

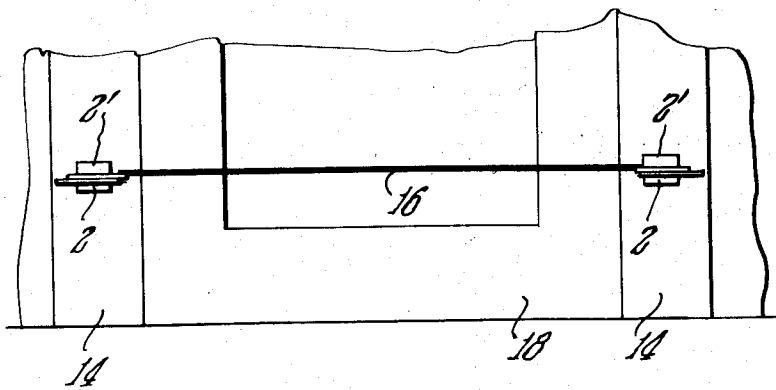
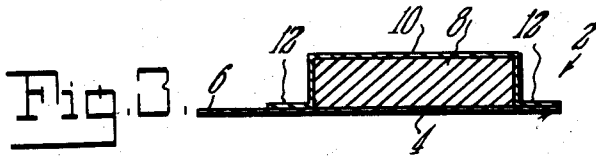
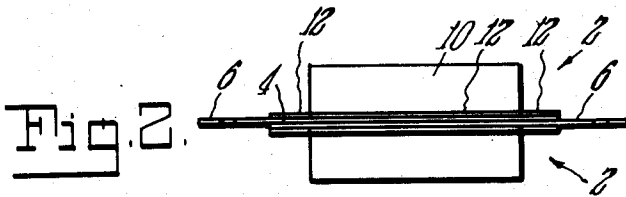
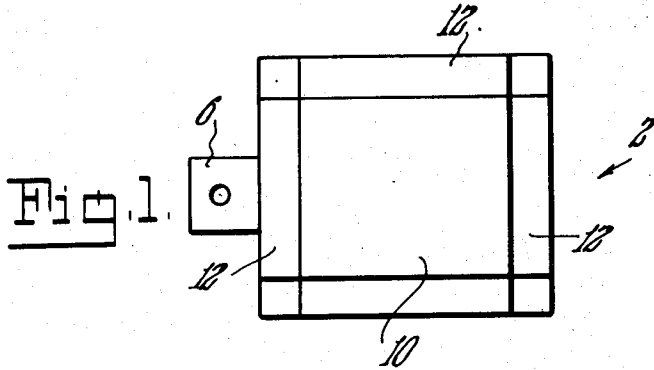
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J. P. DOLAN

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MAGNETIC CONNECTION

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MAGNETIC CONNECTION

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1 Claim. (Cl. 173—324)

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My invention relates to improvements in a device for releasably connecting electrical circuits and is directed more particularly to the provision of a device for releasably connecting an electrical circuit and to an improvement in the means for maintaining a circuit such as a circuit which is closed under normal operating conditions.

With the above primary object in view, it is another object of my invention to provide a construction of the above described character which is relatively simple and compact in accordance with the demands and desires of the purchasing public as well as of the manufacturers thereof and which is not only attractive in its appearance and practical in its value but also reliable in its operation and thoroughly efficient in its use.

It is common practice to employ closed electrical circuits in connection with such systems as burglar and fire alarms the same being so arranged that upon rupture of the circuit the alarm is activated.

In connection with burglar alarm systems particularly, it is a common practice to locate wiring adjacent door and window openings and the like so that the wiring, which is usually included in a closed alarm circuit, is disrupted upon unlawful movement or breakage of a window, door or the like to thereby bring about operation of the alarm.

According to the novel features of this invention a connecting device is provided which is adapted for releasably connecting a circuit and while adapted for many and various other uses it is arranged for use as a connection as in a closed circuit and is operable by various means to open a circuit.

The novel construction of the invention includes in a broad way a combined or integral electrical conductor or contact element and a magnetized element arranged in such a manner that contact elements may be connected in a circuit and held in contacting relationship by the attraction of the magnetized elements one to the other.

The magnetized elements will be of such a nature as to hold the contact elements together sufficiently for an efficient electrical contact under normal conditions yet when subjected to abnormal conditions the magnetic attraction is disrupted so that the electrical contact elements are separated.

While the device of the invention is useful in a close circuit it is equally useful for a temporary connection in wiring systems.

