(No Model.)

J. M. & M. ADAMS.

ELECTRICAL TRANSFORMER OR INDUCTION DEVICE.

No. 506,577. Patented Oct. 10, 1893.

Fig. 1.

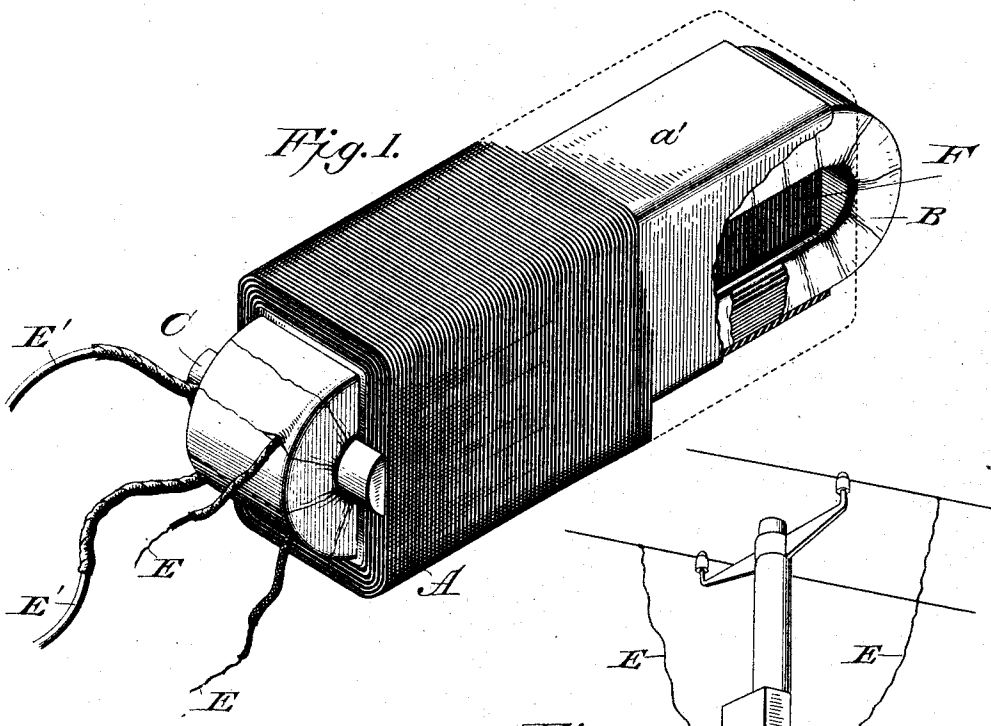


Fig. 2.

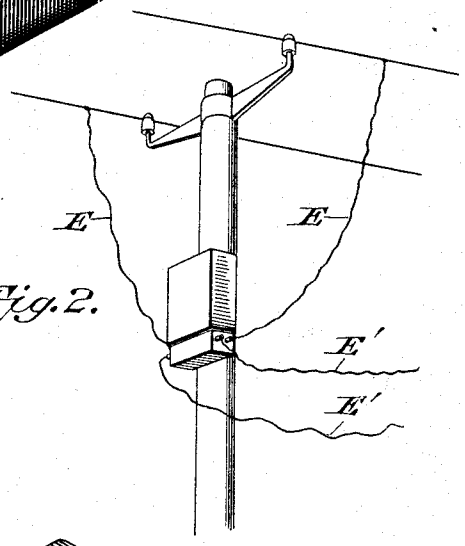
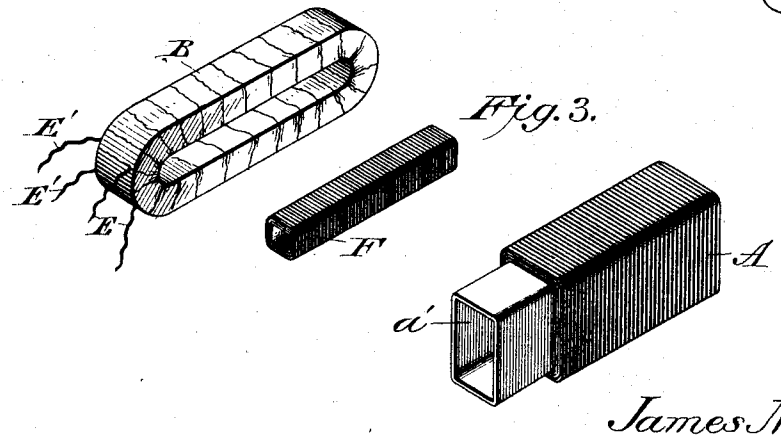


