

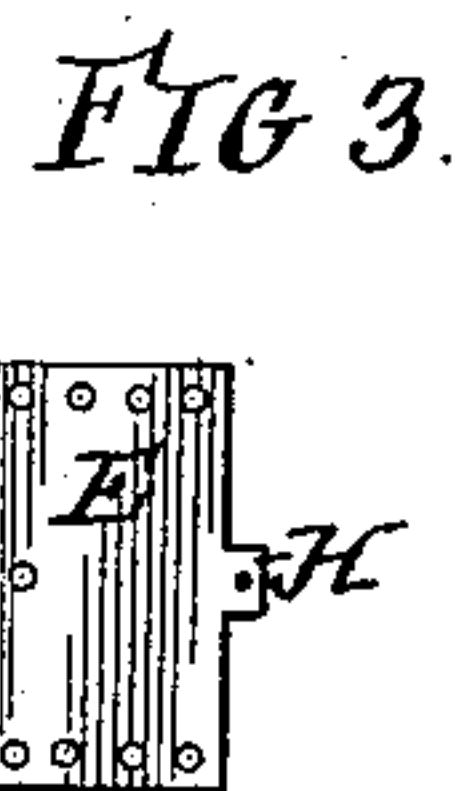
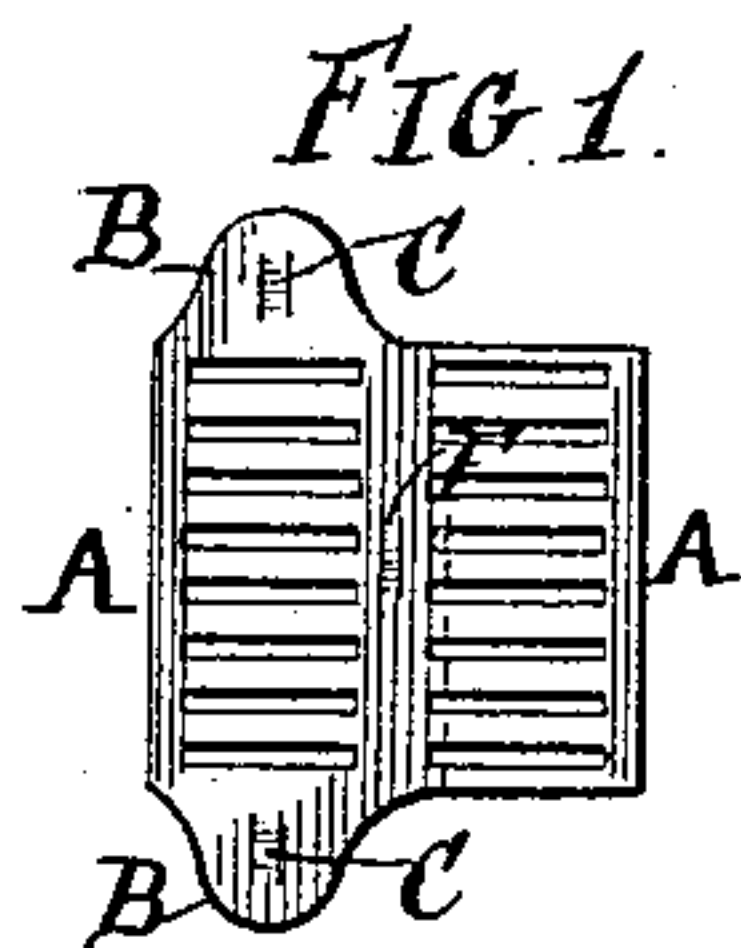
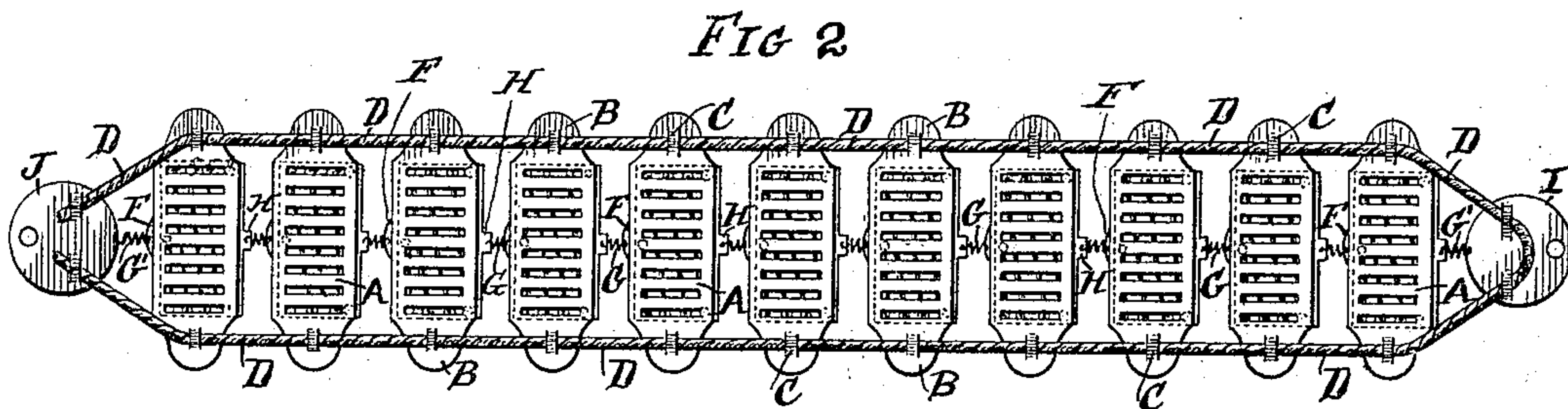
(No Model.)

