illustrated, with their square outer ends 26 exposed. The connector units 17 are also identical and only one will be described. Each unit 17 is comprised of a pair of inserts 18 of identical nature, and a connector 19.

Each insert 18 is comprised of a cylindrical body 21 having a slightly enlarged head 22 at one end thereof which has a smooth exterior surface. An internally threaded bore 23 (FIG. 3) is formed along the longitudinal axis of the insert 18 and extends its entire length thereof. As best shown in FIG. 4, the exterior surface of the insert is formed by a plurality of vertically contiguous circular bands 62 slanted downwardly and inwardly from a shoulder 63 at each top edge thereof, and to which are added a plurality of vertical ribs 64. It can readily be seen that these elements do not interfere with insertion of an insert into a socket or hole, but do tend to prevent removal therefrom and rotation therein during use.

The connector 19 is externally threaded at 24 its entire length; is of a solid nature, and has a length approximately twice the length of an insert 18. The cross sectional diameter of the connector 19 is such that it may readily be threaded into and out of the internally threaded bore 23 of an insert 18.

The inserts 18 and connectors 19 of this invention are of a molded, polymeric material which is relatively hard, but very easy to work with. For example, the connectors 19 can be threaded by hand into the inserts 18 while still obtaining a sufficient threaded connection to satisfy the requirements of the usual "do-it-yourself" person. It has been found that this type of connection does not lend itself to a "locking" as do metal or other connections, such that after long usage, the connecting elements can be disconnected, or unthreaded one from another, with ease.

Each outer wall 14 (FIGS. 1 and 2) is rectangular, having top, bottom, front and rear edges defining flat side surfaces 29, with a straight, upright groove 28 formed in the inner surface adjacent the rear edge 31 (FIG. 2). In assembly, it will be noted that the grooves 28 of the outer walls 14 face each other.

The intermediate wall 15 is substantially identical with the outer walls 14, however a pair of straight, upright grooves 32a and 32b are formed, respectively, in the side surfaces 33 and 34 of wall 15 adjacent the rear edge 36 thereof.

It will be understood that prior to assembly of the shelf-cabinet arrangement 10 illustrated herein, the female inserts have usually been installed at the factory, although not necessarily. As illustrated in FIG. 3, the upper end of each support 11 has been drilled to form a first hole 37 of approximately $\frac{3}{4}$ inch in diameter and one and $\frac{1}{4}$ inch in depth. Then a second hole 38 was formed concentric with the first hole 37 but one inch in diameter and $\frac{1}{2}$ inch in depth. An insert 18 was then driven into the holes until the head 22 thereof fit snugly into the countersunk area 38, and with the external threads of the body 21 digging into the sides of the first hole 37 to form a very tight fit therewith.

A hole 39 of approximately $\frac{3}{4}$ inch is then drilled at each of the four corners of each shelf 12, and whereby when the shelves are assembled as illustrated in FIG. 3, the holes 39 within the mating shoulders 27 are vertically aligned, and align with the holes 37 and 38 of the supports 11.

The arrangement of the spindle posts 13 and the shelves 12 may be continued as illustrated, with the insertion in each facing dual female insert pair of a male connector 19. Thus as seen in FIG. 3, the connector 19 is threaded at one end into the insert 18 of the support 11, and at the other end into the lower insert 18 of the spindle 13, while passing through the mated shelf shoulders 27.

The walls 14 and 15, however, replace a sextet of spindles 13. Each wall has a pair of horizontally spaced hole-insert units 43, identical to the holes 41 and 42, and insert 18 secured therein of the spindles 13, formed in the upper and lower edges, as shown in FIGS. 2 and 3. Thus, the connector 19a from the upper part of each spindle 13 is threadably inserted into each hole-insert unit 43 on the bottom edge 44 of each wall, and the connector 19b from the hole-insert unit 43 in the upper edge 45 of each wall extends upwardly through the shelf shoulders 27 thereabove to the spindle 13a of the next higher group of spindles.

A flat, four sided rear wall member 46 having a pair of tongues 47 (FIG. 2) may be inserted in place, with each tongue 47 engaged in a respective groove 28 and 32a, or 28 and 32b, thereby completing a three sided enclosure.

A closure 48 hinged at 49 to the front edge of a shelf, provided with a latching knob 51 may be provided for a desk arrangement when open; and also a pair of doors 52, hinged at 53 to adjacent walls 14 and 15, with knobs 54, may be provided for completing the enclosure.

It may readily be seen that by replacing spindles with the aforementioned walls, a completely new and different modular arrangement of infinitely more utility and

design graciousness is provided.

Although the preferred embodiment of the holes 37 and 41 are shown in the cross section of FIG. 3, wherein these holes are approximately one and one quarter inch in depth, another version is shown by the use of dotted lines in the wall arrangement to the left thereof as viewed in FIG. 3. Rather than have a pair of vertically aligned holes as at 41, a single hole 56 is formed completely through the wall 14, but still with the countersunk holes 42 at each end thereof for receiving the enlarged head 22 of each insert 18.

I claim:

1. In an article of furniture comprising a plurality of upright elements forming posts, a plurality of horizontally disposed elements forming shelves, and means connecting the posts and the shelves to form a stable article, an improvement comprising:

a flat, rectangular member having a quartet of straight front, rear, top and bottom edges defining a pair of parallel, flat side surfaces, and at least one straight groove formed in one of said side surfaces parallel to and adjacent said rear edge,

one or more of said members retained by the connecting means in an upright manner between the shelves and forming one or more walls thereby, and further wherein said connecting means comprising a first part having an internally threaded bore formed therein, said first part inserted into the upper portion of a post, and another first part inserted into the lower portion of an element, and comprises also a second part having an externally threaded surface, said second part extended through a shelf and in threaded engagement with both said first parts.

2. In an article of furniture as defined in claim 1, and further wherein a pair of said members are horizontally spaced from each other and are interconnected by an element having a tongue at each end, each tongue engaged with a groove.

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