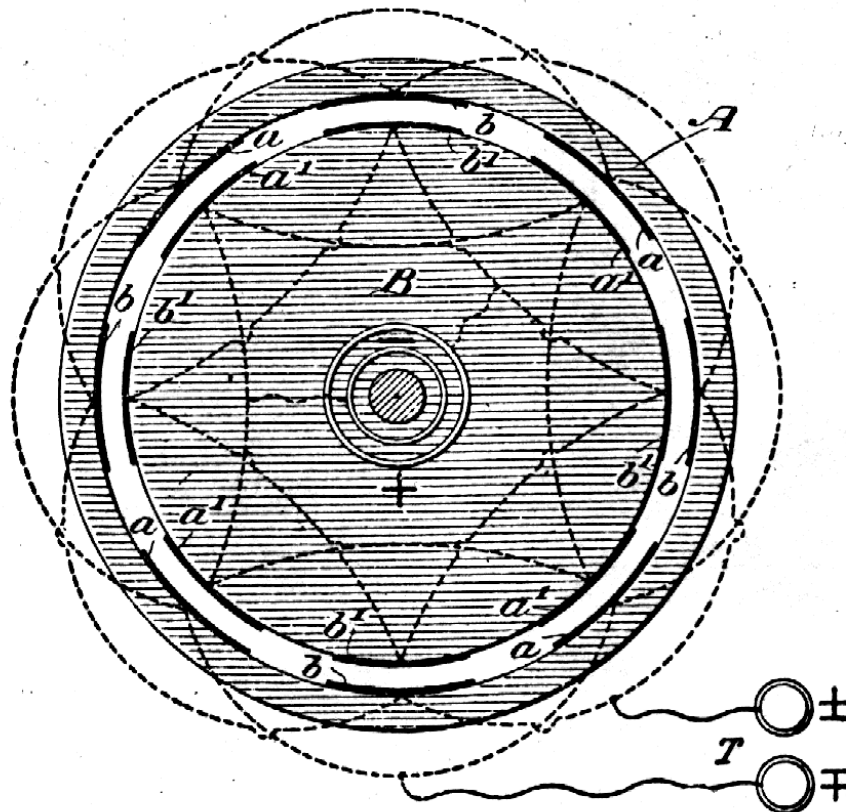


# ALTERNATE CURRENT ELECTROSTATIC INDUCTION APPARATUS\*

by Nikola Tesla

May 6, 1891

About a year and a half ago while engaged in the study of alternate currents of short period, it occurred to me that such currents could be obtained by rotating charged surfaces in close proximity to conductors. Accordingly I devised various forms of experimental apparatus of which two are illustrated in the accompanying engravings.

