

Improvements in curative voltaic batteries.

Contributors

Kennedy, Robert Munroe

Publication/Creation

[London?] : [Great Seal Patent Office?], 1885.

Persistent URL

<https://wellcomecollection.org/works/qcgs2tms>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

~~~~~  
A.D. 1885, 8th SEPTEMBER. N° 10,606.  
~~~~~

COMPLETE SPECIFICATION.

Improvements in Curative Voltaic Batteries.

I ROBERT MUNROE KENNEDY of 120 Southampton Row in the County of Middlesex Manufacturer do hereby declare the nature of my said invention for IMPROVEMENTS IN CURATIVE VOLTAIC BATTERIES and in what manner the same is to be performed, to be particularly described and ascertained in and by the
5 following statement:—

My Invention relates to an improved construction of those voltaic piles or batteries which are adapted to be worn or suspended upon the person for remedial purposes.

My improved curative battery comprises one or more systems or couples of
10 which each system is composed of two metallic discs of strongly contrasted polarity as, for example of zinc and copper respectively—with customary interposed diaphragm of bibulous paper, felt, or cloth for reception and retention of the acid or other excitant. These couples are contained in a shallow cup whose walls are formed of vulcanite or other electrical non conductor, and whose bottom is com-
15 posed of a disc of copper having peripheral claws which inelasp the walls of the cup and extend slightly over its top. Pivoted to the top of the cup are buttons of zinc. When applied to the person with the top surface of the battery next to the wearer, his skin with its normal saline secretions, completes the circuit and becomes the theatre of the well known galvanic action.

20 In the accompanying drawings

Fig. 1 represents my battery viewed on its face or top side.

Fig. 2. represents the same viewed on its bottom or rear side.

Fig. 3 is an axial section on the line *x. x.*

Fig. 4 represents my cup divested of its discs.

25 Fig. 5. shows a series of discs of three voltaic couples.

Fig. 6. represents a series of my batteries attached to a belt.

A represents an annular disc of vulcanite, gutta-percha glass, or other firm and electrically non conducting material, *a.* are orifices in the same to enable the insertion of a cord B or a ring or other means of suspension upon the person.

30 C is a copper plate which closes the central orifice of annulus A on its rear side, and whose radially projecting claws *c*¹ embrace the said annulus around its periphery and face in the manner shown in Figs. 1. 2. 3 and 4. The said annulus A

[Price 4*l.*]

Kennedy's Improvements in Curative Voltaic Batteries.

and said disc or shell C thus united constitute the enclosing cup of my battery. Pivoted to face of annulus A are buttons Z of zinc.

1. 2. 3 are three voltaic couples or systems of which each system comprises three discs *z. d. c.*, of zinc, cloth and copper respectively of size adapted to loosely occupy the central orifice of my cup A. C Of these discs all the metal ones except the 5 bottom one are preferably perforated at their centres as shown in Fig. 5 for the free passage of the acidulated water or other excitant. In the form of my invention here selected for illustration, the unperforated zinc disc shown at the extreme left of Fig. 5. is first inserted, then a diaphragm of moistened cloth, followed by a copper disc, these three pieces composing one system or couple, after 10 which the other couples are inserted in like order and are secured by the closure over them of the buttons Z.

The apparatus is now ready for use. Should the galvanic action become impaired by the drying up or the neutralization of the acid, it can be restored at any moment by pouring in additional acid through the central orifices or by 15 taking the discs out and re-moistening the diaphragms.

Whichever of these modes be adopted, care must be taken that while applying sufficient acid for saturation of the diaphragms such excess is avoided as would moisten the contiguous metallic surfaces of the consecutive couples, and thus 20 generate counter-currents. Whenever the metallic surfaces have become too much impaired by oxidization, the battery is taken apart, and the surfaces cleaned. At the same time the diaphragms may be renewed if necessary. If the galvanic action is found to be too strong it may be moderated by turning one or more of the buttons Z out of contact with the last copper disc *c* as indicated by dotted lines in Fig. 1. The above described embodiment of my invention is manifestly 25 susceptible of various modifications. For example, the plate C may be made a member of the first couple by the interposition of a diaphragm between it and the first zinc disc, which in that case may be perforated like the others.

Such arrangement would be represented by substituting the plate C for the right hand copper disc *c* in Fig. 5. and counting the systems from right to left so as to 30 finish with the left hand zinc disc. In such arrangement the buttons may be of copper or any other electrical conductor. Carbon, silver or platinum may be used instead of the copper.

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 35 I claim is

A voltaic battery adapted to be worn on the person consisting of a non-conducting annulus A and metallic shell C ^c constituting a cup or receptacle, within which one or more voltaic "couples" are enclosed by means of buttons Z substantially as set forth.

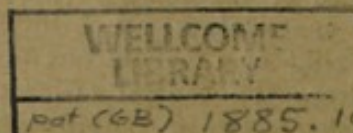
40

Dated this eighth day of September 1885.

PHILIP M. JUSTICE,
Applicant's Agent.

LONDON: Printed by EYRE AND SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

1885.



22503477984

FIG. 1.



FIG. 4.

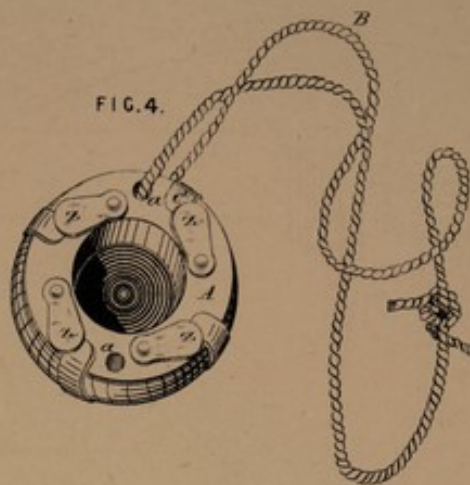


FIG. 2.



FIG. 3.



FIG. 5.

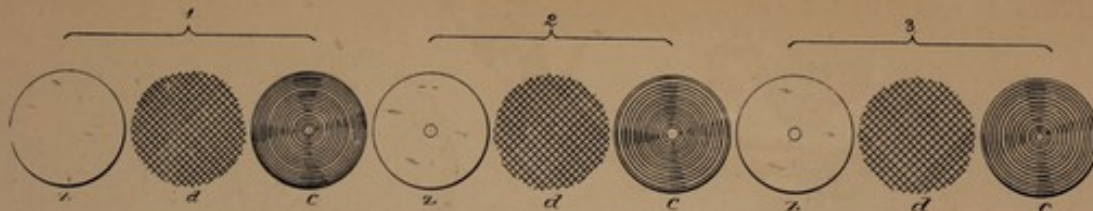


FIG. 6.

