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ELECTRICAL SOCKET CONTACTS

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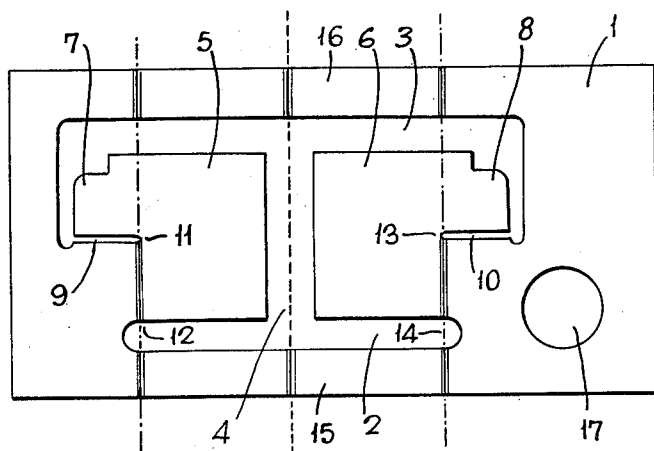


Fig. 1.

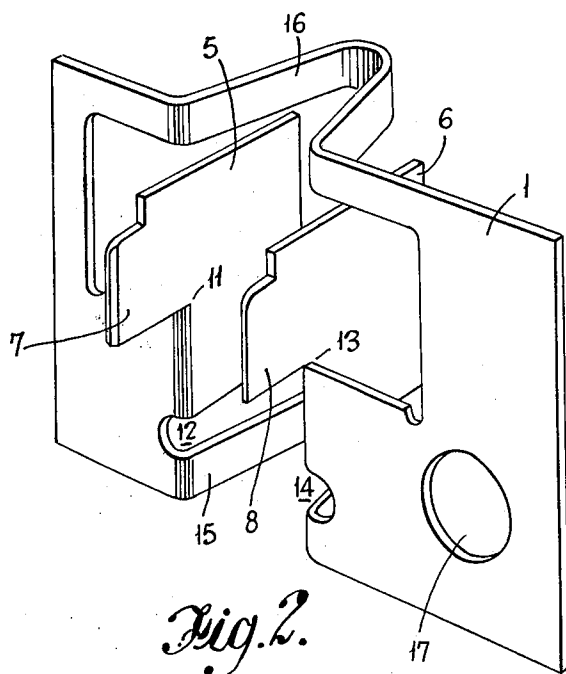


Fig. 2.

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ELECTRICAL SOCKET CONTACTS

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6 Claims. (Cl. 339-258)

This invention relates to electrical socket contacts.

It is concerned with socket contacts of a kind provided with interior surfaces arranged to make electrical contact pressure against the side of a pin when inserted into the socket. It has particular application in socket contacts adapted to receive pins of rectangular cross-section.

According to the present invention a socket contact comprises a single sheet of metal bent to form a trough extending across the sheet, which trough has an open base extending along a portion thereof to allow through passage of a pin in a direction generally perpendicular to the plane of the sheet, the sides of said open base portion being severed from the remainder of the trough form tongues capable of alignment with such a pin when inserted.

The tongues may have integral ears extending in the opposite direction to the direction of insertion of a pin, which ears serve to guide a pin between the tongues.

Further according to the present invention the method of forming a socket contact comprises cutting a sheet of metal to form a generally H-shaped cutout pattern, bending the tongues so formed in the same direction away from the plane of the sheet to leave side bridges and drawing the side bridges perpendicular to the plane of the sheet to bring the two tongues together until the gap between them is such that the tongues will resiliently contact a pin of requisite dimensions when inserted between the tongues.

In order that the invention may be more fully understood reference will now be made to the accompanying drawings in which:

FIG. 1 shows a cut-out blank for making a socket contact, and

FIG. 2 shows a perspective view of a socket contact made from the blank of FIG. 1.