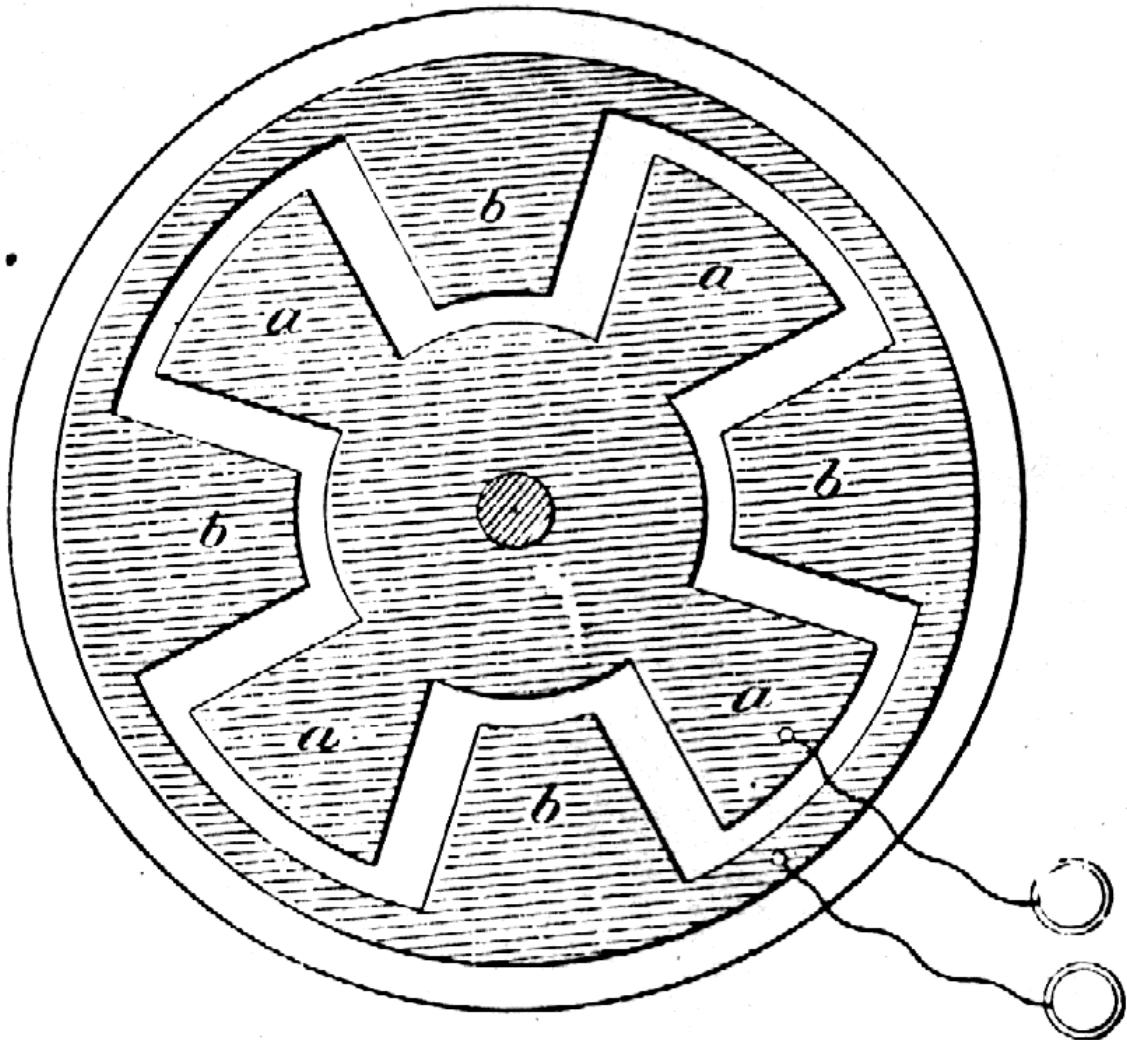


In the apparatus shown in **Fig. 1**, A is a ring of dry shellacked hard wood provided on its inside with two sets of tin-foil coatings, *a* and *b*, all the *a* coatings and all the *b* coatings being connected together, respectively, but independent from each other. These two sets of coatings are connected to two terminals, T. For the sake of clearness only a few coatings are shown. Inside of the ring A, and in close proximity to it there is arranged to rotate a cylinder B, likewise of dry, shellacked hard wood, and provided with two similar sets of coatings, *a*<sub>1</sub> and *b*<sub>1</sub>, all the coatings *a*<sub>1</sub> being connected to one ring and all the others, *b*<sub>1</sub>, to another marked + and -. These two sets, *a*<sub>1</sub> and *b*<sub>1</sub> are charged to a high potential by a Holtz or a Wimshurst machine, and may be connected to a jar of some capacity. The inside of ring A is coated with mica in order to increase the induction and also to allow higher potentials to be used.

When the cylinder B with the charged coatings is rotated, a circuit connected to the terminals T is traversed by alternating currents.

\* *The Electrical Engineer* - N.Y. — May 6, 1891.

Another form of apparatus is illustrated in **Fig. 2**. In this apparatus the two sets of tin-foil coatings are glued on a plate of ebonite, and a similar plate which is rotated, and the coatings of which are charged as in **Fig. 1**, is provided.



The output of such an apparatus is very small, but some of the effects peculiar to alternating currents of short periods may be observed. The effects, however, cannot be compared with those obtainable with an induction coil which is operated by an alternate current machine of high frequency, some of which were described by me a short while ago.

<sup>1</sup> Verzió: 1.00 (2002-08-31)

<sup>1</sup> Minden jog fenntartva az elektronikus verzióval kapcsolatban!  
Szerkeszti: Varsányi Péter (Pepe) E-mail: [varsanyi@axelero.hu](mailto:varsanyi@axelero.hu)  
Külön köszönet Tax Istvánnak <[tixi58@yahoo.com](mailto:tixi58@yahoo.com)> az OCR munkáért!