3 Sheets--Sheet 1.

J. R. CHISLETT.
Induction-Coils.

No. 168,451. Patented Oct. 5, 1875.

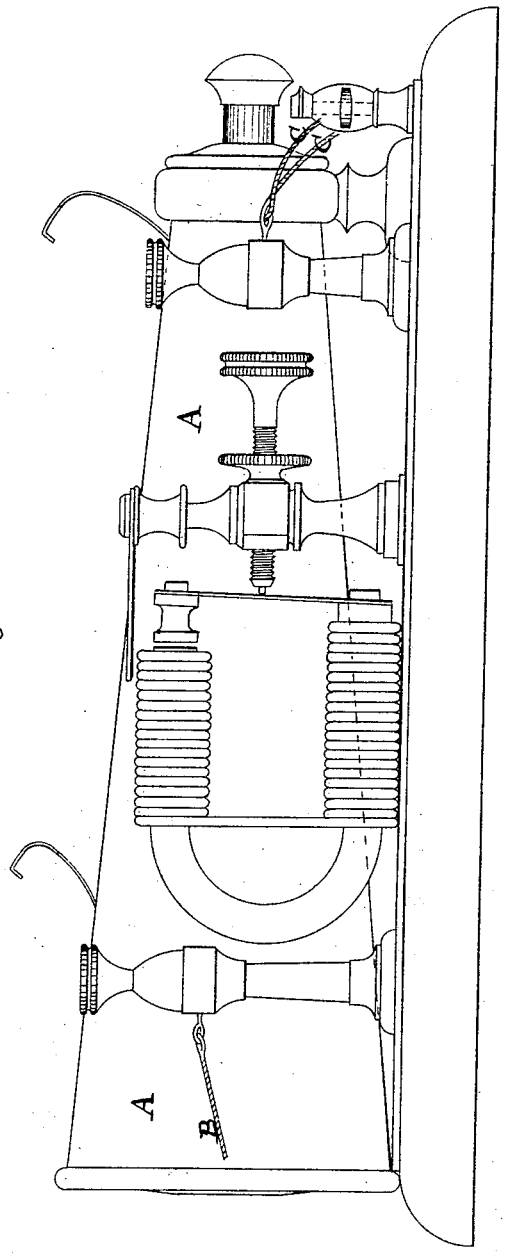

Fig. 1.

Witnesses
Charles Thurman
R. N. Dyer

Inventor
J. R. Chislett
by Geo. W. Dyer
Atty

3 Sheets--Sheet 2.

J. R. CHISLETT.

Induction-Coils.

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Fig. 2.

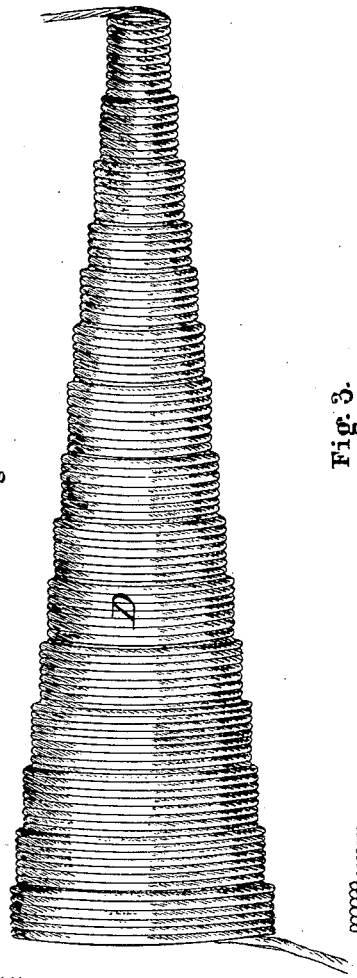


Fig. 3.

