

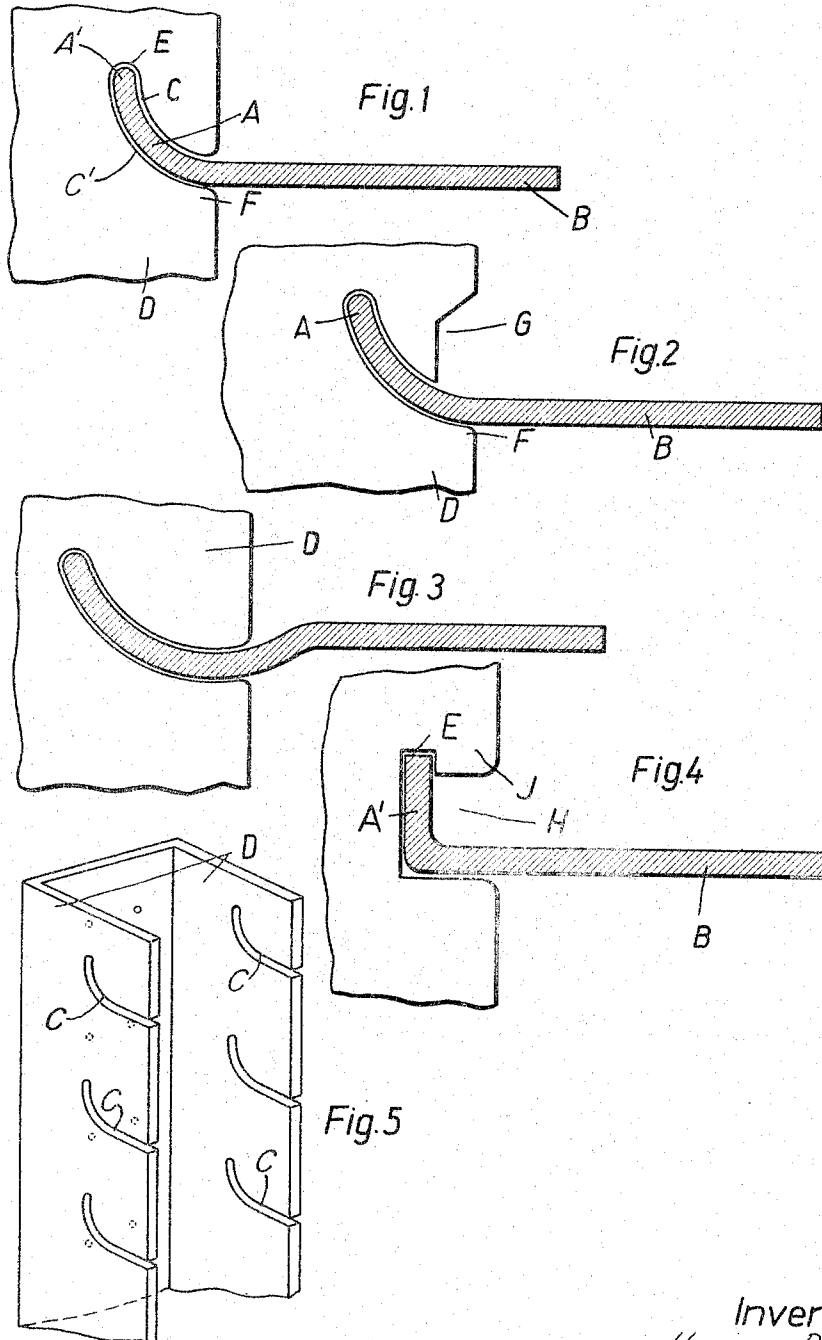
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MOUNTING OF SHELF BOARDS, RECEPTACLES, CABINETS, AND THE LIKE

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3,321,167 MOUNTING OF SHELF BOARDS, RECEPTACLES, CABINETS, AND THE LIKE

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In the field of residential furniture, designs and combinations of shelves, cabinets and similar receptacles are known which are anchored in wire frames or also through angles on vertical strips on the wall. In the case of shelves with fixed lateral walls the horizontal boards are permanently fixed by the vertical props or racks without lateral displacement. While the shelf boards may project laterally beyond the struts of the rack as desired, they must then be loaded symmetrically in order not to be lifted off one of the supports. Lateral displacement of the shelf boards is thus no longer possible if the vertical racks are secured to the wall.

