

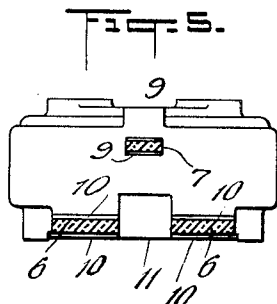
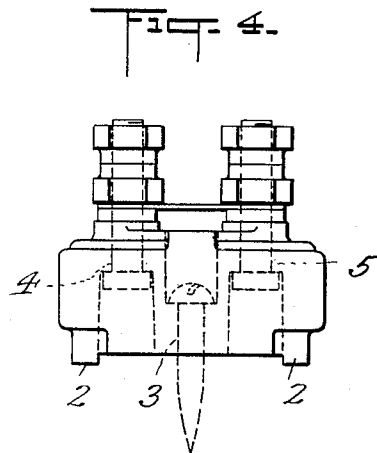
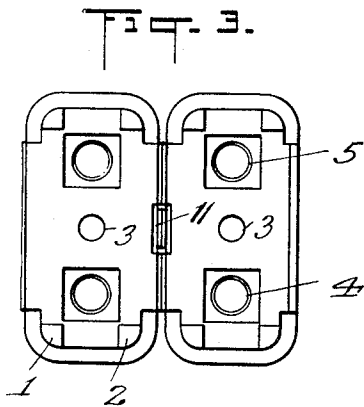
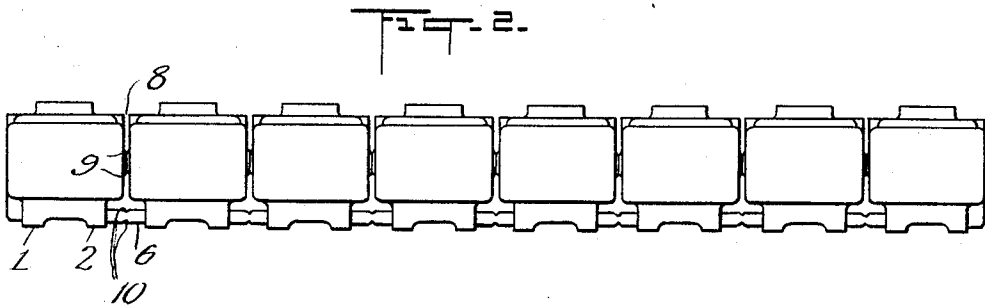
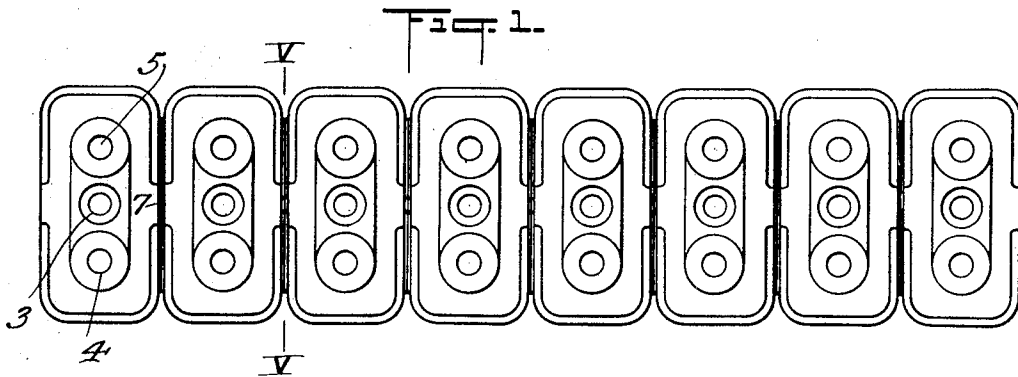
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F. C. LAVARACK

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TERMINAL BLOCK

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INVENTOR
Frederick C. Lavarack
BY
Lyman E. Dodge
ATTORNEY

UNITED STATES PATENT OFFICE

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TERMINAL BLOCK

Frederick C. Lavarack, Montclair, N. J., assignor
to Railroad Accessories Corporation, New York,
N. Y., a corporation of New York

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2 Claims. (Cl. 173—324)

This invention relates to electrical conductors, particularly to connectors therefor, and more especially to what are commonly known as terminal blocks.