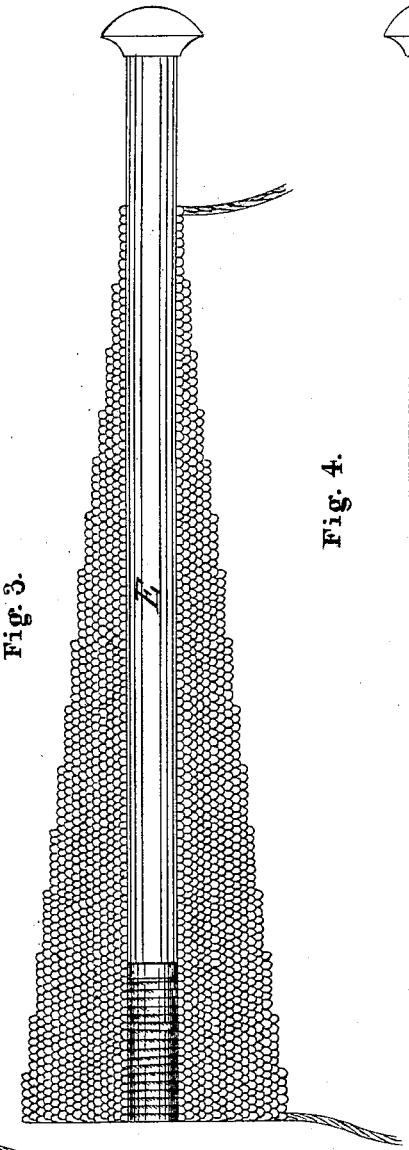
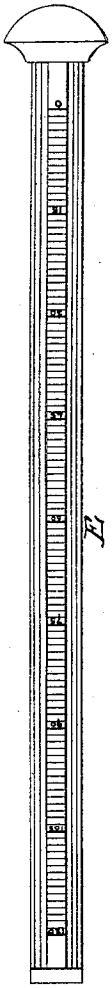


Fig. 4.



Witnesses
Charles Thurman
R. A. Dyer

Inventor.
J. R. Chislett
by Geo. W. Dyer
Atty.

J. R. CHISLETT.

Induction-Coils.

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Fig. 5.

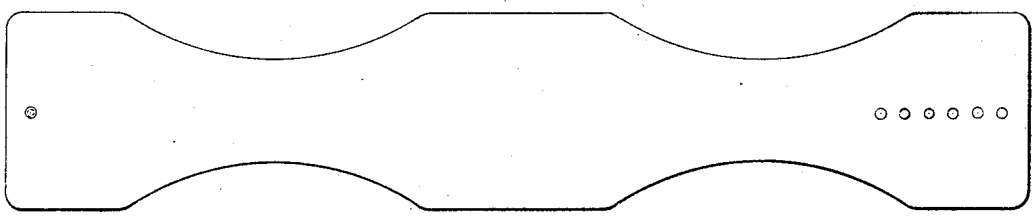


Fig. 6.

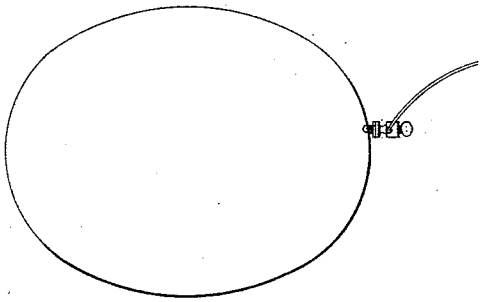


Fig. 7.

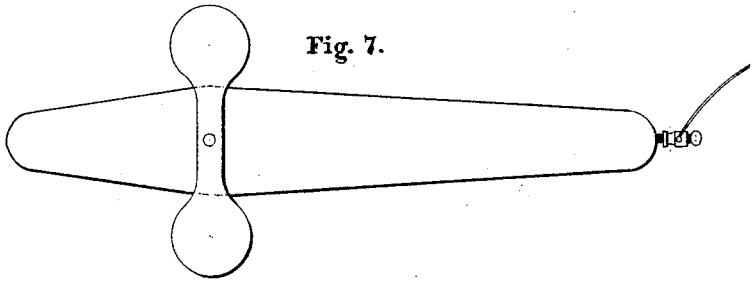


Fig. 8.

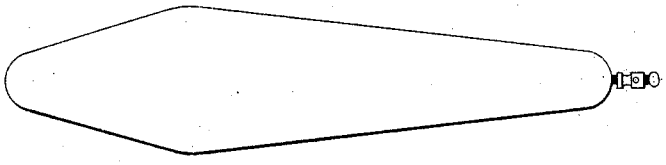
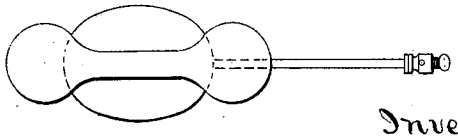


Fig. 9.



Witnesses
Charles Thurman.
R. N. Dyer

Inventor
J. R. Chislett
by Geo. W. Dyer
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH R. CHISLETT, OF PLYMOUTH, ENGLAND.

IMPROVEMENT IN INDUCTION-COILS.

