

W. P. HAMMOND.
ELECTRICAL CONNECTOR.
APPLICATION FILED MAR. 3, 1916.

1,213,632.

Patented Jan. 23, 1917.

Fig. 1.

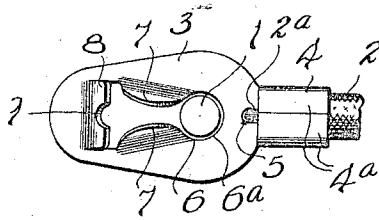


Fig. 2.

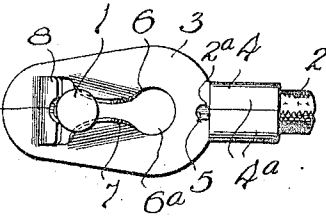


Fig. 3.

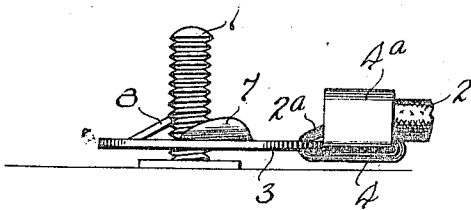


Fig. 4.

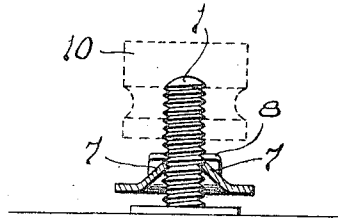


Fig. 5.

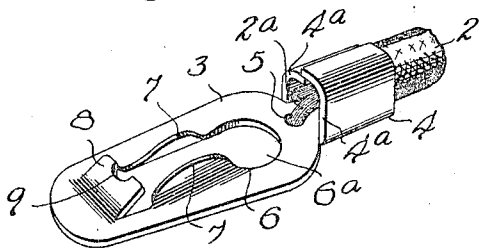
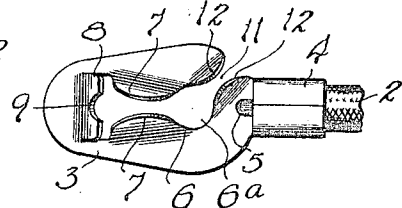


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM P. HAMMOND, OF PASSAIC, NEW JERSEY.

ELECTRICAL CONNECTOR.

1,213,632.

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To all whom it may concern:

Be it known that I, WILLIAM P. HAMMOND, a citizen of the United States, residing in Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Electrical Connectors, of which the following is a specification.

The present invention relates to certain new and useful improvements in electrical connectors of that general type which are employed for producing a quickly detachable connection between the wires and the binding posts, the object of the invention being to provide a connector of this character which embodies novel features of construction whereby a firm connection can be quickly obtained and maintained until the parts are forcibly disconnected.

Further objects of the invention are to provide an electrical connector which can be inexpensively stamped from a single piece of sheet material, which can be quickly applied to the binding post or removed therefrom, which will produce an excellent electrical connection between the parts and can be safely subjected to continuous jarring and vibration without danger of becoming disengaged, and which may be used either with or without the clamping nut.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which I have illustrated by way of example certain preferable embodiments of my invention.

Figure 1 is a top plan view of an electrical connector constructed in accordance with the invention, the binding post being shown in the position initially assumed when applying the connector thereto. Fig. 2 is a similar view showing the position of the binding post after the connector has been pulled laterally to produce an interlocking connection therewith. Fig. 3 is a side elevation of the connector applied to a binding post. Fig. 4 is a transverse sectional view through the same, the clamping nut of the binding post being indicated by dotted lines.

Fig. 5 is a perspective view of the electrical connector. Fig. 6 is a plan view showing a slight modification.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawings, the numeral 1 designates a binding post of the conventional construction, and 2 a conductor which it is desired to connect to the said binding post. The connector is formed from a sheet metal plate 3 which is permanently connected to one end of the conductor or wire 2. For this purpose the plate 3 is shown as provided at one end thereof with the conventional neck 4, said neck being formed with the side wings 4^a which are folded around the end of the conductor 2 in such a manner as to grip and firmly engage the same. The usual opening 5 may be provided in the plate 3 at the base of the neck 4, and the extremity 2^a of the conductor inserted through the opening and wrapped around the end of the neck in the customary manner. This is merely one of the usual means of connecting a wire to a plate, and no claim is made to the novelty thereof.

For the purpose of engaging the binding post 1 the sheet metal plate 3 is provided with a longitudinal slot 6 adapted to slidably receive the binding post, said slot being preferably arranged in alignment with the neck 4 and conductor 2. The end portion 6^a of the slot located adjacent to the neck 4 is of such a size as to slip freely over the binding post 1 in the initial step of placing the connector in position. The sides of the slot 6 toward the opposite end thereof are provided with resilient side flanges 7 which are pressed outwardly from the plane of the plate and converge toward each other. The ends of the resilient flanges 7 are suitably rounded or beveled, while the space between the free ends thereof is less than the diameter of the binding post 1. The opposite end of the slot 6 is provided with a transversely disposed resilient flange 8 which is likewise pressed upwardly from the plane of the plate and inclined so as to overhang the slot. The middle portion of the end flange 8 may be provided with a notched seat 9 for engagement with the binding post when the device is in operative position.