The underlying object of the invention is to build simple shelves or carrying devices for the shelf boards or plates as well as for receptacles such as small cabinets, in such manner that these shelf boards, etc. can be laterally displaced by any amount and can also be anchored at any height. In particular, a favorable technical as well as aesthetic division of the available space in any desired pattern is to be ensured. It is also an object of the invention to be able to anchor the shelf boards and receptacles without expense and effort on a free-standing supporting rack or on the wall and to remove them therefrom.

According to the invention, this problem is solved in that the rear edges of the shelf boards or of the cover plates of a receptacle are preferably curved upwardly in hook form out in their plane and are inserted into correspondingly shaped cutouts of vertically extending lateral walls, carrying strips, or notchboards which may be, free-standing or attachable to a wall.

At least in the area of the upwardly curved sections, the shelf boards or cover plates consist of a resistant, form-retaining material, e.g. veneered or improved wood, plastic with or without a metal insert or superimposed layer, metal, or glass. Also the carrying strips, side walls, or notchboards may be made of such material. They show the profile determined by the up-curvings of the shelf boards, namely notches predominantly at regular intervals. On a freestanding carrying rack, shelf boards may be arranged on both sides. Accordingly the carrying sidewalls must likewise have the notches on both sides at the same level or offset against those of the other side.

The form of the up-curvings may be as desired and optimally adapted to the particular application; for example, seen from the side, the up-curvings follow a section bent downward out of the board plane. On the other hand, the up-curvings may consist of an angle section projecting upward normal to the board, while the respective cutouts in the cheeks are made approximately rectangular and a little higher than the height of the angle section and have a projection into the rectangle from above, behind which the upper end of the angle section of the upcurving is retained.

The notchboards may be provided with additional attachment devices, such as hooks, eyes, etc. on which coverings, foils, panelings or the like may be applied as facing of the wall area to obtain a finished appearance.

In the following, the invention is further described and explained with reference to the examples of construction shown in the drawings.

FIGURES 1 to 4 show side views of the arrangement in section with various forms of the up-curving of shelf boards and the respective cutouts in the sidewalls;

FIGURE 5 is the perspective view of the part of a double cheek.

According to FIGURES 1 to 4, the shelf boards B shown in side view, which may also be regarded as cover plates of small cabinets or other receptacles, are curved up at the rear portion A adjacent the wall. These up-curvings A, whose shape in the forms of construction according to FIGURES 1 to 3 is approximately equivalent to a quarter arc, are introduced in corresponding cutouts C of the notchboards D.

The vertically extending notchboards or carrying strips D may be fastened to a wall or a free-standing rack at regular or different lateral distance from each other. Alternatively, two such carrying strips or cheeks may be combined as one piece of U-shaped cross-section not too far from each other (FIGURE 5). Preferably the notchboards, standing free or perpendicular to the wall, contain cutouts C arranged at regular intervals, in which the shelf or cover plates D are so suspended that the up-curvings A slide into the recesses when the plate is held vertically upward, and thus lie firmly and horizontally in the recesses. A firm hold of the boards in the desired position, which need not necessarily be horizontal but may for example be inclined, is given by the fact that the end A' of the up-curving at E abuts at the end of the recess C. A load engaging at the shelf board B is thus absorbed primarily at E and is distributed beyond that over the concave side C' of the recess C. An inclined position can be obtained by shortening or lengthening of the shelf board part A and of the notch in the sidewall intended for it. By this method of attachment or hooking in, it is possible to fill a shelf or a wall area completely, i.e. up to their ends with shelf boards or receptacles. By the new type of hooking in and anchoring of the shelf boards it is achieved that an unintentional pressure from below does not lead to loosening the attachment. It is readily possible to shift a shelf board projecting beyond the holding cheeks laterally to the right or left without having to take it out.

