

No. 760,096.

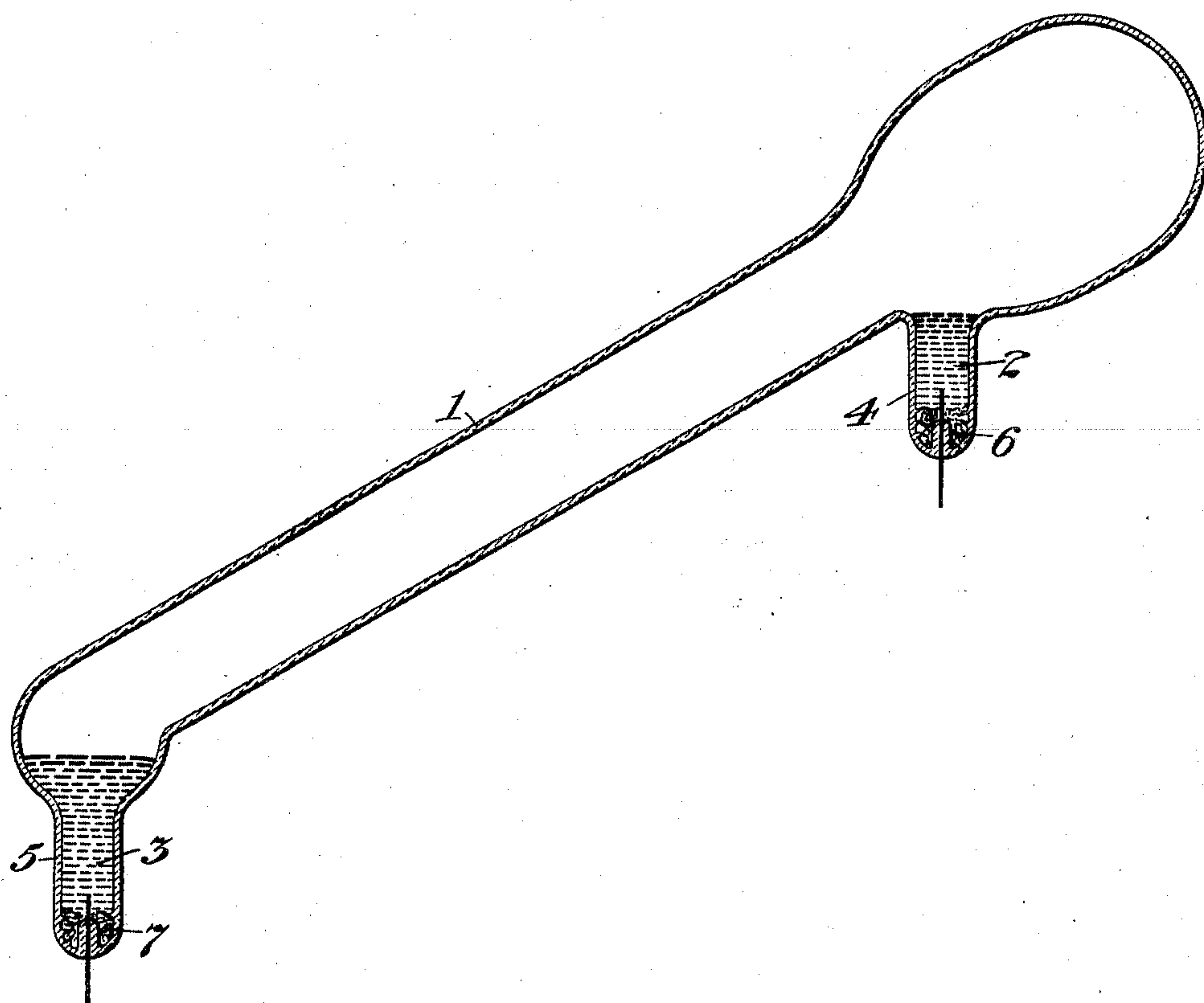
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J. R. BAKER.

PROTECTING DEVICE FOR VAPOR ELECTRIC APPARATUS.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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PROTECTING DEVICE FOR VAPOR ELECTRIC APPARATUS.

SPECIFICATION forming part of Letters Patent No. 760,096, dated May 17, 1904.

Application filed November 6, 1903. Serial No. 180,009. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. BAKER, a citizen of the United States, and a resident of Arlington, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Protecting Devices for Vapor Electric Apparatus, of which the following is a specification.

