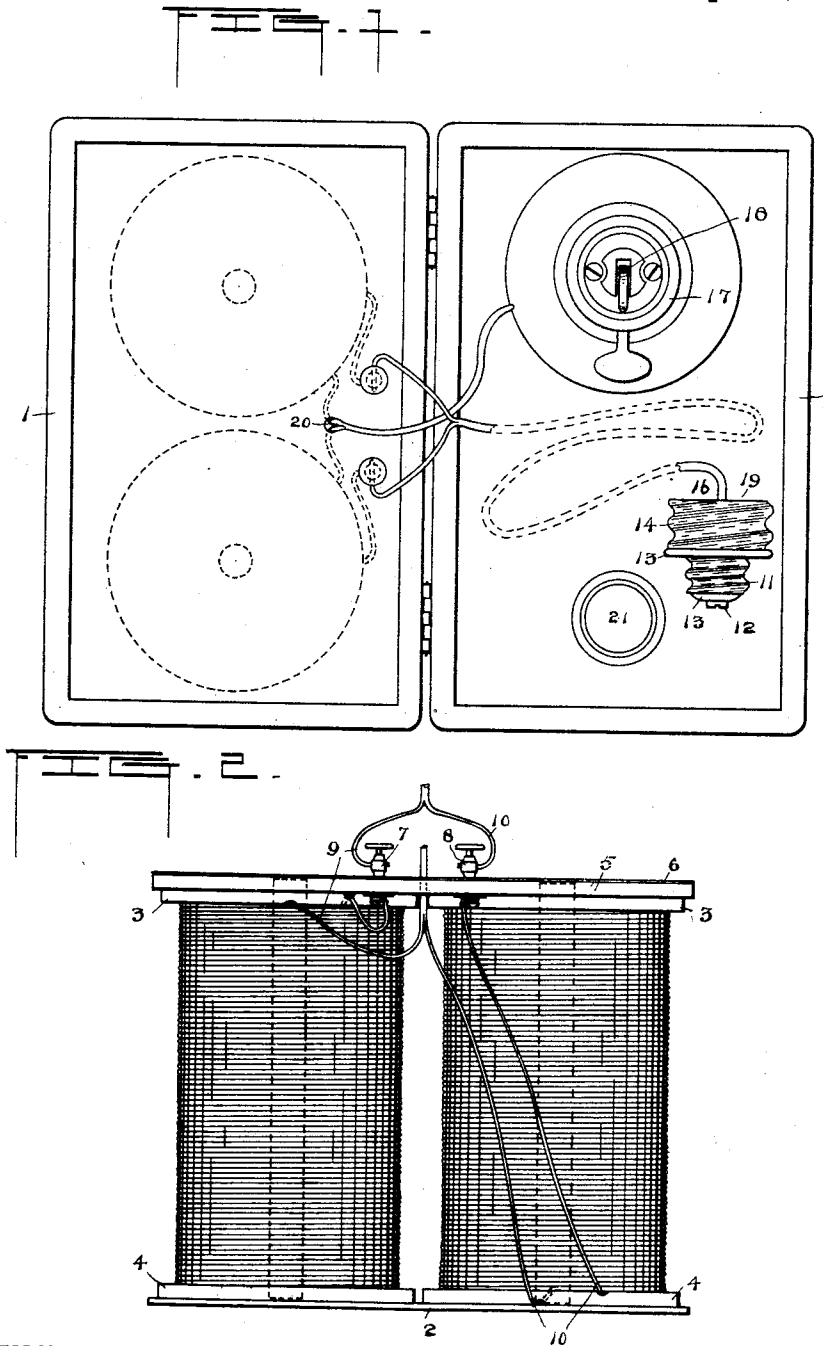


(No Model.)

E. F. GOODING & G. W. SCOVIL.
DEMAGNETIZER.

No. 537,149.

Patented Apr. 9, 1895.



WITNESSES

Arch. M. Catlin.
M. J. Hall

INVENTORS

Edward F. Gooding
George W. Scovil
by R. R. Bailey

UNITED STATES PATENT OFFICE.

