

March 1, 1932.

E. L. WIEGAND

1,847,738

WASHER FOR ELECTRICAL CONNECTIONS

Original Filed March 24, 1924



Fig. 1

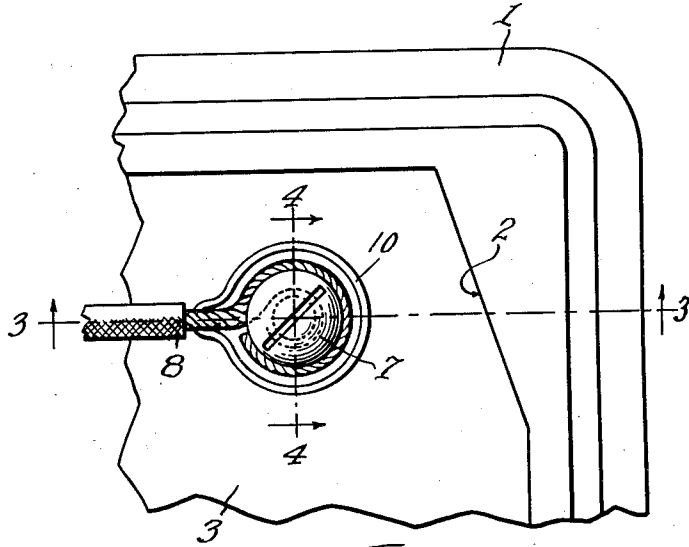


Fig. 2

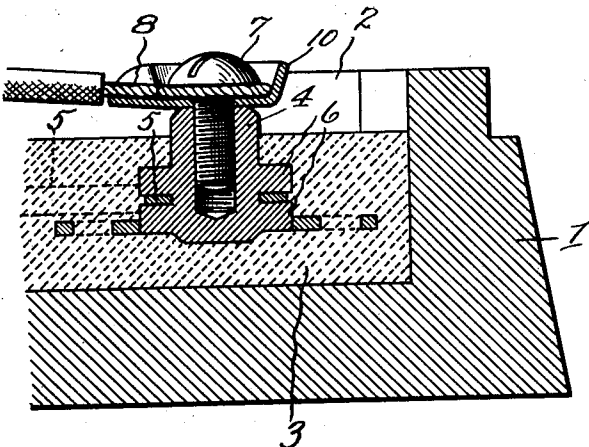


Fig. 3

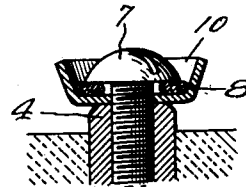


Fig. 4

Inventor

Edwin L. Wiegand

By Hull, Brock & West

Attorneys

UNITED STATES PATENT OFFICE

EDWIN L. WIEGAND, OF PITTSBURGH, PENNSYLVANIA

WASHER FOR ELECTRICAL CONNECTIONS

Original application filed March 24, 1924, Serial No. 701,318. Divided and this application filed June 29, 1928. Serial No. 289,198.

This invention pertains to an improved washer for use in making connections between electrical wires or conductors and binding posts or similar elements, and its purpose is to provide a device of this character that is simple and very economical of production, the same being preferably punched and formed from sheet metal by means of suitable dies, and which greatly improves the mechanical strength and character of connections of the above mentioned class, and insures efficient and intimate electrical connection between the parts.

A further object is the provision of a dished washer for application to binding posts or like elements for properly confining, protecting and supporting the portions of wires or conductors that are connected thereto.

In the drawings accompanying and forming part hereof, Fig. 1 is a perspective view of the washer; Fig. 2 is a fragmentary plan view of an electrical heating element showing a connection between the binding post or terminal thereof and a wire or conductor and involving the washer, and Figs. 3 and 4 are sectional details on the respective lines 3—3 and 4—4 of Fig. 2.

The binding post or terminal may be of any suitable type. For the purpose of the present disclosure I have selected one described and claimed in my copending application Serial No. 701,318, filed March 24, 1924, and of which this case is a division; and, incidentally, the electrical heating element of which the binding post or terminal forms a part is of the embedded type and may be described briefly as consisting of a base or receptacle 1 having a cavity 2 containing a hardened mass or body 3 of refractory electrical insulating heat conducting material within which is embedded the body portion of a binding post or terminal member 4. The resistor of the heating element is designated 5 and its end is shown as engaged between opposed parts 6 of the post or terminal member 4. A threaded bore is formed in the upper end of the binding post or terminal member, and a screw 7 operates within said bore.

An electrical conductor or wire is shown at

8 and in making a connection between it and the binding post or terminal member 4 I employ the dished washer of the present invention, the same being designated 10. The washer is applied to the screw 7 and is interposed between the upper end of the binding post or terminal member and the looped end of the wire or conductor 8, the adjacent portion of the wire or conductor passing out through a spout like extension 11 that is formed in one side of the washer.

The washer is preferably die stamped and formed from sheet metal of suitable gauge and quality, and its side walls are flared outwardly away from its base so that when the washer is in use said side walls will tend to force inwardly and confine the looped end of the wire or conductor 8 beneath the head of the screw 7 and, in fact, impose a proper shape thereto if, in the original instance, it lacked such shape. Furthermore, the washer protects the wire or conductor and prevents any frayed strands thereof—in case it is of the kind made up of strands—from coming in contact with adjacent metal parts of the device in connection with which it is used and which condition might cause a short circuit.

Having thus described my invention, what I claim is:—

1. For use with a connection of the class set forth involving a post-like member about which the end of a conductor is adapted to be engaged and incorporating opposed abutments relatively adjustable axially of the member and between which said end of the conductor is disposed, a dished, sheet metal washer for application to said member, said washer comprising an annular wall and a peripheral wall, the latter wall diverging in a direction away from the annular wall and serving to confine the end of the conductor about the member, the peripheral wall being crimped at one point in its circumference to form a spout-like extension through which the conductor enters the washer, the edges of said spout-like extension being smooth and slightly rounded.

2. For use with a connection of the class set forth involving a screw about which the

looped end of a conductor is adapted to be engaged, and a member into which the screw is threaded, said member having an abutment in opposed relation to the inner side of the head of the screw; a dished washer for application to the screw, said washer having a substantially flat bottom wall and a converging circumferential wall which serves to force the looped end of the conductor toward and confine it about the screw and between the screw head and the bottom wall of the washer when the screw is turned to advance its head toward the abutment of said member, said washer having a spout formation at one side through which the conductor enters the washer, the edges of said spout being smooth and slightly rounded.

3. For use with a connection of the character described including a post-like member about which the end of a conductor is adapted to be engaged and incorporating opposed abutments relatively adjustable axially of the member and between which the end of a conductor is adapted to be received comprising a dished metal washer having a continuous peripheral wall and an annular bottom wall, said peripheral wall converging toward said bottom wall and being crimped at one point in its circumference to define a spout-like extension the edges of which are smooth and slightly rounded and adapted to receive and confine a conductor therein.

In testimony whereof, I hereunto affix my signature.

EDWIN L. WIEGAND.