July 28, 1936. 2,049,409

A. B. DIBNER, NOW BY JUDICIAL CHANGE OF NAME B. DIBNER

CABLE TERMINAL

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Fig. 1

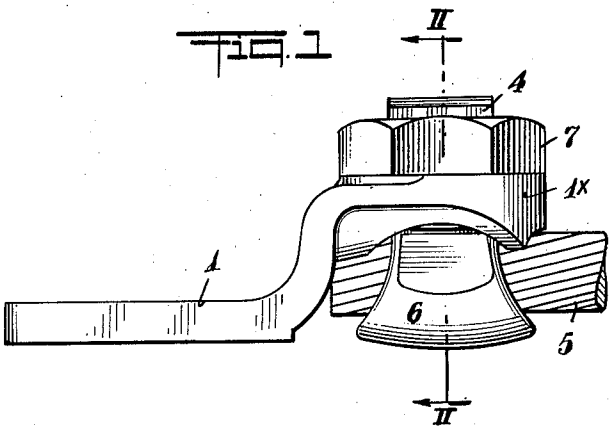


Fig. 2

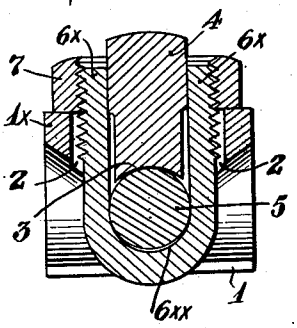


Fig. 3

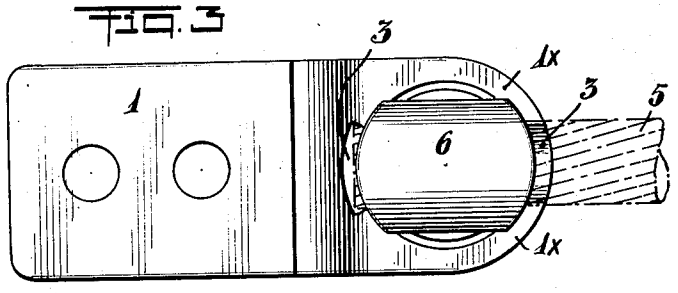


Fig. 4

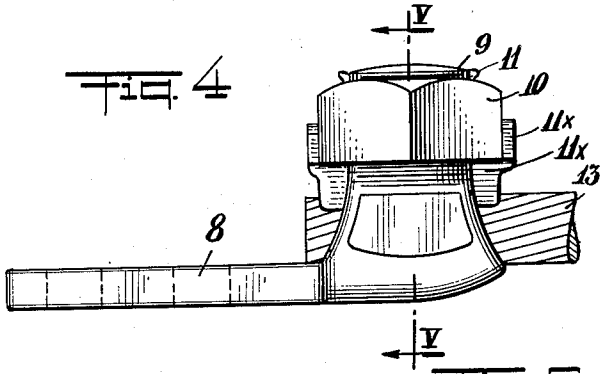


Fig. 5

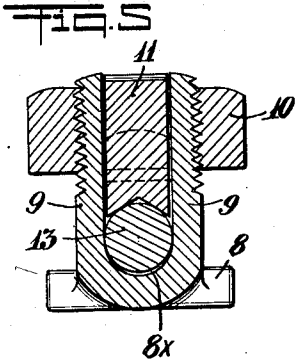
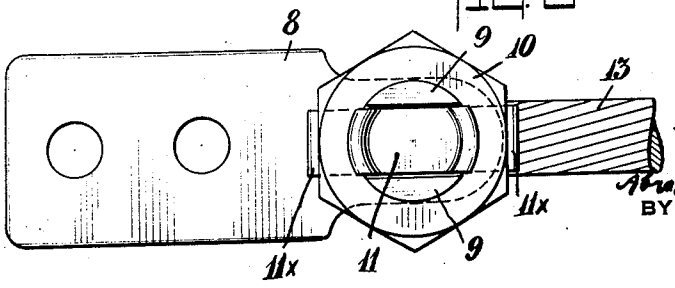


