

H. H. PHILLIPS.
COMMUTATOR TERMINAL AND METHOD OF MOUNTING SAME.
APPLICATION FILED APR. 17, 1914.

1,297,903.

Patented Mar. 18, 1919.

Fig. 1.

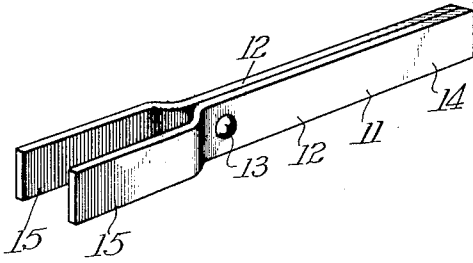


Fig. 2.

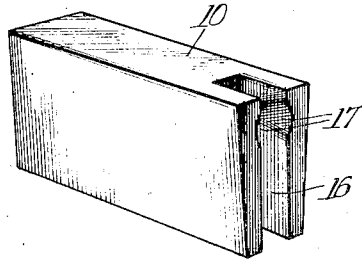


Fig. 3.

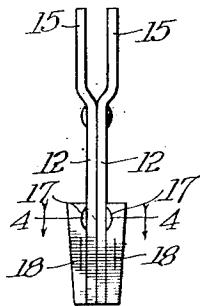


Fig. 4.

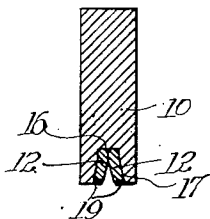
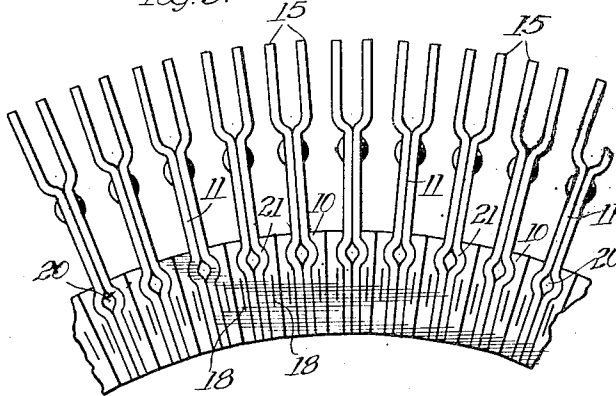


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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COMMUTATOR-TERMINAL AND METHOD OF MOUNTING SAME.

1,297,903.

Specification of Letters Patent.

Patented Mar. 18, 1919.

Application filed April 17, 1914. Serial No. 832,453.

To all whom it may concern:

Be it known that I, HENRY HARRISON PHILLIPS, a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented new and useful Improvements in Commutator-Terminals and Methods of Mounting Same, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to commutator segments and terminals therefor.

An object of my invention is to provide improved means for attaching a commutator terminal to a commutator segment.

Another object of my invention is to provide an improved commutator terminal.

A further object is to provide an improved method of attaching a commutator terminal to a commutator segment.

Other objects of my invention will hereinafter appear.

I have illustrated one embodiment of my invention in the accompanying drawing, in which:

Figure 1 is a perspective view of the commutator terminal.

Fig. 2 is a perspective view of the commutator segment.

Fig. 3 is an end view of the commutator segment with the terminal in place.

Fig. 4 is a section taken on the line 4-4 of Fig. 3.

Fig. 5 is an end view of a section of a commutator showing a plurality of segments and terminals in assembled position.

The commutator segment 10 has a terminal 11 attached thereto in a manner hereinafter described.

The terminal 11 is made from two strips 12, 12, preferably of soft metal, riveted together face to face by the stud 13 and comprises a shank 14 having a fork-like or bifurcated end 15, adapted for ready connection to the armature coils of a dynamo-electric machine. The bifurcated end 15 is formed by off-setting the ends of the strips from each other.

A channel or groove 16, adapted to receive the shank of the commutator terminal, extends vertically across one end of the commutator segment 10. This channel is preferably milled but may be formed in various

other ways. It is made of greater depth 55 than the width of the shank of the terminal, so that its edges may be burred over to assist in holding the terminal in place. The object of burring the edges of the channel over is to provide flanges or shoulders adapted to 60 hold the terminal in position. Any other method of providing said flanges or shoulders may be employed. Suitable recesses 17 are provided in the walls of the channel by counter-boring the end of the segment, and 65 the shank of the terminal is expanded into these recesses. In this way the terminal is securely held against dislodgment. It is obvious that various other means may be employed for securing the terminal within the 70 channel.

In assembling the parts, the shank of the terminal is fitted into the channel in the commutator segment, and blows are struck at the points 18, 18, with a chisel-shaped 75 tool to throw an overhanging bur or flange 19 along the edges of the channel. At the same time, an expanding tool is driven in between the terminal strips at the point 20, which expands them into the recesses formed 80 in the walls of the channel by the counter-bore. The shoulders 21, formed on the strips by the expanding tool hold the terminal rigidly in place, and dislodgment, due to the action of centrifugal force when the 85 commutator is in motion, is absolutely prevented. After the terminal has been secured in place in this manner, it may then be soldered into the channel by any suitable process.

The embodiment of my invention described herein has been selected merely for the purpose of illustration. My invention covers all equivalent means for accomplishing the desired result so long as such means 95 fall within the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination, a commutator segment 100 having a groove at one end, a wall of said groove being provided with a recess, a commutator terminal carried in said groove, said terminal being provided with a projecting portion fitting into said recess, said segment 105 having a projecting portion engaging the side of said terminal to hold same against edgewise movement.

2. In combination, a commutator segment having a groove in one end, a commutator terminal carried in said groove, said terminal being provided with means to prevent longitudinal movement in said groove, said groove being deeper than the width of said terminal, whereby the walls of said groove may be flanged over to engage the side of said terminal to hold same against edgewise movement permitting the ready securing of the terminal after the commutator is assembled.

3. The method of securing together a commutator segment and a terminal which consists of providing a groove in said segment of a depth greater than the width of said terminal, inserting said terminal into said groove and burring over the walls of said groove to engage the side of said terminal, whereby said terminal may be readily secured in said segment at any time.

4. The method of securing together a commutator segment and a terminal which consists of providing a groove in said segment

of a depth greater than the width of said terminal, inserting said terminal into said groove and striking the end of said segment at places adjacent said groove to throw an overhanging flange along said terminal whereby said terminal may be readily secured in said segment at any time.

5. The method of joining a terminal having a pair of shanks to a commutator segment having a groove in its end, said groove having a pair of recesses communicating therewith which consists of inserting said shanks in said groove, expanding portions of said shanks into said recesses and burring over the walls of said groove to engage the side of said terminal.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

HENRY HARRISON PHILLIPS.

Witnesses:

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E. MACVITTIS.