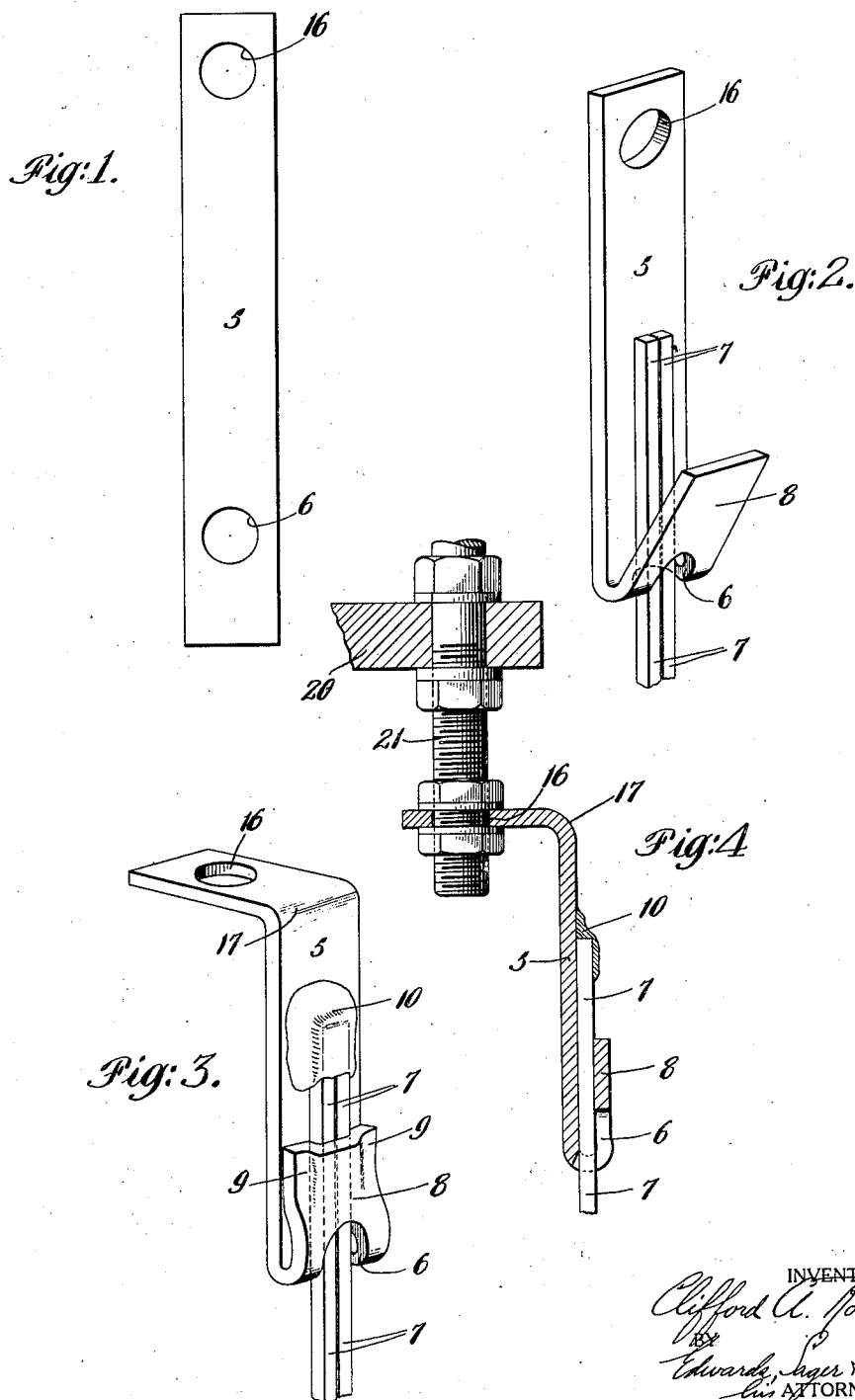


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TERMINAL FOR CONDUCTORS

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TERMINAL FOR CONDUCTORS.

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This invention relates to terminals for electrical conductors and particularly to terminals wherein a wire portion is connected to an end portion adapted in turn to be attached to a terminal board or the like.

The object of the invention is to provide a terminal having simple, inexpensive and durable connection between the wire and the end portion.

A further object of the invention is to provide a double connection between the wire and the end portion, one point of connection formed chiefly to carry the current and the other point of connection cooperating therewith to carry the mechanical strains and protect the current carrying connection from weakening.

In the accompanying drawings illustrating the invention

Figs. 1 and 2 are elevational views illustrating the formation of a terminal.

Fig. 3 is a perspective view of a complete terminal, and

Fig. 4 is a vertical sectional view of the terminal shown in Fig. 3.

