

No. 750,584.

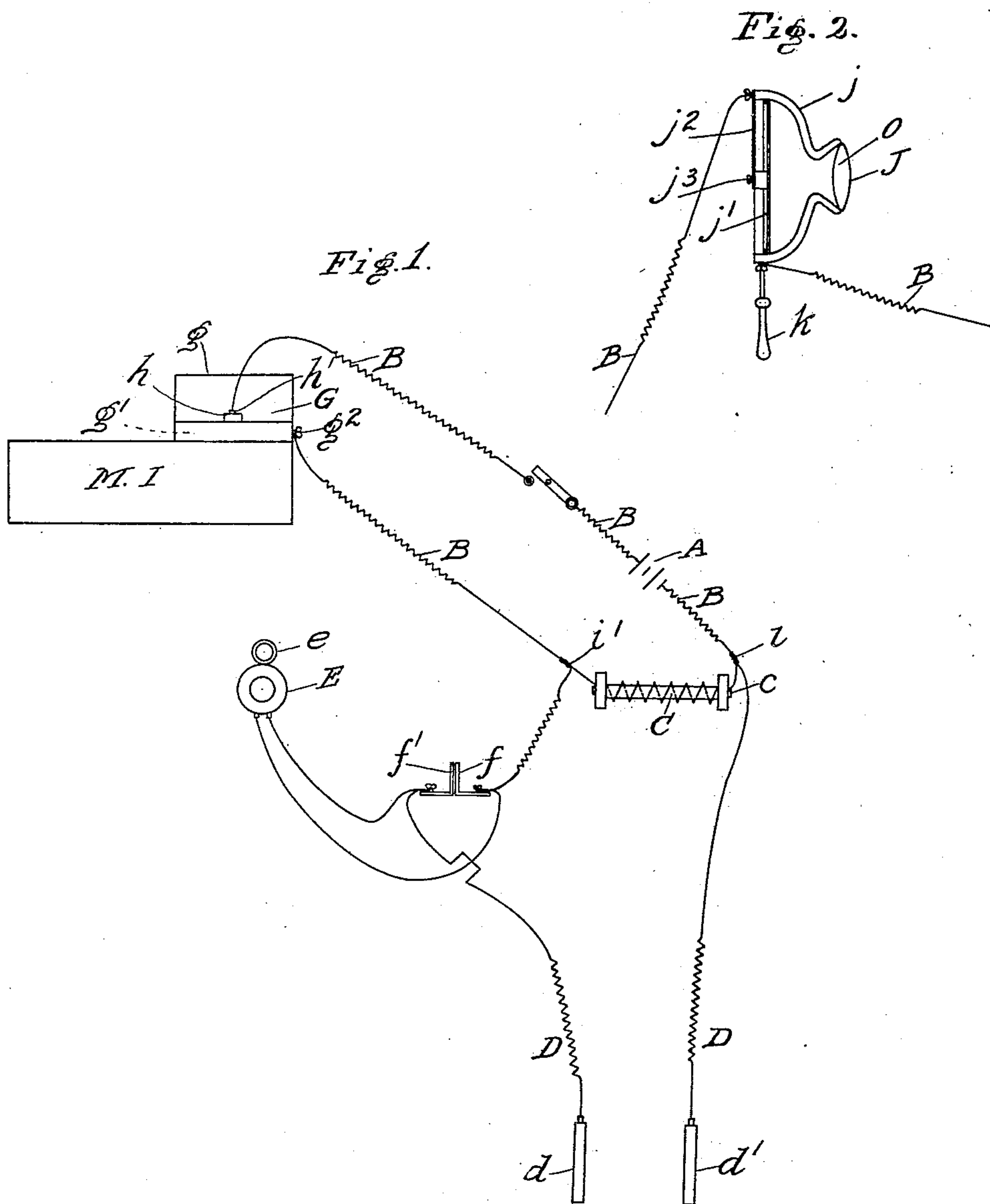
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F. H. BROWN.

