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L. CARUSO
SPRING BINDING POST
Filed May 26, 1925

Fig. 1

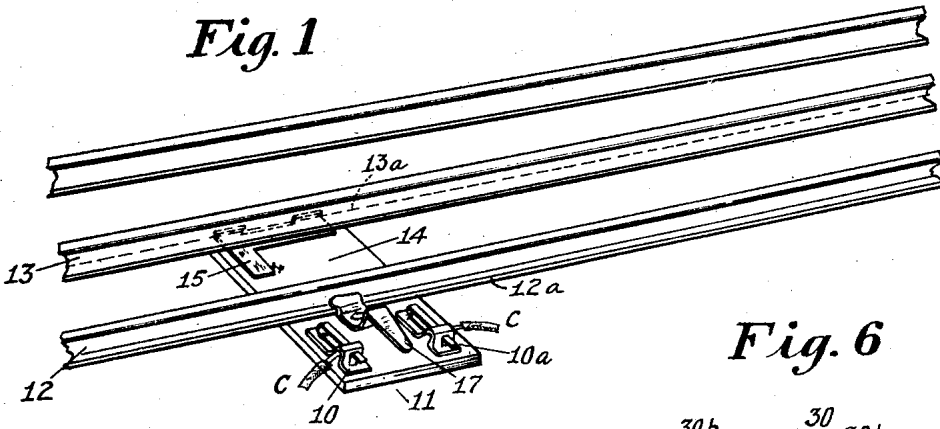


Fig. 2

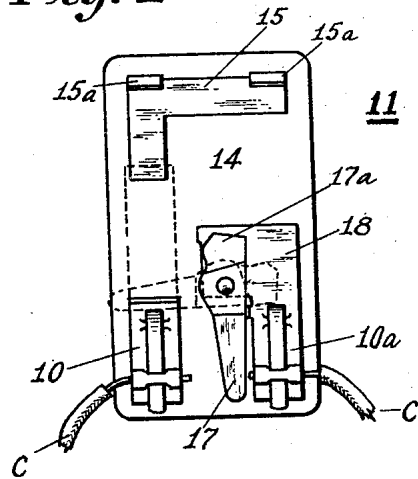


Fig. 6

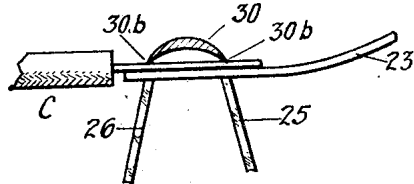


Fig. 5

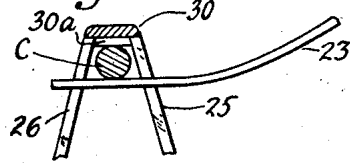


Fig. 4

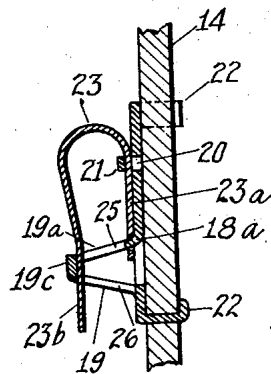
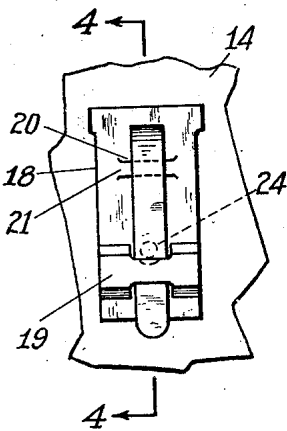


Fig. 3



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LOUIS CARUSO, OF IRVINGTON, NEW JERSEY, ASSIGNOR TO THE LIONEL CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SPRING BINDING POST.

Application filed May 26, 1925. Serial No. 32,893.

This invention relates to spring binding posts and more particularly is directed to an improved fastening terminal clip to serve as terminal posts on batteries, radio sets, electric toy railway connectors, and for other like purposes for affording a firm and positive connection with current carrying means.

Among the objects of the invention is the provision of a practical device of the character described comprising few parts of simple construction, which shall be comparatively cheap to manufacture, and efficient in operation to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

Certain features herein shown and described are shown, described and claimed in my co-pending application Serial No. 627,021 filed May 23rd, 1923, the present application being a continuation of said co-pending application.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a perspective view showing spring terminal clips embodying the invention employed in a detachable connecting plate for leading current to and from a toy railway track;

Fig. 2 is a plan view of the binding plate shown in Fig. 1;

Fig. 3 is an enlarged plan view of a spring terminal clip embodying the invention;

Fig. 4 is a cross-sectional view taken on line 4-4 in Fig. 3; and

Figs. 5 and 6 are fragmentary cross-sectional views showing in detail modified forms of the terminal clip for clamping a conductor wire.

Referring in detail to the drawing, 10 and 10^a denote spring terminal clips embodying the invention applied to a demountable attachment plate 11 for connecting rails 12 and 13 of an electric toy railway to a suitable power source in the well understood manner.

