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3,254,188

SEALED MULTIPLE CONTACT DEVICE

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Fig.1

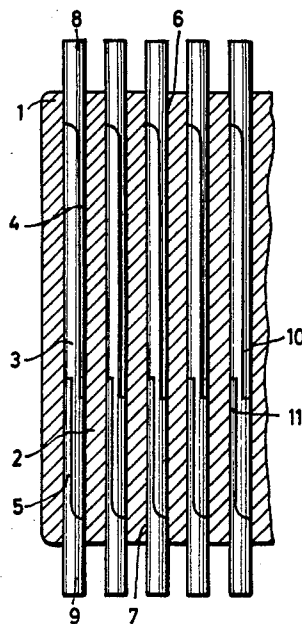
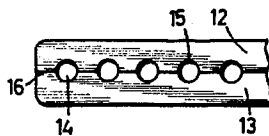


Fig.2



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SEALED MULTIPLE CONTACT DEVICE

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6 Claims. (Cl. 200-166)

The invention disclosed herein is concerned with a device comprising a protective tubing or casing including a plurality of sealed-in contacts. Devices of this kind are frequently used in connection with relay- or selector-arrangements for switching-through a plurality of conductors with the aid of a coil.

It is known to make protective casings or tubings of glass or ceramic material, forming a single chamber in which are disposed a plurality of contacts or contact sets. The disadvantage of such a structure resides in that the protective casing has slight mechanical strength and that stresses are likely to occur owing to the closely adjacently positioned fusion areas of the contact members or lamellas, which may easily result in breakage of the protective casing.

The object of the invention is to avoid these drawbacks by the provision of a protective casing which has sufficient mechanical strength and stability even when enclosing a relatively great number of contact lamellas fused thereto.

This object is realized by subdividing the interior space of the protective casing by means of one or more partition walls to form a plurality of individually delimited chambers each containing individual contacts sealed therein.

The subdivision of the interior space of a protective tubing or casing, effected according to the invention, offers two advantages. First, to the entire body of the casing is imparted a mechanical stability and strength which exceeds that of a tubing or casing without partition walls, containing a plurality of contact sets, and which also exceeds the relative mechanical strength and stability of protective tubings containing only one contact or contact set. Moreover, the partition walls may be utilized as backings for the contact elements, so that the contact spacing, which is of considerable importance for the functions of the sealed-in contacts, can be accurately determined.

The protective casing is advantageously formed of two elongated half shells each provided with a plurality of ribs. These half shells are placed together with the inside of one half shell facing that of the other half shell, said ribs forming the partition walls. Half shells made of ceramic material are particularly suitable, since they can be produced true to shape, requiring for the joining of the two shell parts merely thin glazing layers which equalize slight irregularities of the material.

The contact lamellas may be advantageously shaped cylindrical at the areas of entry into the protective casing, so that they can be fitted into the semicylindrical recesses of the ceramic half shells and fused likewise thereto with the aid of thin glazing layers.

Details of the invention will be explained with reference to the accompanying drawing showing an embodiment thereof.

FIG. 1 shows in cross-sectional view a protective cas-

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ing having a plurality of partition walls forming individually delimited chambers containing contacts; and

FIG. 2 indicates an end view of the structure.

The protective casing 1 shown in FIG. 1 is subdivided by partition walls 2 into a plurality of mutually separated chambers 3. In each of these chambers is disposed a contact comprising two contact lamellas 4 and 5. From the respective contact lamellas extend outwardly directed cylindrically shaped terminal parts such as 8, 9, which are embraced by the recesses in the half shells of the casing. The cylindrical terminal parts 8, 9 serve as soldering tabs. The contact lamellas which are formed in the manner of leaf springs, are indicated at 4, 5, 10 and 11, such springs being provided with contact points (not shown).

FIG. 2 shows a protective casing comprising two ceramic half shells 12 and 13, containing a plurality of contact sets having cylindrical terminals forming soldering tabs 14 which project from the casing. The cylindrical terminals are embraced by the semicylindrical recesses of the half shells of the protective casing. The joining areas 15 and 16 of the half shells 12, 14 are fused together.

Changes may be made within the scope and spirit of the appended claims which define what is believed to be new and desired to have protected by Letters Patent.

I claim:

1. A sealed-in contact device comprising a unitary casing having interiorly extending partition walls forming a plurality of elongated individually delimited parallel extending chambers, and contact means disposed within each of said chambers, said contact means having movable portions disposed in the associated chamber operable to open or closed position, and stationary portions integrally formed therewith and complementary in shape to the adjacent portions of the associated chamber, said stationary portions being disposed in rigid sealing engagement with said adjacent portions of said casing and extending outwardly therefrom.

2. A contact device according to claim 1, wherein the movable portions of each contact means comprises two contact lamellas formed in the manner of leaf springs.

3. A sealed-in contact device comprising a casing formed from two half shells, each half shell forming partition wall means extending in parallel with the longitudinal axis of the casing, and perpendicularly in transverse direction thereof, said half shells being united into a unitary structure, said partition walls forming a plurality of individually delimited chambers, and contact means disposed within each of said chambers, said contact means having movable portions disposed in the associated chamber operable to open or closed positions, and stationary portions disposed in rigid sealing engagement with adjacent portions of said casing.

4. A contact device according to claim 3, wherein said half shells are made of ceramic material, the joining areas of said half shells being thinly glazed and fused together.

5. A contact device according to claim 3, wherein said half shells are made of ceramic material, each half shell forming semicylindrical recesses, each contact means including two members comprising respectively a cylindrical stationary terminal portion and a movable contact portion formed in the manner of a leaf spring, said cylindrical portions being embraced in sealing relation

by the respective semicylindrical recesses and in part extending from said casing and the movable contact portions of said members being disposed within the respective chambers formed by said half shells.

6. A contact device having a plurality of sealed in contacts each comprising two parts, each part having a cylindrical terminal portion and a flat contact portion formed in the manner of a leaf spring, an elongated casing formed of two half shells made of ceramic material, each half shell having longitudinally extending ribs and having semicylindrical recesses formed therein between said ribs at the opposite ends thereof, with the ribs of the assembled half shells forming interior partition walls delimiting individual chambers for the respective contacts, and said recesses forming cylindrical openings through which the cylindrical terminals of the respective contact parts extend to the outside, with said cylindrical terminals forming the end closures of said chambers, the joining areas of said half shells and said contact parts being thinly glazed and fused to each other and to said cylindrical terminals to form a unitary sealed structure, the flat

contact portions of the respective contacts being disposed within the respective chambers and being at least in part in engagement with walls of the corresponding chamber.

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