PROCESS OF ADMINISTERING ELECTRICAL VIBRATIONS.

APPLICATION FILED AUG. 25, 1902.

NO MODEL.



WITNESSES

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PROCESS OF ADMINISTERING ELECTRICAL VIBRATIONS.

SPECIFICATION forming part of Letters Patent No. 750,584, dated January 26, 1904.

Application filed August 25, 1902. Serial No. 120,900. (No specimens.)

To all whom it may concern:

Be it known that I, FRED HARVEY BROWN, formerly of Chicago, Illinois, now a resident of Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Electrotherapeutical Process of Administering to Persons Electrical Vibrations Broken up in Musical Rhythm; and I do declare that the following is a full and clear description of the invention and one form of a device which will enable others skilled in the art to apply my process.

The object of the invention is to administer electrical impulses whose periods of vibrations are synchronous and in harmony with musical vibrations.

In carrying out my invention I cause a musical instrument while being played to vary the potential of a continuous current by causing a microphonic break-piece in contact with the musical instrument to interrupt rhythmically and in harmony with the vibrations of the music-box the continuity of a continuous current flowing through said break-piece, at the same time having interposed in the said battery-circuit an inductance-coil of any suitable form, suitable handles or electrodes being connected or superimposed on each side of the windings of said coil or coils.

The electrical interruptions caused by the varied and many differently-pitched vibrations of the musical instrument will be imparted to the microphone or break-piece through which the battery-current is flowing and the impulses traversing the windings of the coil, as also the current traversing the electrodes of the same different degrees of vibrations and the same different pitches and tone qualities as the musical vibrations set up in the musical instrument, and will pass through the patient in musical rhythm. If desired to make these musical electrical vibrations apparent and audible, a small watchcase or telephone-receiver can be placed in the circuit which passes through the person.

On November 19, 1898, having this process in mind and not being fully satisfied as to the completeness of my process, but having constructed a certain device for carrying it

out, which is fully set forth in the patent 50 which was later granted on said application, said patent being No. 651,777 and dated June 12, 1900, I concluded to file the said application in the Patent Office covering only the device which I had at that time perfected 55 by experimentation with the intention of filing later on a broader patent in the same art, which would amply protect me to the fullest extent that a first or generic inventor in any art should be protected. Having experiment- 60 ed from that time up to this, I feel fully convinced that I have so perfected this process as to be able to intelligently set it forth in my specifications and explain its workings to enable others skilled in the art to carry out said 65 process, and I am now desirous of obtaining a patent on the process of which I verily believe myself to be the first inventor. Having this end in view at the time of my application, on line 50, page 1 of the specification of said patent, dated June 12, 1900, I interposed 70 the following language: "I attain these objects by the apparatus illustrated in the accompanying drawing, but do not wish to confine myself to this design alone, as it is evident that many modifications of the apparatus 75 can readily be made without departing from the spirit of my invention."

The words "these objects" and "spirit of my invention" were put in by me, although 80 stereotype language, to mean the process which I was at work on and hoped to perfect and for which I now make application for patent.

Having now described the object of my invention and process, I will now describe in detail one device for carrying out and applying my process. 85

Figure 1 is a diagrammatic view of the different parts of the device and their connections for carrying out my new method, and 90 Fig. 2 is a view of another form of instrument for varying the impulses.

In the drawings similar letters refer to similar parts throughout. 95

A is a battery, the current of which flows through the battery-wires B B B B.

C is an inductance-coil of any suitable form

with a soft-iron core c , which is rendered magnetic by the current passing through the primary wire around the core. In making this electromagnetic or inductance coil I find
 5 that five layers of No. 22 insulated wire is the minimum number of convolutions which will give good results. The length of the coil between spool-heads is about four inches. It is evident that when the current is flowing
 10 through the battery-wires B B B and through the windings of the helix on the core c the core becomes magnetized and any variation or interruption of the current thus flowing causes a similar variation in the magnetism of the core c , which variation in turn
 15 causes a similar variation in the wires D D, to the terminals of which the electrodes d and d' are attached, and the variations of potential pass out through the electrodes d and d' .
 20 The rhythmic variations of the magnetic potential of the core c are transformed into rhythmic electrical impulses synchronous in pitch with the vibrations of each and all of the different notes and pitches set up in the
 25 musical instrument.