The binding plate 11 may be constructed as described in detail in my aforementioned co-pending application and is seen to com-

prise a base 14 made of insulating material such as fibre or the like, a contact member 15 having a hook end 15^a connected with one spring terminal clip 10 and a gripping lever 17 pivoted to a contact piece 18 which preferably is constructed to include the other spring terminal clip 10^a.

To apply the binding plate 11, the lever 17 is swung to the dotted position shown in Fig. 2 and the base 14 is projected beneath the rails 12 and 13 far enough for the hook ends 15^a to engage with the remote edge flange 13^a of rail 13. The lever 17 is then swung to the position shown in Figs. 1 and 2 so that the anchor end 17^a of said lever engages the adjacent edge flange 12^a of the rail 12, and the attachment plate 11 is positively secured to the track rails. The contact member 15 and piece 18 are thus brought directly into electrical contact with the rails 13 and 12 respectively each of which may be connected to a suitable electric supply source by means of conductor wires C secured to each of the clip terminals 10 and 10^a shown in the drawing.

The clip 10 or 10^a embodying the invention is seen in Figs. 3 and 4 to comprise a relatively rigid body member 18 and a gripping tongue 23. Said body member is preferably made of stamped metal to form an upstanding looped skeletonized stanchion 19 at one end thereof, and a socket 20 formed by displacing a strip 21 of metal from a portion of the body member 18 adjacent the other end. The clips may be firmly secured in place by any suitable form of attachment means as for example by soldering when mounted on a metallic support, or as shown in Fig. 4, by providing one or more suitably disposed clamping tabs 22 formed to extend through base 14 or in any other well understood manner.

Tongue member 23 is of substantially U-shape preferably made of a metal having relatively higher resilient properties than that from which the rigid body member 18 is constructed, such for example as tempered steel, phosphor-bronze, and the like material. Adjacent the end of the lower portion 23^a of the tongue member 23, a hole 24 is provided whereby it may be slipped on a lug 18^a struck up from the body member 18 on the rim of an opening 25 in one side 19^a of the looped stanchion 19. The free or finger end 23^b of said tongue member is arranged to pass through said opening 25 and another similar

opening 26 in the other side 19^b of the stanchion 19 and projects with sufficient clearance to permit the tongue to be depressed below the top or bight 19^c of the looped stanchion 19 to automatically grip one or more conductor wires C inserted between the tongue member 23 and said bight 19^c as shown in Figs. 1 and 2. To tie the tongue member 23 to the body member 18, the lower portion 23^a of said member 23 is held in the socket 20 beneath the strip 21 as shown in Fig. 4.

In Figs. 5 and 6 are shown modified constructions of the bight 30 in the looped skeletonized stanchion 19. In Fig. 5, the ends of the bight 30 are provided with relatively sharp edge portions 30^a and in Fig. 6 the portions of the bight 30 forming the rims of openings 25 and 26 are made with relatively sharp edges 30^b to effectively bite into conductor wire C due to the pressure exerted by said tongue member, thus assuring good electrical contact and preventing accidental displacement of the wire from the clip. It will be noted that the clip embodying the invention is seen to comprise two very simple interlocking parts, namely the body member 18 and a spring tongue 23. These parts are constructed so as to permit each of them to be made of a material best suited for its particular function and quickly assembled to provide an improved, highly practical and efficient device of very cheap manufacturing cost. The body member 18 may be made of a material which is not necessarily springy but which may be formed into a rigid structure, whereas the tongue member 23 is best made of a highly resilient material.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A terminal clip of the character described comprising a body member constructed at one end thereof with a looped portion having openings to form an upstand-

ing skeletonized stanchion, a substantially U-shaped spring tongue having a hole at one end thereof, and means on said member for anchoring the tongue against displacement with the unperforated end projecting through the openings in the loop portion, said anchoring means including a lug extending from said member adjacent the stanchion for locking with the hole in said tongue, and holding means on said member for engaging said tongue at a spaced distance from said hole.

2. A terminal clip of the character described comprising a body member constructed at one end thereof with a looped portion having openings to form an upstanding skeletonized stanchion, a substantially U-shaped spring tongue having a hole at one end thereof, and means on said member for anchoring the tongue against displacement with the unperforated end projecting through the openings in the loop portion, said anchoring means including a lug extending from said member adjacent the stanchion for locking with the hole in said tongue, holding means on said member for engaging said tongue at a spaced distance from said hole, and means formed integral with the body member for securing the clip to a support.

3. A terminal clip of the character described comprising a body member constructed at one end thereof with a looped portion having openings to form an upstanding skeletonized stanchion, a substantially U-shaped spring tongue having a hole at one end thereof, and means on said member for anchoring the tongue against displacement with the unperforated end projecting through the openings in the loop portion, said anchoring means including a lug extending from said member adjacent the stanchion for locking with the hole in said tongue, and holding means on said member for engaging said tongue at a spaced distance from said hole, said clip adapted to bind a conductor wire inserted between the looped portion of said member and said projecting end of the tongue, the upper rim portions of said openings being provided with sharp edges for biting into the conductor wire to assure good electrical contact and to prevent accidental displacement of the wire from the clip.

In testimony whereof I affix my signature. 110

LOUIS CARUSO.