W. G. JOHNSON.

BATTERY FOR ELECTRIC BELTS.

No. 397,806.

Patented Feb. 12, 1889.



Witnesses,

Dennis Sumby.
Robert Gratt.

Inventor,

William G. Johnson.

By James L. Norris.

Atty.

UNITED STATES PATENT OFFICE.

WILLIAM GEORGE JOHNSON, OF LONDON, ENGLAND.

BATTERY FOR ELECTRIC BELTS.

SPECIFICATION forming part of Letters Patent No. 397,806, dated February 12, 1889.

Application filed October 9, 1888. Serial No. 287,634. (No model.) Patented in England March 14, 1888, No. 3,979.

To all whom it may concern:

Be it known that I, WILLIAM GEORGE JOHNSON, a subject of the Queen of Great Britain, residing at 58 New Bond Street, London, England, have invented a new and useful Improvement in Electric Belts and Similar Appliances, (for which I have obtained a patent in Great Britain, No. 3,979, bearing date March 14, 1888,) of which the following is a specification.

This invention has for its object to provide a novel electric belt or similar appliance to be worn by a person; and it consists in the features of construction and combination of devices hereinafter described and claimed, reference being made to the accompanying drawings illustrating my invention, in which—

Figure 1 is a plan view of the copper or negative element prior to being folded upon itself; Fig. 2, a plan view of a belt embodying my invention; Fig. 3, a plan view of the zinc or positive element without its thread wrapping, and Fig. 4 a plan view of the same with its thread wrapping.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The letter A indicates the negative element and E the positive element, a series of which are arranged and connected in voltaic order to any desired length, according to the purpose for which the belt or band is intended or the position it is to occupy on the body of the wearer, for which purpose the belt or band may be provided with straps and buckles or any other of the usual contrivances employed for holding a belt in proper position.

