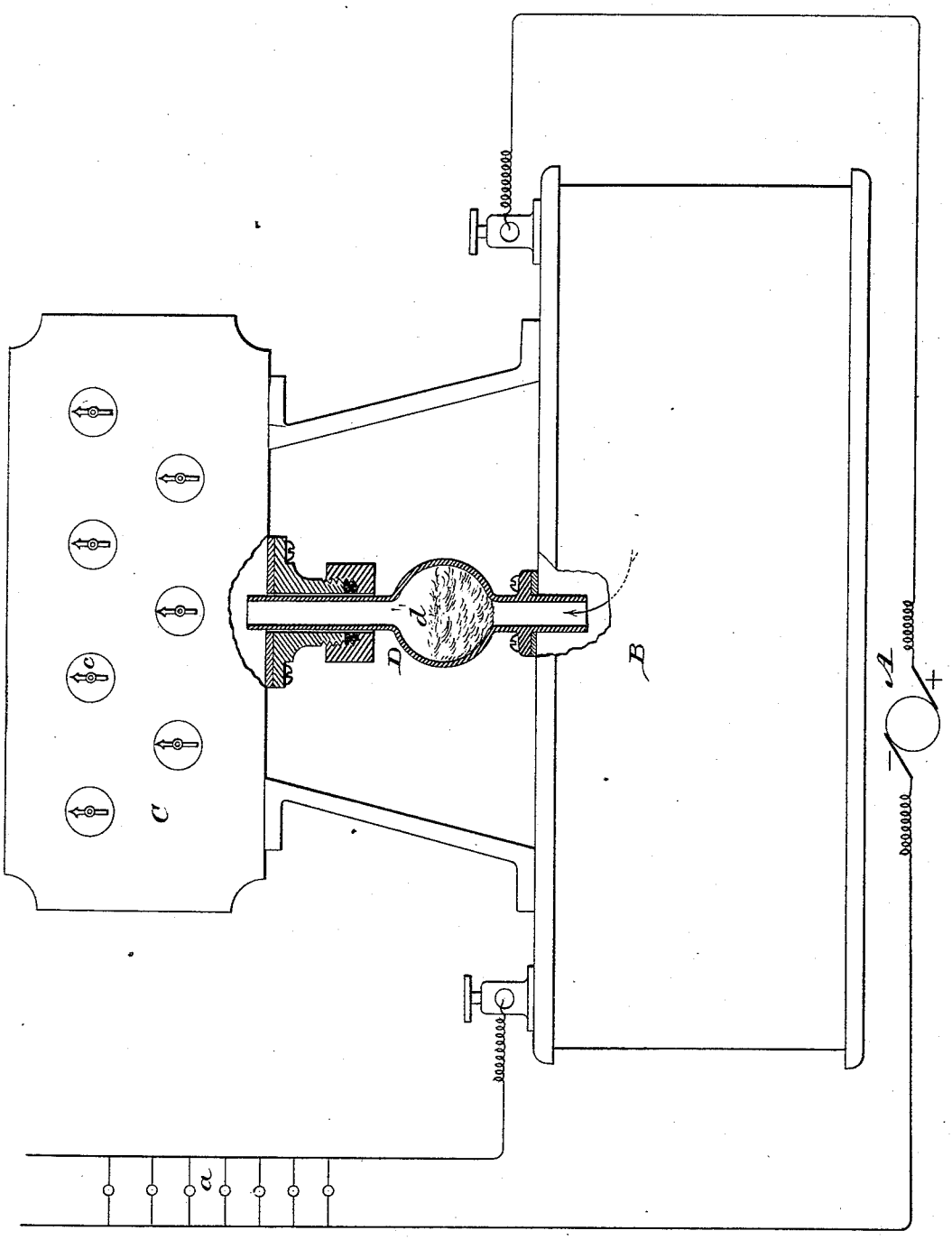
(No Model.)

W. F. SMITH.

ELECTRIC METER.

No. 420,214. Patented Jan. 28, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

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ELECTRIC METER.

SPECIFICATION forming part of Letters Patent No. 420,214, dated January 28, 1890.

Application filed May 24, 1889. Serial No. 311,938. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. SMITH, of Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Electric Meters, of which the following is a specification.

My invention relates to that class of apparatus for measuring electrical energy wherein the evolution of gas is employed in connection with suitable registering mechanism. In some forms of such meters there is developed during the decomposition of the gas a foam or spray which if carried over by the gas into the registering mechanism has a corrosive and deteriorating effect and eventually impairs or destroys its functions. For instance, such may be the case where the anodes and cathodes are plates of iron immersed in a solution of caustic potash, a meter of that character being shown in Letters Patent granted to me April 9, 1889, No. 401,226.

My present invention consists in interposing between the registering mechanism and the chamber wherein the evolution of gas takes place a filtering device which prevents any matter passing over with the gas. By preference I employ a glass tube or bulb interposed between the registering mechanism and the electrolytic chamber and place therein a mass of asbestus wool or other fibrous material that is indestructible in the solution which may be employed. The filtering material is of course sufficiently permeable to permit a free passage of the gas to the registering devices, but intercepts froth, spray, or other matter which might be carried over with the gas. Asbestus wool is a suitable material to be employed with a meter of the character described in my application above mentioned.

The accompanying drawing is a diagram view illustrating the invention.

A represents a source of electric energy in the circuit of which the meter and lamps *a* or translating devices are placed.

In the meter, B represents the chamber in which the gas is formed, and C the casing of the registering mechanism, the registering indexes or pointers being marked *c*. In the passage-way or tube through which the gas passes to the registering mechanism I place the filtering medium.

In the drawing D represents a glass tube connecting the two chambers and having an enlargement or bulb in which filtering material *d* is placed.

I claim as my invention—

1. In an electric-current meter, the combination of the registering mechanism, the gas-generating chamber for containing the solution or electrolyte, the circuit-connections therewith, and an interposed filtering medium through which the gas generated from the solution by the current passes, substantially as set forth.

2. In an electric meter, the combination, with the registering mechanism and gas-generating chamber, of an interposed tube for the passage of the gas connecting the two and formed with an enlargement or bulb containing a filtering material, such as asbestus wool or the like, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

WALTER F. SMITH.

Witnesses:
J. W. HURFF,
MORRIS R. BOCKIUS.