

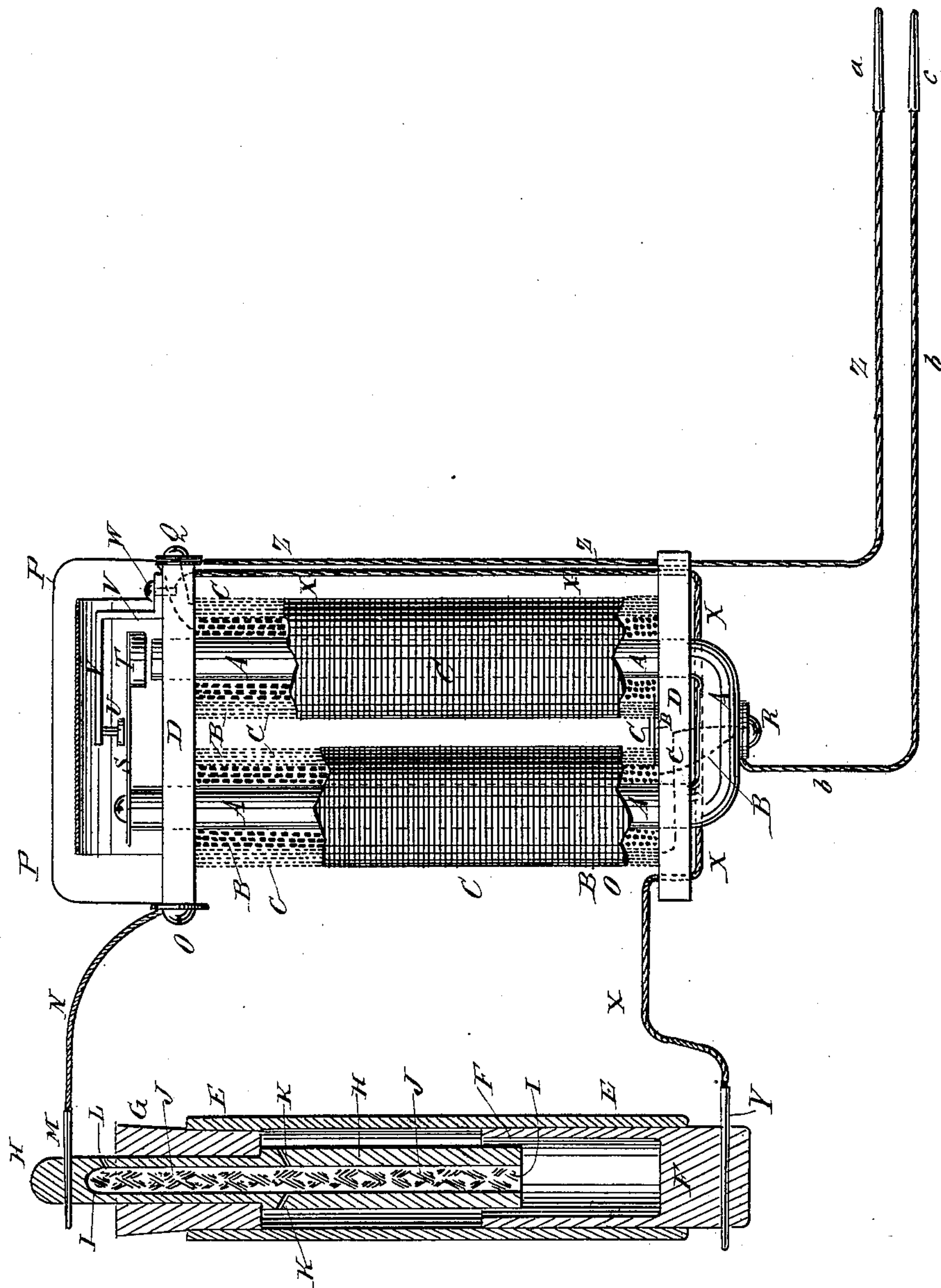
(No Model.)

A. H. & A. W. ROOVERS & P. G. WILLIAMS.

GALVANIC BATTERY.

No. 336,352.

Patented Feb. 16, 1886.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALEXANDER H. ROOVERS AND ALFRED W. ROOVERS, OF NEW YORK, AND  
PERCY G. WILLIAMS, OF BROOKLYN, N. Y.

## GALVANIC BATTERY.

SPECIFICATION forming part of Letters Patent No. 336,352, dated February 16, 1886.

Application filed September 15, 1885. Serial No. 177,184. (No model.)

*To all whom it may concern:*

Be it known that we, ALEXANDER H. ROOVERS and ALFRED W. ROOVERS, both of the city, county, and State of New York, and  
5 PERCY G. WILLIAMS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Galvanic Battery, of which the following is a full, clear, and exact description.

10 Reference is to be had to the accompanying drawing, forming part of this specification, in which similar letters of reference indicate corresponding parts in the figure.

The figure illustrates a sectional elevation  
15 of our improved therapeutic apparatus.

The object of this invention is to provide an improved portable therapeutic apparatus, simple and inexpensive in construction, not  
20 liable to leak, and occupying but little space, so that it can be readily carried in the pocket.

The invention consists in the construction and combination of parts of the apparatus, as will be hereinafter fully described and then  
25 claimed.

30 E is the case of the battery, which is made of hard rubber or other suitable non-corrosive material, in tubular form and open at both ends. Into one end of the case E is fitted a carbon cup, F, the base of which projects and  
35 is perforated transversely to receive the tip of the conducting-wire; or the outer end of the carbon cup may be flush with the end of the case E, the perforation being made through the said case and cup. In the other end of the  
40 case E is inserted a stopper, G, of rubber or other non-corrosive material, which is perforated longitudinally, and into it is screwed or pressed the zinc electrode H. The zinc electrode H is perforated longitudinally from its  
inner end nearly to its outer end, and the said  
perforation I is packed with asbestos J. In

the sides of the zinc electrode H, near the inner and outer ends of the stopper G, are formed small perforations K L, leading into the perforation I. With this construction any gas  
45 that may be formed in the battery when the said battery is in an erect position will pass through the side perforations, K, into the longitudinal perforation I and out into the open air through the side perforation, L.

50 The projecting end of the zinc electrode H is perforated transversely to receive the tip M, attached to the end of the conducting-wire N of an electro-magnet. The other conducting-wire, X, of the electro-magnet is connected  
55 to a tip, Y, which passes through the transverse perforation in the base of the carbon cup F.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The zinc electrode H, made, substantially as herein shown and described, with a longitudinal perforation, I, provided with an asbestos packing and with small side perforations, K L, within and without the battery,  
65 whereby the generated gas is allowed to escape, as set forth.

2. The zinc electrode made with a longitudinal perforation, and provided with a packing and with small side perforations within  
70 and without the battery, in combination with the inclosing-case and the carbon cup in one end of said case and the rubber or other non-corrosive stopper in the other end of said case,  
75 substantially as and for the purpose set forth.

ALEXANDER H. ROOVERS.

A. W. ROOVERS.

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Witnesses:

JAMES T. GRAHAM,  
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