

O. F. FORSBERG.
SPOOL HEAD.
APPLICATION FILED DEC. 18, 1909.

1,100,178.

Patented June 16, 1914.

Fig. 1.

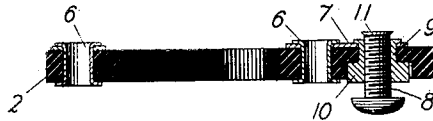


Fig. 2.

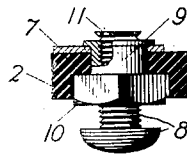


Fig. 3.

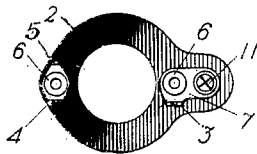


Fig. 4.

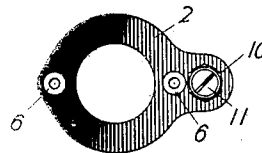
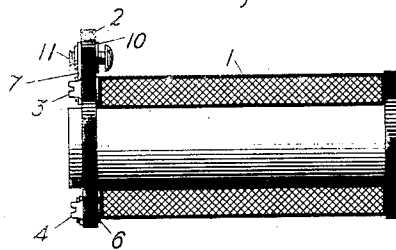


Fig. 5.



Witnesses:
Irving Macdonald
Fred V. Hallenbeck.

Inventor:
Oscar F. Forsberg
by L. C. Munner, ATT'Y.

UNITED STATES PATENT OFFICE.

OSCAR F. FORSBERG, OF NEW YORK, N. Y., ASSIGNOR TO WESTERN ELECTRIC COMPANY, OF NEW YORK, N. Y., A CORPORATION OF ILLINOIS.

SPOOL-HEAD.

1,100,178.

Specification of Letters Patent.

Patented June 16, 1914.

Application filed December 18, 1909. Serial No. 533,946.

To all whom it may concern:

Be it known that I, OSCAR F. FORSBERG, citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Spool-Heads, of which the following is a full, clear, concise, and exact description.

This invention relates to electromagnet spool heads, and its general object is to provide a new and improved form of spool head provided with terminals to which the ends of the wire forming the magnet coil may be connected, and with at least one of which terminals an outside circuit may be removably connected in an efficient and satisfactory manner.

To the above end my invention comprises, in connection with a terminal to which an end of the magnet coil may be connected, a screw-receiving element which is securely held in the body of the spool head and is electrically connected to said terminal.

My invention will be understood from the following description taken in connection with the accompanying drawings in which—

Figure 1 is a sectional transverse view of a spool head having my invention embodied therein; Fig. 2 is a fragmentary partly sectional view showing in detail the portion of the device in which my invention particularly resides; Fig. 3 shows the outer side of the collar as applied to a magnet spool; Fig. 4 shows the inner side of the collar; and Fig. 5 is a side elevation, partly in section, of a magnet equipped with a spool head of the kind shown in the other figures and having my invention embodied therein.

Fig. 5 shows a magnet 1 equipped with a spool head constructed in accordance with this invention. The spool head comprises a collar 2 of fibrous insulating material to which are secured the terminals 3, 4, preferably of brass coated with tin. The terminal 4 is of the usual construction, being riveted to the head by a brass eyelet 6, and having one of its ends 5 bent and embedded in the fiber, the opposite end being struck up to form lugs to which a wire may be soldered. The terminal 3 is similar to the terminal 4 in that it is also provided with lugs and is partially secured to the collar 2 by an eyelet 6; the terminal 3 has, however, certain other features hereinafter de-

scribed, and to which my invention particularly relates.

The ends of the magnet coil or helix are brought out through the eyelets 6 and are soldered to the outside thereof. These wires are, therefore, not only protected from breakage but are also guarded against contact with the fiber head 2 and the corroding action which might otherwise take place.

In order to provide an efficient spool head of this character adapted for machine wound spools, it is necessary that the construction be such that no portion of the connecting device essentially a part of the spool head during the winding operation, in the present instance a screw-receiving element, shall protrude beyond the inner surface of the collar. This portion of the connecting device should be also practically integral with the terminal. To provide a seat for the connecting device 8, the contour of the usual form of collar is modified by forming the collar 2 with a radially-extending lug, and forming the terminal 3 with an integral extension 7 positioned radially on said lug, lying flush with the face thereof. From the inner face of the lug, opposite the face supporting the terminal 3, a nut 10 may be rigidly countersunk substantially flush with the inner face of the lug. As shown this nut may be hexagonal in shape and the opening in the lug into which it is forced may be round, the effect of the forcing of said nut into said opening being to embed the sharp corners of the nut into the surrounding edge of the opening. A hollow or thimble-like extension 9, integral with said nut, extends through an opening in the extension 7 of the terminal 3 and is spun around the edge of said opening thereby providing a construction whereby the nut 10 is practically integral with the terminal 3, insuring continuous metallic connection between the terminal and the nut, and since the nut is countersunk substantially flush with the inner face of the collar 2, there will be no interference with the wire during the winding operation. A screw 11 may be threaded into engagement with the nut 10, said screw having a relatively-large head, preferably as large as the face of the nut 10, to provide a firm means of connection for a conductor. This screw is not placed in the nut until after the magnet has been

wound, and its end is then upset to prevent its entire withdrawal therefrom. The conductor, being entwined about the screw-threads, upon the inward movement of the screw, it is forced into firm connection with the connecting device 8.

It will be evident that by virtue of the present invention a means of connection is provided between the terminal of a spool head and a conductor which has all the advantages of a solder connection while avoiding its disadvantages.

Having thus described my invention, I claim:—

1. A spool head comprising a collar, a helix terminal mounted upon one face of said collar and having a metallic extension, an eyelet passing through said collar and said terminal, and a conductor-securing device passing through said collar and said extension and secured thereto.

2. A spool head and collar, a helix terminal riveted to the outer face of said collar and having a metallic extension, a metallic screw-receiving element countersunk in the inner face of said collar and electrically connected with said extension, and a screw passing through said element.

3. In a spool head, the combination with a collar, of a terminal mounted on one side

thereof, a nut countersunk in said collar from the opposite side and being metallically connected with said terminal, and a screw adapted to engage with said nut.

4. In a spool head, the combination with a collar, of a terminal mounted on one side thereof, a nut countersunk in said collar from the opposite side and having a portion thereof extending through said collar and having metallic connection with said terminal, and a screw adapted to engage with said nut.

5. In a spool head, the combination with a collar, of a terminal riveted to said collar and having an integral extension provided with an opening, a nut countersunk in said spool head from the opposite side to which the terminal is secured and having a tubular shell formed integral therewith, said shell passing through said head and being spun over the surrounding edge of the opening in said terminal, and a screw adapted to be threaded into said nut.

In witness whereof, I, hereunto subscribe my name this 17th day of December A. D., 1909.

OSCAR F. FORSBERG.

Witnesses:

IRVING MACDONALD,
EDGAR F. BEAUBIEN.