Improvements in or connected with brushes or other appliances for the curative application of electricity / [Charlton James Wollaston].

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PROVISIONAL SPECIFICATION.

Improvements in or connected with Brushes or other Appliances for the Curative Application of Electricity.

I, CHARLTON JAMES WOLLASTON of 31 Notting Hill Terrace in the County of London, Gentleman do hereby declare the nature of this invention to be as follows :—

The object of my invention is to provide brushes or other appliances by means of which electricity can be conveniently and efficiently applied to the curing or alleviation of affections of the nerves or muscles.

According to my invention I provide wires or other conductors of electricity which are so arranged in a suitable support holder or backing that the ends or portions of the length thereof can be brought into contact with the body.

The said wires or conductors are respectively connected to the respective poles of an electric battery or magneto electric machine or other generator of electricity so that when the ends or portions of the said wires or conductors are brought into contact with the body the circuit of the generator is completed and an electric current or electric currents passes or pass through the part of the body included between the wires or conductors of opposite polarity. The wires or conductors may constitute the equivalents of the bristles or of some of the bristles of a brush (either an ordinary or a rotary brush) or they may be held in any suitable backing such for instance as a backing of fabric with their ends or portions of their lengths exposed so that when the device is applied to any part of the body which it is required to treat, the passage of electricity through that part of the body is effected. The battery or generator from which the electricity is derived may be contained in any suitable part of the device or the current may be conducted by any suitable arrangement of leads from the said battery or generator to the said device.

The battery or generator may for example be contained in a cavity in the back or handle of a hand brush or in the body or handle of a rotary brush. The wires or conductors when used in the place of the bristles of a brush may be so protected by a fabric or covering that the sides of the wires or conductors will not come in contact and so short circuit the current as to prevent its beneficial action by passing through parts of the body as aforesaid. When the invention is applied as a rotary brush the rotary motion of the brush may be used to generate the necessary current in an electro-magnetic or equivalent generator. The devices may be provided with means whereby the circuits for the currents can be completed and interrupted and regulated as required or with means whereby the current can be made intermittent such as any suitable forms of switches, current regulators or make and break appliances.

Dated this 26th day of June 1893.

J. H. JOHNSON & Co.,
47, Lincoln's Inn Fields, Agents.

[*Price 8d.*]

COMPLETE SPECIFICATION.

Improvements in or connected with Brushes or other Appliances for the Curative Application of Electricity.

I, CHARLTON JAMES WOLLASTON of 31 Notting Hill Terrace in the County of London Gentleman, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement :—

The object of my invention is to provide brushes or other appliances by means of which electricity can be conveniently and efficiently applied to the curing or alleviation of affections of the nerves or muscles.

According to my invention I provide wires or other conductors of electricity which are so arranged in a suitable support holder or backing that the ends or portions of the length thereof can be brought into contact with the body.

The said wires or conductors are respectively connected to the respective poles of an electric battery or magneto electric machine or other generator of electricity so that when the ends or portions of the said wires or conductors are brought into contact with the body the circuit of the generator is completed, and an electric current or electric currents passes or pass through the part of the body included between the wires or conductors of opposite polarity. The wires or conductors may constitute the equivalents of the bristles or of some of the bristles of a brush (either an ordinary or a rotary brush) or they may be held in any suitable backing such for instance as a backing of fabric with their ends or portions of their lengths exposed so that when the device is applied to any part of the body which it is required to treat the passage of electricity through that part of the body is effected. The battery or generator from which the electricity is derived may be contained in any suitable part of the device or the current may be conducted by any suitable arrangement of leads from the said battery or generator to the said device. The battery or generator may for example be contained in a cavity in the back or handle of a hand-brush or in the body or handle of a rotary brush.

The wires or conductors when used in the place of the bristles of a brush may be so protected by a fabric or covering that the sides of the wires or conductors will not come in contact and so short circuit the current as to prevent its beneficial action by passing through parts of the body as aforesaid. When the invention is applied as a rotary brush the rotary motion of the brush may be used to generate the necessary current in an electro magnetic or equivalent generator.

In order that my invention may be well understood I will further describe the same with reference to the accompanying drawing

Figure 1 of which represents in perspective a hand brush with my invention applied thereto.

Figure 2 is a perspective view partly in section of a rotary brush showing my invention applied thereto the generator of electricity being contained in the body of the brush.

Figure 3 shews the application of my invention to a woven fabric binder or other suitable holder or backing to secure the wires or conductors in their proper positions.

Referring to Figure 1 *a* and *b* are conductors of electricity constituting equivalents for some of the bristles of the brush. The conductors *a* are connected by a suitable lead *c* to one pole of a generator of electricity the conductors *b* being connected by the lead *d* to the opposite pole of the said generator which generator may be a battery or magneto electric or other suitable generator and may be situated at any desired distance from the brush.

