(No Model.)

H. W. MATTHEWS.

ELECTRO THERAPEUTIC TRUSS.

No. 459,143. Patented Sept. 8, 1891.

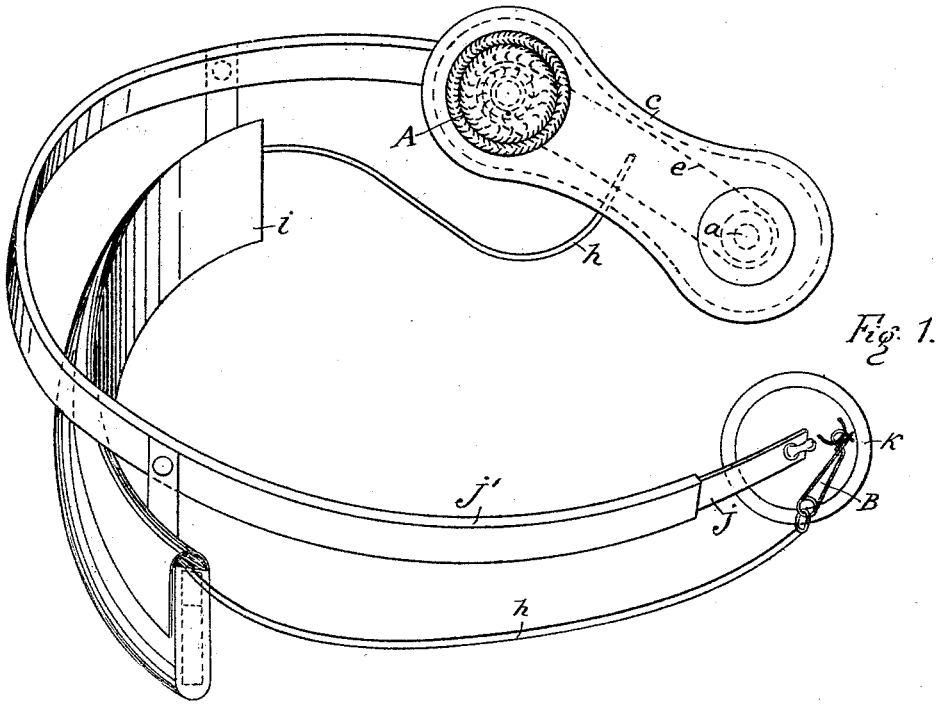


Fig. 1.

Fig. 2.

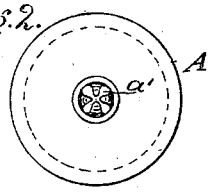


Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

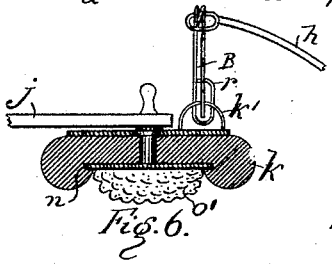
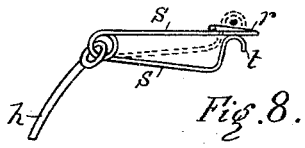


Fig. 7.

Fig. 8.



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ELECTRO-THERAPEUTIC TRUSS.

SPECIFICATION forming part of Letters Patent No. 459,143, dated September 8, 1891.

Application filed June 26, 1891. Serial No. 397,608. (No model.)

To all whom it may concern:

Be it known that I, HUGH W. MATTHEWS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electro-Therapeutic Appliances, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows in perspective my improved electro-therapeutic truss provided with my improved electrodes, insulators, yoke, and snap-hook. Fig. 2 shows my improved aluminium electrode in plan view on the top or outer side. Fig. 3 shows the same in side elevation. Fig. 4 shows in section a metal socket to receive the electrode, Fig. 3. Fig. 5 shows an insulator or cut-out. Fig. 6 shows in central vertical section another form of my improved electrode provided with a staple, to which is connected an electrical conductor by means of my improved snap-hook connection B. Fig. 7 is a vertical longitudinal section of a yoke *c*, showing its construction. Fig. 8 shows my improved snap-hook open.

