

This invention relates to a fastening element for attaching inserts to sidewalls of a furniture structure as set forth in the introductory part of patent claim 1 as well as to a sidewall for a furniture structure for
5 attaching a fastening element.

With the sidewalls used heretofore in furniture structures, for the purpose of attaching inserts such as tilting doors, sliding doors, shelves, or telescopic extensions either tracks have been welded in, or else the
10 bent-down edges of the sidewalls have been provided with a snap or catch arrangement which offered little possibility for the subsequent attachment of inserts as mentioned above. Furthermore, prior art sidewalls are not sufficiently stable. Previously used sidewalls are also
15 provided with attachment holes, depending upon the insert, having the drawback that the sidewalls have to be dismantled when inserts are exchanged. Moreover, in the prior art sidewalls for furniture structures, the attachment holes have been applied in such a way that the
20 aesthetic impression is unsatisfactory.

Furthermore, sidewalls for furniture structures are known which have a snap or catch arrangement in the form of notches in the edges, used for suspending tracks for the purpose of installing an insert, as mentioned above.
25 A drawback of these sidewalls is that the metal tracks require a great deal of material, and this snap or catch arrangement offers only limited possibilities of assembly. Moreover, this prior art sidewall is not optimal from the point of view of elegance.

30 From BE-A-483 709 a fastening element for attaching inserts to sidewalls of a furniture structure is known with a body with an end face, there being mounted on the end face at least one fastening component and at least one bore provided in the body. Necessary in addition for
35 assembly of this fastening element is a vertical metal

5 rail with quadratic holes in the sidewalls of the furniture structure for insertion of the fastening element. The fastening element cannot be attached directly on the side edge of a sidewall. Moreover the fastening element can be adjusted only in vertical direction.

10 It is therefore an aim of the present invention to provide an improved fastening element for attaching inserts on a sidewall for a furniture structure as well as a sidewall for a furniture structure which do not have the drawbacks of the prior art cited above.

This aim is fulfilled through the features of patent claims 1 and 6. Preferred embodiments result from the dependent claims.

15 The fastening element and the side wall can be employed more universally than the prior art.

Preferred embodiments of the invention as well as their application will now be described in detail with reference to the accompanying drawings, in which:

20 Figure 1 is a diagrammatic perspective view of a furniture structure,

Figure 2 is a perspective view of a sidewall for the structure of Figure 1,

25 Figure 3 is a top plan view of the sidewall of Figure 2,

Figure 4 is a side elevation of the sidewall of Figure 3,

Figure 5 is a perspective view of a fastening element insertable in the sidewall of Figures 2-4.

30 Figure 6 is a cross-section through the fastening element of Figure 5,

Figure 7 is a partial elevation of the sidewall inserted in the furniture structure with the fastening element and a schematically indicated shelf,

Figure 8 is a top plan view of the sidewall of Figure 7,

Figure 9 is a partial elevation of another embodiment of the sidewall with a fastening element and a
5 schematically indicated inserted shelf,

Figure 10 is a top plan view of the sidewall of Figure 9, and

Figure 11 is a sectional view of part of the sidewall in the first embodiment, together with the fastening
10 element, a fastening angle, and an associated fastening screw.

Figure 1 illustrates a furniture structure 1 with longitudinal and transverse supports 2 and 3, corner connections 4, sidewalls 5, and a top plate 6, as well as
15 shelves 7 inserted between sidewalls 5.

Figure 2, a perspective view of a sidewall 5, shows two short side edges 8 and two longitudinal side edges 9 with holes 11 disposed at regular intervals therein along respective straight lines parallel to a base plate 10 of
20 sidewall 5.

In the top plan view and elevation of sidewall 5 shown in Figures 3 and 4, respectively, it will be seen that side edges 8 of the short sides and side edges 9 of the long sides of base plate 10 are concave. The radius
25 of curvature corresponds to the radius of the vertical and horizontal supports 2, 3 of Figure 1.

A fastening element 12 which can be screwed to the side edges 8, 9 of sidewall 5 or to base plate 10 is shown in Figure 5. It comprises a solid body 13 roughly in the
30 form of half a cylinder. An end face 14 of the body 13 has the same radius of curvature as side edges 8, 9 of sidewall 5. Positioned on a center line of this end face 14 are two fastening pins 15 and 16 intended to fit into holes 11 in side edges 8, 9 of sidewall 5. A bore 19 runs
35 perpendicular to the top and bottom limiting surfaces 17

and 18 of body 13 and parallel to the arcuate outside surface 20. A locking cap 21 is provided for securing fastening element 12 to one of the side edges 8 or 9 of sidewall 5. Cap 21 includes a arcuate rim 23 disposed
 5 perpendicular to a cover plate 22. When a fastening element 12 is assembled, rim 23 fits over the arcuate surface 20 of body 13. Furthermore, the straight bounding edge 24 of cover plate 22 is bent obliquely to fit over the top rim 25 of side edges 8, 9 of sidewall 5. A bore
 10 26 is disposed in locking cap 21 in such a way that when cap 21 is set on body 13, bores 26 and 19 are aligned.