Referring now to FIG. 1 a rectangular sheet of metal 1 of Phosphor bronze, brass or other suitable material has two spaced apart parallel slots 2 and 3 cut out therefrom parallel to opposite sides of the sheet. Slots 2 and 3 are joined by a transverse slot 4 positioned so as to give a generally H-shaped cut-out pattern in sheet 1. It will be seen that two tongues 5 and 6 are formed in the sheet between slots 2 and 3 and in the embodiment illustrated each of these tongues is provided with integral ears 7 and 8 formed by lengthening slot 3 at each end thereof so that it is longer than slot 2, providing perpendicular extensions to the ends of slot 3 towards slot 2 and further extensions 9 and 10 parallel to the main portion of slot 3 and extending towards slot 4.

To form the socket tongues 5 and 6 are each bent in the same direction away from the plane of sheet 1 along the lines of the joins of the tongues to the remainder of the sheet. The join between tongue 5 and sheet 1 extends in a line between points 11 and 12 and the join between tongue 6 and sheet 1 extends in a line between points 13 and 14. On completion of this operation it will be seen that two side bridges 15 and 16 are left joining the two halves of the sheet and these side bridges are then drawn down in the same direction as tongues 5 and 6 so as to bring the two tongues together until the gap between them is of the required size to receive a pin.

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The completed socket contact is shown in FIG. 2 in which like parts have like reference numerals to FIG. 1. It will be seen that the socket contact is in the form of a trough extending across sheet 1 which trough has an open base extending along a portion thereof the sides of the open base portion being severed from the remainder of the trough to define the tongues 5 and 6. If a pin is inserted into the socket in a direction from left to right in FIG. 2 the entry portion of the pin will be guided by ears 7 and 8 which will if necessary cause tongues 5 and 6 to be deflected slightly along bend lines 11-12 and 13-14. The spring action of the two side bridges 15 and 16, which now have a U-shape, ensures that tongues 5 and 6 resiliently contact the sides of the pin. Furthermore the socket as a whole is capable of alignment when a pin is not quite in the correct position relative to the socket by the spring action of side pieces 15 and 16 which will allow opening of the socket perpendicularly to the planes of tongues 5 and 6 and will also bend with the tongues to accommodate a pin not inserted exactly perpendicularly to the plane of the sheet. A further degree of self-aligning can be provided by fixing sheet 1 at a single fixing hole 17 only. With the hole 17 of suitable size to accept a terminal, the latter could be used for fixing the sheet 1.

What I claim is:

1. A socket contact comprising a single sheet of bendable metal having three parallel bends extending across the sheet to form a trough portion joining two coplanar portions, the base of said trough portion being open-ended along part of the line of bend to allow passage therethrough of a contact pin, and the sides of said open-ended part being severed from the remainder of the sides of the trough and bent to form angularly projecting tongues attached bendably along the lines of the two outer bends to regions of said coplanar portions intermediate the ends of said trough.
2. A socket contact as defined in claim 1 in which the outer of said parallel bends extend only part way across said tongues, the remaining portions of said tongues having integral ears cut-out of said coplanar portions and extending in the opposite direction to the direction of said tongues.
3. A socket contact as defined in claim 1 in which a single fixing hole is provided in one of the coplanar portions of the metal sheet.
4. A spring metal socket contact consisting of a single sheet of bendable metal formed to provide along opposite edges parallel U-shaped bridges defining the ends of a trough with coplanar base portions extending oppositely from the open end of the trough, and opposed spaced tongues bendably joined to said base portions intermediate said bridges along parallel axes in the common plane of said base portions at the open end of said trough and projecting in spaced relation in the same direction as said bridges, said trough defining bridges resiliently permitting separation of said tongues upon insertion of a pin therebetween.
5. In the socket contact defined in claim 4, guide ears on each tongue projecting from the juncture of said tongues with said base portions and in the opposite direction from said tongues.
6. A spring metal socket contact consisting of a single sheet of bendable metal formed to provide along two opposite edges parallel U-shaped bridges having legs joined to opposite coplanar base portions, said bridges both projecting in the same direction from the plane of said base portions and the juncture of each bridge leg with the associated base portion being aligned with the juncture

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ture of the corresponding leg of the other bridge with that base portion, and opposed spaced tongues cut out of said metal sheet and bendably joined to said base portions intermediate the bridges along lines that pass through the juncture of the bridge legs with the associated base portions, said tongues projecting away from said base portions in the same direction as said bridges and out of contact with said bridges. 5

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