Specification forming part of Letters Patent No. **168,451**, dated October 5, 1875; application filed July 14, 1875.

To all whom it may concern:

Be it known that I, JOSEPH RALPH CHISLETT, of Plymouth, in the county of Devon, England, have invented Improvements in Apparatus for Employing Electricity for Curative and Remedial Purposes, and in appliances to be used in connection therewith, of which the following is a specification:

My said invention consists in an improved method of constructing electro-magnetic apparatus for the application of electric currents of greater or lesser intensity and strength, as may be desired, for curative and remedial purposes, and is more especially designed to be used in connection with certain appliances by means of which such currents of electricity can be conveniently and efficaciously applied to those parts of the patient to which it is desired to impart the electric influence.

I will, in the first place, describe the electro-magnetic instrument, which is formed with a conical coil of insulated wire spirally arranged, and capable of allowing a central column or core, composed of a bundle of soft-iron wires, to be placed within the same, the core becoming an electro-magnet when the instrument is placed in connection with the requisite battery or batteries, as will be well understood. The coil is placed in a horizontal position on a suitable stand, and the core is capable of being inserted or withdrawn, as may be desired, by means of any suitable contrivance adapted and provided for that purpose. The insulated wire constituting the conical spiral coil is so wound that it forms a gradation or series of parts, commencing with a given diameter and number of spirals at the smaller end of the coil, and gradually increasing in diameter with greater number of spirals toward the larger end thereof. The coil is placed in connection with the requisite battery or batteries, and by inserting or withdrawing the soft-iron core the force or intensity of the electric current can be readily, and at pleasure, in accordance with the principles which govern the production and maintenance of primary and induced currents of electricity, proportioned to the requirements of each particular case for which the instrument is used. For the purpose of enabling the operator to proportion the force of the electric current as may be requisite, a graduated scale is attached to the instrument, by which the insertion or withdrawal of the soft-iron core, with reference to the conical coil, and consequently the strength of the current, can be regulated and noted. One or more batteries may be used in connection with each instrument, as may be desired.

The appliances to be used in combination with the apparatus hereinbefore described, and upon which the efficacy of the latter to a great extent depends, consist of metallic pieces or plates, (by preference silver-plated,) which are capable of being locally applied for the treatment of affections connected with the abdomen, the spine, the renal region, the rectum, and other parts, for which purposes they are formed of the requisite shapes and sizes, and, upon being placed in electric circuit with the before-mentioned apparatus, impart the influence of the electric current to the region or part to which they are applied in the most effective manner, and subject to the most perfect control on the part of the operator.

I will now proceed to refer to the annexed drawings, from which the nature of my said invention will be more clearly understood.

Figure 1 is an elevation of the machine with the coil inclosed in its case A. A single cord, B, is shown in connection with the negative pole, and a double cord, C C, in connection with the positive pole, of the coil. It may be mentioned that the double cord is especially useful in the treatment of certain female complaints, in which it is advisable to divide the current by using one positive cord to the back piece and one to the front conductor, the negative wire being attached to the seat conductor. When two conductors are used—as, for instance, back and seat conductors, or belt and seat conductors—one positive cord remains unoccupied.

The several appliances above referred to are represented in subsequent figures.

Fig. 2 is an exterior view or elevation of the conical spiral coil D, Fig. 3 being a longitudinal section of the same with the core E inserted. Fig. 4 represents the core E, of soft-iron wires, with the before-mentioned scale attached thereto. Fig. 5 is a belt conductor for males, and which is used in conjunction with

the seat conductor shown at Fig. 6, the circuit, with the machine, being completed by means of conducting-wires, as well understood. Fig. 7 represents the conductor which is employed for treating the spine and kidneys at the same time in males when the belt is not used. Fig. 8 is a simple back conductor, and Fig. 9 a front conductor, for females, to be respectively used at the same time, the piece with circular ends being turned upon the central pivot for the purpose of applying the current to the lungs or other internal organs.

I claim as my invention—

1. The combination of the conical spiral electro-magnetic coil D, constructed as described, with the soft-iron core E, substantially as described and shown.

2. The combination of the conical spiral electro-magnetic coil D, constructed as described, with the soft-iron core E and the graduated scale, substantially as described and shown.

J. R. CHISLETT.

Witnesses:

JOHN BRETTEN BEER,

36 *Tarnslock Place, Plymouth, Accountant.*

T. G. CASTLE,

22 *Andis St., Plymouth, Accountant.*