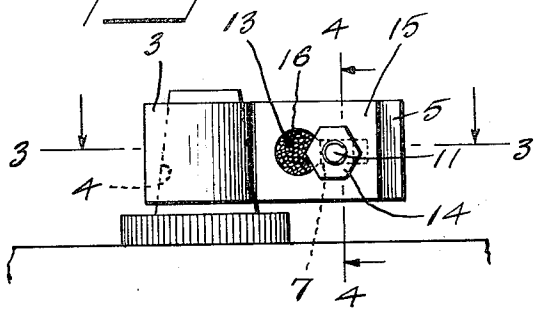
Nov. 23, 1937. F. M. REYNOLDS 2,100,268

BATTERY TERMINAL POST CLAMP

Filed July 7, 1936

Fig. 1.



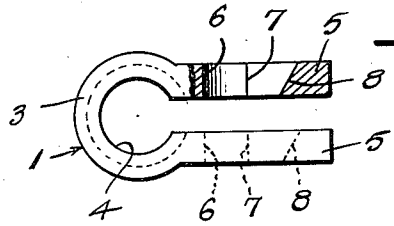


Fig. 2.

Fig. 3.

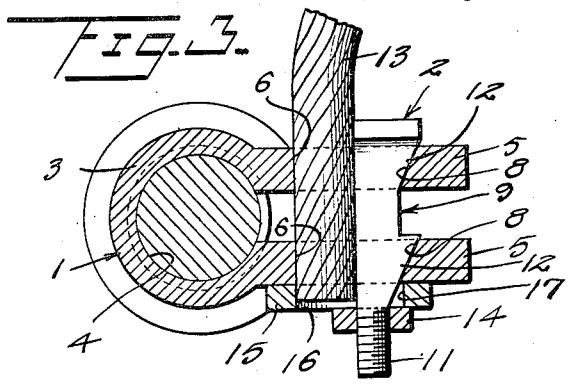
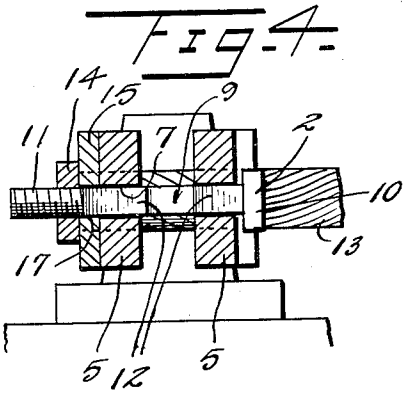


Fig. 4.



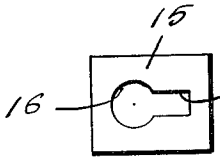


Fig. 5.

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BATTERY TERMINAL POST CLAMP

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Application July 7, 1936, Serial No. 89,425

4 Claims. (Cl. 173—259)

This invention relates to improvements in clamping devices and pertains particularly to an improved battery terminal clamp and cable holder.

The primary object of the present invention is to provide a novel battery terminal clamp in which the drawing together of the clamp parts to effect a gripping of the battery terminal post will simultaneously effect the positive securing of the current carrying cable which is attached to the clamp.

Another object of the invention is to provide a battery terminal clamp comprising a split ring having a pair of relatively long arms and a coupling bolt between the arms, which bolt is so designed that when a nut is tightened up thereon to draw the arms together for securing the clamp to a battery terminal post it will at the same time compress the end of the current carrying cable in apertures formed transversely through the arms so that the bolt serves the double function of securing the clamp to the terminal post and securing the cable to the clamp.

A still further object of the invention is to provide in a battery terminal clamp of the above described character a novel means of simultaneously securing the clamp on the terminal post and the current carrying cable to the clamp and at the same time establishing a good electrical connection between the cable and the clamp due to frictional contact of the securing bolt with the cable.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing

Figure 1 is a view in elevation of the clamp embodying the present invention showing the same applied to a battery post.

Fig. 2 is a view partly in top plan and partly in horizontal section of a portion of the clamp.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a section on the line 4—4 of Fig. 1.

Fig. 5 is a detailed view of the washer.

Referring now more particularly to the drawing, the numeral 1 generally designates the battery terminal post gripping portion, while the numeral 2 designates the bolt by means of which the clamp is drawn into gripping relation with the post. The portion 1 or clamp comprises a split annulus 3 having a tapered passage therethrough, as indicated at 4, for the reception of the battery terminal post which is usually tapered and which the annulus is adapted to snugly engage. Extending from the split annulus 3 upon each side of the division, is a relatively long arm 5, and each of these arms has formed transversely therethrough a cable receiving opening 6 and a slot 7 which extends longitudinally of the arm and opens at one end into the adjacent cable opening 6, as illustrated. The wall of each slot 7 at the end remote from the opening 6 extends obliquely across the arm so as to form a camming surface 8, and as shown these surfaces of the two arms are parallel.

