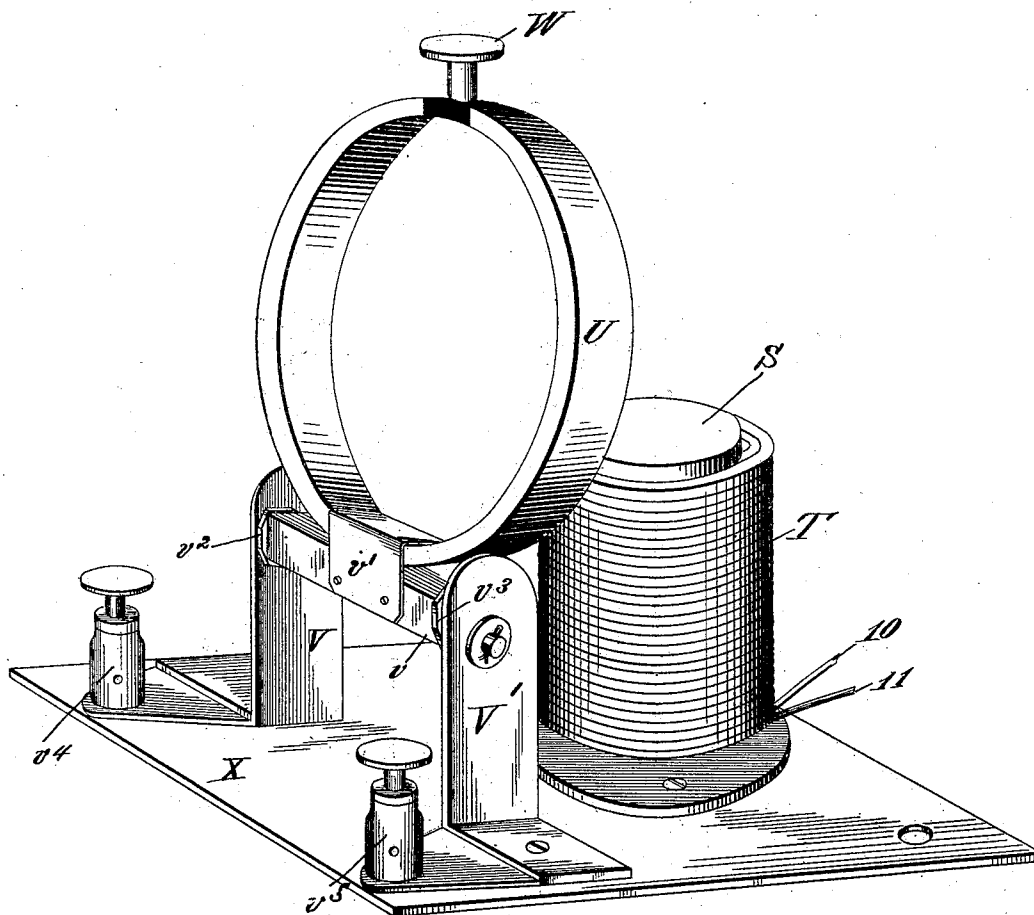


(No Model.)

E. M. SENSENEY.
ADJUSTABLE INDUCTION COIL.

No. 507,458.

Patented Oct. 24, 1893.



Attest
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Att'y.

UNITED STATES PATENT OFFICE.

EDGAR MOORE SENSENEY, OF ST. LOUIS, MISSOURI.

ADJUSTABLE INDUCTION-COIL.

SPECIFICATION forming part of Letters Patent No. 507,458, dated October 24, 1893.

Application filed December 5, 1892. Serial No. 454,294. (No model.)

To all whom it may concern:

Be it known that I, EDGAR MOORE SENSENEY, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Electrical - Current Controllers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in electrical current controllers, and it has for its main object the provision of an electrical inductorium in which the terminals of the primary are connected with the terminals of an alternating current circuit and the terminals of the derived circuit are connected with the terminals of a secondary having means for regulating the strength of the derived circuit within wide limits.

Other objects and advantages of the invention will appear in the following description and the novelty thereof will be particularly pointed out in the claims.

The drawing is a perspective view of an electrical inductorium constructed in accordance with my invention.

In the apparatus shown the inductorium or induction coil is constructed in the following manner. The core S is formed of soft, annealed iron wire, tightly packed within a vertically-disposed spool or former, and the primary winding T is wound upon said spool in the usual manner. The terminals 10 and 11 of the primary are also connected with the corresponding terminals of the line current. The secondary coil of the inductorium is wound in the form of an annulus U, separate from the primary, the coils being carefully shellaced as wound, and the annulus as a whole covered with an insulating material. The terminals of the secondary of course project through the insulation. This annulus is arranged in operative position with respect to the primary in the following manner. Two upright spring arms V, V', secured to the base-board X, are bored for the reception of a non-conducting spindle or shaft v. The annulus U is rigidly secured to this spindle near its center by a clamp v' or other similar

means, so that the annulus will turn with the spindle as its axis. The arms V, V', are placed at such a distance from the primary that the annulus encircles said primary when lowered to a horizontal position. Two metallic washers v^2, v^3 , are disposed upon the non-conducting spindle v in contact with the spring arms V, V'. The terminals of the secondary are connected with these washers, and the induced current is led to the binding-posts v^4, v^5 , (for the terminals of the derived circuit) through the arms V, V', which are electrically connected with said binding-posts.

The operation of this apparatus is as follows. The line current is transmitted through the primary coil by connecting the terminals 10 and 11 with the terminals of the line circuit. When the secondary coil is in the position shown in Fig. 4 no current flows there-through, but as the annulus is lowered toward the primary a much reduced form of the line current is obtained. This current gradually grows stronger, as the secondary approaches more nearly to the primary, and reaches the maximum strength when the annulus completely encircles said primary. The induced current thus obtained is transmitted through the secondary coil and its terminals to the washers v^2 and v^3 , thence to the spring-arms V, V', and thence to the binding-posts v^4 and v^5 for the terminals of the derived circuit. An insulated knob or button W is preferably secured to the annulus to facilitate the adjustment of the secondary with relation to the primary coil. The inward pressure of the spring-arms V, V', against the washers v^2, v^3 and the squared ends of the spindle v is sufficient to hold the annulus in any position in which it may be placed, but additional or other means for locking the secondary in any desired position may be employed.

In this apparatus the use of a rheostat or resistance is dispensed with as the flow of current through the secondary can be entirely stopped by turning the annulus to the proper position.

My improved current controller is intended principally for use in surgical operations in which a much reduced form of the line current is desired, but it can also be used on electric light circuits for controlling the cur-

rent supplied to the lamps, and for any other purpose for which the ordinary alternating current is too strong.

I do not limit myself to the exact apparatus and details of construction shown and described, as my invention contemplates the use of any apparatus for regulating an induced current through means wholly in the derived circuit.

10 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An electrical current controller comprising an electrical inductorium, having a fixed
15 primary coil and a separately-wound insulated rotatable secondary coil adapted to be moved into and out of the field of force of the primary to vary and regulate the electromotive force of the induced current flowing

in the derived circuit through the secondary, 20 substantially as described.

2. An electrical current controller comprising an electrical inductorium, having a primary coil and a separately-wound insulated secondary coil mounted for rotation about an
25 axis and supported independently of the primary and adapted to be moved into and out of the field of force of the primary to vary and regulate the electromotive force of the induced current flowing in the derived circuit through the secondary, substantially as
30 described.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR MOORE SENSENEY.

Witnesses:

JOHN W. MOORE,
GEORGE ZINDEL.