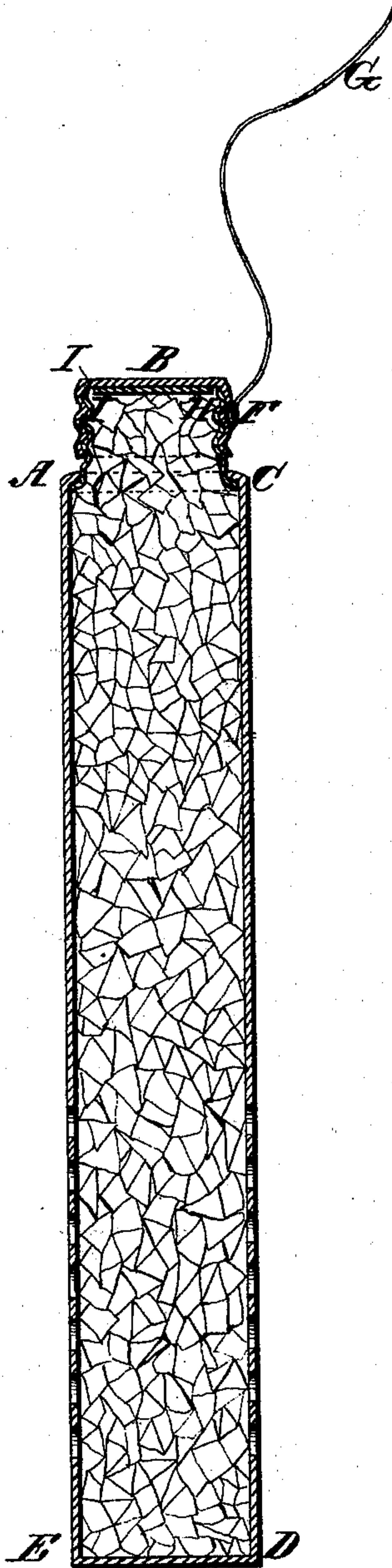


H. P. DECHERT.  
Pole for Galvanic-Battery.

No. 165,312.

Patented July 6, 1875.



*Witnesses:*  
*James Martin Jr.*  
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# UNITED STATES PATENT OFFICE.

HOWARD P. DECHERT, OF NEW YORK, N. Y.

## IMPROVEMENT IN POLES FOR GALVANIC BATTERIES.

Specification forming part of Letters Patent No. **165,312**, dated July 6, 1875; application filed June 26, 1874.

*To all whom it may concern:*

Be it known that I, HOWARD P. DECHERT, of the city, county, and State of New York, have invented a new and useful improvement in the form and nature of construction of the carbon-pole of the galvanic battery; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention consists in using gas carbon or other forms of sufficiently pure carbon broken into pieces, and inclosed in a suitable porous or perforated vessel, and in employing a sufficient pressure upon the inclosed carbon by means of a screw, weight, tightened wire, rivet, or the gravity of the carbon in a sufficiently high frame, said pressure being employed for the purpose of securing the intimate contact of the pieces of inclosed carbon and the connection of the conducting wire or metal with the inclosed carbon.

I employ a skeleton or perforated lead frame or vessel of the size and shape suited to the selected battery-cell. Into this frame or vessel I place pieces of carbon, of a size larger than the holes or perforations in the frame, and small enough to conveniently pack in the frame. A convenient range of sizes is from one-quarter of an inch to three-quarters of an inch in diameter, though I use the sizes larger and smaller, as convenient. Upon the filled broken carbon, when the height itself is not sufficient to produce the desired pressure, I place a cover, secured to the containing-vessel by means of a screw or screw-thread; or I fasten such cover down with a wire or rivet; or I place a weight upon the top of the filled carbon; or I employ a sufficient height of carbon to secure the pressure by means of its own gravity.

For use in acid batteries a piece of platinum wire or sheet is attached to the screw or screw-cap, for the purpose of forming the contact with the carbon. The connecting-wire is attached to this piece of platinum, or to the screw or screw-cap, to which it is affixed; or the piece of platinum attached to the connecting-wire is placed against the interior of the containing-vessel.

Instead of employing lead as the material of the containing-vessel or frame, I employ copper, gutta-percha, or burnt porous clay. In the case of using copper, no connecting platinum is necessary. The connecting-wire is attached to the cover, or screw, or vessel.

In the drawing accompanying this specification, A C D E is the perforated or porous vessel filled with broken carbon; A B C, the brass cap or cover screwed down to the vessel A C D E, and against the contained carbon. I H is the platinum connecting-piece, soldered upon the inside of the cover A B C, and F G is the connecting conducting-wire, soldered at F to the cover A B C. The sides A E and C D are perforated or porous. The whole interior A E H C D E A is filled with broken carbon.

The advantages presented by such a carbon-pole are suggested under two heads: First, a superior pole in regard to obtained power is secured. In the ordinary mode of forming the carbon-pole the carbon is ground fine, and cemented and molded into the proper shape, and then hardened. In this process, unless more care is exercised than is possible in the manufacture on a large scale, defective contact of the particles of carbon is the result, and crumbling is presented to the contact of the platinum attachment. By reason of the incomplete contact thus presented an appreciable resistance is introduced in the pole itself where it should occur. In the pole described in this specification these difficulties are removed. The particles of hard carbon are brought into close contact without any substance intervening, and the hard edges and corners of the carbon are brought against the metallic connecting-surface. Second, a cheap pole for large batteries is obtained. By the ordinary mode of manufacture large poles constructed of carbon are expensive and liable to breakage. A pole constructed as described in this specification is cheap, and not liable to breakage or rapid wear.

I do not claim the application of solid or cemented carbon to the pole of the galvanic battery; but

What I do claim is—

A battery-pole consisting of a conducting skeleton or perforated frame or jacket, containing broken carbon or a carbon-plate, substantially as and for the purpose described.

Witness my hand in matter of my application for patent.

HOWARD P. DECHERT.

Witnesses:

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