

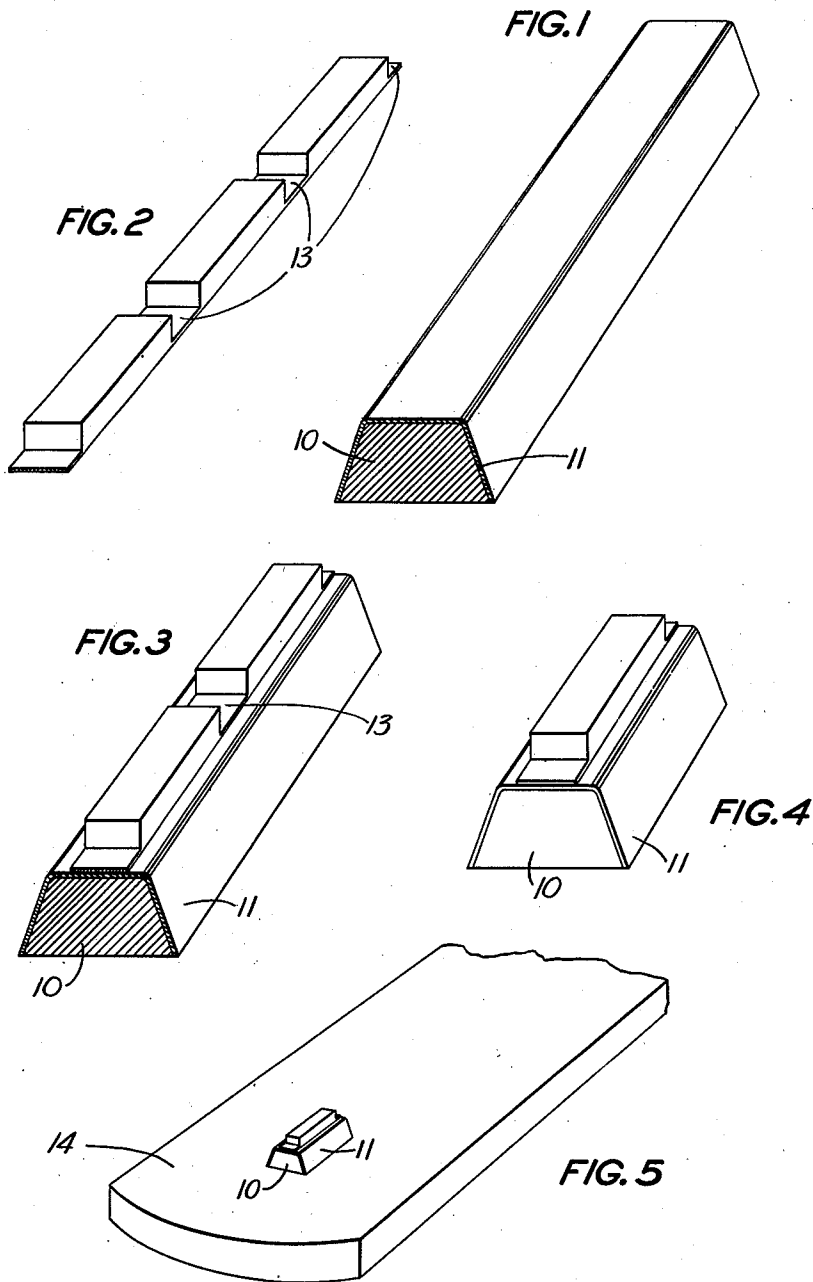
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METHOD OF MAKING ELECTRICAL SWITCH CONTACTS

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METHOD OF MAKING ELECTRICAL SWITCH CONTACTS

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This invention relates to electrical switching apparatus and more particularly to contacts and methods of manufacturing contacts for use in such apparatus.

5 In the manufacture of contact springs as used in relays, for example, it has been found preferable, in order to insure a maximum number of efficient operations, to construct the contacts of the springs of certain precious metals, and therefore it was desirable to use 10 such metals in the manufacture of these contacts which required a minimum volume of material to present maximum area of cooperating contact surfaces and which function 15 efficiently over wide ranges of operating conditions.

According to this invention a strip of base metal is first plated with a precious or semi-precious metal and a narrow strip of contact 20 metal is united therewith. The plated backing metal prevents smutting of the contacting surfaces from side sparking. The method used for plating the base metal may be silver, gold or any precious or semi-precious metal.

25 By virtue of this invention, the use of expensive machinery and forming tools is eliminated, and economical utilization of all the precious metal contact material is effected.

The invention will be readily understood 30 from the following detailed description made with reference to the accompanying drawings in which,

35 Fig. 1 is an enlarged view of a strip of base metal having three of its surfaces electroplated;

Fig. 2 is an enlarged view of a strip of precious metal contact elements;

40 Fig. 3 is an enlarged view of a length of tri-metal contact material before being cut into individual contact elements;

Fig. 4 is an enlarged view of an individual contact element;

5 Fig. 5 shows a contact element mounted on a switching element, such as a relay contact spring.

According to this invention a strip 10 shown in Fig. 1 of base metal, such as brass, and of the proper cross-sectional shape is provided preferably on three of its sides with a 50 covering of semi-precious metal 11, such as

silver, gold or any material having high melting point characteristic. This covering may be applied as by electro-deposition or in any other well-known manner.

On the plated side opposite to the unplated 55 side of strip 10 is welded a strip of precious metal shown in Fig. 2 having reduced portions 13 disposed at suitable intervals along the strip. These reduced portions define the 60 length of the precious metal elements, and the formation of these elements in strip form, facilitate their welding on the base metal strip in proper relation to each other, after which the tri-metallic bar thus formed may be cut transversely in planes passing through 65 the indentations in order to obtain contacts as shown in Fig. 4. This contact may then be united as by welding to a supporting member such as 14 shown in Fig. 5. The cutting 70 operation of the contacts from the strip, however, may conveniently be effected in subsequent operations to that of the welding operations of the contacts on their supporting members.

What is claimed is:

75 1. The method of producing switch contacts which consists in plating three surfaces of a strip of base metal with contact metal, welding a strip of contact metal on one of the plated sides of the base metal and welding 80 the base metal to a supporting element.

2. The method of producing switch contacts which consists in welding a strip of contact metal to a bi-metallic strip, the bi-metallic strip having portions extending on 85 opposite sides of the contact metal strip, and welding a piece of the combined metal on the supporting element.

3. The method of producing switch contacts which consists in plating three surfaces 90 of a strip of base metal with contact metal, welding an indented strip of contact metal on one of the plated sides of the base metal, welding portions of the tri-metallic bar to supporting elements and cutting the bar 95 transversely in planes passing through the indentations.

In witness whereof, I hereunto subscribe my name this 31st day of December, 1928.

HUMPHREYS O. SIEGMUND. 101