

A connection element in accordance with the preamble of Claim 1 is generally known. It is a bayonet connection, the bar of which is inserted through aligned elongated holes in two components, whereupon the connector is
5 rotated by 90° at its head by means of a key. Both components are then gripped between the head and the bar.

It is the object of the present invention to improve a connection element of the type described hereinbefore
10 so that the two components which are to be connected are at the same time kept spaced apart from each other by the connection element. This object was obtained per se by the connection elements according to US-A-4,194,429. However, this element is not of one piece, and would
15 therefore not permit simultaneous passing through the openings in both components and is therefore more costly.

The connection element according to the invention is particularly suitable for connecting the side walls of
20 supply bodies to the columns of a space divider. In this application, the width of the supply body can be kept somewhat smaller than the internal width between adjacent columns as a result of the configuration according to the invention of the connection element.
25 This makes it possible to remove and install the supply bodies of the space divider individually without the entire space divider having to be dismantled. The space divider can therefore be adapted very quickly and simply to changing requirements.

30 An embodiment of the invention will be described below with reference to the drawings.

- Fig. 1 shows a frontal view of a connection element according to the invention,
- Figs. 2 and 3 show sections along the lines II-II and III-III respectively in Fig. 1,
- 5 Figs. 4 and 5 show sections along the lines IV-IV and V-V respectively in Fig. 2,
- Fig. 6 shows a vertical section through a connection containing the connection element according to Figs. 1-5 before the turning thereof,
- 10 Fig. 7 shows the view VII in Fig. 6,
- Figs. 8 and 9 show sections along the lines VIII-VIII and IX-IX respectively in Fig. 6,
- 15 Figs. 10 to 13 show the illustrations corresponding to Figs. 6 to 9 after the turning of the connection element,
- Fig. 14 shows a vertical section through a supply body, and
- 20 Fig. 15 shows an opening in the side wall of the supply body.

The connection element of Figs. 1 to 5 is made in one piece from a thermoplastic, preferably fibre-reinforced plastic and is constructed so that it is axially symmetrical to the longitudinal axis 10. It has a disc-shaped round head 2 with an internal hexagon 3, a shank 4 and a first bar 5. At a distance from and between the

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bar 5 and the head 2 there is a second bar 6 which divides the shank 4 into a first shank section 7 on the head side and a shank section 8 located between the bars 5, 6. The bar 5 has two parallel side faces 15 and two cylindrical faces 16. Facing the head 2, it has a spherical contact surface 17. Towards the free end, the bar 5 is tapered conically in the axial direction on both sides.

The cross-section of the shank section 8 is approximately rectangular, with two opposing edges being rounded off cylindrically. The shank section 7 has two diametrically opposed, radially projecting lugs 20. These are displaced by about 70° with respect to the direction 21 of maximum width of the second bar 6. In the circumferential direction on the longer side in the direction of the bar 6, the shank section 7 has a cylindrical circumferential surface 22, the radius of which corresponds approximately to the radius of the surfaces 16 of the bar 5. The cylindrical circumferential surfaces 23 which adjoin the lugs 20 on the other side have a larger radius and extend beyond the direction 21. The direction 21 of maximum width of the bar 6 is offset by 90° with respect to the longitudinal extent of the bar 5. On this maximum width, which is smaller than the diameter of the head 2, the bar 6 has semicircular tongues 26. On the side of the circumferential surface 23, these tongues 26 merge into an arc-shaped flange 27, of the radius of the lugs 20, which adjoins the relevant lug. On the side of the circumferential surface 22, on the other hand, the tongues 26 merge into this circumferential surface 22. On the side facing the head 2, the tongues 26 have wedge faces 28.

Fig. 14 illustrates a preferred use of the connection element 1, namely the attachment of a supply body 32 to columns 33 of a space divider. The supply body 32 is intended for holding office utensils. The column 33 consists of two parallel vertical tubes 35 which are connected together by means of horizontal connecting rods 34. An L-shaped tabular support 36 is suspended on one of the connecting rods 34 and bears the supply body 32. The supply body has two side walls 37 made of sheet metal, which are screwed securely at their lower edge to a base plate 38 by their end faces. On the rear side, a back wall 39 is attached to the side walls 37. At the front, the supply body 32 may be closable by a flap, or guide rails for a drawer may be attached to the side walls 37. The connection elements 1 serve for rapid connection of the side walls 37 to the tubes 35. For this purpose, the tubes 35 have rectangular, upright through holes 43 for the first bar 5 to pass through. The side walls 37 have four centrosymmetrical openings 46, shown in detail in Fig. 15, for the second bar 6 to pass through. The opening 46 has two semicircular segments 48 on a horizontal axis 47 in the region of maximum width, corresponding to the tongues 26. Adjoining the segments 48, a segment 49 of a circle for the flange 27 to pass through follows in the contour of the opening 46 on one side. On the other side of the segments 48, the contour is narrowed more greatly. A short section 50 which runs approximately parallel to the axis 47 and adjoins the segment 48 tangentially merges into another straight section 51 which merges tangentially into a segment 52 of a circle. The segment 52 of a circle is concentric to the centre 53 of the opening 46 and its radius corresponds to the radius of the circumferential surface 23 of the first shank section 7 of the connection element 1. The segment 52