The conductors *a* and *b* are arranged in alternate rows and between each two rows of conductors is a row of bristles *e* or strip of india rubber or other suitable non-conducting material which will prevent the conductors of one polarity from coming into contact with the conductors of the opposite polarity and thereby prevent short circuiting when the brush is in use. When using the brush as an ordinary hair brush for example or when using it for applying electric currents for the treatment of rheumatic neuralgic and other pains, so soon as the conductors *a* and *b* are brought into contact with the part of the body affected the circuit will be completed by the portions of the body intervening between the conductors *a* and *b*, and consequently the current will pass through the said parts. One of the leads *c* or *d* is divided and a push button *f* or other suitable contact maker is provided on any convenient part of the brush so that the circuit may be completed and broken as required.

In applying my invention to a rotary brush, the rows of conductors of opposite polarity are arranged alternately and with rows of bristles or other suitable non-conducting material between each two rows of conductors, and the said conductors may be connected by leads to the generator of electricity outside the brush as described with reference to Figure 1, or the generator may be contained in the body of the brush as shown in Figure 2 in which figure *a* and *b* represent rows of conductors of opposite polarity and *e* rows of bristles arranged between each two rows of conductors. Inside the body A of the brush is a small generator of electricity the part *g* and brushes *h* h^2, thereof being fixed to the body A, so as to rotate therewith the armature *i* and commutator *k*, being fixed on the spindle *l* on which the body A turns. The conductors *a* and *b* pass to the interior of the body of the brush and are connected respectively to the brushes *h* h^2 of the generator. The body A may be rotated by any convenient means, for example by means of a driving band passing round a sheave *m* attached to the body A as shewn.

When the body A is rotating, electricity will be generated, the current passing from the brushes *h* h^2 into the conductors *a*. *b*, and when these conductors are brought into contact with the part of the body to be treated a circuit will be completed by the parts of the body intervening between the conductors *a* and *b* and cause the current to pass through the said parts. Instead of the rotary generator described small batteries may be arranged in the body A of the rotary brush, and if desired the back or handle of the usual form of hand brush may be provided with a space to contain small batteries, so as to constitute a self contained electrical appliance. When the electric current is supplied to the wires or conductors in a rotary brush from a generator outside the brush, the leads from the said generator to the conductors *a* and *b* may pass through one or both handles of the brush as shewn by dotted lines *c*. *d*.

In applying my invention to woven or like fabrics the conductors *a* and *b* may be woven in and with the fabric or they may be interlaced or otherwise attached to a fabric so that the conductors *a* are out of contact with the conductors *b*. The said conductors are respectively connected to the opposite poles of a generator of electricity so that when the fabric is applied to any part of the body, the portions of the body between the conductors *a* and *b*, which are in contact therewith complete the circuit through the conductors and cause the current to pass through the parts of the body with which the fabric is in contact. The fabric may be made in any form to suit various parts of the body, for example it may be in the form of a ribband or binder as shewn in Figure 3, in which *a* represents the conductors connected to one pole of a generator of electricity and *b* are the conductors connected to the opposite pole of the generator, the spaces *e*, between the conductors representing ordinary woven or other fabric of non-conducting material.

The device may be provided with means whereby the circuits for the currents can be completed and interrupted and regulated as required or with means whereby the current can be made intermittent such as any suitable forms of switches, current regulators, or make and break appliances.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is :—

1st. In an apparatus for applying electricity for curing or alleviating affections of the nerves or muscles a support or holder for two sets of wires or other conductors of electricity of opposite polarity arranged so that the ends or portions of the lengths of the conductors can be brought into contact with the part of the body to be treated, the parts of the body included between the parts of the conductors in contact therewith then completing the circuit or circuits through the generator of electricity and through the parts of the body in contact with the conductors substantially as hereinbefore described.

2nd. A brush for applying electricity for the cure or alleviation of affections of the nerves or muscles the said brush having two sets of wires or other conductors of electricity arranged in alternate rows of opposite polarity, and with bristles or other non-conducting material between each two adjacent rows of conductors substantially as and for the purpose hereinbefore described.

3rd. A brush for applying electricity for the cure or alleviation of affections of the nerves or muscles having two sets of wires or other conductors of electricity connected to the opposite poles of a battery or other generator of electricity contained in the body of the brush, the conductors of opposite polarity being arranged side by side alternately and with insulating material between them to prevent short circuiting when in use substantially as hereinbefore described.

4th. A brush for applying electricity for the cure or alleviation of affections of the nerves or muscles constructed substantially as hereinbefore described and illustrated by Figure 1 of the accompanying drawings.

5th. A rotary brush for applying electricity to the head or other parts of the body constructed substantially as hereinbefore described and illustrated by Figure 2 of the accompanying drawings.

6th. A band, ribband or other form of woven or other fabric backing or holder having two sets of wires or other conductors of electricity woven or arranged therewith or connected thereto in such a manner that one set of conductors can be connected to one pole of an electric battery or other generator of electricity and the other set of conductors can be connected to the opposite pole of the generator so that when the fabric is applied to the body the parts of the body included between the parts of the conductors in contact therewith will complete the circuit from the generator through those parts of the body substantially as hereinbefore described with reference to Figure 3 of the accompanying drawings.

Dated the 26th day of April 1894.

JOHNSONS & WILLCOX.

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Fig. 1.