The practical art of railway signalling, at the present time, requires structures positioned at intervals along a trackway. These structures contain and protect various electrical devices. The operative relation necessitated by the signalling requirements causes the use of electrical conductors or wires extending between and electrically connecting electrical devices used in the various trackway structures.

Present approved practice in railway signalling requires that the various conductors or wires coming into or leaving a trackway structure shall, just after entrance, or just before exit, be attached, in a neat orderly and systematic manner, generally gathered together or assembled at one particular point, to terminal blocks.

The terminal blocks used are of various forms and construction, but each includes substantially two metallic binding posts, of well known form, more or less separated, supported by a common insulating base, generally screw held to a suitable portion of the trackway structure, and a metallic electrical conducting link connecting the binding posts. The entrance or exit conductor or wire is attached to one of the binding posts, and a conductor or wire is attached to the other of the binding posts, and at its other end it is connected to the proper particular electrical appliance.

Due to the exigencies of the various situations, the number of, what might be called, unit terminal blocks varies. Due to this variation in number of unit terminal blocks used, it has heretofore been found quite inexpedient to make terminal blocks in other than the most simple unit, that is, one supporting or including two binding posts only. The construction of terminal block requires that one terminal block attaching screw or device shall be used with each unit and when several units are used together requires particular care in order to insure a neat and tidy appearance and to accurately align and closely position adjacent unit terminal blocks.

Heretofore it has been proposed to make a terminal block in a form which would virtually be a plurality of unit terminal blocks rigidly and permanently connected together. Such a block would obviate the necessity for using one attaching screw for each unit because two or at most three screws would be sufficient to suitably attach such a plural block even if it contained or included the equivalent of, say, ten unit terminal blocks. The

difficulty with such a proposal, however, is that the conditions are so varied that no one plural block is capable of satisfying them. If the plural terminal block contains the equivalent of ten unit terminal blocks then some one or more situations might well be satisfied by such a block. Such a block, however, would not satisfy a situation where a block equivalent to four, six or eight unit blocks is required so that if a ten unit block is used for a situation which requires eight units, then two of the units are actually wasted. If the plural block includes the equivalent of four unit blocks then the only situations to which it is applicable are those in which a multiple of four unit blocks are required. If the equivalent of thirteen unit blocks are required then an additional single unit must be used. The proposal then does not satisfy the existing conditions because no matter what size of plural block is used it is necessary also to have single unit blocks. As a consequence, no saving in the amount of stock on hand in the stock rooms is effectuated by the proposal. There must still be a supply of unit blocks and also a supply of plural unit blocks.

A principal object of the present invention is to provide a construction of plural unit terminal block of such a nature that it may be used to satisfy the exigencies of any situation, which may not be satisfied by a single unit block, without ultimate waste of material.

A further object of the invention is to provide such a construction of plural unit block that it alone may constitute the sole stock supply of terminal blocks held in reserve.

A further object of the invention is to provide a plural unit block of such construction that it may without use of unusual tools or skill be severed so as to produce a single unit block or a plural unit block of any number up to and including one less than the units included in the original plural unit block.

A further object of the invention is the production of a plural unit block of such nature that without the use of unusual tools or skill a plurality of unit blocks each substantially identical in every respect may be made therefrom.

Further objects and advantages will appear as the description of the particular physical embodiment selected to illustrate the invention progresses and the novel features of the invention will be particularly pointed out in the appended claims.

