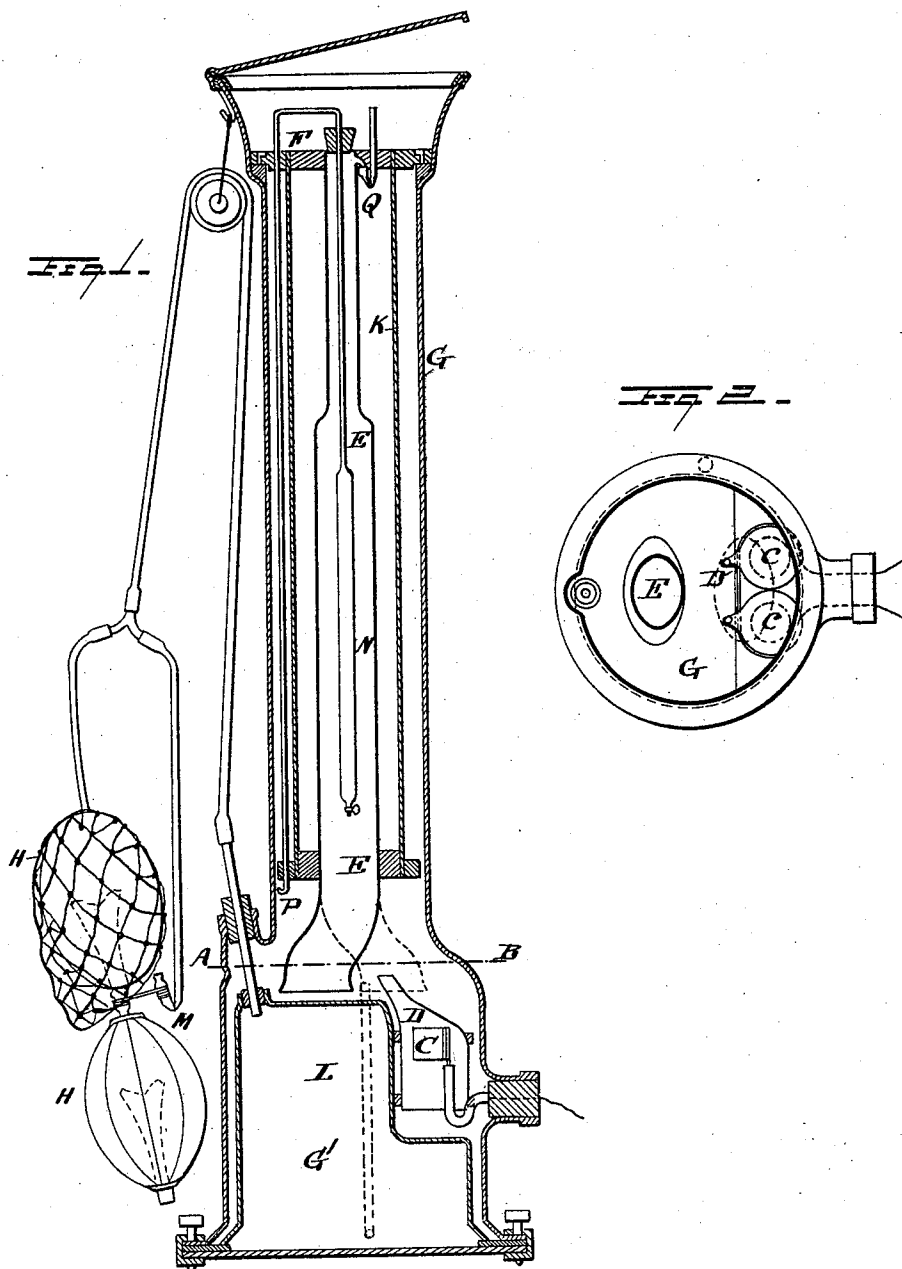


(No Model.)

H. A. NABER.
GAS VOLTAMETER.

No. 581,363.

Patented Apr. 27, 1897.



Witnesses

A. J. Madden

Al. Melhuish

Inventor

H. A. Naber

by

A. J. Madden

his Attorney.

UNITED STATES PATENT OFFICE.

HENRI A. NABER, OF LONDON, ENGLAND.

GAS-VOLTAMETER.

SPECIFICATION forming part of Letters Patent No. 581,363, dated April 27, 1897.

Application filed March 30, 1896. Serial No. 585,444. (No model.) Patented in Germany November 11, 1893, No. 76,392; in France November 15, 1893, No. 234,091, and in England November 15, 1893, No. 21,850.

To all whom it may concern:

Be it known that I, HENRI ADRIEN NABER, a subject of the Queen of the Netherlands, and a resident of London, in the county of Middlesex, England, have invented a certain new and useful Improvement in Gas-Voltameters, (for which I have obtained Letters Patent in Germany, No. 76,392, dated November 11, 1893; in France, No. 234,091, dated November 15, 1893, and in England, No. 21,850, dated November 15, 1893,) of which the following is a specification.

This invention relates to gas-voltameters, the novel arrangements of which will be seen in the accompanying drawings, in which—

Figure 1 shows a sectional elevation of the instrument, and Fig. 2 a horizontal section on line A B of Fig. 1.

The electrodes C are spiral in form and are placed under the glass hoods D, which terminate in nozzles about four millimeters in diameter. These hoods are held together by rubber bands, as shown. A burette E is supported from a collar F and is capable of rotation, allowing either one or both of the gases to be collected or of being lifted and turned in the position shown in the drawings, thus shutting off the gases altogether from the burette without interrupting the current passing between the electrodes. The burette is contained in an outer glass vessel G, which is half-full of the electrolyte, weak sulfuric acid. In order to neutralize the pressure of the gas to be measured, arrangements are provided for adjusting the level of the electrolyte outside the burette with the level of the liquid within this part of the instrument. This is effected by air-pump H, by which air may be forced into the air vessel G'. This vessel is filled with the electrolyte, and a tube passing nearly to the bottom allows the liquid to be forced out into the annular space between the outer vessel G and the cylinder K,

in which the burette is fastened. The weight of the hanging air-pump H keeps a kink in the rubber tube M, which is otherwise open. On raising the air-pump this kink disappears and the electrolyte enters the receiver G' through the tube L, the air escaping at M.

An air-thermometer N is suspended in the burette, and by its indications corrections may be made for temperature and for barometric pressure. The open end of the thermometer is turned up at P to prevent the ingress of any bubbles of gas. A tube Q, closed by a kink, as shown, or by a stop-cock, allows the gas to escape from the burette.

The rest of the construction of the apparatus is clearly shown in the drawings.

I claim as my invention—

1. The combination with the electrodes of vessels D containing said electrodes and having openings for escape of the gas developed therein, and a burette E open below and having said opening displaced laterally of the axis the said burette being adapted to be lifted and rotated in order to be brought over or away from the openings in the gas-developing chambers D respectively.

2. The combination with electrodes of a burette open below and adapted to receive gas arising from said electrodes, an outer vessel containing these parts a chamber within said outer vessel adapted to receive part of the electrolyte and having communication with said outer vessel and means for forcing air into said chamber and releasing same therefrom for the purpose of controlling the level of the electrolyte in the outer vessel.

In witness whereof I have signed this specification in presence of two witnesses.

H. A. NABER.

Witnesses:

H. J. HADDAN,
H. E. C. BARRETT.