

(No Model.)

O. T. BLÁTHY.
INDUCTION COIL.

No. 360,198.

Patented Mar. 29, 1887.

Fig. 1.

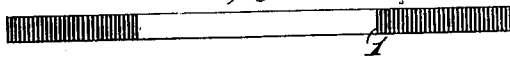


Fig. 2.

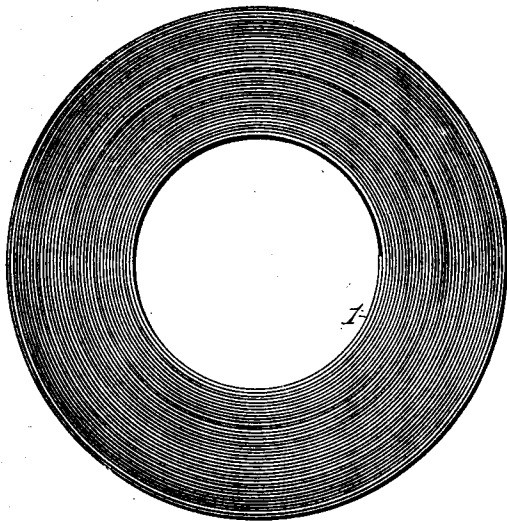


Fig. 3.

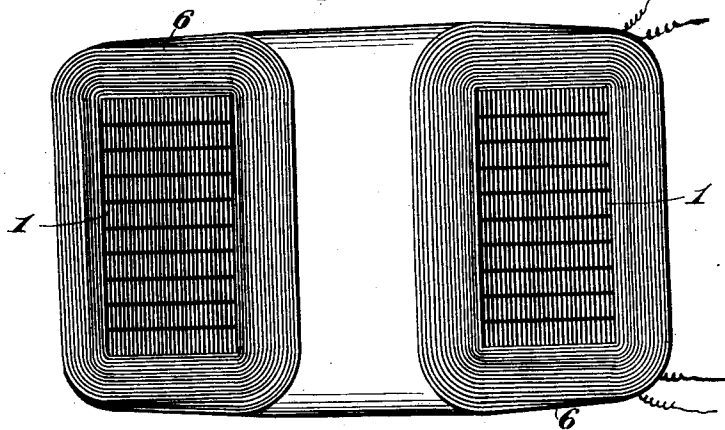
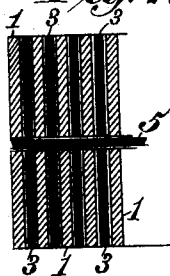


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

OTTO T. BLÁTHY, OF BUDA-PESTH, AUSTRIA-HUNGARY.

INDUCTION-COIL.

SPECIFICATION forming part of Letters Patent No. 360,198, dated March 29, 1887.

Application filed October 11, 1886. Serial No. 215,890. (No model.)

To all whom it may concern:

Be it known that I, OTTO TITUS BLÁTHY, a subject of the King of Hungary, residing at Buda-Pesth, in the Empire of Austria-Hungary, have invented new and useful Improvements in Induction-Coils, of which the following is a specification.

In induction-coils for transforming powerful alternating electric currents it is of the utmost importance to have the largest possible amount of iron in a given space and to subdivide such iron into small sections in the direction of the lines of magnetic force. I attain this result in that type of inductional transformers which have an iron core in the form of a ring, hoop, or polygonal shaped body which is closed upon itself and wound with two sets of insulated copper conductors, in the manner hereinafter fully set forth, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a section through one of the elements or disks of coiled iron ribbon. Fig. 2 is a plan view of the same. Fig. 3 is a vertical section of an inductional transformer composed of a series of such elements superposed and covered with copper conductors. Fig. 4 is an enlarged sectional view showing the manner of insulating the coils of each element from each other and insulating the different elements one from the other.

In constructing an iron core for an induction-coil according to the present invention, I take a narrow and very thin ribbon or band of iron (indicated by the reference-numeral 1 in the drawings) and coil or wind the same on a suitably-shaped dummy-disk, the ribbon being subjected during the operation of winding to considerable tension, so as to insure a close packing of the several layers or coils. Preferably a ribbon or band of insulating material, 3, which may be of paper or some suitable tissue or insulating material, of the same or substantially the same width as the iron ribbon, is coiled simultaneously with the same in such a manner that each two consecutive or adjacent layers of the iron ribbon are insulated one from the other by an interposed insulat-

ing-strip. The coiling of the ribbon is continued until the requisite size to be given to the core is reached, whereupon the coil of iron ribbon is taken from the dummy disk or former. The coil then presents the appearance of a flat ring or disk with its various layers lying upon each other in the manner of a wound-up clock-spring. The inner and outer terminals of the ribbon are soldered, riveted, or otherwise fastened to the remainder of the coil, in order to prevent the uncoiling thereof.

In order to construct a core for an inductional transformer, a series of elements or disks of coiled iron ribbon are superposed or placed one upon the other until a core of the requisite size is the result. Preferably, some insulating material (indicated by the numeral 5 in Fig. 4) is interposed between each two adjacent elements. After the core is complete, copper conductors 6 are wound around the same in a manner common to inductional transformers now in general use, an illustration of a complete coil with the free terminals of the conductors being seen in Fig. 3. By virtue of the present mode of constructing the cores of inductional transformers a very high percentage of the available volume will be occupied or filled up with iron, which at the same time is in a very perfect manner subdivided and insulated in a direction parallel to the lines of magnetic force.

Having thus described my invention, what I claim is—

An induction coil or transformer consisting of a series or plurality of superposed or parallel rings or disks, each made of a coiled iron ribbon, and insulating material between the different layers of the ribbon, and two or more sets of copper conductors for the primary and secondary currents wound on the core formed by the series of rings or disks and having free terminals, substantially as set forth.

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

OTTO T. BLÁTHY.

Witnesses:

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J. A. RUTHERFORD.