Dec. 15, 1953 E. DIESSL 2,663,007

ELECTRIC PLUG AND SOCKET COUPLING

Filed Oct. 27, 1950

Fig. 1.

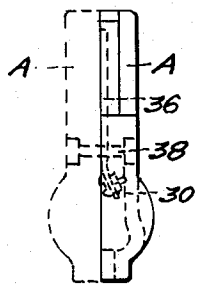


Fig. 2.

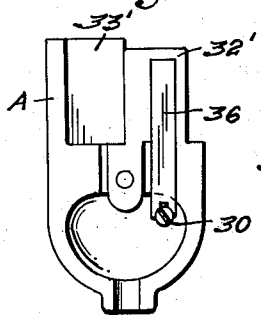


Fig. 3.

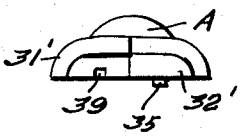


Fig. 4.

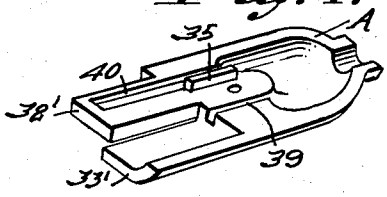


Fig. 5.

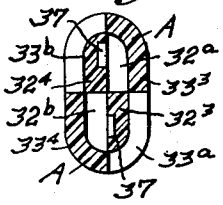


Fig. 6.

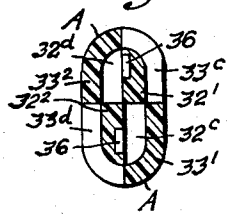


Fig. 7.

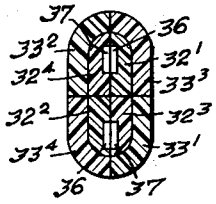


Fig. 8.

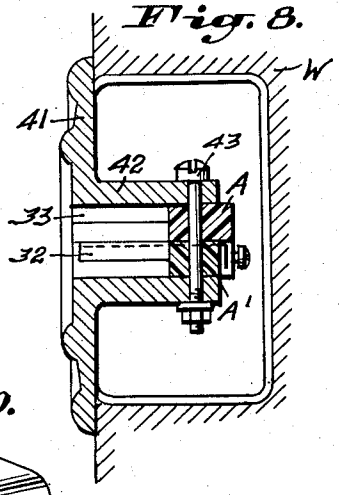


Fig. 9.

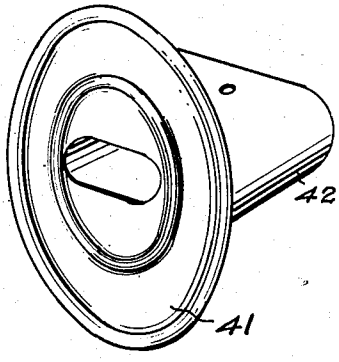


Fig. 10.

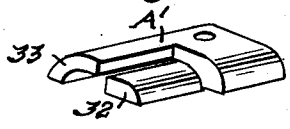
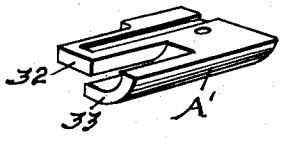


Fig. 11.



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ELECTRIC PLUG AND SOCKET COUPLING

Ernst Diessl, Braunschweig, Germany

Application October 27, 1950, Serial No. 192,434

Claims priority, application Germany
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2 Claims. (Cl. 339—49)

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This invention relates to contact connectors for electric cables especially such contact connectors which consist of two perfectly identified contact coupling members mutually engaging one another. Although the two mutually insertible contact coupling members in the known contact connectors are precisely similar to each other, yet each contact member is composed of a number of most different parts so that a number of special tools are necessary for their manufacture and their assembly requires much time and labor.

One of the objects of the invention is the simplification of such contact connectors composed of two exactly identical and mutually insertible contact coupling members for electric cable in such a manner that the two exactly identical contact coupling members are formed of two halves also exactly identical by these halves being offset by 180° to one another and connected with one another by known holding means.

Disregarding the metallic contact springs and the connecting means, the contact connector according to the invention consists of four precisely identical parts of insulating material and only a single tool (pressing form, squirting form, etc.) is required for its manufacture.