Fig. 3.



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and
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Witnesses L. S. Elliott.
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by [signature]
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UNITED STATES PATENT OFFICE.

JAMES M. ADAMS AND MARTIN ADAMS, OF ELKHART, INDIANA.

ELECTRICAL TRANSFORMER OR INDUCTION DEVICE.

SPECIFICATION forming part of Letters Patent No. 506,577, dated October 10, 1893.

Application filed June 22, 1893. Serial No. 478,530. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. ADAMS and MARTIN ADAMS, citizens of the United States of America, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Electrical Transformers or Induction Devices; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in electrical transformers, converters or induction coils.

The object of the invention is to provide a device of the above character so that it can be readily taken apart for repairs; and it consists in the combination with an induction coil of a core and envelope or outer core, which are connected to each other and held in proper position by wedges of non-connecting material.

The invention further consists in combining with a coil of ordinary construction a core which is composed of iron wire and an envelope or outer core wound with iron wire.

In the accompanying drawings which illustrate our invention, Figure 1 is a perspective view, partly broken away, showing the improved induction coil converter or transformer. Fig. 2 is a diagram view showing the application of the improvement, and Fig. 3 refers to views showing the parts of the induction coil, converter or transformer separated.

A designates the envelope or outer core which consists of iron wire which is wound upon a box *a'* of insulated material. This envelope or outer core is used instead of the metal plates heretofore employed, the iron wire being wound in a direction at right angles with that of the coil B located within said envelope.

The coil B is of ordinary construction, being oval and provided with primary wires E and secondary wires E' of a larger diameter—the primary wires connecting with the main line which receives its current from an alternating current motor, while the secondary wires lead to an incandescent lamp or lamps, or elsewhere.

F designates the core which is preferably made of cast-iron in the form of a spool and is wound with iron wire in the direction at right angles with that of the wires of the coil B.

To assemble the parts the coil B is placed within the envelope or outer core A, the core F having been first placed within said coil, wedges C of non-conducting material are then driven in the spaces between the ends of the core F and coil B so as to bear upon the ends of the envelope or outer core and thus hold the parts together. When the parts have been assembled the completed induction coil is placed in a suitable box and put in position so that the primary wires may lead to the main line or lines and the secondary wires to where it is desired to use the current therein.

This induction coil is intended for substantially the same purpose as that described in the patent of Tesla, dated August 5, 1890, No. 433,702.

We are aware that prior to our invention it has been proposed to provide an induction coil with means whereby the parts could be separated, as shown in the patent of Robinson, dated December 15, 1885, No. 332,559.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an induction coil, converter or transformer, the combination with a coil of ordinary construction having primary and secondary wires, a core wound with iron wire at substantially right angles with the direction of the wires forming the coil, of an envelope or outer core composed of iron wire wound upon a form of insulated material, the parts being connected to each other by wedges which pass through the coil and bear upon the ends of the envelope, substantially as shown, and for the purpose set forth.

2. In an induction coil, the combination, of an envelope or outer core, coil and inner core,

together with wedges for connecting the parts removably to each other, substantially as shown, and for the purpose set forth.

3. The combination with an induction coil having primary and secondary wires, an inner core wrapped with iron wire, of an envelope or outer core wrapped with iron wire, and means for connecting the parts together, for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES M. ADAMS.
MARTIN ADAMS.

Witnesses:
WM. H. SMITH,
EDNA SMITH.