

J. BURRY.
MAGNETO-THERAPEUTIC APPARATUS.

(Application filed May 8, 1900.)

(No Model.)

2 Sheets—Sheet I.

Fig. 1.

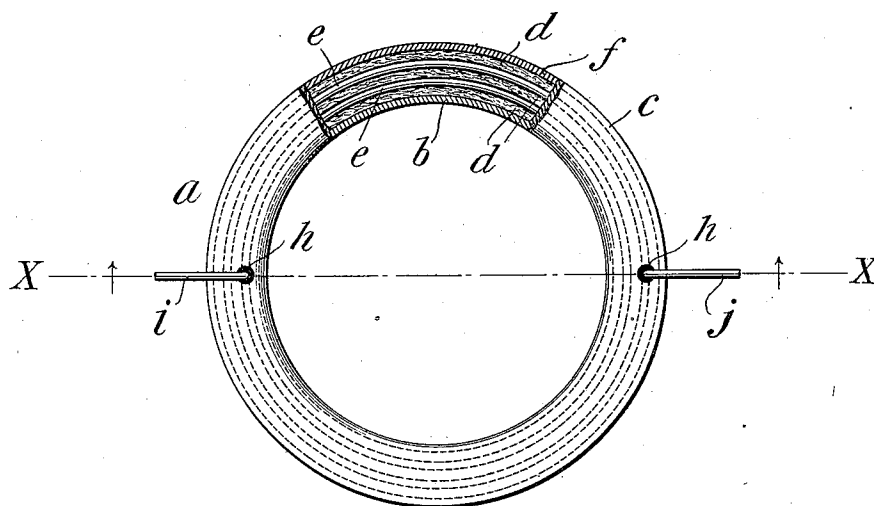
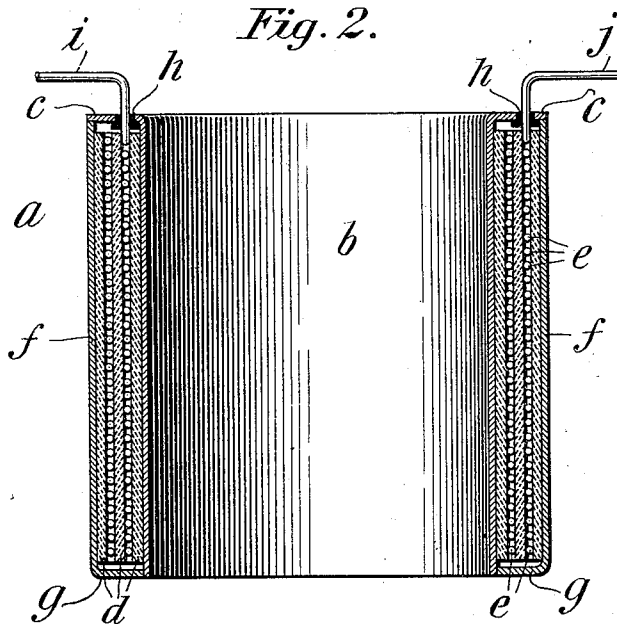


Fig. 2.



WITNESSES:

C. E. Leshley
Frank Rijall

INVENTOR:

John Burry
By his Attorney
Richard W. Parkley

No. 703,989.

Patented July 8, 1902.

J. BURRY.

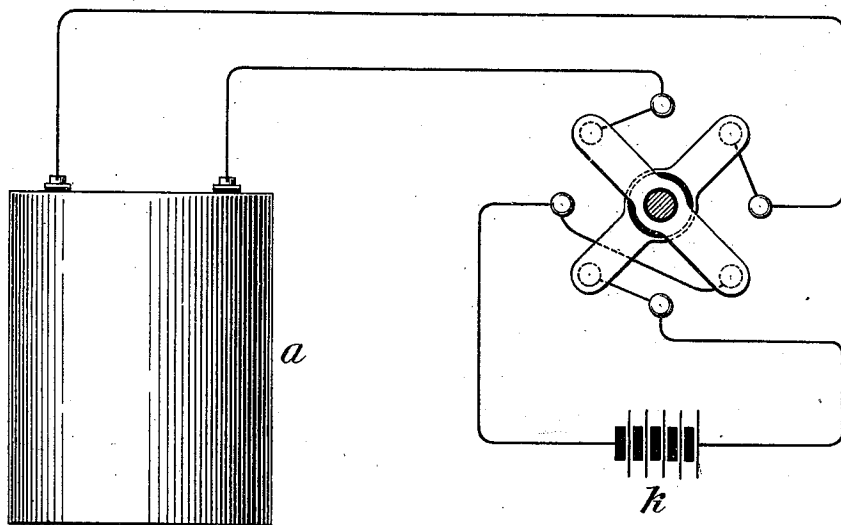
MAGNETO-THERAPEUTIC APPARATUS.

(Application filed May 8, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.



WITNESSES:

C. E. Ashley
Frank Ryall

INVENTOR:

John Burry
By his Attorney
Richard W. Barker

UNITED STATES PATENT OFFICE.

JOHN BURRY, OF FORT LEE, NEW JERSEY, ASSIGNOR TO MAX WYLER, OF FORT LEE, NEW JERSEY, AND MARIE BURRY, OF BROOKLYN, NEW YORK.

MAGNETO-THERAPEUTIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 703,989, dated July 8, 1902.

Application filed May 8, 1900. Serial No. 15,870. (No model.)

