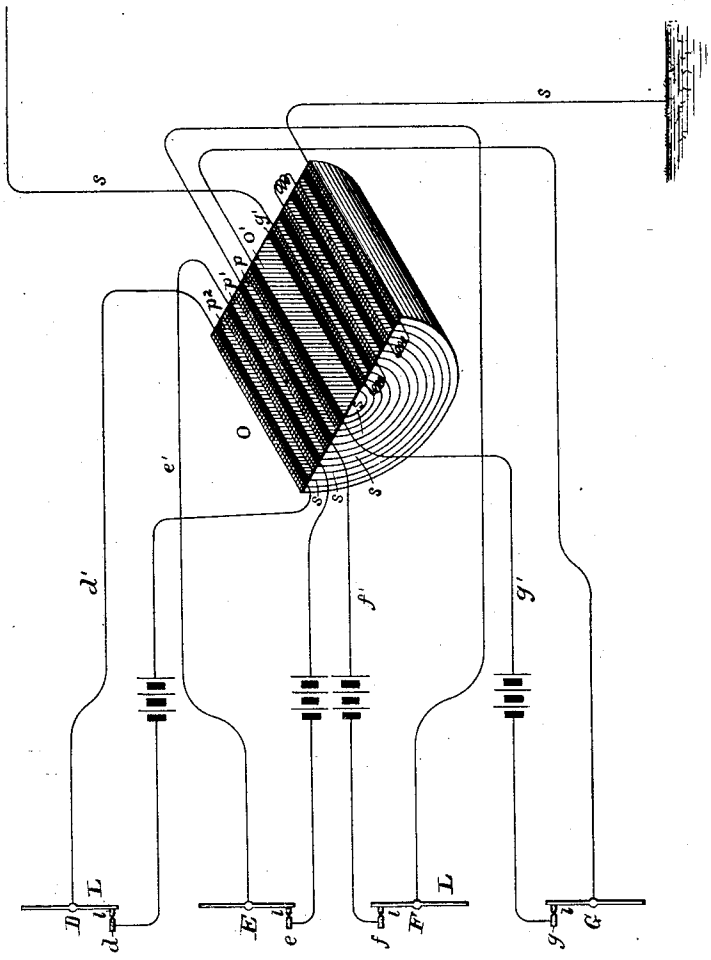
(No Model.)

T. J. PERRIN.

INDUCTION COIL.

No. 316,817. Patented Apr. 28, 1885.



WITNESSES

Ed. A. Newman,

A. C. Newman.

INVENTOR

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UNITED STATES PATENT OFFICE.

THOMAS J. PERRIN, OF NEW YORK, N. Y., ASSIGNOR TO THE NATIONAL IMPROVED TELEPHONE COMPANY, OF NEW ORLEANS, LOUISIANA.

INDUCTION-COIL.

SPECIFICATION forming part of Letters Patent No. 316,817, dated April 28, 1885.

Application filed September 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. PERRIN, of the city, county, and State of New York, have invented certain new and useful Improvements in Induction-Coils, of which the following is a specification.

My improved induction-coil is more especially designed for use in connection with telephonic transmission of speech, and is so shown in an application for Letters Patent filed by me on the 20th day of February, 1884, No. 121,419. Of course, however, the invention is not limited to such an application.

In telephoning long distances and under unfavorable conditions, the ordinary single primary circuit equipped with a transmitting-battery does not produce a sufficient electromotive force in the secondary of the induction-coil, and there are certain objections to increasing the battery power in the primary circuit of the induction-coil. With my improved instrument a number of primary circuits are arranged to act directly upon a single secondary which goes to line. The electrodes in all of said primary circuits may be controlled by a single diaphragm, in the way shown in my application above mentioned, or in any of the ways well known in the art and illustrated in various patents.

The accompanying drawing is a perspective diagram view illustrating my invention.

A pair of contacts or electrodes, *l d*, *l e*, *l f*, and *l g*, is shown in each of the primary circuits *d'*, *e'*, *f'*, and *g'*. These primaries are all common to a single induction-coil, O, which is wound in the following manner: Upon the core O' is first wound a layer of the primary circuit *g'*, and over that is wound a layer of the continuous secondary circuit *s*. I now prefer to cover this layer of the secondary coil with paper and slip over it a tubular soft-iron sheath or cover, *p*. Over this tube is now wound a layer of the primary circuit *f'*, and over this a second layer of the continuous secondary circuit *s*. Over this layer a coating of paper is preferably placed, and a second iron tube, *p'*, is preferably slipped over it. A layer of the third primary circuit, *e'*, is now wound on the tube *p'*, and over that a third layer of the continuous secondary *s* is wound. A covering of paper is passed over this coil, and a third iron tube, *p²*, is slipped over it; and on this last tube the fourth primary circuit, *d'*, is wound, and over it the last winding of the continuous secondary circuit *s*. Any variations of resistance in the several primary circuits which are caused by the transmitting-diaphragm, or otherwise, will simultaneously act upon the single secondary line. This arrangement will give an induced current of great power in that line. Of course a less or greater number of primary circuits may be employed.

I claim as my invention—

1. A compound induction-coil formed, substantially as set forth, of a core and a series of independent primary circuits wound alternately with layers of a continuous secondary line.

2. A compound induction-coil formed as follows: first, of a core on which the wire of one independent primary circuit is wound, over which primary a layer of a continuous secondary wire is wound; then of a tubular iron sheath or cover on which is wound the wire of a second independent primary circuit, over which second primary a second layer of the same continuous secondary line is wound.

In testimony whereof I have hereunto subscribed my name.

THOMAS J. PERRIN.

Witnesses:
JNO. R. JUDEN,
JOHN JUDEN.