EDWARD F. GOODING AND GEORGE W. SCOVIL, OF ELGIN, ILLINOIS.

DEMAGNETIZER.

SPECIFICATION forming part of Letters Patent No. 537,149, dated April 9, 1895.

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To all whom it may concern:

Be it known that we, EDWARD F. GOODING and GEORGE W. SCOVIL, residents of Elgin, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Demagnetizers; and we 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 pertains to make and use the same.

The invention relates to demagnetizing watches and other articles, and has for its object to simplify the art and provide a simple, efficient and portable device for the purpose, adapted to use a constant current that can be conveniently operated by a single person and can be readily varied in power to adapt it to various sizes and conditions of articles to be demagnetized; and it consists in the improvements in the art and construction hereinafter described and particularly pointed out.

In the accompanying drawings Figure 1 is a plan of an open box containing a demagnetizer. Fig. 2 is a side elevation of a magnet and connected parts.

Numeral 1 denotes a box the body of which is of suitable size and form to receive an electro-magnet which in the present instance consists of two spools having iron bodies or metal cores suitably wound with insulated wire and supported upon or connected by a plate 2. The cores which may be tubular are provided with non-conducting heads 3 and 4 conveniently made of wood which with the cores form spools to receive the wire. The cores extend through the heads 4 and may touch the plate 2 which may be of wood, brass, iron or other material and can be screwed to said heads 3 and 4. This plate 2 is preferably of a size to fit the bottom of the box upon which it ordinarily rests.

To the upper head 3 is attached a table 5 of wood or other suitable material which may be covered by oil cloth 6. This table fills the box laterally and is normally supported on a level with the top of its body, that is, in a plane passing between the body and its cover when closed.

To use the apparatus it is not necessary to

remove the magnet but the article to be demagnetized can be manipulated on and over the said table, the box cover having been turned back on its hinges and other preparations made as hereinafter described.

7 and 8 denote binding posts supported in the table to which the coil wires 9 and 10 are connected. These wires extend beyond the binding posts and have connection one with the screw threaded part 11 and the other with a screw 12 of a plug 19 which parts are insulated from each other by glass or other suitable material 13.

14 is an insulated screw cap perforated at 16 for the passage of wires.

The plug 19 is made to fit the usual socket of an incandescent electric lamp so that when suitable connection is made a current may be sent through the coils of the magnet.

17 denotes a socket secured to the inside of the top of the box cover and adapted to receive an incandescent electric lamp.

18 denotes a circuit closer.

In operation a lamp is removed from its proper socket in its circuit and inserted in the socket 17 and the plug 19 is inserted in the lamp socket. Thereupon the circuit being closed by manipulating the thumb piece of the circuit closer 18 a current is sent through one of the wires in the plug to a binding post and thence to a coil and from the coil through the table 5 at 20 to the lamp socket 17 and thence back through 20 to the other coil and binding post and finally back to the plug 19 and to the main circuit.

The circuit closing device is of a usual form and is operated at will by suitable manipulation the circuit thereupon remaining automatically closed until the device 18 is again manipulated to break the circuit.

Articles to be demagnetized vary in size and articles of the same size vary in their degree of magnetization. It is therefore desirable to be able to easily vary the demagnetizing power of the apparatus. This is done by the use of lamps of different candle power and therefore when operating in the manner above stated giving by means of their approximate circuits different densities in the magnetic field.

21 denotes a socket to hold plug 19 when the box is closed. The cover has preferably a depth equal to the height of the socket 17 so that when the box is closed said socket will abut against table 5 and will, together with the friction of said table and of plate 2, hold the magnet in the body of the box. The loose wires can be placed in the cover about the sockets.

10 In practice the magnetic condition of the article to be demagnetized is first ascertained by the aid of a compass or equivalent means. Should the article, for example a watch, affect the needle at the distance of three or 15 more inches we have found that by the use of a sixteen candle power current the watch can ordinarily be nearly demagnetized by simply moving it near to the pole of the magnet and the demagnetization can be completed 20 by a few repetitions of the operation the watch being slowly moved across the magnetic field—that is, past the pole of the magnet. A watch that is highly magnetized can be demagnetized with the use of a thirty two candle power current by twice passing it through the magnetic field; but the use of the lighter current with more numerous passes is deemed preferable.