Fig. 6



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CABLE TERMINAL

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Fig. 7

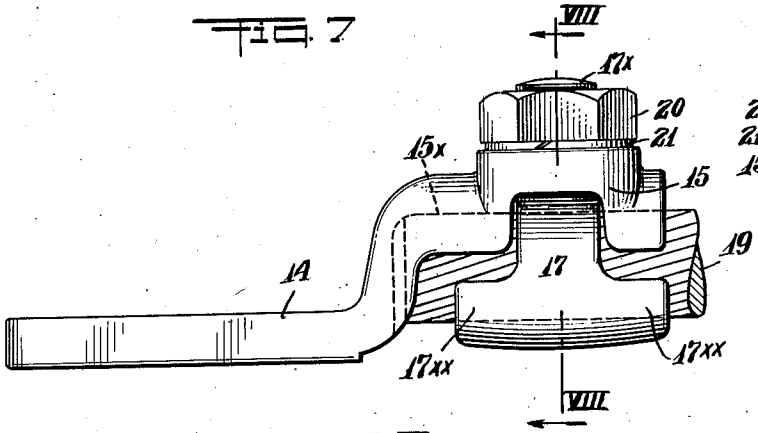


Fig. 8

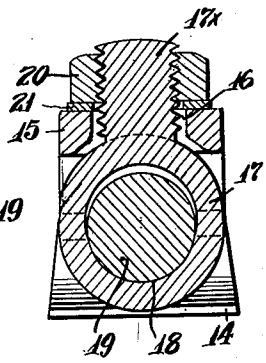


Fig. 9

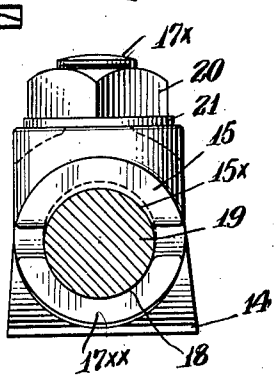


Fig. 10

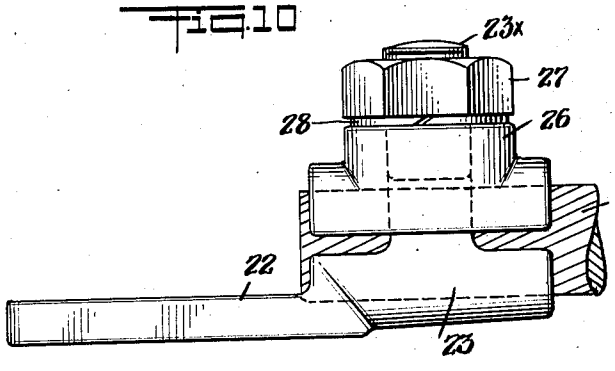
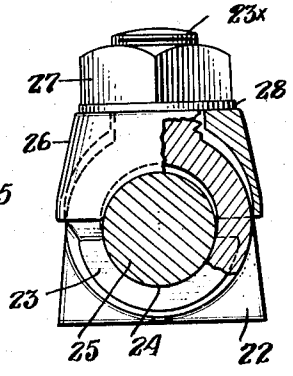


Fig. 11



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Patented July 28, 1936 2,049,409

UNITED STATES PATENT OFFICE

2,049,409

CABLE TERMINAL

Abraham Bernard Dibner, Peekskill, N. Y., now by judicial change of name Bern Dibner

Application November 1, 1932, Serial No. 640,598

1 Claim. (Cl. 173—269)

The object of the present invention is to provide a cable terminal adapted for carrying electrical currents, which eliminates the fastening of the cable or wire to the terminal by soldering inasmuch as it employs a clamping principle and may be quickly installed through the use of an ordinary wrench or of pliers, and unlike other types of clamping terminals, the improved device forces the cable or wire directly against that member which carries the current from the cable to the tongue adapted for direct connection to the electrical apparatus.

The invention will be described with reference to the accompanying drawings, in which:

Fig. 1 is a view in elevation of an embodiment of the invention.

Fig. 2 is a transverse section thereof, on the line II—II, Fig. 1.

Fig. 3 is a bottom plan view of the structure shown in the preceding figure.

Fig. 4 is a view in elevation of a modified form of the device.

Fig. 5 is a transverse section on the line V—V, Fig. 4, looking in the direction of the arrows.

Fig. 6 is a plan view of the structure shown in Figs. 4 and 5.

Fig. 7 is a side elevation of a further modification of the invention.

Fig. 8 is a transverse section on the line VIII—VIII, Fig. 7, looking in the direction of the arrows.

Fig. 9 is an end elevation of the structure shown in Fig. 7.

Fig. 10 is a modification of the structure shown in Fig. 7, the view being in side elevation.

Fig. 11 is an end view of the structure shown in Fig. 10, partly broken away.

In my Patent No. 1,777,295 of October 7, 1930, I have shown means for preventing failure of the cable through disconnection at the place where the cable is soldered to the terminal, said means comprising an arm projecting parallel with the cable to a point removed from the socket and clamping means carried by the free end of the arm so as to support the cable, and, at the same time, provide auxiliary current-carrying means to the terminal.

In the present invention, the clamping means is directly associated with the terminal and provides primary current-carrying means, affording, in itself, in combination with the terminal, the general form and function of a socket.

In the drawings, several forms of the invention are shown.

Referring to Fig. 1, I have shown a terminal comprising a contact plate or tongue 1, corresponding in function to the contact disk of my said patent, and projecting therefrom is one section of a clamping socket comprising two relatively movable sections. The member of the clamping socket projected from tongue 1 is shown at 1*x*. It is provided with spaced vertically disposed slots at 2, and, intermediate said slots, with a wall having a semi-circumferential seat at 3, the wall being projected upwardly to form a post-like member 4.

When a cable 5 is placed in position in the semi-circumferential seat of socket member 1*x*, the second member of the socket combination, in the form of a split saddle bolt 6 is placed in position with each of its threaded legs 6*x* passed through one of the slots 2 so that the threaded legs abut post 4 and are exposed to receive a clamping nut. When nut 7 is rotated to draw split saddle bolt 6 upwardly, cable 5 is firmly clamped within the socket formed by the semi-circumferential surface 6*xx* of the member 6 and the semi-circumferential surface 3 of the member 1*x*.

