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Connection for functional inserts of electrical service
devices for flush-mounting

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Description

The invention relates to a connection for functional
inserts of electrical service devices for flush-
mounting which can be used in electrical service
10 technology, according to the precharacterizing clause
of Claim 1.

A combination of electrical service devices for flush-
mounting which are arranged adjacent to one another and
15 which each have a supporting ring is known from GM 29
802 469, in which a bridge part is provided which
connects two adjacent supporting rings at a defined
distance from one another. The bridge part can be
welded, bonded, swaged, soldered or latched to the
20 supporting rings. There is no need to explain how a
latching system is constructed. The bridge part is
formed by a metal plate which is fitted to and mounted
on the rearward side of the supporting rings, facing
the mounting surface.

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The invention is based on the object of providing a
detachable and mechanically robust connection for
functional inserts of electrical service devices for
flush-mounting.

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The object is achieved according to the invention in
conjunction with the features of the precharacterizing
clause of Claim 1 in that the mounting elements are
joined together via two separate connecting elements,
35 with the connections themselves each being made with
the aid of latching tongues/latching cutout

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configurations on those side edges which are arranged at right angles to the adjacent side edges of the mounting elements.

5 The advantages which can be achieved by the invention are, in particular, that a desired combination of functional inserts of any desired type and quantity, that is to say plug socket inserts, switch inserts, communications device inserts etc. (double combination,
10 triple combination, multiple combination) can be produced at the point where the service device is fitted in the flush-mounting socket in a wall. A high-strength mechanically robust connection is produced between the mounting elements of the joined
15 functional inserts, and this joint can be detached again by bending back the latching tongues for disconnection. The connecting elements ensure that, once connected together, the functional inserts are secured in a precise position.

20 Further advantages are evident from the following description.

Advantageous refinements of the invention are
25 characterized in the dependent claims.

The invention will be explained in the following text with reference to the exemplary embodiments illustrated in the drawing, in which:

30 Figure 1: shows a perspective view of a combination of two functional inserts of electrical service devices,

35 Figure 2: shows a detailed view relating to Figure 1.

Figure 1 shows a perspective view of a combination of two functional inserts of electrical service devices. The functional inserts are, for example, plug socket

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inserts, switch inserts, communications device inserts etc. A first functional insert 1 with a mounting element 2 and a supporting ring can be seen, with the mounting element 2 which is in the form of a square plate being provided with continuous bends 3 on two opposite side edges. These bends 3 are provided with end stops 4 at a predetermined distance from the outer edge. Latching cutouts 5 are in each case located in the bends 3, between an outer edge and an end stop 4, and likewise at a predetermined distance from the outer edge. In this case, two end stops 4 and latching cutouts 5 are in each case provided in a symmetrical configuration on each bend 3.

In the same way, Figure 1 shows a second functional insert 9 with a mounting element 10 and supporting ring, bends 11 on two opposite side edges, and in each case two end stops 12 as well as latching cutouts 13 in the bends 11.

Two metallic connecting elements 6 and 14 in the form of rods, or mounting clips each having a U-shaped profile are used for detachable connection of these two functional inserts 1 and 9. The length of the connecting elements 6, 14 is somewhat less than the width of a mounting element 2, 10. The dimensions of the height of the side limbs of the U-shaped profile and the distance between the side limbs formed are matched to the height of the bends 3, 11 and to the thickness of the mounting elements 2, 10 such that the connecting elements can simply be pushed onto the bends. The free edges 8, 16 of the side limbs of the U-shaped profile in the process slide along the bend edges so that the bend edges at the same time act as guide elements for pushing the connecting elements 6, 14 on in parallel, and act as bounding elements. The connecting elements 6 and 14 have sprung latching tongues 7 and 15 in one side limb, at a predetermined distance from the end outer edges. The connecting

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elements 6, 14 preferably each have two latching tongues 7, 15 in a symmetrical configuration. The U-shaped profiles in particular ensure the desired high mechanical robustness of the joint.

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For assembly, the two completely identical connecting elements 6, 14 are now first of all pushed onto the bends 11 of the functional insert 9. The assembly direction is denoted by arrows in Figure 1. The end stops 12 limit the pushing-on movement. In the end positions, the latching tongues 15 jump into the latching cutouts 13. No further movement in or counter to the assembly direction is now possible. Transversely with respect to the assembly direction, free edges 8, 16 of the side limbs of the U-shaped profiles of the connecting elements 6, 14 strike against the bend 11, likewise preventing any further movement transversely with respect to the assembly direction.

20 Then, in a similar manner, the functional insert 1 can be pushed over its bends 3 onto the free ends of the connecting elements 6, 14 until the latching tongues 7, 15 engage in the latching cutouts 15.

25 The two functional inserts 1, 9 can be disconnected from one another by bending back the latching tongues 7, 15. The connecting elements 6, 14 can then be removed from the mounting elements 2, 10 of the functional inserts 1, 9.

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Figure 2 shows a detailed view relating to Figure 1. The functional insert 9 can be seen, with the mounting element 10, bend 11 and latching cutout 13, as well as the connecting element 14 with the latching tongue 15 and the edge 16 of the side limb.

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The above text states that the mounting elements 2, 10 are provided with latching cutouts 5, 13, and the connecting elements 6, 14 are provided with

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corresponding latching tongues 7, 15. However, conversely, it is also possible to provide the mounting elements with latching tongues, and the connecting elements with corresponding latching cutouts.

Patent Claims

1. Connecting arrangement comprising at least two functional inserts of electrical service devices for flush-mounting, with the connection being made via the mounting elements of the functional inserts (1, 9), characterized in that the mounting elements (2, 10) are joined together via two separate connecting elements (6, 14), with the connections themselves each being made with the aid of latching tongues/latching cutout configurations on those side edges which are arranged at right angles to the adjacent side edges of the mounting elements (2, 10).
2. Connecting arrangement according to Claim 1, characterized in that the connecting elements (6, 14) have a U-shaped profile, which engages over the side edges of the mounting elements (2, 10).
3. Connecting arrangement according to Claim 2, characterized in that the side edges of the mounting elements (2, 10) are provided with bends (3, 11) which bound the edges (8, 16) of the side limbs of the U-shaped profiles.
4. Connecting arrangement according to one of the preceding claims, characterized in that the side edges of the mounting elements (2, 10) are provided with end stops (4, 12) in order to bound the connecting elements (6, 14).
5. Connecting arrangement according to one of the preceding claims, characterized in that the side edges of the mounting elements (2, 10) are provided with latching cutouts (5, 13) in which latching tongues (7, 15) of the connecting elements (6, 14) engage.
6. Connecting arrangement according to one of the preceding claims, characterized in that the mounting

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elements (2, 10) each have two end stops (4, 12) and two latching cutouts (5, 13) in a symmetrical configuration.

- 5 7. Connecting arrangement according to one of the preceding claims, characterized in that the connecting elements (6, 14) each have two latching tongues (7, 15) in a symmetrical configuration.

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Abstract

A connecting arrangement comprising at least two functional inserts of electrical service devices for flush-mounting is proposed, in which the connection is made via the mounting elements of the functional inserts (1, 9). The mounting elements (2, 10) are joined together via two separate connecting elements (6, 14), with the connections themselves each being made with the aid of latching tongues/latching cutout configurations on those side edges which are arranged at right angles to the adjacent side edges of the mounting elements (2, 10).

Significant figure: Figure 1.