When not in use the apparatus is securely 30 inclosed in a portable case which when opened discloses a table immediately over a magnet said table having a covering not injurious to any polished surface or delicate article and situated on a level with the top of the box 35 body and thereby adapted for the convenient manipulation of any article to be demagnetized. The table also prevents the dropping of articles into the box.

In practice other than electric light circuits 40 may be utilized by the employment of equivalent means for sending the current through the coils.

In using the compass as before suggested, to ascertain the condition of the watch it will 45 be discovered whether the polarity of its exterior is positive or negative and the watch will be passed over the corresponding pole of the magnet and, as above indicated, this passing of the article over the proper pole will 50 be continued until the watch is demagnetized. The progress of the demagnetization can be observed by the use of the compass after each journey of the watch or other article through the magnetic field, and the repetition of the 55 "passes" will be governed accordingly. A very few trials will qualify any intelligent person to suitably handle a magnetized watch to demagnetize it thoroughly. No change of polarity in the magnet or rotation of the article or manipulation other than substantially 60 as herein set forth is required.

Currents of different intensity or strength can be utilized in the magnet according as the object to be demagnetized is more or less

heavily charged with magnetism, though approximately the same effect can be produced by continual passes over a weak magnet as can be more quickly effected by a few passes with a stronger current.

We are aware that a lamp socket and 70 lamp and a plug adapted to fit a lamp socket and suitable conducting wires have been supported upon a base which also carried a circuit closing device that could be brushed over a screen inclosing the lamp and thereby produce an igniting spark. Our device includes 75 iron cores in the electrical circuit and also a circuit closing device adapted to remain closed automatically for an indefinite period.

Having thus fully described our invention, 80 what we claim is—

1. In a demagnetizing apparatus the electromagnet in combination with the plug 19, adapted to hold the ends of magnet coil wires insulated from each other and to fit a lamp 85 socket to connect the wires of a lighting or other circuit, an independent lamp socket normally holding the coil wires insulated from each other, a lamp and a circuit closer such as 18 to close the circuit in said socket at will and automatically maintain the said circuit as long as desired adapted to fit the 90 socket, substantially as set forth.

2. In a demagnetizing apparatus the electro-magnet in combination with the plug 19, 95 adapted to hold the ends of magnet coil wires insulated from each other and to fit a lamp socket to connect the wires of a lighting or other circuit, an independent lamp socket normally holding the coil wires insulated from 100 each other, a lamp and a circuit closer such as 18 to close the circuit in said socket at will and automatically maintain the said circuit as long as desired, and a holder such as a box adapted to support the magnet, independent lamp socket, circuit closer and plug, 105 substantially as set forth.

3. In a demagnetizing apparatus the inclosing case provided with a hinged cover, the magnet having the core connecting plate 110 2 and the table 5 each filling the box laterally, and the table situated near the top of the body of the case, said hinged cover having fixed therein the socket provided with a circuit closing device and adapted to hold the 115 ends of the magnet coil wires insulated until said circuit closer is operated, and means for connecting the coil wires with an electric circuit, substantially as set forth.

4. In a demagnetizing apparatus the inclosing case provided with a hinged cover, the magnet having the core connecting plate 2 120 and the table 5 each filling the box laterally and the table situated near the top of the body of the case, said hinged cover having fixed therein the socket provided with a circuit closing device and adapted to hold the 125 ends of the magnet coil wires insulated until

said circuit closer is operated and means for connecting the coil wires with an electric circuit said means consisting of a plug 19 holding the coil wire ends insulated from each other and fitting a lamp socket with the effect to connect the wires to the circuit, substantially as set forth.

In testimony whereof we have signed this

specification in the presence of two subscribing witnesses.

EDWARD F. GOODING.
GEORGE W. SCOVIL.

Witnesses:

F. H. ACKEMANN,
R. W. JOSLYN.