In order to apply the connector to a binding post

ing post, the enlarged end 6^a of the slot 6 is slipped over the post and the plate suitably disposed at the bottom of the binding post, or at any desired point in the length thereof. The plate 3 is then forcibly moved to bring the binding post to the opposite end of the slot 6. The binding post will first engage the beveled ends of the resilient side flanges 7 and spring the said flanges upwardly a sufficient amount to admit of the post passing between the same. At the opposite end of the slot the binding post will be brought into engagement with the notched seat 9 of the transverse resilient flange 8, the side flanges 7 being still flexed a slight amount by engagement of the beveled ends thereof with the binding post. This will result in a slight flexing of all three of the resilient clamping flanges 7, 7 and 8 and the sides of the binding post will be firmly engaged at three separate points in the periphery thereof. The engagement of these resilient flanges with the threaded sides of the binding post will hold the plate 3 securely in position upon the binding post and maintain an excellent electrical connection, and no amount of jarring or vibration will result in disconnecting the members. However, by forcibly moving the plate 3 to bring the binding post 1 back into the enlarged end portion 6^a of the slot 6 the plate can be lifted from the binding post. This construction thus admits of the connector being very quickly applied to the binding post or removed therefrom, and the usual nut 10 upon the binding post may either be used or removed, as desired.

A slight modification is shown by Fig. 6, in which an inclined passage 11 leads from the enlarged end 6^a of the slot through the edge of the plate 3, said passage enabling the connector to be applied to the binding post 1 or detached therefrom, without the necessity of first unscrewing and removing the clamping nut 10. If desired, the sides of the passage 11 may be provided with upwardly and inwardly inclined resilient side flanges 12 arranged to have a spring action as the binding post is forced through the passage.

While I have shown in the accompanying drawings and have described herein certain structures embodying the features of my invention, I wish it to be understood that the same is illustrative of the principles involved and I do not restrict myself to the exact structural details as these may be changed or altered without departing from the spirit and scope of my invention as defined by the following claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In combination with a threaded binding post, an electrical connector formed

from a single plate and provided with a slot adapted to slidably receive the binding post, said plate being provided with integral resilient gripping portions at the edges of said slot for positively engaging the threads of said post, with pressure to establish a good electrical connection and to prevent the plate from being removed from the post in the direction of its axis.

2. In combination with a threaded binding post, an electrical connector formed from a single plate and provided with a slot adapted to receive the binding post, one portion of said slot being of such a size as to slip freely thereover, while another portion of the slot is provided at its edges with integral resilient gripping portions adapted to positively engage the threads of the binding post to prevent the connector from being removed therefrom, in the direction of its axis.

3. An electrical connector for threaded binding posts, including a single plate formed with a slot to receive the binding post and having a seat at one end thereof, the sides of the slot being formed with deflected integral resilient portions adapted to positively engage the threads of the binding post and cooperate with the before mentioned seat to lock the plate in position upon the binding post and prevent removal of the plate in the direction of the axis of the binding post.

4. An electrical connector for threaded binding posts, including a single plate formed with a slot having a seat at one end thereof, one portion of the slot being enlarged so as to slip freely upon the binding post, while the portion of the slot adjacent the seat is provided with deflected integral resilient gripping portions adapted to positively engage the threads of the binding post and cooperate with the before mentioned seat to lock the plate in position upon the binding post and prevent removal therefrom in the direction of the axis of the binding post.

5. An electrical connector for threaded binding posts, including a single plate formed with a slot to receive the binding post and having a seat at one end thereof, spaced resilient gripping portions being provided at the edges of the slot adjacent the seat for cooperation with each other and the seat to positively engage the threads of the binding post at three points in the periphery thereof.

6. An electrical connector including a plate formed with a slot adapted to slidably receive the binding post, a portion of the slot being of a size to freely receive the binding post, having a transverse resilient flange projecting from one end of the slot, the sides of the slot adjacent the said end thereof being provided with resilient side flanges arranged for cooperation with the

and flange to engage the binding post when it is moved to the said end of the slot.

7. An electrical connector including a plate formed with a slot adapted to slidably receive the binding post, a portion of the said slot being of a size to freely receive the binding post, and a transversely disposed resilient flange being arranged at one end of the slot and provided with a notched seat, the sides of the slot adjacent the said end thereof being provided with opposed and inclined resilient flanges having beveled ends and arranged for coöperation with each other to hold the binding post in engagement with the notched seat of the transverse

flange when the binding post is moved to the said end of the slot.

8. In combination with a threaded binding post, an electrical connector comprising a thin plate formed with a slot adapted to slidably receive the binding post and provided with upwardly-extending resilient gripping projections terminating in contact edges spaced from the plane of the plate and adapted to engage the threads of the binding post under spring tension, such engagement preventing the plate from being removed in the direction of the axis of the post.

WILLIAM P. HAMMOND.