The invention is described with reference to the drawings, in which:

Figure 1 is a side view of one half of a contact coupling member, the other half of the contact coupling member being shown in dotted lines,

Figure 2 is an elevational view of one half of the contact coupling member part of Figure 8, showing the inside of the latter,

Figure 3 is a front view of one half of the contact coupling member of Figure 2,

Figure 4 is a perspective view showing the inside of one half of the contact coupling member illustrated in Figures 1 to 3,

Figure 5 is a cross-section of two halves of a contact coupling member secured together by means of a screw,

Figure 6 is a cross-section of the two halves of the other contact coupling member which is to be inserted into contact coupling member of Figure 5,

Figure 7 is a cross-section of two interlocked contact coupling members,

Figures 8 and 9 are a vertical longitudinal section and a perspective view of a wall socket provided with halves of contact coupling members resembling those of Figures 1–7, and

Figures 10 and 11 are perspective views of the halves of contact coupling members employed in the construction of Figures 8 and 9.

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It is further possible to devise the construction in such a way that the two inner coupling portions 2, 2 and 4, 4 are themselves forming suitably prismatically shaped metallic contact springs.

Referring to the drawing in detail, in Figs. 1 to 11 the two coupling parts, when pushed into each other, form only two flat interlocked prismatic coupling bodies. Each of these two coupling parts is divided into two halves A, A (held together by means of screws 38) in such a way, that each of the two halves carries one coupling portion (33^1 or 33^2 or 33^3 or 33^4) of the outer prismatic coupling body and one coupling portion (32^1 or 32^2 or 32^3 or 32^4) of the inner prismatic coupling body, whereby the coupling portions are so arranged that, when the two coupling parts A, A and A, A are pushed into each other, the coupling portions of one coupling part A, A fit into the vacant spaces (33^a, 33^b, 33^c, 33^d or 32^a, 32^b, 32^c, 32^d) of the other coupling part A, A (see Figs. 1, 5, 6, 7).

The contact springs 36 and 37 are arranged in grooves 40 (Fig. 4) of the coupling portions 32^1, 32^2, 32^3, 32^4 (Figs. 5 to 7) and are connected to the conducting wires by means of the screws 30 (Fig. 1).

The halves A, A of each coupling part are secured together by either one or a plurality of screws 38, whereby the rib 35 of one half A engages in the groove 39 of the other half A and thus insures the correct position of the two halves A, A with respect to each other.

A construction like this has the advantage that the two coupling parts A, A and A, A consist of four equal parts A which can be produced in the simplest way through casting or pressing.

Also for this form of the invention it is possible to devise change-over means combined with elements of known plug and socket couplings and to construct wall sockets as illustrated in Figs. 8 and 9.

The wall socket 41, consisting of insulating material, is embedded in the wall W and provided with a flat extension 42 into the hollow interior of which the two halves A^1, A^1 are inserted and secured in position by means of the screw 43. Regarding their construction the halves A^1, A^1 resemble that of the halves A, A of Figs. 1 to 7, that is to say, each half A^1 carries a coupling portion of the two prismatic coupling bodies 32 and 33, which, after insertion into the wall socket, are arranged therein in interlocked position.

Attention is further called to the feature that in plug and socket couplings of the type described the current carrying elements or spring 6—7,

16—17, 36—37 are so positioned that unintended touching of the latter is thereby prevented even when the coupling parts are not in coupling engagement.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. Contact connector for electric conductors consisting of two identical coupling members displaceable one into the other in the manner of claws, each coupling member comprising two identical halves of insulating material, each half including at least two tongues in juxtaposition and disposed in different planes and mutually offset by the thickness of a tongue, a contact spring carried by at least one of the tongues of each half and lying within the confines of the tongues, the spring being carried on that side of the tongue opposite to which lies a tongue of the other half spaced at a tongue thickness, so that each coupling member of the contactor has tongues mutually offset by a tongue thickness to lie in four superposed planes, said tongues enclosing between themselves at least two contact springs so that when two coupling members are pushed together slide claw-like between the tongues of the other coupling member, and the contact springs of one coupling member sliding on the contact springs of the other coupling member.

2. A contact connector for electric conductors as claimed in claim 1, wherein a sleeve is provided for receiving the coupling members and their associated parts, said sleeve being provided with means for facilitating attachment of the same to the wall of a room.

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