Another advantage of the arrangement according to the invention is that the manner of fixing the supported structural parts is not effected by visible angles, wire straps, brackets or by ladder-like structures requiring much space, but that it is almost invisible. The vertical carrying strips or notchboards can advantageously be made of profiled material the same as the shelf boards. This material may be wood, glass, Plexiglas, or plastic with or without metal reinforcement.

The arrangement according to the invention has besides its advantageous use in residential and office rooms favorable possibilities or application also in the field of store construction or in warehouses. By selection of material and adequate dimension of the carrying strips and shelf plates, adaptation to the required loads can easily be achieved. For various applications it may be advantageous to provide at the bottom of the up-curvings A only narrow strips, on which, for example through angle parts, the plates, cabinets or other receptacles are fastened directly. Shelf plates slanting downward and forward are usually provided for instance with one holding strip at their front edge and then serve to display books, magazines, art or utility objects.

Depending on the load and purpose of use of the plates B, the up-curvings A are differently shaped. In like manner also the recesses in the sidewalls may be variously modified. In FIGURE 2, the up-curving of the rear edge of the plate has a similar shape as in the example according to FIGURE 1. Since when the plate is loaded the pressure at the notch occurs mainly at point E and at the

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lower contact area F, the carrying cheek may safely be recessed at the top of the curvature as indicated at G. This makes the introduction and removal of the shelves A-B simpler still.

In the example of construction according to FIGURE 3, the up-curving, seen from the side, is adjacent to a section bent downward out of the shelf plane. Also by this design a further simplified introduction of the shelves B is achieved as they need no longer be rotated by fully 90 degrees upward for introduction into the recesses in the sidewalls.

A more extensive simplification is shown in FIGURE 4. Here a shelf board is shown whose up-curving extends orthogonally upward. The recess H in the sidewall extends still lower than the recess G of FIGURE 2. The projection J extending into the recess from above offers the end of the up-curving or respectively the angle sufficient hold, so that the horizontality of shelf B is ensured. Moreover, the underside of the shelf finds good support at point F of the recess in the sidewall.

As has been indicated, the material of the side walls as well as of the shelf boards may be wood, plastic, or metal, or glass. At the points which are subjected to special stresses, reinforcements in the form of fittings may be provided. The recesses of the vertical sidewalls may be short in relation to the depth of the boards to be received. At a depth of about 30 cm., a slot depth of 5 cm. is sufficient if the material of the cheek is adequate.

FIGURE 5 shows a combination of U-shaped cross-section of two adjacent carrying notchboards. These can be fastened in simple manner on the wall or a carrying rack.

Having thus described my invention, what I claim is:

1. A mounting arrangement comprising:

- (a) a support member,
- (b) a shelf member being of substantially uniform cross-section and having a forward portion and a rearward portion,
- (c) said rearward portion being turned out of the plane of said forward portion along a substantially uniform arcuate curve encompassing approximately 90° of a circle,
- (d) said support member having a recess conforming

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to said rearward portion whereby said shelf member may be inserted into said support recess.

2. A mounting arrangement as defined in claim 1 wherein said support includes an additional cut-out adjacent said support recess.

3. A mounting arrangement as defined in claim 1 wherein said rearward portion is curved downwardly below the plane of said forward portion for a substantial distance and then curved upwardly above the plane of said forward portion.

4. A mounting arrangement according to claim 1 wherein said support is U-shaped in cross-section.

5. A mounting arrangement as defined in claim 1 wherein at least a portion of one of said members is glass.

6. A mounting arrangement as defined in claim 1 wherein at least a portion of one of said members is metal.

7. A mounting arrangement as defined in claim 1 wherein at least a portion of one of said members is wood.

8. A mounting arrangement as defined in claim 1 wherein at least a portion of one of said members is plastic.

9. A mounting arrangement according to claim 1 wherein at least a portion of one of said members is veneer.

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