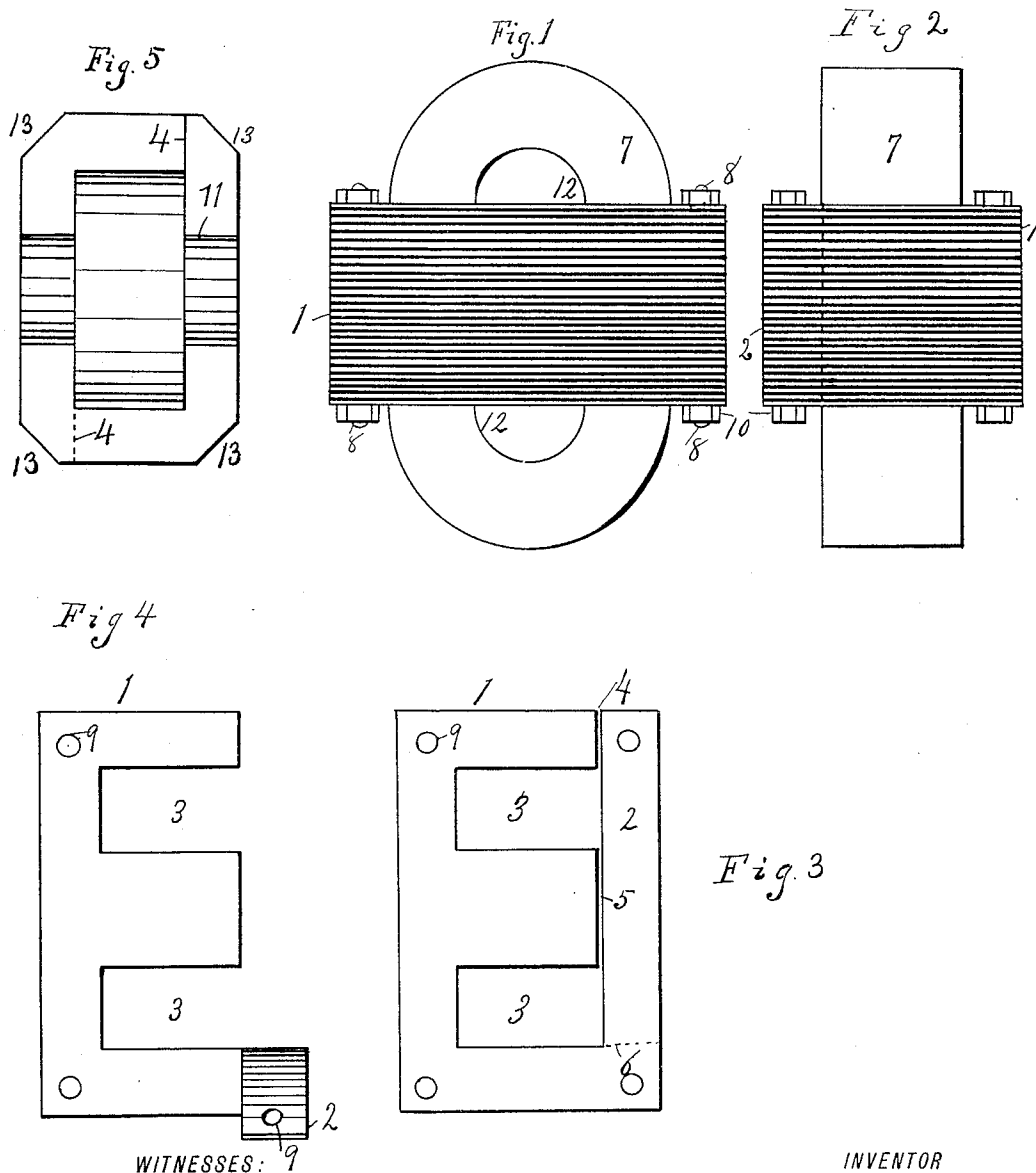


(No Model.)

R. W. BLACKMORE.
ELECTRICAL TRANSFORMER PLATE.

No. 580,206.

Patented Apr. 6, 1897.



WITNESSES: 9

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RICHARD W. BLACKMORE, OF PEORIA, ILLINOIS, ASSIGNOR TO THE ROYAL
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ELECTRICAL TRANSFORMER-PLATE.

SPECIFICATION forming part of Letters Patent No. 580,206, dated April 6, 1897.

Application filed November 20, 1896. Serial No. 612,834. (No model.)

