Lyon & Doll,

Induction Coils for Electro Magnets.

No. 58,439. Patented Oct. 2, 1866.

Fig. 1

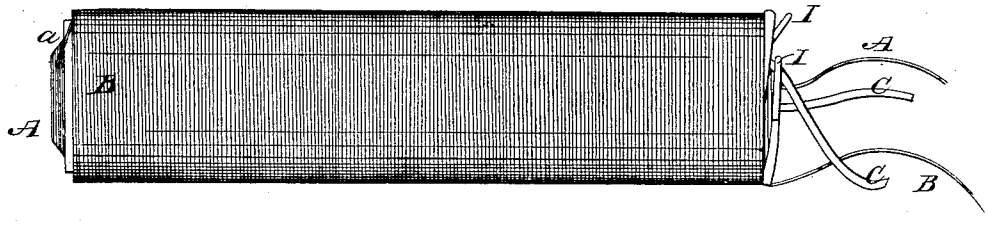


Fig. 2.

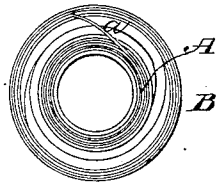
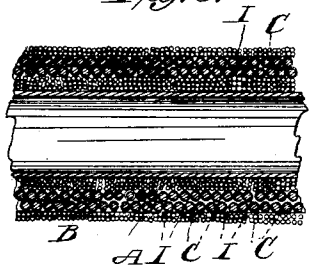


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE

J. B. LYON AND ARNOLD DOLL, OF CLEVELAND, OHIO.

IMPROVEMENT IN INDUCTION-COILS FOR ELECTRO-MAGNETS.

Specification forming part of Letters Patent No. **58,439**, dated October 2, 1866.

To all whom it may concern:

Be it known that we, J. B. LYON and ARNOLD DOLL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in the Construction of Electro-Magnets; and we do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the coil. Fig. 2 is an end view, and Fig. 3 is a longitudinal section.

Like letters refer to like parts.

There are three points of novelty in our invention: First, a portion of the induction-coil is wound directly upon the core of the helix; second, when about half the induction-coil is laid, we lay the direct coil of coarse wire; and, third, we make the direct coil of two wires of dissimilar metals, as copper and iron.

Both wires for the direct current are insulated, and laid in alternation with each other, as shown in Fig. 3, C representing copper wire and I representing iron wire. (Shown also in Fig. 1 by the same letters.)

The two wires C and I are also wound in the same manner around the horseshoe-magnet; but only the copper wire is connected to the battery.

The induction-coil is shown at A B in the several figures, and the wire forming the coil is continuous, as shown at *a* in Fig. 2, from the inner section, A, to the outer section, B—that is, the circuit is entire, there being no interruption between the sections A and B.

What we claim as our improvement, and desire to secure by Letters Patent, is—

1. Making the coil for the main or direct circuit of two wires of dissimilar metals, as copper and iron, laid side by side in alternation, as specified.

2. Laying the coil for the induction-current in two sections of about equal length of wire, one section being upon the core of the coil, and the other upon the outside of the main coil, the two sections being of one continuous wire, as herein set forth, in combination with a primary coil composed of dissimilar metals, as specified.

J. B. LYON.
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