W. P. HAMMOND.

CONNECTOR.

APPLICATION FILED APR. 18, 1914.

1,294,656.

Patented Feb. 18, 1919.

FIG. 3.

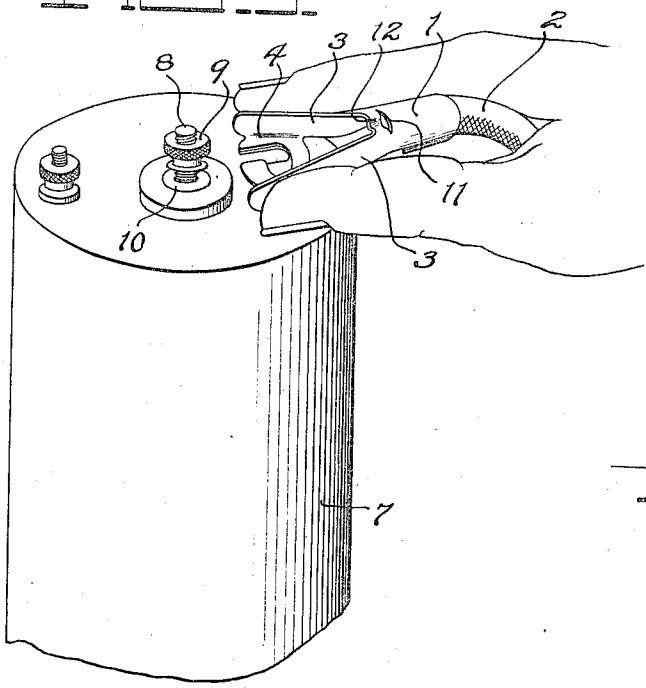


FIG. 1.

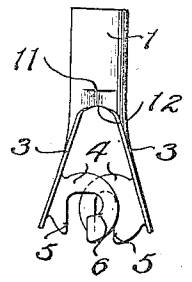


FIG. 2.

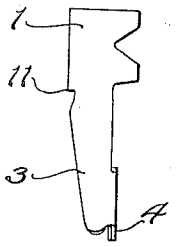
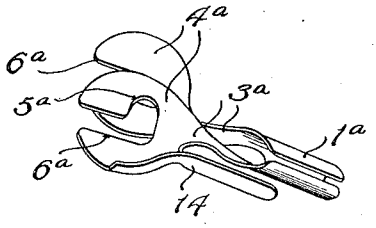


FIG. 4.



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CONNECTOR.

1,294,656. Specification of Letters Patent. Patented Feb. 18, 1919.

Application filed April 18, 1914. Serial No. 832,841.

To all whom it may concern:

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

The present invention relates to certain new and useful improvements in connectors or battery clips such as are commonly employed for connecting a wire to a binding post, the object of the invention being to provide a device of this character which embodies novel features of construction whereby it can be readily brought into and out of engagement with the stem of the binding post without the necessity of removing the nut therefrom, thereby avoiding the annoyance and delay which would otherwise be incident to first removing the nut and then screwing it back into position.

A further object of the invention is to provide a connector which can be readily formed from a single piece of sheet material, which can be quickly connected to or disconnected from a binding post, which can be easily held in the hand and manipulated by the fingers, and which will make an excellent electric connection with the binding post.

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:—

Figure 1 is a top plan view of a connector constructed in accordance with the invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is a perspective view of one of the connectors, showing the same as held in the hand and about to be applied to the binding post of a battery.

Fig. 4 is a perspective view showing a modified form of the invention.

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.

The connector is adapted to be formed from a single piece of sheet material which can be stamped out in the form of a blank and then bent into proper shape. Referring to Figs. 1, 2 and 3 of the drawing, the numeral 1 designates the stock which is adapted to be bent around and clamped upon the end of the conductor 2 so as to have a good electrical contact therewith. Projecting longitudinally from opposite sides of the stock 1 at the outer end thereof is a pair of spring arms 3 which have a flat formation and normally assume a flared or diverging relation, as indicated by Fig. 1. Each of the spring arms 3 carries an inwardly extending flat plate 4, the said plates having a superposed relation and sliding freely over each other. These plates 4 constitute what may be termed jaws and are substantially circular in shape, projecting from the lower edges of the spring arms 3. Each of the superposed plates 4 is formed with a longitudinally disposed slot 5 which opens through the edge thereof, the slot 5 of one of the plates being provided at the inner end thereof with a laterally extending seat 6. The resiliency of the arms 3 normally tends to slide the plates 4 upon each other to move the slots 5 out of registry with each other, as indicated by Fig. 1. However, when the spring arms 3 are grasped by the fingers and forced inwardly toward each other, as indicated by Fig. 3, the two slots 5 are brought into registry with each other.

Referring to Fig. 3, the numeral 7 designates an electric battery, and the numeral 8 a binding post projecting therefrom, said binding post being provided with a nut 9 which is shown as screwed upwardly away from the base 10 preparatory to applying the connector thereto. The spring arms 3 of the cord terminal are grasped between the fingers and pushed inwardly to slide the plates 4 upon each other and bring the slots 5 into registry. The terminal is then applied to that portion of the binding post 8 under the thumb nut 9, the said binding post entering the slots 5 and being brought into engagement with the inner ends thereof. The spring arms 3 are now released, whereupon the resiliency thereof tends to slide the plates or jaws 4 back to their original position and the lateral seat 6 at the inner end of one of the slots 5 is caused to engage the binding post in such a manner as to produce an interlocking connection between the binding post and the cord terminal and prevent withdrawal of the cord ter-

minal from the binding post. The clamping nut 9 of the binding post may or may not be screwed down into engagement with the connector, and the resiliency of the spring arms will cause the edges of the slots 5 and seats 6 to firmly engage the sides of the binding post so as to produce a good electrical connection therewith.