When but one interrupter is used, vibrating at a low pitch, as is generally the custom in most of the medical batteries now made, the shock is severe and hard to endure; but where
 30 the continuity of the current is varied by the many different and various pitches of a musical instrument while being played or operated the degree of changes or variations of potential are so very numerous and rapid and
 35 so many of them of high pitch that the shock of the current is correspondingly less severe. In fact, a current of very much higher potential can be received by a person with much less unpleasant sensation from the shock than
 40 in other processes in which instruments using but a single rheotome or interrupter are used.

E is a telephone-receiver which can be interposed in the shocking-circuit, if desired, to make the musical vibrations audible and will
 45 also act as a resistance to increase or diminish the shock. This receiver has a screw-eye or ring e attached to it. By placing this ring over the two small brass wires f and f' the inductive resistance of the coil and permanent
 50 magnet of the receiver is shunted out.

G, Fig. 1, is a form of microphone or break-piece.

M I represents a musical instrument to which the microphone G'' is attached.

55 g is the inclosing case, which can be made of wood or other suitable material.

g' is a block of carbon fitted in the bottom of the box or inclosing case and held in position in the box by the screw g^2 .

60 h is a carbon ball or button connected by a prehensile wire h' , forming part of the circuit B B B B. It is evident that this inclosing case g , containing the microphonic parts

h' and g' , when placed in contact with or contiguous to a vibrating body like a musical instrument will vibrate in harmony and synchronous with the vibrations of the musical instrument and vary the continuity of the current flowing through the parts of the microphone in harmony with the vibrations of the musical instruments. The magnetic potential of the core c will also vary in harmony therewith. These magnetic variations will set up induced electrical impulses in the superimposed shocking-circuit superimposed on the primary circuit, as shown at i and i' . The person having the electrodes d and d' in his hands will also receive the musical electrical vibrations set up in the musical instrument.

When inconvenient or it is found not desirable to use a musical instrument, as shown, the process can be carried out without the musical instrument by another form of microphone, as shown at J, Fig. 2. The usual form of telephonic transmitter or microphone
 85 can then be used.

j is an inclosing case of wood. j' is a carbon diaphragm fitted therein.

j^2 is an elastic metallic spring to which is attached a carbon button j^3 .

k is a suitable handle which adapts the microphone to be held in the hand.

Wires B B are electrically connected to the carbon diaphragm and the metallic spring j^2 . When thus arranged, the two terminal wires B B form part of the circuit B B B B, this device taking the place of the other microphone. With this device the variation of potential can be varied musically and harmoniously by a person singing into the transmitter-mouthpiece o .

Having thus described my process and also explained and shown a device by which my process can be carried out, what I claim as my own is as follows:

1. The process of subjecting an animal organism to electrical action, consisting in passing a continuous electrical current through said organism and rhythmically varying the strength of the current without affecting its continuity.

2. The process of subjecting an animal organism to electrical action, consisting in passing a continuous electrical current through said organism and magnetically varying said current without affecting its continuity.

3. The process of subjecting an animal organism to electrical action, consisting in passing a continuous electrical current through said organism and simultaneously therewith rhythmically converting a portion of said current into magnetic force, then converting said force into electrical energy and then restoring said energy to the original current without affecting the continuity of said current.

4. The process of subjecting an animal or-

ganism to electrical action, consisting in passing a continuous electrical current through said organism and simultaneously with said passage, rhythmically converting two portions
5 of said current, each into magnetic force, transforming one of said forces into acoustical energy, reconvertng the other force into elec-

trical energy, and then restoring said electrical energy to the original current without affecting the continuity of said current.

FRED HARVEY BROWN.

Witnesses:

FRANK O. BROWN,
JOS. C. BROWN.