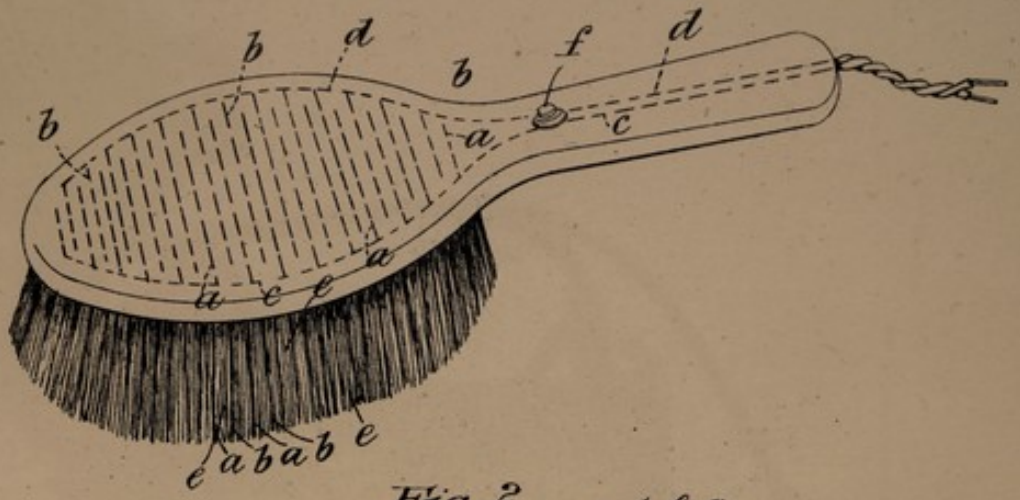


Fig. 2.

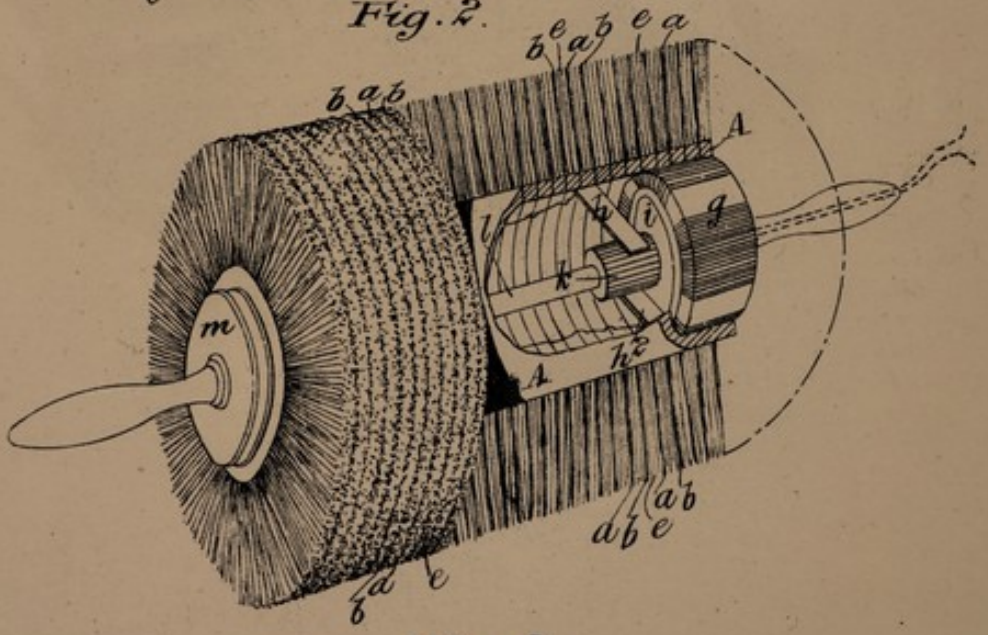
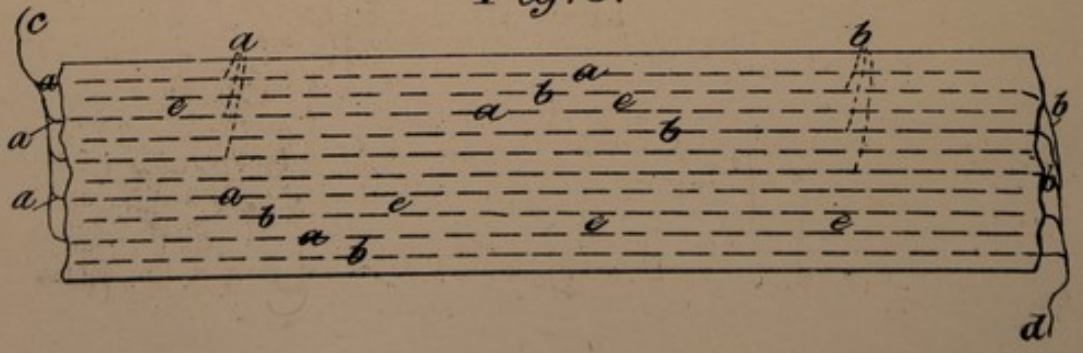


Fig. 3.



[This Drawing is a reproduction of the Original on a reduced scale]

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