

Sept. 13, 1932.

H. M. STIEGLITZ

1,877,611

WIRE CONNECTER

Filed Jan. 19, 1929

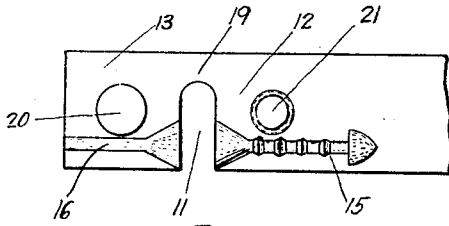


FIG. 1

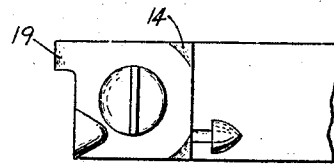


FIG. 2

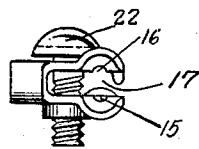


FIG. 3

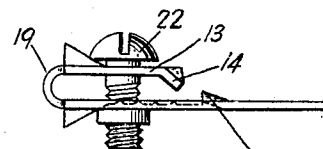


FIG. 4

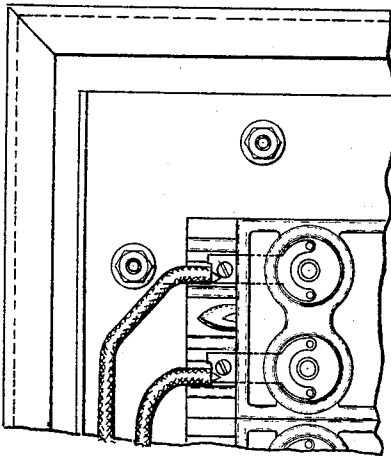


FIG. 5

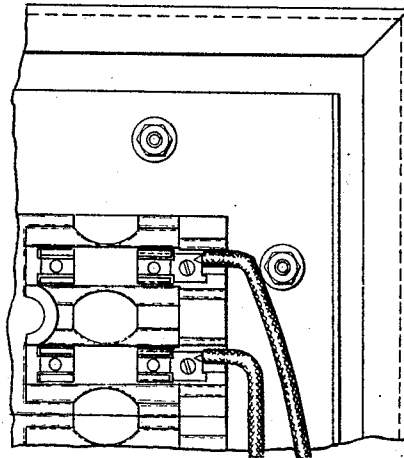


FIG. 7

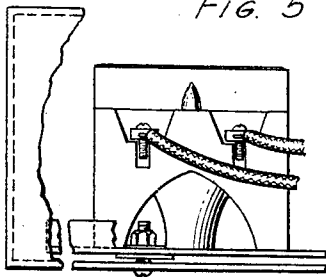


FIG. 6

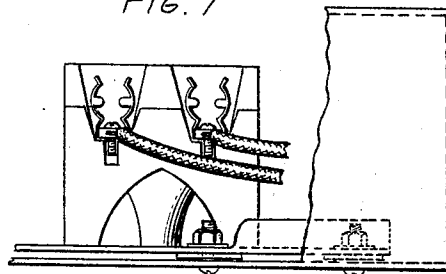


FIG. 8

INVENTOR
HENRY M. STIEGLITZ
BY
Edison S. Schaeffer
ATTORNEYS

UNITED STATES PATENT OFFICE

HENRY M. STIEGLITZ, OF ST. LOUIS, MISSOURI, ASSIGNOR TO FRANK ADAM ELECTRIC CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI

WIRE CONNECTER

Application filed January 19, 1929. Serial No. 333,663.

This invention relates to improvements in electrical terminal equipment, and particularly to wire terminal connectors.

An object of this invention is to provide a terminal connector which, by reason of certain structural features hereinafter set forth, is well adapted for use with safety type panel-boards and similar equipment, wherein the terminal connectors, or binding posts, are placed in an insulated groove or recess. The prevailing type of connection, in which the terminal wire is looped around the shank of a large-head screw and the latter tightened against a base, is unsatisfactory where it is necessary that the connector be placed within a recess, because of the difficulty in making the loop and seating it properly to assure a positive electrical juncture.

Further objects and advantages lie in the reduction of the number of parts required, and in the extreme facility with which the connector of my invention can be constructed; a simple expedient being employed to surmount former manufacturing difficulties, as will be fully explained in the accompanying drawing and detailed description of a preferred embodiment of my device.

In the accompanying drawing, Fig. 1 is a plan view of a stamped metal strip from which my device may be formed; Fig. 2 is a plan view of my device, and Figs. 3 and 4, respectively, are end and side views of the device shown in Fig. 2. Figs. 5 and 6 are views showing the adaptability of my connector to a safety type fuse panel equipped with plug fuses; and Figs. 7 and 8 show my device equipped for cartridge fuses.