Figure 6, a cross-section through a fastening element 12 screwed to an side edge 8 or 9 of sidewall 5, indicates how pins 15 and 16 fit into holes 11 of side edges 8 or 9.
 15 Locking cap 21 is fixed to body 13 by means of a bolt 27, and its bent edge 24 locks body 13 to side edge 8 or 9. However, body 13 may be secured to side edge 8 or 9 without any locking cap. For this purpose, bolt 27 is screwed into bore 19 of body 13 through a hole 28 in base
 20 plate 10 of sidewall 5.

Figure 7 shows a sidewall 5 inserted in furniture structure 1, with fastening element 12 holding a shelf 7 indicated in dot-dash lines. Edges 8 and 9 of sidewall 5 rest against vertical and horizontal supports 2 and 3. An
 25 angle piece 29 is screwed to fastening element 12 by means of a screw 27', which likewise locks cap 21 to body 13. Resting on angle piece 29, which comprises three side portions 30, 31, and 32, is one of the four bottom corners of shelf 7. For attaching shelf 7 within furniture
 30 structure 1, angle pieces 29 are secured by fastening elements 12 to two side edges 8 of each of two sidewalls 5.

Figure 8 is a top plan view, partially in section, of a shelf 7 attached to side edges 8 by means of angle
 35 pieces 29.

In another embodiment, Figure 9 illustrates a sidewall 33 having edges 34 and 35, the top portions 36, 37 of which are bent at a 90 degree angle and include holes 38 for mounting an angle piece 29 intended to hold a shelf 7, for example. Disposed between the angled portion 36 of edge 34 and a base plate 39 of sidewall 33 is a body having a longitudinal bore. Angle piece 29 is fixed to body 40 by means of a screw 41 passing through one of the holes 38.

10 The top plan view of Figure 10, partially in section, depicts shelf 7 attached to sidewall 33 by means of angle piece 29 and body 40. The advantage of sidewall 33 as compared to sidewall 5 in the first embodiment is that it is sturdier because of the more sharply angled top
15 portions. From the aesthetic standpoint, however, the first embodiment is more advantageous.

Figure 11 shows the essential parts of the invention according to the first embodiment, viz., the side edge 8 or 9 of a sidewall, a body 13, a locking cap 21 and and
20 angle piece 29.

It is preferable to provide a blind hole between pins 15 and 16 of body 13 to receive the head of a screw which may be on the sidewall.



Patent Claims

1. A fastening element for attaching inserts to a sidewall for a furniture structure with a body (13) with an end face (14), at least one fastening component (15, 16) being lodged in the end face (14) and there being at least one bore (19) in the body (13), characterized in that the fastening component is intended to engage in the bores in the side edges of the sidewall, and in that the body (13) comprises two plane, parallel limiting surfaces (17, 18) between which the end face lies, and in that the bore (19) runs perpendicular to the limiting surfaces (17, 18).

2. A fastening element according to claim 1, characterized by a locking cap (21) detachably connectible with the body (13).

3. A fastening element according to claim 1 or 2, characterized in that the end face (14) is concave.

4. A fastening element according to one of claims 1 to 3, characterized in that the body (12) < sic. > comprises an arcuate outer surface (20) perpendicular to the two plane limiting surfaces (17, 18).

5. A fastening element according to one of claims 1 to 4, characterized in that the fastening components are pins (15, 16) and lie in a plane parallel to the plane limiting surfaces (17, 18).

6. A sidewall for a furniture structure with a base plate (10) and four side edges (8, 9), passage holes (11) being disposed in the side edges (8, 9) for attaching a fastening element according to one of claims 1 to 5.



7. A sidewall according to claim 6, characterized in that the side edges are concave.

8. A sidewall according to claim 6 or 7, characterized in that the side edges are bent substantially at right angles at the top (25).

9. A sidewall according to one of claims 6 to 8, characterized in that the passage holes (11) are disposed on the centre line of the side edges (8, 9).

10. The sidewall according to one of claims 6 to 8, characterized in that the passage holes (11) are disposed in the bent portion of the side edges.