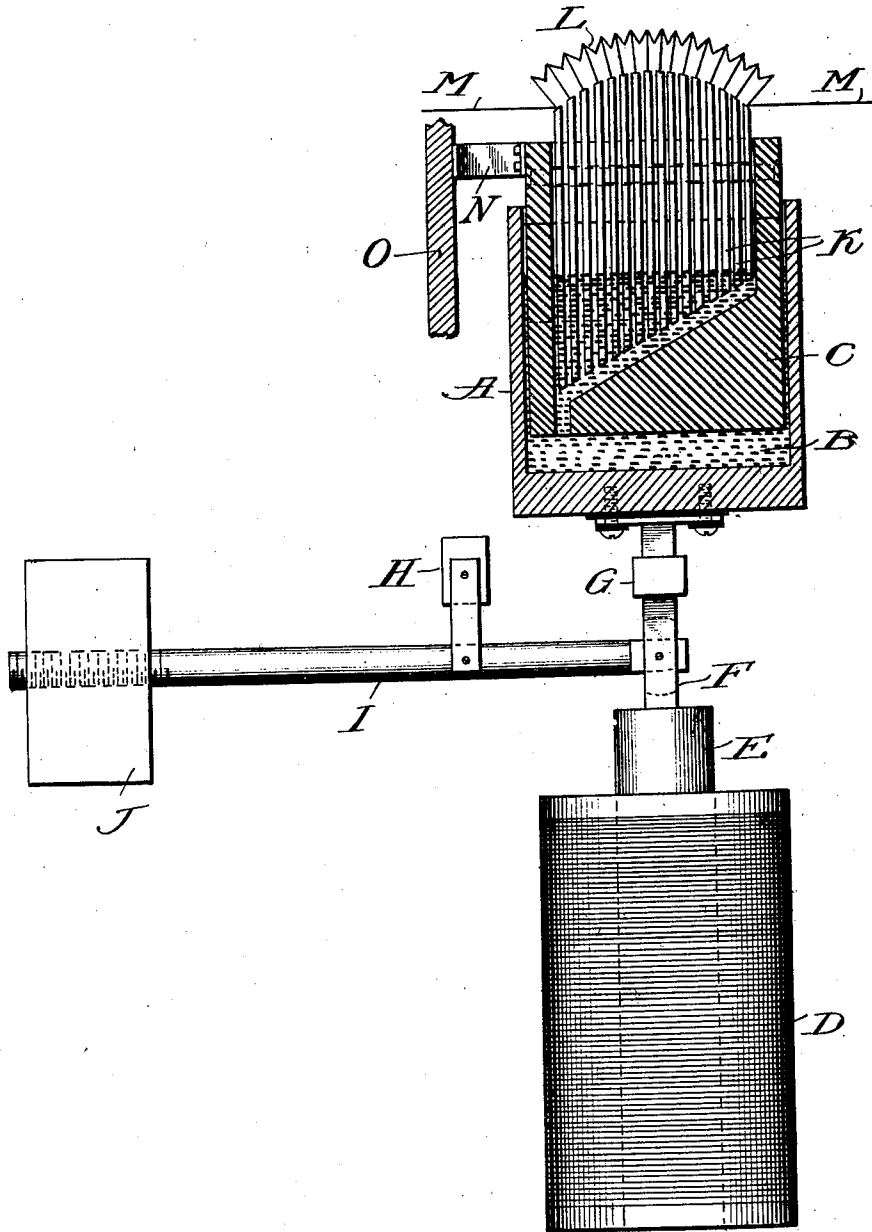


S. Y. CULLEY.
ELECTRIC REGULATOR.
APPLICATION FILED DEC. 23, 1910.

1,003,882.

Patented Sept. 19, 1911.



WITNESSES

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STUART Y. CULLEY, OF COVINGTON, KENTUCKY.

ELECTRIC REGULATOR.

1,003,882.

Specification of Letters Patent.

Patented Sept. 19, 1911.

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To all whom it may concern:

Be it known that I, STUART Y. CULLEY, a citizen of the United States of America, and resident of Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Electric Regulators, of which the following is a specification.

My invention relates to an automatic regulator of that style in which mercury is employed for introducing and cutting out electrical resistances.

The objects of my invention are to secure the conditions of the greatest number of contact fingers giving the maximum surface to contact with the mercury; to cause the mercury to rise and sink with the least amount of mechanism; to have the weight of the mercury moved, always the same; and to do away with dash pots by causing the mercury and its containers to act in this capacity.

Other objects and advantages are apparent from the following description and drawings.

The single figure of the drawing is an elevation in section, of the complete device as far as my invention is concerned.

The organization comprising my invention consists of, a reservoir A, containing mercury B, and movable both up and down, a stationary box C within said reservoir and provided with a hole through its base, for the admission of mercury from said reservoir, a series of contact fingers K, each reaching farther and farther into the mercury, and held fixed to said box, a solenoid D under the reservoir, a core E for said solenoid, a rod F connecting said core to said reservoir, a stationary guide G, through which said rod passes, a swinging center, H, a lever I, supported by said center, a weight J on one end of said lever, the other end being pivoted to said rod. Resistances L connect together the upper ends of the

fingers K. The box C is indicated as being stationary by being held on the wall O, by means of the bracket N.

The operation is simply that the pulling down of the reservoir A by the solenoid D, causes the mercury to sink lower and lower relatively to the contact fingers K, thereby leaving some of the fingers K free from the mercury, some of the resistances L being thus introduced into the main line M, for regulating purposes according to well known principles.

The displacement of the solid portion of the box C causes the mercury to rise and fall with a minimum amount of motion of the core E. The box C has a base which slopes to the lower ends of the contact fingers K, so that only a small space exists for the mercury.

Although the mercury runs in and out of the box C, yet the weight of the mercury to be raised by the solenoid is constant.

The reservoir A, box C, and mercury also act as a dash pot, thus saving the cost and complication due to an extra dash pot.

I claim as my invention:—

An electric regulator consisting of a reservoir containing mercury and movable up and down, a stationary box immersed in said mercury, and having a hole through the base for admitting and releasing mercury, resistances, a series of contact fingers connected successively at their upper ends by said resistances, dipping successively farther and farther into said mercury in said box, and supported by said box, a stationary solenoid, a movable core therefor, fixed to said reservoir, and a counterbalance for the weight of said core, reservoir and mercury.

STUART Y. CULLEY.

Witnesses:

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