intersects the vertical to the axis 47 through the centre 53. A short, rectilinear transition piece 54 connects the segment 52 to the segment 49. The transition piece 54 is inclined with respect to the radial direction and serves as a stop for the lug 20 in the unlocked position of the connection element 1. In the locked position, which is rotated by 90° , the lug 20 bears on the section 50.

Figs. 6 to 9 show the connection element after insertion into the opening 46 in the side wall 37 and the hole 43 of the tube 35. Upon rotation of the connection element 1 by means of a hexagon socket screw key, the wedge faces 28 run to behind the sections 50, 51 of the circumference of the opening, so that the wall 37 is clamped firmly between the head 2 and bar 6. At the same time, the spherical contact surface 17 of the bar 5 runs on to the inner wall of the tube 35, so that the tube 35 is clamped between the bars 5, 6. Figs. 10 to 13 show the locked position of the connection element 1 in which the lugs 20 bear on the section 50. The circumferential surfaces 23 of the shank section 7 are then centred in the segments 52 of circles of the opening 46 (Fig. 12).

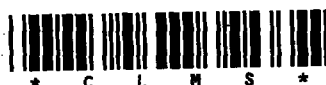
Claims

1. Connection element for connecting a first component (37) to a second component (35), in particular for connecting the side walls (37) of a supply body (32) to columns (33) of a space divider, comprising a head (2) for bearing on one side of the first component (37), with the head (2) having key engagement surfaces (3), a shank (4) formed on the head (2) for passing through one opening (43, 46) each in the two components (35, 37) simultaneously, and also a first bar (5) formed on to the free shank end for engaging behind the second component (35), characterised in that a second bar (6) is formed on to the shank (4) between the head (2) and the first bar (5), which second bar is angularly offset relative to the first bar (5) and is at a distance both from the head (2) and from the first bar (5) in the axial direction.

2. Connection element according to Claim 1,
characterised in that the two bars (5, 6) are offset by
90° with respect to each other, and that the second bar
(6) is longer than the first.

3. Connection element according to Claim 2, characterised in that the first shank section (7) has between the second bar (6) and the head (2) two diametrically opposing lugs (20) which are angularly offset relative to the second bar (6).

4. Connection element according to Claim 3,
characterised in that the peripheral surface of the
first shank section (7) has first sections (23) in the
shape of segments of circular cylinders on one side



each adjacent to the two lugs (20), the diameter of which sections is greater than the length of the first bar (5), and that the second circumferential surface sections (22) adjacent to the lugs (20) on the other side have a reduced diameter compared with the first sections (23).

5. Connection element according to one of Claims 1 to 4, characterised in that the second bar (6) has two diametrically opposed wedge faces (28) facing the head (2).

6. Connection element according to one of Claims 1 to 5, characterised in that the surface (17) of the first bar (5) which faces the second bar (6) is approximately spherical.

7. Connection element according to one of Claims 1 to 6, characterised in that the first bar (5) is tapered in a wedge shape in the axial direction both in width and in length.

8. Connection element according to one of Claims 1 to 7, characterised in that the key engagement surfaces are designed as a polygonal recess (3) and the head (2) as a round disc.

9. Space divider, comprising a plurality of supporting columns (33) and, interchangeably inserted therebetween, supply bodies (32) consisting of two side walls (37) which are connected to a base plate (38) and a back wall (39), with the side walls (37) each being connected to the columns (33) by at least one connection element (1) according to one of Claims 1 to 8.



10. Supply body (32) for a space divider, comprising two side walls (37) which are attached to a base plate (38) and a back wall (39), both side walls (37) each being designed for attachment by means of at least one connection element (1) according to Claim 3, the side walls (37) each having at least one opening (46) with the following outline which is centrosymmetrical with respect to the centre (53) of the opening:

- a) the maximum width extends horizontally parallel to the base plate (38);
- b) towards the vertical the outline is more narrowed on one side than on the other, starting from the maximum width;
- c) the side which is more greatly narrowed opens into a segment (52) of a circle which is concentric to the centre (53) of the opening and intersects the vertical.