To all whom it may concern:

Be it known that I, JOHN BURRY, a citizen of the United States, and a resident of Port Lee, in the county of Bergen and State of New Jersey, have invented a certain new and useful Improvement in Magneto-Therapeutic Apparatus, of which the following is a specification.

The present invention relates to electro-magneto therapeutics; and it consists of an apparatus for the treatment of affected or diseased parts by subjecting them to the action of a variable magnetic field.

In the practice of the invention I sometimes provide a solenoid having one or more concentric layers or helices, in the field of which, preferably on the inside of the solenoid, the part affected is immersed or thrust and there kept during the treatment, which is effected by alternating the current through the coils of the solenoid at a rapid rate for a time or until relief is experienced. It is preferable that the apparatus should be so made as that the magnetic field shall be one due to two electromotive forces, and in this case it is preferable that the two forces be out of phase with each other. A field due to two variable electromotive forces may be secured very conveniently by winding wire upon a copper tube or hollow cylinder which is open at one end at least, the wire being insulated from the copper. The magnetic field within the solenoid may be increased or strengthened by placing an iron jacket or sheath on the solenoid, the jacket being insulated from the wire forming the solenoid. By preference the wire forming the solenoid is of minimum resistance and maximum conductivity, thus giving a magnetic field of maximum strength with a minimum of heating effect. The use of the copper lining gives some of the effects of the inductorium in that the lining forms a secondary to the solenoid itself. For the purpose of securing protection and of making the whole fire and water proof the inner and outer metal tubes (or other material) may have one an outside and the other an inside flange (or the inner tube may have two outside flanges) and the tubes and flanges may be secured together by soldering or otherwise to form joints of the requisite tightness. The wires from the

solenoid in this case are led through tightly-fitting bushings in the casing or sheath, or the sheath may be formed otherwise.

The described apparatus provides for a strong magnetic field within the solenoid, in which field the part to be treated is immersed and subjected to the action of the field, the current through the solenoid being alternated rapidly. I have generally employed an alternating current from electric-lighting plants, the voltage and amperage being those used for incandescent lighting. The cycles in such cases are sixty or one hundred and twenty-five per second, in this country at least. I find that the reversing magnetic fields produced by these low-tension low-frequency currents through the solenoid produce remarkable curative effects in a great variety of diseases or abnormal conditions of the human organism.

One form of the invention is illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a plan view of an incased or sheathed solenoid, partly broken away to show the winding. Fig. 2 is a longitudinal sectional view of the same on the plane indicated in Fig. 1 by the line X-X. Fig. 3 is a like view showing a rotary current-reverser or commutator, a battery, a solenoid, and connections.

The incased or sheathed solenoid is marked *a*.

The reference *b* indicates an open-ended tube having an outside flange *c* at one end thereof.

d indicates layers of insulation between the tube *b*, the coils *e* of the solenoid, and an outer covering tube or jacket *f*.

g is an inside flange at one end of the jacket *f*. The unflanged end of the jacket fits against the flange *c*, and the unflanged end of the lining-tube *b* fits against the flange *g*, and the joints may be made water-tight in a manner suited to the materials of which the tubes are made. By preference, however, the lining *b* and its said flange are of copper, and the jacket and its flange are of iron. I prefer to use asbestos for the insulation *d*. The ends of the wire forming the coils *e* are taken out through the flange *c*, there being tightly-fitting bushings *h* used to separate the

wires from the metal flange. The projecting ends *ij* of the wire form terminals whereby the solenoid is connected with a suitable source of electric energy.

5 Fig. 4 shows a rotary commutator and connections for alternating the direction of the current, as from a battery *k* through the solenoid.

The present invention has been used in the
10 treatment of a variety of affections, as rheumatism, gout, pains due to pregnancy, headache, toothache, and sleeplessness, with successful results in all cases. The invention has relieved headache and also pain in the
15 side when only the feet of the patient were within the solenoid. It has also been used with results beneficial to the patient where absorption was indicated as the requisite method of bringing about alleviation and
20 cure, as in a case of hydrocephalus attended with paralysis and by stoppage of the excretory functions. I contemplate the use of the invention in the alleviation and cure of many other afflictions or diseases.

25 The invention may be embodied in many forms other than those hereinbefore described. I do not therefore limit myself to the forms of the invention above described.

30 What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A therapeutic apparatus consisting of a solenoid combined with but insulated from a metal lining, substantially as described.

35 2. A therapeutic apparatus consisting of a solenoid combined with but insulated from a copper lining, substantially as described.

3. A therapeutic apparatus consisting of a solenoid combined with but insulated from an iron jacket, substantially as described.

4. A therapeutic apparatus consisting of a
40 solenoid combined with but insulated from a copper lining and an iron jacket, substantially as described.

5. A therapeutic apparatus consisting of a solenoid combined with a protective closed
45 metallic casing or sheath through which the terminals of the solenoid project, said casing being insulated from the solenoid, substantially as described.

6. A therapeutic apparatus consisting of a
50 solenoid combined with a copper lining-tube and an iron jacketing-tube, the said tubes being joined together in a water-tight manner at the ends of the solenoid and the terminals of the solenoid projecting through the casing
55 formed by said tubes and connecting ends, substantially as described.

7. A therapeutic apparatus consisting of a solenoid combined with a copper lining-tube provided with an outside flange at one end of
60 the solenoid and an iron jacketing-tube provided with an inside flange at the other end of the solenoid, said flanges and tubes being joined together, substantially as described.

Signed at New York city, in the county of
65 New York and State of New York, this 5th day of May, A. D. 1900.

JOHN BURRY.

Witnesses:

R. W. BARKLEY,
GUS. C. HENNING.