In the modification shown in Figs. 4 to 6 inclusive, the principle of construction is substantially similar to that shown in the preceding figures. However, the tongue is formed integrally with a split saddle bolt 9 threaded exteriorly to receive a nut 10, and between the legs of the split saddle bolt is disposed a clamping follower 11 having laterally projecting shoulders 11*x* which lie under nut 10, follower 11 being formed with V-shaped or curved lower face for abutment with the cable 13. When nut 10 is rotated downwardly it will force the follower against the cable and the cable against the semi-circumferential wall 8*x* of the split saddle bolt.

The two types illustrated in Figs. 1 to 6 inclusive, are not the best form for larger sizes of cable, because it would be necessary to employ nuts of large size and therefore wrenches of a large proportion.

The modifications represented in Figs. 7 to 11 inclusive, employ an eyebolt as one of the members of the clamping socket and the bolt may be of such diameter as to receive a nut relatively small as compared with the nuts necessary for use in the construction of Figs. 1 to 6 inclusive, when employed for large diameter cables, thus enabling the use of a smaller type of wrench. At the same time, the eyebolt is so formed as to provide a socket member having a relatively large semi-circumferential bearing face for the cable.

In Figs. 7 to 9 inclusive, the contact plate or

tongue is shown at 14 formed integrally with a socket member 15 having a relatively long semi-circumferential seat at 15x, and at its top, apertured at 16 to receive the threaded stem 17x of an eyebolt 17. The eyebolt is formed with forwardly and rearwardly projecting curved extensions 17xx, the inner surfaces of these extensions and the inner surface of the main body of the bolt, at the base of the latter, forming a semi-circumferential seat at 18, to afford a bearing surface for the cable 19. Upon the threaded stem 17x is nut 20 which may be placed above the lock washer 21, and when the nut is turned down, the semi-circumferential seat 18, as a part of the eyebolt, will be moved toward the semi-circumferential seat 15x of member 15, so that the cable will be firmly clamped between the two relatively movable members comprising the socket.

In the preferred construction of Figs. 10 and 11, the tongue 22 is formed integrally with the main socket member 23 having a semi-circumferential seat at 24 to afford a receiving and bearing surface for cable 25. The main socket member 23 is formed as an eyebolt, being similar in construction to member 17 of Figs. 7 to 9 inclusive, and its upper portion is adapted to be received within the auxiliary channeled or troughed socket member 26, the latter being formed with an aperture through which the stem is projected to receive a nut 27 below which may be disposed a lock washer 28. Then the nut is turned down, relatively movable main or auxiliary socket members 23 and 26 will be moved toward each other, to firmly clamp the cable in position.

In the construction of Figs. 7 to 9, and in the preferred constructions of Figs. 10 and 11, the cable receiving aperture of the eyebolt is slightly elliptical and clearance is provided intermediate the eyebolt member of the socket and its companion member to enable the two members to be moved toward each other so that two semi-circumferential surfaces may be brought into firm contact with cables of somewhat varying diameters.

Each of the embodiments of the invention hereinbefore described possesses the advantage of direct path of current travel between the cable and the terminal. It is well known that there is a fixed voltage drop between faces of contact and the fewer these contact faces the less the voltage drop and the greater the efficiency.

In the present invention, two relatively movable members of the socket are given movement toward each other perpendicular to the axis of the cable providing means for efficiently connecting the range of cable diameters.

The invention affords complete visibility to the connecting joint, thereby making possible easy examination as well as assurance to the operator in assembly and inspection, of the true condition.

The invention also provides complete visibility to show the depth of penetration of the cable into the connector, this being a particular advantage in the use of non-insulated cables.

A further advantage is that the plane of rotation of the nut in each case is parallel to the center line of the cable which makes operation particularly convenient when a group of the cable terminals are closely spaced in parallel.

In all forms of the device the plate may be regarded as integrally and rigidly carried by the main body member of the two-part socket, because it is that member which receives the current and directly transmits the current to the plate, and which supports the means for moving the members of the socket in clamping relation to the cable.

Having described my invention, what I claim and desire to secure by Letters Patent, is as follows—

An electric conductor terminal for receiving and transmitting electric current comprising a contact plate, a main and auxiliary socket member, said contact plate being formed integral with said main socket member and connected thereto to provide a path of minimum length of current flow, each of said socket members containing a trough longitudinal to a conductor, to be received by the troughs, said troughs located in opposed position to form a socket for receiving the end of said conductor; an eye member projecting normally from and being integral with the main socket member, the eye of which is substantially concentric with the socket, said eye member terminating in a threaded stem; an aperture in said auxiliary member coaxial with said threaded stem for receiving it; a nut for engagement with said threaded stem for clamping the main and auxiliary members about the conductor in said socket.

ABRAHAM BERNARD DIBNER.