In describing the invention in detail, and the particular physical embodiment selected to illustrate the invention, reference is had to the

accompanying drawing and the several views thereof, in which like characters designate like parts throughout the several views, and in which:

Figure 1 is a top plan view of a plural terminal block embodying the invention; Fig. 2 is a side elevational view of the device as shown by Fig. 1; Fig. 3 is a bottom plan view of the device as shown by Fig. 1; Fig. 4 is an end elevational view of the device as shown by Fig. 1; Fig. 5 is an end elevational view of a single unit terminal block which has been severed from the plural unit block as shown by Fig. 1 and is virtually a transverse elevational sectional view on the plane indicated by the line V—V, viewed in the direction of the arrows at the ends of the line.

The material from which a plural unit terminal block of applicant's construction may be formed is restricted, broadly speaking, solely by the fact that it must be of sufficient strength to properly support and maintain in fixed relation the binding posts attached thereto. It is not necessarily constructed of insulating material because it is well known that two binding posts electrically isolated one from the other may be mounted even on a body which is a good electrical conductor if the binding posts are by well known means electrically isolated from the body. It is preferred, however, to make the block of insulating material. A preferred material is one of the general nature of that much used in commerce at the present time and formed from a condensation product of phenol, and such a one is illustrated in the drawing. The particular showing is not, however, intended to exclude such well known and very appropriate materials such as porcelain and other vitreous bodies such as glass or even suitable wood either impregnated or unimpregnated. It is desired to point out, however, that for the best practice of the invention it is preferable to employ that material which has, amongst other desirable characteristics, the virtue either of being easily severed with a common cutting tool or more preferably has the virtue of breaking or splitting most cleanly and accurately along the line of a specially constructed frangible portion.

In the particular physical embodiment selected to illustrate the invention and shown in Fig. 1 a plural terminal block equivalent to eight unit blocks has been shown. Of course, the plural block may be made the equivalent of any desired number of unit blocks from two up to any desired number, but an undue size might well result in a construction which would be so structurally weak as to be undesirable in as much as the parts corresponding to a unit terminal block are connected by a severable or frangible portion which is of necessity of slight strength compared with the remainder of the structure so that an unduly long plural block might break apart when raised horizontally when grasped by one hand.

In the device as shown in Fig. 1 there are the equivalent of eight unit terminal blocks. Each of these blocks is substantially identical in form and construction. Each block has four feet, two at each end, as 1 and 2, upon which the block rests. Each block is provided with a bore as 3 for the reception of an attaching screw or other suitable fastener. Although applicant has shown this bore as positioned centrally of the block and as being single, nevertheless, it is to be understood that this is a matter of minor importance, and is not intended to exclude other positions for the bore or a plurality of bores for the reception of a plurality of screws or even for any other appro-

priate means for attaching a unit block to its support.

Each of the blocks is provided with two orifices as 4 and 5. These orifices are for the reception of the ordinary and well known metallic binding posts such as shown in Fig. 4 by which wires may be attached. The orifices 4 and 5 are arranged on a line parallel to the longitudinal side of the unit and on either side of the orifice 3, but, of course, this arrangement is not absolutely necessary. It is merely necessary to provide means for separating two binding posts in such a manner that they will be electrically isolated one from the other.

In the particular physical embodiment shown the adjacent single unit blocks are connected integrally by an interrupted web 6 and a further web 7, well shown in Fig. 5. The thickness, width and depth of these webs are adjusted to the particular kind of material of which the blocks are formed. The general proportions, as shown in the figures, are appropriate for blocks composed of a condensation product of phenol. The determining factor in adjusting the dimensions of the webs is that the object of the invention must be attained, that is, by pressure suitably applied one of the single units may be detached from an adjacent unit or a plurality of units may be separated from the remainder of the units forming the plural block. The strength of the webs may be such that a person of ordinary strength by means of pressure manually exerted may sever one block from an adjacent block. It is preferred, however, to have the strength of the webs such that most people will find it necessary, ordinarily, to employ a tool of some sort to detach adjacent blocks. This tool might well be the point of a screw driver inserted in the space 8 between adjacent blocks and used as a lever to force the blocks apart, or in the pocket 11, shown in Fig. 5, and also shown in Fig. 3. The use of the pocket 11 would probably render the application of the fracturing means more efficient than if the space 8 were used because in the former case pressure would be applied more directly to the largest and strongest frangible member.

