

J. W. SCOTT & D. TIBBALS.
 MASSAGE INSTRUMENT.
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Patented Apr. 6, 1909.

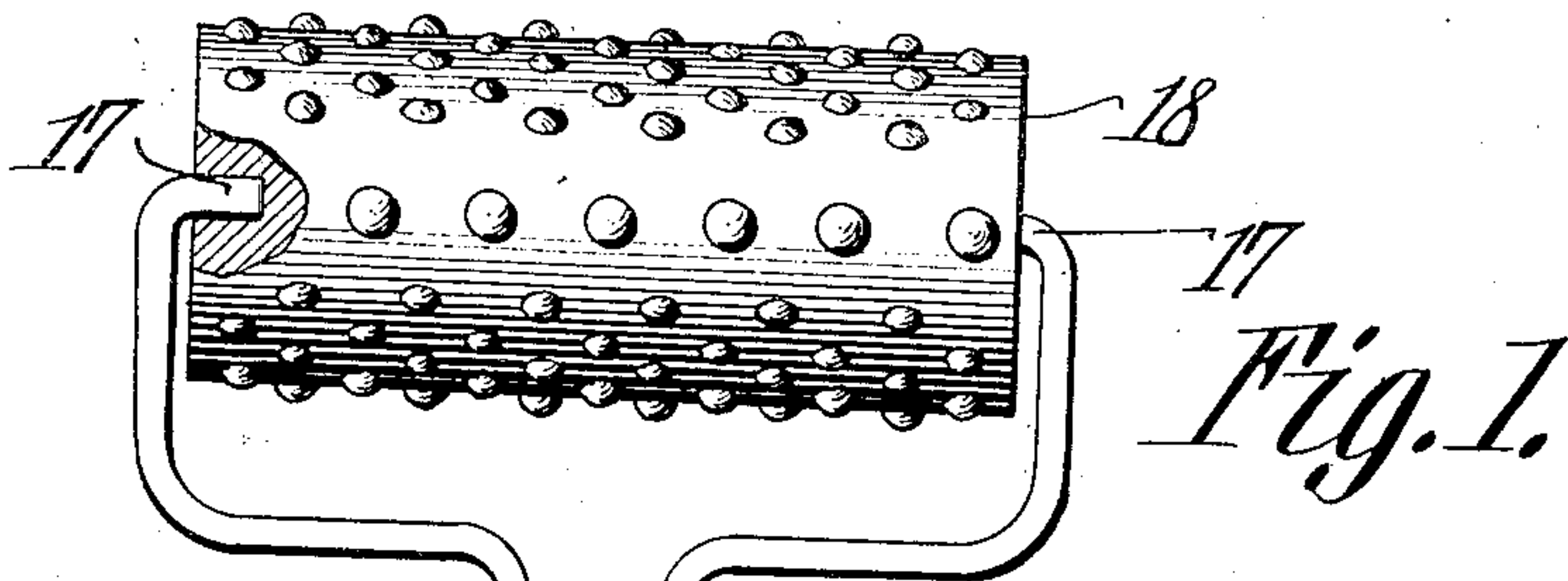


Fig. 1.