The negative element A is composed of a copper plate perforated, as by rectilinear slots, and folded upon itself along its median line to form two connected leaves, between which is placed the positive element E, composed of a zinc plate having perforations adjacent to its ends, through which is laced back and forth a thread of textile or like material, Fig. 4, to form, as usual, a covering that prevents the positive element from touching those portions of the negative element between which it is placed. The folded copper plates are each provided at the folding

line with two parallel incisions, Fig. 1, between which the metal is pressed outward to form a projecting eye or loop, F, and the zinc plates each have at one edge a projecting lug, H, having a perforation. A zinc plate is placed between the leaves of each copper plate, with the edge carrying the lug projecting beyond the edges of the said leaves comprising the copper plate, and each lug is connected with the eye or loop F of the adjacent negative element by a spiral copper wire, G, whereby the parts are articulated together, while the spiral wires serve as conductors for the electric current. The spiral wires so articulate or flexibly connect the negative and positive elements that the folded copper plates, with their respective zinc plates, have freedom of action to and from each other and in various other directions to permit the belt accommodating itself to any part of the body to which it is applied.

The edges of the zinc plates projecting beyond the edges of the leaves of the folded copper plates coact with the articulating and conducting spiral wires in such manner that in whatever position the several parts assume or are placed they are always maintained in voltaic order for the perfect flow of the current when the elements are excited.

The negative plates A are provided with end lugs, B, having eyes C, for the passage of cords D, of any suitable material that will flexibly connect the several elements, said eyes being formed similar to the eyes or loops F, so that after the elements are strung upon the cords the metal of the eyes can be compressed to clamp the cords on the end lugs.

The terminal plates I and J are connected, respectively, with the end zinc and copper plates by spiral copper wires G', similar to those connecting the elements, and such terminals may also be secured to the cords D in the same manner as the latter are secured to the negative elements.

I do not confine myself to preventing contact of the positive elements with the negative elements by thread wrappings on the former; nor do I confine myself to the rectangular shape of the slots in the negative elements, as other forms of slots may be provided to fulfill the condition required, which is to admit of the desired depolarization and

permit the entrance of the exciting-fluid to the threads.

The belt or band made as described may be partially inclosed by a fabric whereby the 5 electrical power generated can be concentrated to the exposed elements that are in contact with the body of the person wearing the appliance.

I am aware that prior to my invention copper and zinc plates have been arranged and connected in voltaic order to form a belt or band, and such, therefore, I do not broadly claim.

Having thus described my invention, what 15 I claim is—

1. An electric belt or band consisting of the folded negative elements, each having an eye or loop and inclosing a positive element having a projecting lug, and the spiral wires connecting the lugs with the eyes or loops and serving to articulate the elements, to conduct the electric current and permit the pairs of elements to move to and fro and assume various positions, substantially as described.

25 2. An electric belt or band consisting of the folded negative elements strung on flexible cords and each inclosing a positive element, and the spiral wires articulating the negative elements to the adjacent positive elements, 30 and serving to conduct the electric current and permit the pairs of elements to move to and fro and assume various positions, substantially as described.

3. An electric belt or band consisting of the 35 negative elements, each composed of a plate folded upon itself along its median line and

strung upon cords D, and the negative elements arranged respectively between the leaves of the folded plates, with the positive elements articulated to the adjacent negative 40 elements throughout the series, substantially as described.

4. An electric belt or band consisting of the negative elements, each composed of a slotted plate folded upon itself to form two leaves, 45 one of which has end eyes, a positive element arranged between the leaves of each folded plate and having a lug articulated to the adjacent negative plate, flexible cords passing through the end eyes of the negative elements, 50 and terminals connected respectively with the end negative and positive elements and secured to the cords, substantially as described.

5. An electric belt or band composed of a 55 series of negative elements, each having a positive element, and strung upon flexible cords and spiral wires connecting the positive elements with the adjacent negative elements throughout the series, and serving as conduct- 60 ors, and to permit the pairs of elements to move to and fro and assume various positions, substantially as described.

In witness whereof I have hereto signed my name, in the presence of two subscribing 65 witnesses, this 11th day of August, 1888.

WILLIAM GEORGE JOHNSON.

Witnesses:

ROY ST. CLAIRE,

FREDERICK WOOD,

Both of 58 New Bond Street, London, Eng-
land.