Adapted for extension through the alined slots 7 of the clamp arms 5 is a flat bolt 9 which has a head 10 formed upon one end and at the opposite end is of circular cross-section through a portion of its length, and threaded, as indicated at 11. One side edge of the bolt 9 is flat from the head to the end of the threaded portion and parallel with the longitudinal center of the bolt while the opposite edge is formed to provide two cams 12 which are in spaced relation and which, when the bolt is in position in the slots 7 and extending transversely of the arms 5, engage the camming surfaces 8 which form the end walls of the slots.

The openings 6 of the two arms are alined transversely of the arms to receive an end of a cable which is indicated by the numeral 13, and as shown when this cable has its end extending through these openings and the bolt 9 is in place, the straight edge of the bolt will bear against the cable. When first put in place, the bolt 9 will be arranged with the head 10 in spaced relation with the adjacent arm 5 while the straight edge of the bolt is in contact with the cable, and it will thus be apparent that when the bolt is forcibly drawn across the arms, the cams 12, bearing against the camming surfaces 8, will force the bolt laterally in the slots and against the cable to thus compress and jam the cable tightly in the openings 6.

The numeral 14 indicates the nut by which the bolt 9 is shifted longitudinally to effect its clamping action, and interposed between this nut and the adjacent arm 5 is a washer 15 which has an aperture 16 corresponding with the opening 6 and a slot 17 corresponding with the slot 7. The end of the inserted cable can thus be brought into the opening 16 of the washer and hold the latter against any tendency to turn with the nut

when the latter is threaded or drawn up on the bolt.

It will be obvious that the operation of pressing the end of the cable in the openings 6 of the arms through which the cable end passes, will at the same time tend to draw the arms 5 together so as to close the split annulus 3 and thus effect its firm connection with the battery terminal post. Therefore the bolt serves the double function of firmly securing the cable to the clamp and of securing the clamp to the battery post. In addition the sliding wedging action of the bolt against the terminal will establish a positive electrical connection between the cable and the bolt because of the removal from the cable by this rubbing or gripping action of any oxides which may have formed on the metal of the cable, which act, unless removed, to prevent the establishment of a proper electrical connection.

The present clamping device is also designed to hold a square cable as well as the round one illustrated. When employed for this purpose, the square cable will be inserted between the arms 5 and it will be gripped or squeezed between these arms when the nut 14 is threaded up on the bolt 9 for the purpose of drawing the arms together in the manner previously described.

What is claimed, is:

1. A battery terminal post clamp, comprising a split annulus adapted to receive said post, spaced members extending from the ends of said annulus, said members having openings designed to receive an end of a cable whereby the same passes through both members, a bolt extending transversely of said extensions and having a side exposed in said cable receiving openings for direct contact with an inserted cable, and means whereby the drawing together of said extensions by the bolt for the constriction of the annulus will effect the lateral movement of the bolt into firmer direct contact with the cable and the compression of the cable in the receiving openings therefor.

2. A battery terminal post clamp comprising a split annulus formed to receive said post, spaced parallel arms forming integral extensions from the annulus upon either side of the division thereof, said arms having alined transverse openings formed to receive a cable in connecting relation between the arms and alined bolt receiving slots, each of said slots opening into a cable opening, a bolt disposed transversely of the arms and positioned in said slots to lie parallel with an inserted cable and directly contact with the same, a nut carried by the bolt, and means whereby the drawing of the bolt transversely of the arms for effecting the constriction of the annulus will effect the shifting of the bolt from the slots into the cable receiving openings and effect the compression of the cable in said openings.

3. A battery terminal post clamp comprising a split annulus adapted to receive the post, a pair of spaced arms extending from the annulus upon opposite sides of the division thereof, said arms having cable receiving apertures therethrough and slots each opening into an aperture, each of said slots having an obliquely directed wall at the end opposite from the cable opening, a bolt extending thru said slots and connecting said arms, a pair of cams forming a part of the bolt and each having sliding engagement with the obliquely directed slot wall, and a nut carried by the bolt, said nut when drawn up upon the bolt effecting the lateral movement of the bolt through the contact of the cams with said oblique walls.

4. In a battery terminal post clamp, a post encircling split annulus, spaced members each extending from an end of the annulus, said members having alined cable receiving openings therein and alined bolt receiving openings merging into the cable openings, each of said bolt openings having a wall formed to provide a caming surface, a bolt extending through said bolt openings, and caming means forming an integral part of the bolt for contact with said surfaces whereby movement of the bolt longitudinally through the bolt openings will simultaneously effect movement of the bolt toward the cable receiving openings to compress a cable therein.

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