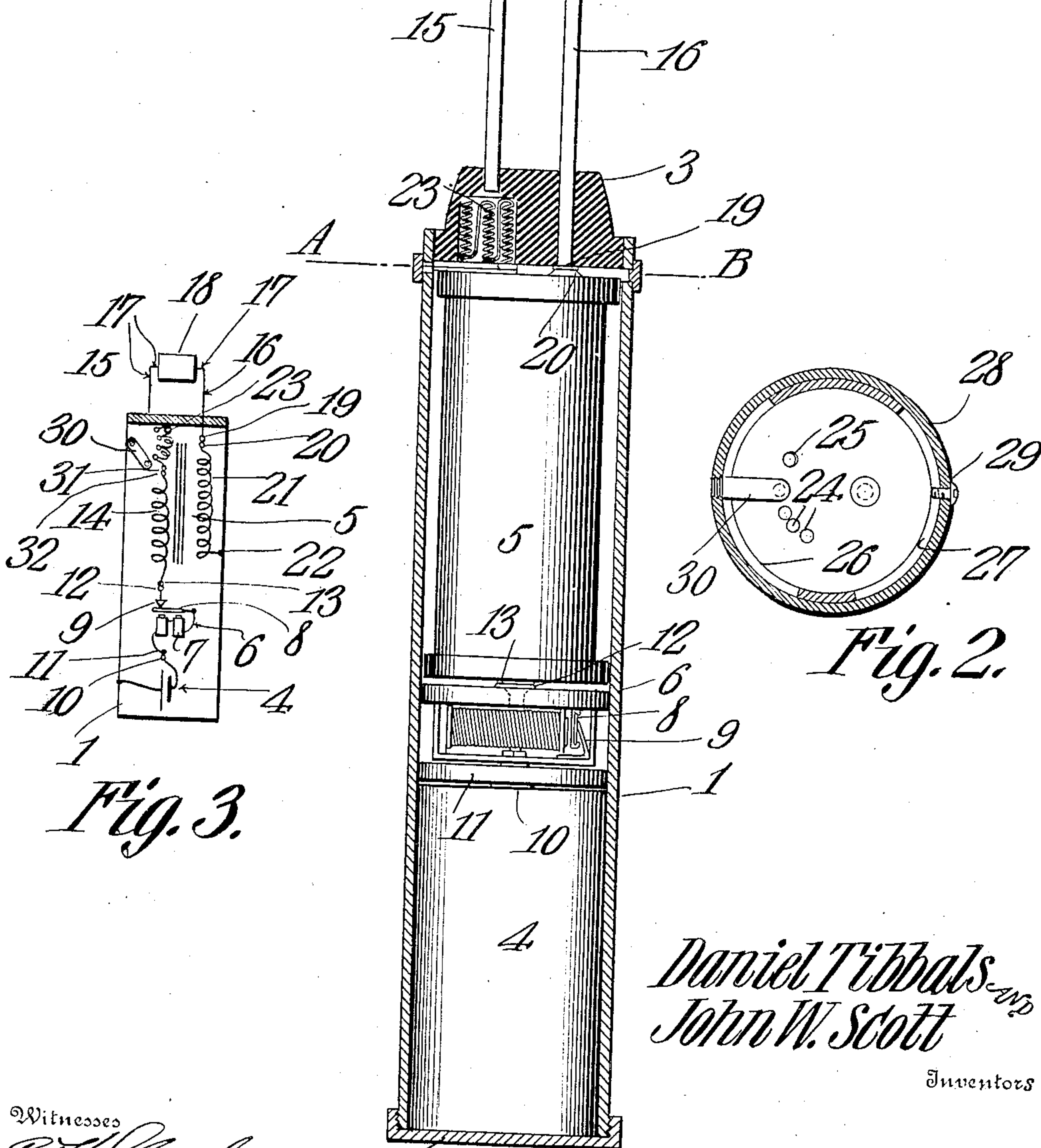


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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MASSAGE INSTRUMENT.

No. 917,367.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed May 13, 1908. Serial No. 432,679.

To all whom it may concern:

Be it known that we, JOHN W. SCOTT and DANIEL TIBBALS, citizens of the United States, residing at Granite City, in the county of Madison, State of Illinois, have invented a new and useful Massage Instrument, of which the following is a specification.

This invention has reference to improvements in massage instruments, and is designed to produce an instrument whereby the parts may be subjected to the treatment of a high tension electric current. For this purpose the roller or other instrument carried by the massage apparatus and designed to make contact with the skin of the patient, is made to constitute one terminal of an electric circuit while the handle of the apparatus is made to constitute the other terminal of the electric circuit so that the patient is included between these terminals and receives the benefit derived from the passage of high tension electric currents through the body and through the parts subjected to the pressure of the roller or other implement.

In order to produce electric current of the desired character the handle of the apparatus is provided with an induction coil and a source of current in the shape of a battery, preferably a battery known as the dry type of battery. In addition to the induction coil there is provided a vibrating circuit maker and breaker or rheotome, and in order that the intensity of the current applied to the patient may be varied at will and at the same time the electrical force generated by the battery may be conserved there is included in the instrument a suitable rheostat. This rheostat is included in the primary circuit of the induction coil and is made readily accessible from the exterior of the machine so that it may be adjusted at will.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,—

Figure 1 is a longitudinal section, with parts in elevation, of the massage instrument. Fig. 2 is a cross section on the line A—B, looking away from the handle end of the instrument. Fig. 3 is a diagram illustrating the electric circuits.

