April 22, 1924. 1,491,321

A. R. SWOBODA

ELECTROMAGNET

Filed Dec. 17, 1921

Fig. 1.

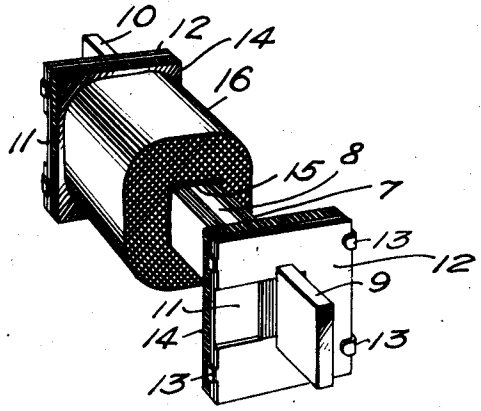


Fig. 2.

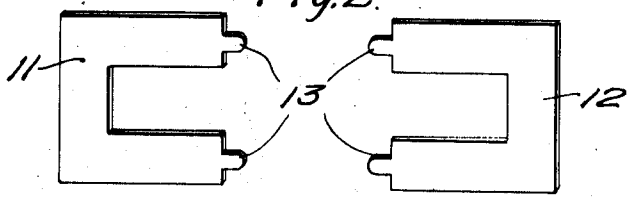


Fig. 3.

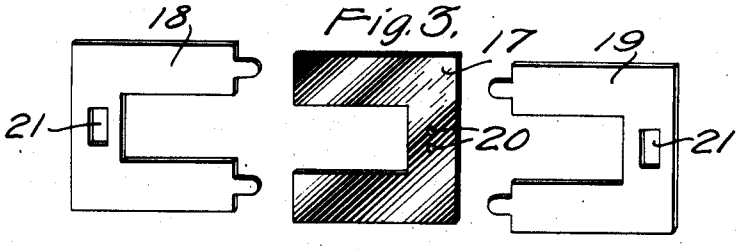


Fig. 5.

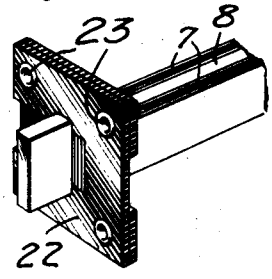


Fig. 4.

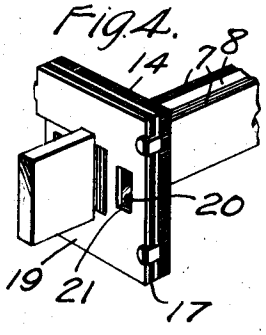
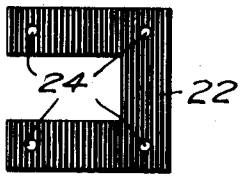


Fig. 6.



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Patented Apr. 22, 1924. 1,491,321

UNITED STATES PATENT OFFICE.

ADOLPH R. SWOBODA, OF NEWARK, NEW JERSEY, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ELECTROMAGNET.

Application filed December 17, 1921. Serial No. 523,153.

To all whom it may concern:

Be it known that I, ADOLPH R. SWOBODA, a citizen of the United States, residing at Newark, in the county of Essex, State of New Jersey, have invented certain new and useful Improvements in Electromagnets, of which the following is a full, clear, concise, and exact description.

This invention relates in general to electromagnets, and more specifically to a spool head construction particularly adaptable for electromagnets having laminated cores which are rectangular in cross-section. For electromagnets employing laminated cores, it is often desirable that cores be so dimensioned that both ends are of a different cross-section than the central portion of the core and difficulty has been experienced in such cases in providing suitable spool heads which could be placed over the core end readily.

An object of the present invention is to provide a spool head construction which can be quickly and easily installed or assembled on rectangular or flat type cores, and moreover, one which will be low in first cost and which will prove satisfactory in operation.

To accomplish this object, there is provided a spool head construction of two or more parts, which may be quickly assembled on a rectangular type core and locked in position.

The spool head is provided with a section of insulating material securely clamped between two metal side plates and having openings therein to permit terminal wires passing through the spool head.

Referring to the drawing:

Fig. 1 is a perspective view of an electromagnetic structure employing spool heads embodying the invention;

Fig. 2 is a view of the parts making up the spool head of Fig. 1;

Fig. 3 is a view showing the necessary parts to provide a modified structure of the type disclosed in Fig. 4;

Fig. 5 is a view of another modification; and

Fig. 6 shows one of the two parts of the spool head of Fig. 5.

There is disclosed an electromagnet in which the core is composed of a number of laminations 7, 7 and a flat member 8, which is preferably punched out of magnetic material, such, for example, as silicon steel. The end 9 is enlarged as shown to provide suitable pole area, and the end 10 is also enlarged to provide suitable mounting means for the device. The spool head consists of interchangeable members 11 and 12, which are assembled upon the core in opposite directions and are then securely locked in place by bending over the tabs 13, 13. These members are preferably punched from sheet metal stock, and when secured together by means of the tabs 13, provide a rigid spool head, which also serves to hold the laminations 7 securely in place. Before placing the spool heads in position, an insulating member 14 is positioned upon the core, this member having its central portion cut away to permit assembling. With the spool heads and insulating members 14 in position, the core is provided with a layer of paper 15 for insulating portions, and then is provided with a suitable winding 16. The members 11 and 12 have extensions or legs and the distance between legs is made sufficient to permit the members to be slipped in place over the core laminations.

In the modification shown in Figs. 3 and 4, a U-shaped member 17 of insulating material, such as fibre, is locked in position between U-shaped members 18 and 19. Perforations 20, 20 are provided in the insulating member 17 and suitable openings 21 are provided in the members 18, 19 so that the leading-in wires of the winding may be led through the spool heads and insulated from each other. In the modification shown in Figs. 5 and 6, a pair of U-shaped members 22, of insulating material such as phenol fibre, are placed in opposite directions upon a core and eyelets 23, 23 passed through suitable perforations 24, 24, serve to hold the two members of the spool head rigidly together and at the same time provide means for the entrance of the leading-in wires.

What is claimed is:

1. In an electromagnet, a core rectangular in cross-section, a spool head therefor comprising two members placed on the core in opposite directions, and means for fixedly securing said members together in overlapping relation.

2. In an electromagnet, a laminated core having a shoulder portion at one end, a spool head comprising a pair of U-shaped members placed on said core perpendicular

to the plane of the laminations and adjacent the shoulder portion, the legs of said U-shaped members extending in opposite directions, and means for securing said legs together in overlapping relation.

3. A spool head comprising a pair of homologous members of insulating material positioned adjacent each other with leg portions extending in opposite directions, and a plurality of eyelets to secure said members in position and to permit passing of terminal wires therethrough.

In witness whereof, I hereunto subscribe my name this 12th day of December A. D., 1921.

ADOLPH R. SWOBODA.