July 28, 1964 H. M. FRIEDMAN 3,142,738

FUSE HOLDING STRUCTURE

Filed July 3, 1961

FIG. 1

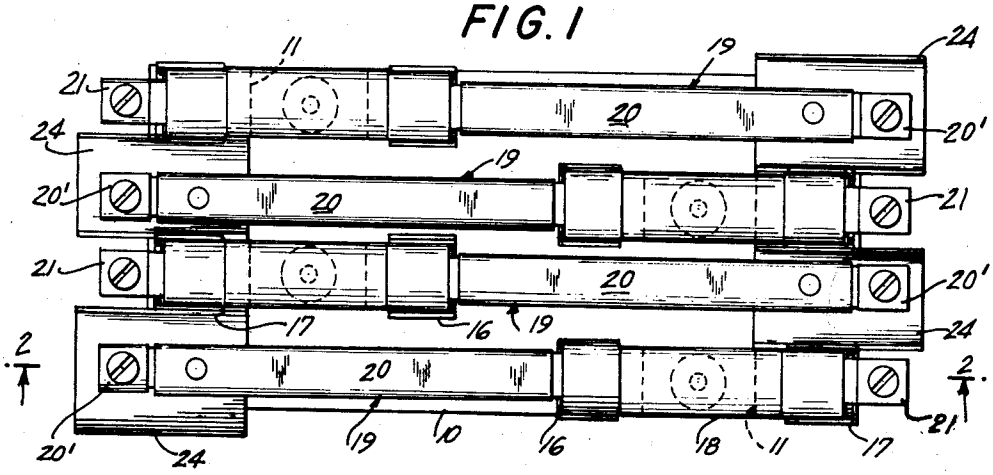


FIG. 2

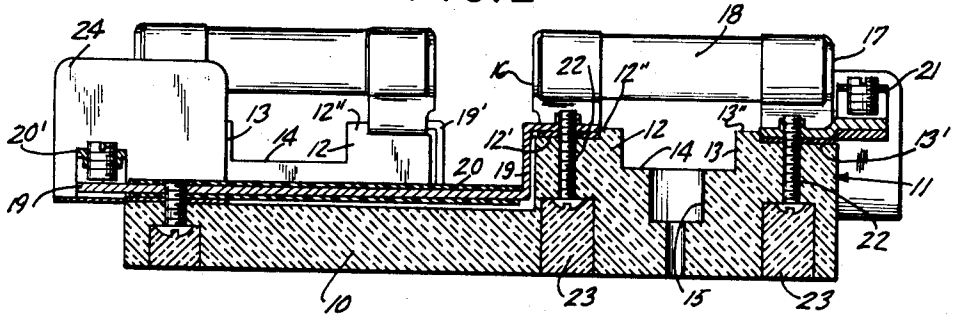
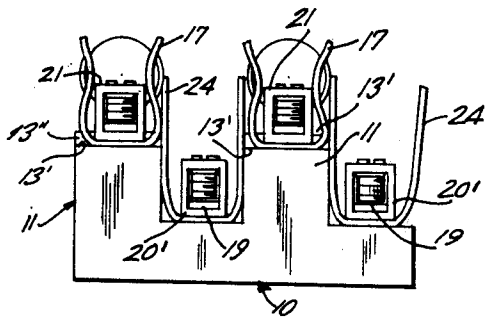


FIG. 3



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FUSE HOLDING STRUCTURE

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This invention relates to holding fixture structures for exchangeable electric fuses, and particularly pertains to a rather elongated structure for holding a plurality of fuses as compared with heretofore used broad and short fuse holding devices.

Fixtures for holding exchangeable multiple electric fuses are well known in the art. However, due to the stringent requirements the heretofore used fixtures are rather broad, clumsy and heavy, and in most cases the fuse holding clips are separated by wide dielectric partitions in addition to the outer dieletcric walls enclosing all of the fuse-receiving clips. As a result the heretofore used fixtures are unwieldy, difficult to handle in narrow places, and require a substantially broad area for mounting.

The present device, on the other hand, is designed to be substantially lightweight, narrow and elongated so that its mounting in limited confinements is facilitated, since there is usually substantial room lengthwise, whereas widthwise the space is limited.

Heretofore used fuse holding fixtures usually contain three adjacent pairs of fuse holding clips for use with wiring employing three lines. Such three-fuse fixtures are of a substantial width. Compared with this present-day used wide construction, the instant device incorporates a narrow but elongated arrangement of fuse clips, as will be presently evident.

The prime object of this invention therefore is the provision of a substantially narrow, elongated fuse holding fixture which is relatively inexpensive and very simple in its structural arrangement, thus facilitating ready mounting within limited confinement.

A further object of the present invention is the provision of a fuse holding fixture wherein at least two, four or six pairs of fuse-receiving clips are employed, and wherein the arrangement of the clip holding pairs is such that one set of pairs is located at one end of the base, whereas the other pair is arranged at the other end thereof, the pairs of clips at one end of the base being staggered in relation to the other pair of clips at the other end of the base.

An additional object of this invention is the provision of a substantially narrow fuse-holding fixture composed of a monolithic, dielectric structure defining an elongated base portion from which project at least two pairs of spaced fuse-supporting elevations, constituting integral parts of said base portion, one pair of said elevations being disposed at each end of the elongated base portion, the pairs of elevations being offset relative to each other, and wherein each of the elevations is provided with a recess having an end abutment, the recesses of said elevation serving for the accommodation of fuse-holding clips, said end abutments of the recesses being adapted for limiting the movement of said clips.