Whatever the strength of the webs or whatever the form of the webs it must in essence be what virtually amounts to a natural line of cleavage between adjacent lines of blocks, that is, a section which offers the least resistance to rupture. In order to further the construction of the web as a natural line of cleavage it is well for form V shaped depressions 9 in the top and bottom of the web 7 and V shaped depressions 10 in the top and bottom of the web 6. These depressions as is well known will have a tendency to cause the natural line of breaking or cleavage to be as desired, and will direct the cleavage in such a way that the cleavage surfaces will be most nearly along the line desired so that they will not exhibit undue protuberances rendering difficult the close association of a detached unit block to the end of a plural unit block.

Although particular forms of webs between adjacent single unit blocks have been shown and described and although these webs have been shown as in particular locations nevertheless, it is desired to have it understood that such showing and description is not intended to exclude webs of different shape connected or unconnected or in different locations between adjacent single unit blocks. The main consideration is to have frangible means connecting adjacent single unit blocks of such a nature that without the use of

unusual tools or force the single unit blocks may successfully be separated substantially along a desired plane.

It is also to be understood that although applicant contemplates as a preferred form a plural terminal block which may be separated into two or more sections by the application of force to a frangible section, nevertheless, it is to be understood that the word frangible is to be construed to include a connecting means which may be easily severed as by a cutting tool or similar means such, for instance, as a saw.

Those having need for a terminal block of the construction illustrated and described may well lay in a stock of plural blocks including the equivalent of eight single unit blocks. If blocks are to be installed on any trackway structure more than sufficient will be forwarded probably to take care of the requirement. If the number of wires entering or leaving the trackway structure requires at least one or more complete plural blocks then these will be installed. In the installation of each plural block two or at most three screws will preferably be needed to securely hold the block, as a screw may be placed in each end and another somewhere near the middle of the block. If more single unit blocks are required than a plural unit block contains, then one or more single unit blocks will be detached from a complete unit block. If a single unit block only is required in addition to the complete unit block then that may be installed by the use of one screw only. If the equivalent of three or four single unit blocks are required in addition to a complete plural block then two screws could be used to properly attach it. Any portion of a complete plural block would be returned to stock and be sent out upon some other job to be used as required. In this manner there would be no waste and one type only

of terminal block would be kept in stock. A saving in attaching screws would be made together with the time required to put said screws in place, and the alignment of the blocks would be facilitated, because it would be much easier to neatly align a plural block equivalent to eight single unit blocks with another plural unit block or even a single unit block than it would be to align eight or more single unit blocks.

Although I have particularly described one particular physical embodiment of my invention and explained the construction and mode of operation thereof and the principles underlying it, nevertheless, I desire to have it understood that the particular form selected is merely illustrative but does not exhaust the possible physical embodiments of the idea of means underlying my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. As an article of manufacture a plural unit terminal block integrally formed simulating a plurality of single unit blocks integrally connected together by easily frangible means of relatively small cross-section between adjacent blocks and substantially sharp V like impressions in the frangible means extending transversely thereof for promoting the certainty of start of a fracture at a definite place.

2. As an article of manufacture an integral form of plural terminal block simulating a plurality of single unit blocks arranged side by side and easily frangible material of relatively small cross-section integral with the blocks joining adjacent blocks together, said block formed with a tool receiving cavity between each two blocks for the insertion of a tool for exerting force to break said frangible material and separate the blocks.

FREDERICK C. LAVARACK.

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