My device comprises, essentially, a clamping member which is preferably formed from a single piece of strip material, from which a portion is removed to leave an indent 11 (Fig. 1). After forming, the strip is folded or bent upon itself in the nature of a hook, allowing sufficient space between the body of the strip and the folded portion to accommodate a suitable terminal wire. The body of the strip, and the portion folded thereover constitute, respectively, a base 12 and a clamping member 13. The relative position between members 12 and 13 is pre-

served by means of inwardly extending corners 14, which serve as spacers and tend to prevent the members from being forced together during subsequent assembly or use of the device. The corner portions 14 have the further function, due to the normal resilience of the strip itself, of serving the purpose of a lock washer.

Means for directing and positioning the wire are provided in the longitudinally disposed grooves 15 and 16, which are formed in the base and clamping member, respectively, and which, in the folded structure, terminate in a funnel-shaped opening 17 (Fig. 3). The groove 15 is preferably provided with cross ridges or corrugations and with a stop 18 at its extremity to aid in securing and positioning a terminal wire therein.

The strip of metal 19, which remains, after forming the indent 11, to connect the members 12 and 13, tends to maintain the grooves in aligned position. The clamping member 13 is provided with a bolt-receiving opening 20, as shown. An aperture 21 in the base portion is preferably threaded to receive the clamping bolt 22, although a separate nut may be provided in lieu thereof.

With my device the clamping of a conductor is so effected that no bending or looping of the conductor end is required, and in such a manner that the conductor will not be deformed or injured due to any kinking, twisting or cutting of the same, incident to its engagement by the connector.

It will be apparent that my device affords, particularly by reason of the upset portions 14, a novel means for insuring that the channel for the reception of the wire end, is always open; and that the pressure usually applied in threading up the screw in assembly, and before it is desired to clamp the wire end, is resisted by portions 14, which serve as a preliminary stop.

While the drawing shows a longitudinal disposition of the grooves which form the wire receiving seat, and extend from the funnel-shaped mouth at the so-called front of the connector; it is obvious that a pair of transversely disposed grooves may be employed, so as to afford a side connection, without depart-

ing from the spirit and underlying principles of this invention. It is equally obvious that the clamp may be formed with a groove in only one member, to accommodate the wire end.

I claim as my invention:

1. In a wire connector, wire retaining plates, means forming opposed wire channels in said plates, a bolt engaging said plates, means formed by one of said plates and extending beyond the plane thereof, forming a spacer between the plates, and means formed by another of said plates for limiting the length of wire engaged by the connector.

2. In a wire connector, wire gripping plates having apertures therein, a bolt extending through said apertures, means constituted by one of said plates forming a linear wire seat therebetween, and extending on opposite sides of the bolt, and means constituted by an upset portion of one of said plates, tending to maintain said plates in spaced relation, and to prevent obstruction of said wire seat upon clamping the plates together, and a wire stop at the inner end of said wire seat.

3. In a terminal connector, a pair of oppositely disposed wire gripping members, a screw engaging said members, means forming a linear wire seat on one of said members, said seat having its ends on opposite sides of said screw, a wire stop near one end of the wire seat, and means constituted by a deformed portion of one of said members and serving as a preliminary stop tending to oppose the action of said screw threaded means.

4. In a wire connector, opposed wire gripping portions, means forming a wire seat in one of said portions, having a tapered wire guide near its receiving end, and a wire stop at its opposite end, threaded clamping means associated with said portions, and a resilient margin on one of said portions, adapted to serve as a spacer between said portions, and as a locking means for said threaded clamping means.

5. In a wire connecting device, a one-piece wire engaging element, a bolt engaging said element at a plurality of points and adapted to clamp portions thereof about the wire, the device having a throat on one of said portions, converging toward the space between said portions, a wire groove connecting with the throat, and a wire stop at one end of the groove, one of said gripping portions having a flexible margin adapted to serve as a spacer between the wire gripping portions of said element.

6. In a wire connector, a wire holder including superposed portions normally spaced to receive a wire therebetween, and element separable from the holder for clamping together said portions, oppositely disposed projections integral with one of said portions, and located at opposite ends of the wire-receiving area thereon, the projections respec-

tively forming a converging wire receiving and directing orifice, directed toward the wire space between said portions, and a stop for determining the length of wire engaged by the connector.

7. In a wire connector, a one-piece member formed of a strip of sheet metal folded upon itself, and having a slot extended transversely of the strip at the fold, to provide an intermediate portion of restricted width, there being registering apertures in said folded portions, a clamping screw extending through said apertures; a margin of one of the folds of the strip being deformed to lie beyond the plane of the fold by which it is carried and constituting a spacer between said folded portions, and adapted to serve as a locking element for said clamping screw, means forming an integral screw seat about one of said apertures, one of said folds having a depression therein forming a linear wire seat, a plurality of ridges formed transversely of said seat, one of said ridges being arranged to serve as a wire stop near the end of said seat; each of said folded portions having registering depressions therein constituting a converging wire receiving orifice; said restricted portion being adapted to connect the folded portions and to prevent relative angular displacement of said folds upon actuation of said screw.

HENRY M. STIEGLITZ.