Referring to the drawings there is shown

a cylindrical casing 1 constituting the handle of the instrument. This casing is closed at one end by a removable screw cap 2, and at the other end by an insulating block 3, which may be made of any suitable material but is preferably made of hard or vulcanized rubber.

Within the handle or cylinder 1 is a battery cell 4 and an induction coil 5 and a rheotome 6. The battery cell 4 is made cylindrical to fit into the casing snugly and is held therein by the cap 2 but may be easily removed from the casing whenever desired by unscrewing the cap, and then the cell may be pulled out from the casing. This cell 4 is preferably of the dry type of battery cell, both for cheapness and convenience of use and renewal.

The coil 5 may be of any of the commercial types of small induction coils capable of operating with the current supplied from one cell of battery and of giving a comparatively high tension current at the terminals of its secondary coil or winding. Of course the coil 5 may be specially wound for the purpose, but it is found that commercial types answer the purposes of the invention admirably and therefore it is preferred to use such type of coils. The rheotome 6 may be of any desired type and needs no special description. It may be stated, however, that it is preferred to use a rheotome having two magnet coils 7 with a straight armature 8 movable under the electrical impulses away from the contact 9, the spring of the armature returning the latter into contact with the contact 9.

The battery cell 4 is preferably of the kind where the outer shell of the cell forms one of the elements of the battery and also a battery terminal, so that when the cell is slipped into the casing 1, which it should fit snugly, electrical contact is made between the outer shell of the cell 4 and the inner face of the casing 1. The other terminal end of the battery may be central thereto and so positioned as to make contact with the terminal 11 of the rheotome. The other rheotome terminal 12 is arranged to make contact with the corresponding contact or terminal 13 of the primary coil or winding 14 of the induction coil 5.

Fast in the block 3 are two stems 15 and 16 extending parallel for a distance and then spread apart and finally terminating in in-

turned fingers 17 constituting the journals of a massage roller 18. The stems 15 and 16 are made of spring metal so that the fingers 17 may be removed from the roller 18 and other implements may be substituted for the roller.

The stem 16 extends entirely through the insulating block 3 and terminates on the inner face thereof in a contact head 19 arranged to make contact with a circuit terminal 20 at the corresponding end of the fine wire winding of the induction coil 5, this winding being indicated by the reference numeral 21. The other end of the fine wire winding 21 has a terminal 22 arranged to make contact with the inner face of the handle or casing 1.

Housed in the insulating block 3 are a number of resistance coils 23, there being three shown in the drawings, and these coils are connected up in series. Each resistance coil 23 terminates at the inner face of the block 3 in a contact plate 24, and in line with these series of contact plates 24 is a blind contact 25. Contiguous with the inner face of the block 3 the casing 1 is pierced by two diametrically opposed partially circumferential slots 26 and 27, and these slots are closed on their outer faces by a ring 28 surrounding the casing 1 held in place by a screw or plug 29 entering the slot 27 and by a switch-arm 30 passing through the slot 26 and in position to make contact with the contact terminals 24. The outer face of the ring 28 may be milled or otherwise arranged for easy manipulation so that it may be turned about the longitudinal axis of the casing 1 as a center to bring the switch-arm into contact with any one of the terminals 24 or upon the idle terminal 25. It will be understood, of course, that upon the outside of the casing there may be a suitable scale or suitable indication to show the amount of resistance in circuit and also whether the circuit is opened or closed, and this scale may coact with a pointer on the ring, or any other means may be used for the purpose. The series of resistance coils terminate in a circuit terminal or contact 31 in the path of a similar contact 32 at the corresponding end of the coarse wire winding 14 of the induction coil 5.

The construction of the several parts is such that the various elements making up the instrument may be removed one at a time for inspection or repair and replaced again in proper order without the necessity of uncoupling or coupling up any electric circuit, since the circuits are completed at the several contacts by the mere act of inserting the parts in place.