By reference to Figs. 1 and 3 it will be observed that the stock 1 is provided adjacent the bases of the spring arms 3 with a transverse slit 11 and that the portion of metal between the slit and the end of the stock is crimped inwardly at 12. This neck of metal with the crimp 12 therein serves to hold the bases of the spring arms 3 in proper position and may also be utilized, if desired, in engaging the end of the wire or conductor 2.

Fig. 4 illustrates a modification in which the spring arms do not serve as in the previous instance to provide extended bearing surfaces for engagement with the fingers when manipulating the connector to bring it into or out of engagement with a binding post. The numeral 1^a designates the stock from which the spring arms 3^a project, said spring arms carrying the flat superposed plates which are adapted to slide freely over each other. Each of the plates 4^a is formed with a longitudinal slot 6^a opening through the end thereof, one of the slots being provided at its inner end with a laterally extending seat 5^a. The construction of the plates or jaws is substantially the same as that previously described and the slotted portions of the jaws coöperate with each other in an identical manner to engage the binding post. One of the plates 4^a is formed with a rearwardly extending tang 14 which is spaced from the stock 1^a. By grasping the stock 1^a and tang 14 between the fingers and pressing them together the plates 4^a can be caused to slide upon each other to bring the slots 6^a into registry preparatory to applying the connector to a binding post or removing it therefrom.

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

1. A connector including superposed plates fitting closely against each other and having corresponding slots through the edges thereof, and resilient means normally acting upon the plates to slide the same upon each other to force the slots out of registry with each other said means permitting said slots to be brought into registry when the terminal is applied to a binding post.

2. A connector formed from a single piece of sheet metal and comprising a pair of superposed plates fitting closely against each other and having registerable slots opening through the edges thereof and resilient means normally acting upon the plates to hold the slots out of registry with the edges thereof in engagement with sides of a binding post.

3. A connector for connecting wires to binding posts formed with spring actuated superposed plates fitting closely against each other and having coöperating slots opening through the edges thereof and normally held out of registry, one of the slots communicating with a lateral seat and the plates being adapted to slide upon each other to bring the slots into registry with each other when applying the device to a binding post, the lateral seat providing an interlocking connection with the binding post when the plates are released.

4. A connector for connecting wires to binding posts including a stock, spring arms projecting from the stock, and superposed plates fitting closely against each other and carried by the spring arms, said superposed plates being formed with coöperating slots opening through the edges thereof and normally held out of registry by the resiliency of the spring arms, the slots being brought into registry preparatory to applying the device to a binding post and the edges of the slots engaging the binding post when the plates are released.

5. A connector for connecting wires to binding posts including a stock, spring arms projecting from the stock, and a pair of superposed plates fitting closely against each other and carried by the spring arms and formed with longitudinal slots opening through the ends thereof, one of the slots being provided with a laterally extending seat, the resiliency of the spring arms tending to move the plates to hold the slots out of registry with each other although the slots are forcibly brought into registry when applying the device to a binding post, the lateral seat serving to produce an interlocking connection with the binding post when the device is released.

6. A connector for connecting wires to binding posts including a stock, spring arms projecting from the stock, superposed plates carried by the spring arms and formed with cutaway portions extending through the edges thereof and normally held out of registry by the resiliency of the spring arms and adapted to receive the binding post when brought into registry with each other, and a tang projecting rearwardly from one of the plates to provide a finger piece for manipulating the plates.

7. A connector for connecting wires to binding posts including a stock, spring arms projecting from the stock, superposed plates carried by the spring arms and formed with longitudinal slots opening through the ends thereof, one of said slots being provided with a lateral seat and the slots being nor-

mally held out of registry with each other by the resiliency of the spring arms, and a tang projecting rearwardly from one of the plates to provide a finger piece for manipulating the plates to bring the slots into registry preparatory to applying the device to a binding post, the lateral seat producing an interlocking connection with the binding post when the device is released.

8. A connector formed from a single piece of sheet metal, including superposed plates having corresponding slots through the edges thereof and spring arms adapted to normally hold the slots out of registry with one another but adapted to be brought into registry so as to permit said connector to be applied to a threaded binding post and cooperate therewith in edgewise fashion.

9. A cord terminal for connecting wires to binding posts, including a pair of superposed plates formed with cut away portions normally held out of registry with each other and adapted to receive the binding post, spring means connecting the plates, a stock carrying the plates, and a finger piece carried by the plates and projecting therefrom in a spaced relation to the stock so that the finger piece and stock can be grasped between the fingers to manipulate the plates.

10. A connector including flat superposed plates fitting closely against each other, and spring arms carrying the plates and acting upon the same when flexed to slide them upon each other, one of the plates being formed with a plain slot opening through the edge thereof, while the opposite plate is formed with a bayonet slot opening through the edge thereof, the outer arm of the bayonet slot being adapted to be brought into registry with the plain slot when applying the connector to a binding post, and the inner arm of the bayonet slot coöperating with the inner end of the plain slot to grip the binding post and interlock therewith when the spring arms are released.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM P. HAMMOND.

Witnesses:
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LILLIAN L. MALZER.