Oct. 31, 1961 S. G. ANDERSON 3,007,132

ELECTRICAL SPRING CONTACT WITH SOLDERING EAR

Filed Feb. 27, 1958

Fig. 1 Fig. 2

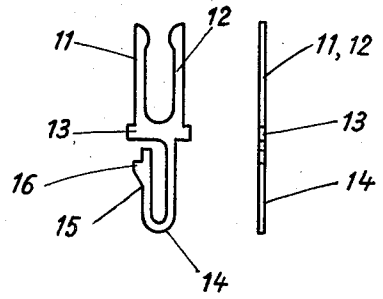
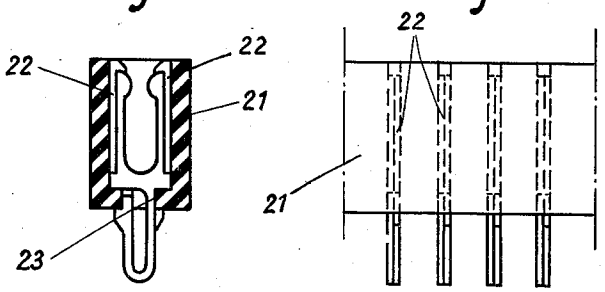


Fig. 3 Fig. 4



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ELECTRICAL SPRING CONTACT WITH SOLDERING EAR

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The present invention relates to a contact spring, which is fastened in an insulating block and provided with a soldering ear at its free rear end. The object of the invention is to provide a construction of the contact spring such that it can be directly pushed into its position in a slot in an insulating block, which can be molded in a single piece instead of being made in two halves which are screwed together as is conventional. According to the invention this object is attained by the soldering ear of the contact spring being formed in the shape of a hairpin spring with a free shank, which is arranged to snap and lock the contact spring in the correct position when the contact spring is pushed with the soldering ear first into the slot in the block.

The invention is described with reference to the accompanying drawing. FIG. 1 shows the contact spring seen from above and FIG. 2 shows the contact spring seen from the side. FIG. 3 is a cut through a slot in a block, and FIG. 4 shows a part of the block seen from the side.

The front part of the contact spring is shaped like a fork and consists of two facing springy arms **11**, **12**, which protrude from a middle part **13**. The middle part is somewhat wider than the distance between the outer parts of the arms. The rear part of the contact spring protruding from the middle part is arranged for connection to a connecting wire and is therefore formed as a soldering ear. According to the invention this ear is shaped as a hairpin or U-shaped spring **14** with a free shank **15**, which has a locking tooth **16** on its outside.

A block **21**, FIGS. 3 and 4, serves to house the contact spring, the block is made of insulation material in one piece. It has a relatively broad slot **22** for the middle part **13** and in the continuation of this slot there is a relatively narrower slot **23** for the soldering ear **14**. When a contact spring is pushed with the soldering ear first into the slot **22**, the soldering ear will also pass through the narrow slot **23**, whereby the hairpin spring is somewhat sprung together. When the contact spring is fully pushed home the locking tooth **16** snaps over the rear edge of the block. If it is desired to pull out a mounted contact spring for purpose of exchange, this can be conveniently effected by compressing the hairpin spring **14**.

The contact springs are symmetric so that the tooth **16** of the soldering ear of a contact spring can be on one or the other side when the spring is pushed into its position in the block **21**. This makes possible, that two contact springs with locking teeth facing in opposite direction can be pushed into the same slot as indicated in FIGS. 3 and 4. A better steadiness of the contact spring is thus obtained, especially regarding the soldering ear.

The contact spring of the invention is especially intended for jackstrips or blocks, which effect connection between a number of lines connected to plugs and the wires extending from the soldering ears of the contact springs. As indicated in FIG. 4 the block is therefore supplied with a number of slots **22**, **23**, disposed side by side for receiving a plurality of contact springs. With

two contact springs inserted side by side in each slot a very reliable contact is obtained when a plug pushed into the gap between the springy arms **11**, **12**. As the slot **22** for the middle part **13** is somewhat wider than the distance between the outer parts of the arm **11**, **12** a good spring action is obtained when a plug is pushed in.

I claim:

1. An electric connector comprising, in combination, an insulation block having a wide slot portion constricted at one end defining a narrow slot portion, a contact spring having a middle part with a pair of spring arms extending in the same direction from one side thereof in spaced apart parallel relationship, a U-shaped soldering ear constructed of springy conductive material extending from the opposite side of said middle part in a direction opposite to said springy arms, one end of said ear being secured to said middle part, the other end being free and terminating adjacent to said respective side of said middle part, said free end of said ear having a locking tooth on its outwardly facing side, said reduced slot portion having a width greater than the width defined by said ear and less than the sum of the widths defined by said ear and said tooth, said middle part and said springy arms being received within the wider slot portion, said ear protruding through said narrow slot portion from said block with said tooth engaging an outside wall portion of said block, whereby the contact spring is releasably secured within said block.

2. An electric connector comprising, in combination, an insulation block having a slot extending therethrough defining a wide slot portion and constricted at one end to define a narrow slot portion, a pair of contact springs, each one of said contact springs including a middle part with a pair of springy arms extending in the same direction from one side of said middle part in parallel spaced apart relationship with each other, a U-shaped soldering ear constructed of springy conductive material extending from the opposite side of said middle part in a direction opposite to said springy arms, one end of said ear being secured to the respective middle part, the other end of said ear being free and terminating adjacent to said respective side of said middle part, said free end of the ear having a locking tooth on its outwardly facing side, said middle part and said springy arms of each said contact springs being receivable within said wide slot portion of said block in side by side relationship with the ears of both contact springs protruding in side by side relationship through said narrow slot portion of said block, the locking tooth of each contact spring engaging an outside wall portion of said block, and said teeth facing in opposite directions, whereby both of said contact springs are secured within said block with the springy arms of said contact springs spaced apart a greater distance than said ends of said ears.

3. A contact spring according to claim 1 wherein said pair of springy arms and said U-shaped ear are symmetrical with a central transverse axis of said middle part and said middle part is of symmetric configuration.

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