Like letters refer to like parts.

The object of my invention is to improve the construction and effect of electro-therapeutic trusses for body-wear, whereby the electric current can be modified, divided, and regulated in its effects, according to the needs or pleasure of the patient, and in order to attain said desirable ends I construct my said new and improved truss in substantially the following manner, namely: I provide a truss-band *j* of the usual construction, covered with an insulating-covering *f'*. To one end of said band is applied in some adjustable way a yoke *c*, and to the other end of said band is attached a specially-constructed truss-pad *k*. Said parts *c* and *k* are connected to a battery *i* on the belt *j'* by leads *h*, by means of which the action of the battery is brought upon certain parts of the body through the electrical connection which the body makes when in simultaneous contact with said parts. Said yoke *c* is provided with a back of leather or like suitable material *g*, upon the inner face of which are laid several thicknesses of filling or packing *f*, of felt or flannel, and a metal connecting-piece *e*, preferably of aluminium, held between said back and packing, of which the ends of said metal project through said packing and are attached to the metal sockets *a*, which are secured in the facing *d*. Said facing covers all the parts *e* and *f* and is secured to the edge of the backing *g*. To the said metal connecting-piece *e* is attached an insulated conductor or lead *h*, and into said sockets *a* are secured the electrodes A or insulators A'. My said electrodes are made of thin sheets of aluminium *b*, so light that it may easily be bent into any desired shape by the fingers, and which said metal must therefore be annealed and soft, so as to retain the shape into which it is formed. Said metal disk *b* is faced with sponge *o*, or like material capable of absorbing and retaining moisture, which are fastened together by stitching, as shown. On the back of said disk is attached a spring-button *a'*, adapted to fit into the sockets *a*, so as to be securely held therein. Said insulator A' has a like spring-button to fit said sockets *a*, and is composed of rubber or other non-conductor *m*, which, for purposes of comfort, is faced with soft silk or chamois-skin *m'*.

The pad *k* is made of soft rubber, upon the back of which is a metal disk provided with a staple *k'*, and through the center of said disk passes a stud connecting to an aluminum disk *n*, on the face of which is a sponge or similar absorbent material o'. The edge of the disk *n* is covered by a border raised over it of the pad *k*. The leads *h* are connected to the battery *i* at one end and to the yoke and disk *k* by means of snap-hooks B, formed of two spring-arms *s s'*, one of which is provided with an eye or loop *r*, and the other with a hook *t*, which passes through said eye and over the staple *k*, placed on the back of said loop *r*. To make said yoke *c* adjustable, it is provided with a hasp *g'*, which fits snugly, but so as to slide by applied force on the truss-band. The battery *i* is shown hung in the usual form of case or pocket to the truss-band. When this truss is worn, the current passes from the sponge *o'* through both electrodes A of the yoke, which are preferably placed on each side of the spine, instead of directly over it; but when for any reason it is desired to pass all the current through only one of said electrodes,

then the opposite electrode is removed, and in its place is secured an insulator A′, which cuts out the electric current through that part of the apparatus.

By means of my improved snap-hook the connections are quickly made, and are not liable to come off by any accident. The border of the pad *k* forms a cavity in which the sponge is held without pressure, the force of the spring being resisted by the said border.

What I claim is—

1. An electro-therapeutic truss provided with a battery and leads therefrom, an electrode of rubber containing an electrode faced with a sponge, and a yoke provided with electrically-connected metal sockets and sponge-faced electrodes removably held in said sockets, substantially as specified.

2. An electro-therapeutic truss provided with a battery and leads therefrom, an electrode of rubber with a raised border within which there is a sponge-faced electrode, and an adjustable yoke provided with sockets electrically connected and provided with sponge-faced removable electrodes, substantially as specified.

3. An electro-therapeutic truss provided with a battery and leads therefrom, an electrode of rubber containing a metallic sponge-faced disk, a yoke provided with electrically-connected metal sockets and buttons *a′*, adapted to be removably held by said sockets, and insulators adapted to be held in said sockets and interchanged with said electrodes, substantially as specified.

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Witnesses:
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