In the terminals of conductors, and particularly those of large size, as used in electrical transformers, it is highly important to provide and maintain a strong connection between the conductor leads and the point of connection to the terminal board or other support. In transformer leads, for instance, the wires are carried upward from the coils below and suspended at their ends from the support above, and in case any of these leads become loose due to the vibration of the transformer in service or accidental displacement during the adjustment of other leads, or connections, the loosened ends are likely to come in short circuiting contact in a most dangerous manner; or any excessive resistance developed by faulty electrical contact between the wire and its terminal will cause the loss of voltage and develop an objectionable heating at the faulty connection. The terminal of this invention overcomes these objections and provides a permanently secure and reliable electrical and mechanical union between the wire and its terminal without danger of failure in service.

In the specific embodiment of the invention shown in the accompanying drawings a flat strip or ribbon of conducting material such as copper forms the end portion of the terminal adapted to be connected to a terminal

board or the like. This strip 5 has a hole 6 punched from it and is then bent at the hole 6 as shown in Fig. 2 so that the ends of the wires 7 may be passed through the hole 6 and along the front surface of the strip 5. The bent end 8 of the strip 5 is then pressed over into clamping engagement with the wires 7 so that these wires are tightly gripped between the strip 5 and its end 8 as shown in Figs. 3 and 4. The side edges 9 of the end 8 are preferably bent down close to the strip 5 on each side of the wires 7. These wires 7 as shown are preferably rectangular in section so as to provide flat faces for engagement between the surfaces of the strip 5 which thus retain the ends of the wires secure against twisting.

The ends of the wires 7 project above the bent end 8 of the strip and lie along in close contact with the face of the strip 5 and are preferably fastened in place to said strip by soldering, welding or brazing as indicated at 10 to give a very intimate electrical connection between the wires 7 and the strip 5. The brazing or welding at 10 is also mechanically strong against thrusts or pulls in the direction of the wires and rigidly and securely holds the wires 7 against lengthwise movement in either direction. At the same time the bent end portion 8 without mutilating or weakening the wires in any way or interfering with their electrical conductivity tightly clamps them in place against the face of the strip 5 and prevents these wires from being shifted sidewise or bent outward so as to tear or rip off the brazed connection at 10. A double electrical-mechanical connection is thus provided between the wires 7 and the strip 5, each connection cooperating with the other to maintain a union with thorough electrical contact and mechanically strong and secure against weakening in service.

The strip 5 may be shaped or bent or twisted in any desired manner to fit the member to which it is to be attached. By providing the bolt hole 16 and bending the strip at 17 between the opening and the connection to the wires 7 the strip is adapted to hang from a horizontal support with the wires 7 extending downward as shown in Fig. 4 where a terminal board 20 of a transformer carries the bolt 21 passing through the opening 16 of the terminal strip 5. Any desired angle may be given to the bend 17 to position the wire 7 as required, and the terminal is particularly ad-

vantageous in connection with the leads of transformers and the like where the wires have to be brought up to the board in various directions and supported therefrom secure
5 against entanglement with each other and held tightly against loosening from their respective terminal connections.

The ends strips 5 may be fastened to the wires by machinery as a standard form of terminal.
10 Or where, as in the case of large transformers, the terminal leads 7 are carried upward and cut to length, the ends 5 may be separately supplied (as in Fig. 2 for instance) to be attached to the ends of the lead wires by
15 the workman on the job. In either case the connecting of the wires and the end strip is a simple operation resulting in a very strong and durable connection and giving an intimate electrical contact between the end strip
20 and the wire leads.

I claim:—

1. An electrical conductor terminal comprising a strip portion having an aperture, a conductor wire extending through said aperture,
25 means for effecting an intimate electrical union between the conductor and the strip portion a substantial distance from said aperture, and means for preventing lateral movement of said conductor relative to said strip
30 comprising the end portion of said strip extending in a reverse direction so as to overlie and hold the conductor in position, said aperture being so formed that the portion of the conductor extending through the aperture
35 will have substantially a normal configuration and substantially free from local stresses.

2. An electrical conductor terminal comprising a strip portion having an aperture, a conductor wire extending through said aperture, means for effecting an intimate electrical union between the conductor and the strip portion a substantial distance from said aperture, and means for preventing lateral
40 movement of said conductor relative to said strip comprising the end portion of said strip extending in a reverse direction so as to overlie and hold the conductor in position, the relative configuration of said aperture and conductor being adapted to permit the conductor
45 to extend through said aperture and retain its normal condition and be substantially free from cutting action by, and local stresses adjacent, the edges of said aperture.

3. An electrical conductor terminal comprising a strip portion having an aperture, a conductor extends through said aperture, means for forming an intimate electrical union between said conductor and strip at a substantial distance beyond said aperture,
55 and means for preventing lateral movement of said conductor adjacent said aperture including an end portion of said terminal strip extending in a reverse direction from said aperture and overlying said conductor, the
60 edge portions of said reversely extending portion being pressed downwardly alongside a portion of said conductor having a normal configuration, said pressed down portion being intermediate the aperture and point of
65 electrical union, thereby relieving the electrical union of lateral stresses.

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