To all whom it may concern:

Be it known that I, RICHARD W. BLACKMORE, a citizen of the United States, and a resident of Peoria, county of Peoria, and State of Illinois, have invented a new and useful Improvement in Electrical Transformer-Plates, of which the following is a specification.

Heretofore it has been common to construct the core of an electric transformer from thin flexible sheets of soft iron or steel superposed upon one another and preferably respectively insulated each from its neighbor in any suitable manner. The plates in said transformers have openings for receiving different sides of the coils of wire forming the primary and secondary conductors. For the purpose of introducing the coil, which necessarily has a closed contour, it has been proposed to cut the core-plates from each hole to the outside edge, so that the middle tongue thereby formed may be bent backward and forward in such a manner that during the construction of the transformer said core-plates could be placed one above the other until the whole core was constructed.

I have experienced difficulty, not in the application of the principle underlying such construction, but in the practical carrying out of the same, and I have devised a form in which much valuable time may be saved in the construction, and at the same time my core-plate is different from those heretofore applied.

Briefly stated, the invention consists of a core-plate for an electrical transformer stamped from a sheet of soft iron or steel into a rectangular form and so that there are two rectangular holes. Extending from one hole to the outside edge there is a cut. The material is also cut through from one hole to the other, and these two cuts are made along the line coinciding with the corresponding edges of the two holes.

In order to set forth the exact nature of the invention as to all its details, I have annexed drawings, in which—

Figure 1 is a front elevation of the transformer. Fig. 2 is a side elevation of that which is shown in Fig. 1. Fig. 3 is plan of one of the plates of the transformer, all of them being substantially alike. Fig. 4 is a

view of the same plate, only that a certain portion of it is represented as bent upward, leaving the two holes entirely open for receiving the coil. Fig. 5 is a top view of the preferred manner in which I build up my transformer without the use of bolts and nuts.

The transformer-plate is numbered 1, and the flexible side piece adapted to be bent backward and forward is numbered 2. This is formed in the following manner: The plate 1 has in the first place two holes 3 and is provided with a cut 4 from one hole to the outside edge of the plate and with another cut 5 from one hole to the other. This leaves the side piece 2 adapted to be bent upward at the dotted line 6. In Fig. 3 the side piece 2 and the rest of the plate 1 are in the same plane, while in Fig. 4 the side piece 2 is bent upward, leaving the holes 3 accessible for the introduction of the sides of the coil, which is numbered 7.

In building the whole core it is preferable to so aggregate the laminae that the side piece 2 is alternately in the same position relatively to the coil. This is illustrated in the view shown in Fig. 2, where the ends of the side piece 2 appear only in alternate layers. The slots of the intermediate plates are located diametrically opposite, behind the coil 7.

Fig. 5 shows the preferred mechanical construction of the converter involving means for holding the transformer-plates to one another and to the coil, and it consists of wedges 11, driven into the spaces 12, Fig. 1, remaining between the curved portions of the coil and the opposite sides of the group of plates 1. In this case the holes 8 may be omitted and the corners of the plates at 13 may be cut off, as indicated. In this manner a compact converter is produced without the aid of mechanical clamps or bolts, and the transformer-plates are at the same time held together with the greatest rigidity. As pointed out in regard to Fig. 2, the electric plates should be arranged differently. The cut 4 is on one part of the converter, as shown in Fig. 5 in the top plate, while the corresponding cut 4 in the next plate is at the opposite part of the converter below the top plate, and so on alternately, as explained in reference to Fig. 2.

The operation is very simple. As usual, the coil is first wound upon a frame, so that it will have rigidity and be ready for applying the core. Then each plate 1 is taken and
5 the side piece 2 bent upward and the plates so applied, successively, that the sides of the coil 7 will enter the holes 3. As soon as each plate is in place the side piece 2 is bent down
10 so on until finally the core is built to sufficient thickness, when the bolts 8, suitably insulated, are passed through the holes 9 and are clamped together by nuts 10.

I claim as my invention—

15 An electrical transformer-plate, having two

openings for receiving a given coil of the transformer, and provided with two cuts, one communicating from one hole to the outside edge of the plate, and the other communicating from one hole to the other hole, and both
20 cuts lying in a rectilinear line, which coincides with an edge of each hole.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 14th day of No-
25 vember, 1896.

RICHARD W. BLACKMORE. [L. S.]

Witnesses:

G. G. LUTHY,
G. LUTHY.