Other prime objects of my invention include:

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first, the provision of a simplified construction and arrangement of a device for releasably connecting an electrical circuit which is strong, durable and compact in its structure and is distinctive in its appearance; second, the securing of a higher degree of accuracy in the manner of work performed therewith than has heretofore been possible with prior devices known in the art; third, the attainment of a higher degree of speed of construction and assembly of the device due to its simplification in design and its unique composition of parts; fourth, the attainment of a flexibility or a capability of adjustment by which a large variety of work can be produced by means of the same device; fifth, the achievement of a greater ease in adjustment and repairs; sixth, the provision of an improved signalling device which may be made more economical and with fewer operations in the manufacture of its parts, as well as in the assembly of the same, than prior devices known in the art; and seventh, the provision of a construction which may be readily installed with respect to doors, windows and the like.

These objects I accomplish by means of such structure and relative arrangement of parts thereof, as will fully appear by a perusal of the description below and by various specific features which will be hereinafter set forth.

To the above cited and other ends and with the foregoing and various other novel features and advantages and other objects of my invention as will become more readily apparent as the description proceeds, my invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claim hereunto annexed and more fully described and referred to in connection with the accompanying drawings wherein:

Fig. 1 is a plan view of a circuit connector device embodying the novel features of the invention,

Fig. 2 is a side elevational view showing a pair of the devices of Fig. 1 in circuit connecting relationship,

Fig. 3 is a longitudinal sectional view through the connecting device of Fig. 1, and

Fig. 4 is a diagrammatic elevational view to explain how the device may be used.

In the above mentioned drawings annexed hereto and forming a part of this specification, I have shown but one embodiment of my invention which is deemed preferable, but it is to be understood that changes and modifications may

be made within the scope of the appended claim without departing from the spirit of the invention.

Referring now to the different drawings more in detail, in which similar characters of reference indicate corresponding parts in all the figures and referring more particularly to the preferred form of my invention selected for illustrative purposes, I have shown a device 2 of the invention which includes a contact element 4 suitable for electrical conduction and may consist of brass, copper or the like and said element may have a lug 6 for connecting in a circuit.

A magnetized element 8 is associated with the element 4 and this may be accomplished in various ways.

In the form of the invention shown a sheath 10 is provided in which the element 8 is disposed and the sheath may be made from conducting material and provided with flanges 12 which are secured to the element 4. In this way the elements 4 and 8 are associated to provide a composite structure.

It will be understood that the elements 4 and 8 may take other forms and come within the limits of the invention which in its broad aspect includes one element made from a conducting material and the other formed from a magnetized material.

In Fig. 2 a pair of devices are shown. Electrical elements 4 are releasably held in contacting relation by the magnetized elements 8 associated therewith. With the elements 4 connected in a circuit, a releasable electrical connection is accomplished which may be disrupted by abnormal forces applied to the connection or to the wiring extending therefrom.

The sheath 10 is preferably made of brass and offers a better contact surface and prevents rusting of the element 8.

As has been stated the device is not only adapted for temporary connection in a circuit but may be employed in a normally closed circuit where it is desired that the circuit be opened by the application of unlawful forces.

As an instance of its use, one of the devices may be secured to a door or window sash and another to the adjacent frame so as to be in contact when the door or window is in one position and separated when the door or window is moved.

As another illustration of its use, a pair of the connectors 2 may be secured to opposite sides 14 of a door frame and connected in a circuit. Devices indicated by 2' having a connection 16 therebetween are held in contact with the contacts 2. The connection 16 extends across the door opening and completes the circuit.

Should door 18 be swung open the connection will readily be engaged by one passing through the door opening and one or both of the devices 2' separated from its companion device 2 and break the circuit.

In the case of burglar alarm work, the contacts have to be good so as to reduce to a minimum false alarms. Contacts must break easily and yet cannot be too secure. The device of my invention meets these requirements in every detail.

Further, my invention has the advantage that the pull or push may be in any direction, the contact surfaces being such that same is facilitated.

It may be desired that the non-magnetic contact and the magnetized elements be insulated from one another so that the latter is not in the electrical circuit while at the same time the elements are associated for the purpose of the invention. This may be accomplished by any of the well known insulating materials.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claim rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claim are therefore intended to be embraced therein.

What is desired to claim and secure by Letters Patent of the United States is:

The combination of a door frame or the like with rupturable circuit means thereacross comprising, fixed contact members fixed to opposite sides of said door frame each including a magnetized member and a metal sheath therearound adapted to conduct electrical current, and a pair of separate contact members each including a metal sheathed magnetized member adapted to conduct electrical current and an elongated electrical conductor connecting said separate contact members, said separate contact members held in contact with said fixed contact members by the magnetized members with the elongated conductor extending across the door opening whereby a circuit is ruptured by separation of either one of said separate contact members with its corresponding fixed contact member.

JAMES P. DOLAN.

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