A further object of this invention is the provision of insulated bus bars extending from what may be termed the inner fuse holding clips and the arrangement of conductor attaching means at the ends of the bus bars, which bar ends project beyond the end of the base opposite to the base end supporting the clips, and wherein conductor attaching means are provided at what may be termed the outer fuse clips and which conductor attaching means extend beyond the end of the base where the clips are located.

The foregoing and other advantages of the present invention will be more fully understood from the ensuing description of the accompanying drawings, wherein:

FIG. 1 is a top view of the present holding fixture structure;

FIG. 2 is a section taken approximately along lines 2—2 of FIG. 1; and

FIG. 3 is an end view seen from either end of FIG. 1.

As will be seen from the figures, there is employed an elongated, rather narrow, one-piece base **10**, from which extend integral elevations broadly indicated at **11**, arranged in spaced pairs at opposite ends of base **10**. These elevations form spaced columns **12** and **13**, see FIG. 2, of which columns **12** are designated as inner columns and columns **13** as outer columns. These columns are separated by a spare-out **14**. In this spare-out is provided a double recess **15** for receiving attaching means for the base.

The upper faces of columns **12** and **13** are recessed as at **12'** and **13'** so that abutments **12''** and **13''** are formed. Recesses **12'** and **13'** serve as resting and attaching surfaces for inner and outer fuse clips **16** and **17**, respectively, which are aligned with one another. These fuse clips are designed to removably hold fuses **18**.

With inner clips **16** there are associated bus bars **19** which are bent downwardly and continued within insulating tubes **20** towards and extend beyond the base end opposite that where elevations **11** are located. At the end of bus bars **19** there are provided conductor attaching means **20'**, and similar conductor attaching means **21** are associated with outer clips **17**. Clips **16** and **17** are held in place by screws or other means indicated at **22**, the heads of which are sealed as shown at **23**.

In observing FIG. 1 there will be seen two pairs of fuse receiving clips at the right lower end of the base and a similar set of clip pairs at the left-hand upper end of the base. Each clip pair is offset relative to the other pair, and each pair of clips is spaced so that the bus bars **19** can pass freely between them. About the ends of the insulated bus bars there are provided insulating shields **24** which extend upwards and partly beyond the fuse clips as clearly seen in FIG. 3. These shields also include conductor attaching means **20** of the bus bars.

Referring now to FIG. 2, it will be noted that clips **16** and **17** not only are attached to their supporting surfaces **12'** and **13'**, but they are limited in their movement by abutments **12''** and **13''** so that the spacing of the clips is strictly defined and their movement restricted.

By consulting the drawings, especially FIGURE 2, it will be noted that the present fuse-holding fixture constitutes a monolithic structure, made of dielectric material and comprises an elongated base portion **10** from which extends upwardly a pair of integral elevations **12**, **13**, which are spaced from each other by spare-out **14**.

In the drawings a fuse holding fixture is shown having four pairs of fuse clips. It is to be understood, however, that either only two pairs of oppositely disposed fuse clip pairs could be used, as well as six such fuse clip pairs, depending upon given requirements, and while the foregoing description of the drawing deals with only one of the presently preferred forms of the instant invention, it is obvious that during the production and use of the device changes and improvements may be required which are deemed to reside within the scope of the present invention, as defined in the annexed claims.

What is claimed as new is:

1. In a holding fixture structure for exchangeable electric fuses, an elongated, substantially narrow, elongated dielectric, monolithic base body having at each end at least one spaced elevation integral with and projecting upward from the base body, the elevation at one base end being offset in relation to the elevation at the other base end, said elevations being spaced by a spare-out

which separates the elevations to form inner and outer supporting columns, each supporting column having a recess and an end abutment, resilient fuse-receiving mountings supported by and firmly secured to each of the columns, and restricted in their movement by said end abutments, the mountings supported by what may be termed the inner columns being designated as inner mountings, the mountings supported by the outer columns being the outer mountings, the mountings at each elevation being aligned, and an insulated bus bar extending from each of the inner fuse receiving mountings toward and projecting with their ends beyond the end of the base body opposite to that where the elevations are located.

2. In a holding fixture structure as per claim 1, and wherein each of the outer mountings having conductor attaching means extending beyond the base body, and similar conductor attaching means being associated with the projecting ends of the bus bars.

3. In a holding fixture structure as per claim 2, and wherein insulation shields are provided at bus bar ends where said conductor attaching means are located, said shields extending partly beyond the outer fuse mountings.

4. In a holding fixture structure for electric fuses, a substantially narrow, elongated, one-piece monolithic and dielectric base portion having at least one integral pair of elevation formed at each end thereof, the pairs of elevations being staggered relative each other, each of said pair of elevations comprising two upward projections

spaced from each other by a spare-out, one of the projections being an inner projection, the other an outer projection, recesses for receiving attaching means for the base extending from the spare-out toward the bottom face of the base portion, each of the upward projections having aligned, recessed supporting areas with end abutments; resilient, aligned fuse clips resting against and being secured to said supporting areas and being limited in their movement by said end abutments, the clips secured to the inner projections being designated the inner clips, the clips secured to the outer projections being the outer clips, insulated bus bars secured to and extending from the inner fuse clips toward and projecting beyond the ends of the base portion opposite to those provided with said elevations, conductor attaching means provided at the projecting ends of the bus bars, other conductor attaching means secured to the outer fuse clips, said conductor attaching means extending beyond the ends of the base portion, and insulating shields arranged about the conductor attaching means at the ends of the bus bars.

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