The present invention is designed to overcome the difficulties which are sometimes experienced in the handling of gas or vapor electric apparatus when the body of such apparatus is formed of glass or similar transparent fragile material and when one or more of the electrodes consist of mercury or some similar conducting vaporizable material. These difficulties relate to the matter of protecting the body of the container from fracture during the process of manufacture or during transportation, when the mercury or other liquid is liable to be shifted suddenly from one position to another. Under such circumstances there is more or less danger of the glass or similar material becoming cracked or broken by reason of the shock caused when the heavy liquid is shifted in position.

The invention consists mainly in providing at the point or points where the shock is most liable to produce a crack or fracture a suitable cushion, distributor, or deflector and attaching the said device to the inner wall or walls of the container, so that it may always be found in the proper position for receiving the impact and preventing the injurious effects of the shock. The parts which are generally most liable to the fracture or cracking are those parts which constitute the receptacle or receptacles for the mercury or other conducting liquid and into which the lead-wires are sealed. For the purpose of protecting these parts or any other parts of the apparatus which are peculiarly subjected to the effects of shock I have found it efficacious to attach to the walls of the container at the point indicated glass wool or similar material. When the mercury or other conducting liquid is thrown against the glass wool, the latter serves to distribute the shock in such a manner as to prevent injurious ef-

fects. I may employ other materials in place of glass wool—such, for example, as asbestos. As indicated, the material employed besides acting, so to speak, as a distributor or deflector to receive the initial shock may have some yielding qualities which adapt it to serve the purposes of a cushion.

I have illustrated my invention in the accompanying drawing, which is a longitudinal section of one form of gas or vapor electric apparatus to which my invention may be applied.

In the drawing, 1 is a tubular body of glass, and 2 and 3 are respectively a positive and a negative electrode of mercury within the apparatus. Special pockets 4 and 5 are provided for receiving the respective positive and negative electrodes, and within the pockets are secured pieces or masses of glass wool, asbestos, or the like, which retain their position at the bottom of the pockets. I may secure the glass wool or other material in place by putting them in position during the process of manufacture and softening the glass around certain portions of them, whereby a secure union is provided. The masses or pieces of glass wool or asbestos or the like are illustrated at 6 and 7. Whenever desired, other parts of the apparatus may be similarly protected.

While the invention herein described is specially designed to protect the apparatus from the effects of shock during the process of manufacture and during transportation, yet it may serve the same purpose under any conditions where the apparatus is subjected to shock from similar causes, although in general no serious danger is incurred during the ordinary handling of the apparatus whether used for lighting purposes or for the conversion of electric currents.

I am aware that it has been proposed to protect the exposed parts of apparatus of this class by means of unattached cushions or distributors designed for the same purpose as that mentioned herein; but I find that it is of advantage to positively secure the protecting devices to the walls of the apparatus, and my

invention relates particularly to such positive attaching of the devices.

It will be understood that by reason of the inelastic character of the container when it is made of glass and also by reason of the mass or weight of the inclosed material when it is mercury and by reason of the fact that there is a vacuum inside the container the danger of cracking or breaking is greatly increased, and the present invention is of peculiar advantage when these conditions are present.

I claim as my invention—

1. The combination with a gas or vapor electric apparatus composed of fragile material and containing one or more electrodes of mercury or other conducting liquid, of one or more devices attached to the interior of such portions of the apparatus as are specially liable to shock from the movement of the liquid, such device or devices being adapted to reduce the shock.

2. The combination with a gas or vapor electric apparatus composed of fragile material and containing one or more electrodes of mercury or other conducting liquid, of pieces or masses of glass wool attached to the interior of the apparatus at such point or points as are

specially subject to the effects of shock from the movement of the liquid.

3. The combination with a gas or vapor electric apparatus consisting of an exhausted container of inelastic material and one or more electrodes of mercury or other conducting liquid, of one or more devices attached to the interior of such portions of the apparatus as are specially liable to shock from the movement of the liquid, such device or devices being adapted to relieve the shock.

4. The combination with a gas or vapor electric apparatus consisting of an exhausted container of inelastic material containing one or more electrodes of mercury or other conducting liquid, of pieces or masses of glass wool attached to the interior of the apparatus at such point or points as are specially subject to the effects of shock from the movement of the liquid.

Signed at New York, in the county of New York and State of New York, this 21st day October, A. D. 1903.

JAMES R. BAKER.

Witnesses:

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