When the switch-arm 30 is upon the idler contact 25, the primary circuit of the battery is broken and consequently the instrument is electrically inactive but it may be used in

the ordinary manner of using massage instruments without, however, the addition of the effect of the electric current.

When it is desired to use the electric current the ring 28 is rotated until the switch-arm 30 is brought upon the first of the contacts 24. The arrangement may be such that in this position all the resistances are in the circuit and the current furnished by the battery is so cut down that the current passing through the body of the patient is the mildest that the instrument furnishes. If stronger current be desired the switch-arm is moved to cut out more and more of the resistance until finally all of the resistance is cut out, when the strongest current that the instrument is capable of furnishing will be delivered to the body of the patient.

By introducing resistances into the primary circuit of the battery instead of varying the reaction of the induction coils the life of the battery is very materially prolonged.

What is claimed is:—

1. A massage instrument comprising a conducting handle, a battery removably housed therein and having an exposed terminal at one end and adapted to make electrical contact with the handle on insertion therein, a rheotome removably housed in said handle against the end of the battery and having a contact adapted to engage the exposed battery terminal and also provided with a contact on the side remote from the battery, an induction coil also removably housed in said handle, said coil having its primary winding with exposed terminals at opposite ends of the coil and adapted at one end to engage the corresponding terminal of the rheotome and at the other end to be brought into electrical circuit with the handle, and its secondary winding contacting at one end with the handle and exposed at the other end, a massage implement insertible at one end in the handle and there provided with a terminal engaging the exposed terminal of the secondary of the induction coil, and a rheostat also housed in said handle and includable in the primary circuit of the induction coil between the same and the handle.

2. A massage instrument provided with a hollow conducting handle, a battery removably housed therein and arranged to make contact electrically with said handle, a rheotome having exposed circuit terminals on opposite faces and adapted to be inserted in the handle with the circuit terminal of one face in electrical engagement with one of the circuit terminals of the battery, an induction coil also removably housed in said handle, said induction coil having its primary winding provided with terminals at opposite ends of the coil, one terminal making electrical contact with the terminal of the rheotome remote from the battery and arranged at the

other end to be brought into electrical engagement with the conducting handle, said induction coil having its secondary circuit provided at one end with a contact adapted to engage the conducting handle, and a massage implement removably insertible in said handle and having a circuit terminal adapted to engage the corresponding circuit terminal of the secondary winding of the induction coil.

3. A massage instrument comprising a suitable massage implement, a handle therefor, and an induction coil, rheotome, and battery, housed in said handle, the induction coil, rheotome, and battery, each being separately removable from said handle and each provided with circuit terminals in matched relation to complete the electric circuit between them, and the massage implement by direct contact.

4. A massage instrument comprising a suitable massage implement, a handle therefor, a support for the implement carried by the handle and housing a rheostat, an induction coil removably housed in said handle at the end carrying the rheostat, a battery removably housed in said handle at the other end thereof, and a rheotome removably housed in said handle between the battery and induction coil and completing the circuit between the battery and coil by direct contact with the corresponding terminals of each.

5. A massage instrument comprising a massage implement, a hollow handle therefor, a block of insulating material at one end of the handle, a removable closure for the

other end of the handle, an induction coil, rheotome and battery housed in and separately removable from the handle and each provided with circuit terminals contacting on the insertion of the several elements in the handle, the massage implement being in electrical contact with the high tension side of the induction coil in the handle, resistance coils carried by the insulating block, and a switch for the resistance coils accessible from the exterior of the handle.

6. A massage instrument comprising a massage implement, a hollow handle therefor having a slot near one end, an induction coil, rheotome, battery and rheostat coils housed in said handle, and an exterior closure for the slot in the handle provided with a switch-arm in operative relation to the rheostat coils.

7. A massage instrument comprising a massage implement, a hollow handle therefor having a slot near one end, an induction coil, rheotome, battery and rheostat coils housed in said handle, and a rotatable ring exterior to the handle and constituting a closure for the slot, said ring being provided with a switch-arm extending through the slot into the interior of the handle and into operative relation with the rheostat coils.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JOHN W. SCOTT.
DANIEL TIBBALS.

Witnesses:

MONY MUELLOR,
JOHN FECHTE.