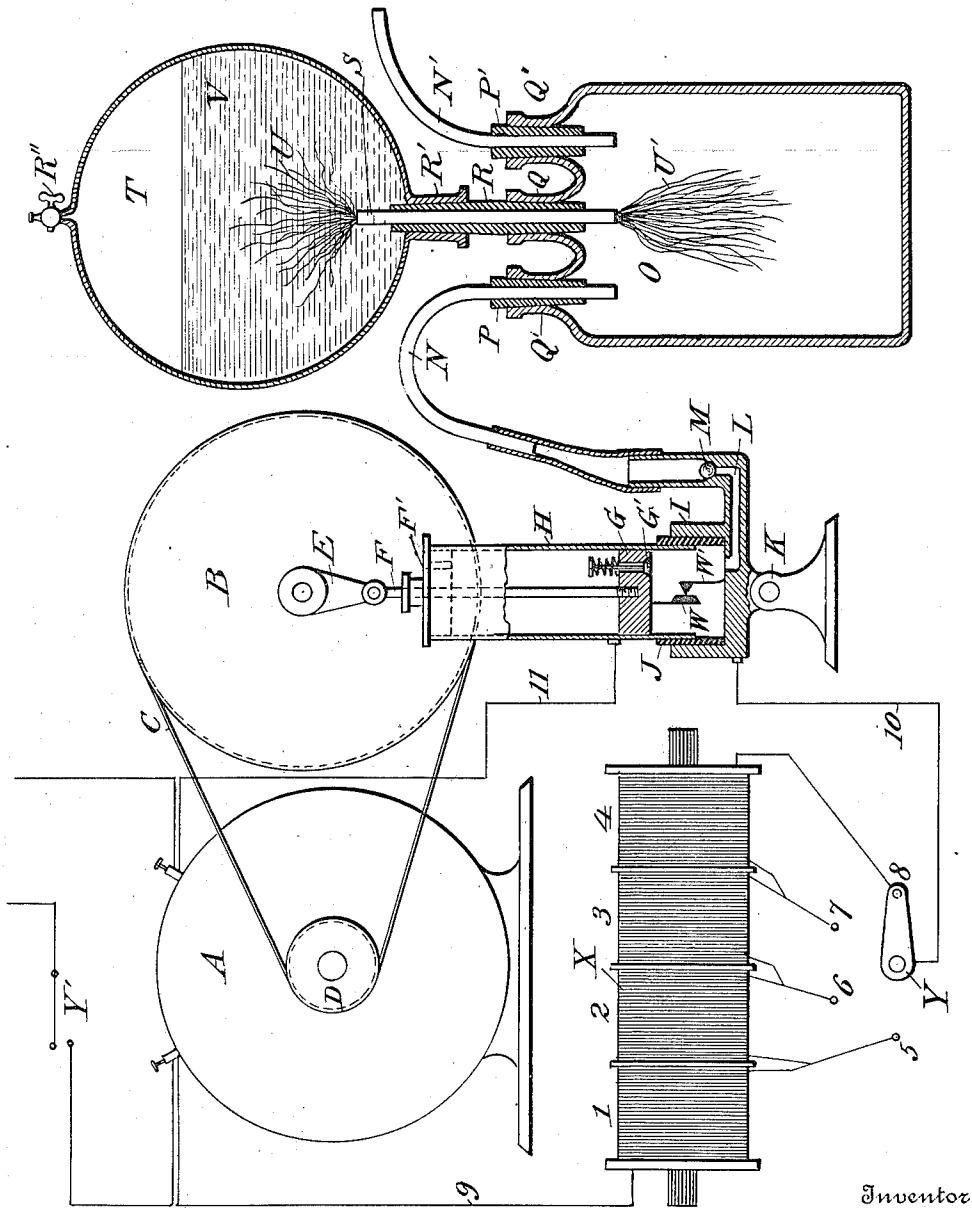


A. L. VAN PATTEN.
OZONE GENERATOR.
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1,060,651.

Patented May 6, 1913.



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UNITED STATES PATENT OFFICE.

ANDREW L. VAN PATTEN, OF LOS ANGELES, CALIFORNIA.

OZONE-GENERATOR.

1,060,651.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDREW L. VAN PATTEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Ozone-Generators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for producing and medicating ozone gas, and has for its object a simple apparatus which can be used by a patient to administer the medicated ozone-gas without risk or without having any previous knowledge of therapeutics instead of requiring the services of a practitioner.

The invention consists in certain improvements which will be hereinafter described and claimed.

The accompanying drawing which forms part of this specification represents apparatus for generating and medicating ozone gas in side elevation partly in section.

Reference being had to the drawing and the designating characters thereon, A indicates an electrical motor suitably positioned, B a disk or pulley connected by a belt C to the pulley D on the shaft of the motor.

E is a crank on the supporting shaft of the pulley and is connected to the piston rod F of a piston G in the pump H, which is supported in a base I, surrounded by an insulator J and oscillates on a trunnion K.

F' indicates an air induction port or passage in the outer end of the pump cylinder, and G' is a check valve in the piston, opening downwardly when any suction is produced by the up or outstroke of the piston.

Within the base I is supported a flexible electrode W' and to the piston G is attached a like flexible electrode W, in alinement with the former electrode, and each preferably provided with adjacent contact surfaces or points, as shown.

L is an extension on the base I in whose passage is a check valve M of sufficient weight to insure compression of the air and to prevent the air returning to the pump, and N is a tube for connecting the pump with a receptacle O, and extends through a rubber stopper P in the neck Q' of the bot-

tle. A similar tube N' extends through a like rubber stopper P' in the neck Q''.

R is a double tapered tubular stopper entering the neck Q of the receptacle O and the neck R', and through which passes a tube S, projecting into the medicated solution in the receptacle T and extending down into the receptacle O, and is filled with absorbent threads or sponge U, U', which conducts the solution into the gas in the receptacle O, by percolation or gravity and in finely divided particles. The threads U, U' may be adjusted in the tube S to expose more or less thereof in the receptacle O to vary the degree of medication of the gas.

R'' is a stop cock through which the receptacle T is supplied with the medicine desired to be administered and is indicated by V. The cock R'' also regulates the discharge of the medicated solution to the receptacle O, by admitting more or less air to the receptacle T.

The line wires supplying current to the motor are so indicated and one of said wires is connected to a make and break induction or resistance coil X which supplies a high tension spark to the electrodes W, W' when they are separated after making electrical contact with each other, the intensity of which is regulated by the switch Y by introducing or cutting out one or more coils of wire. The switch Y' controls current from the line wires.

The operation of the device is obvious, air compressed by the pump passes into the receptacle O and surrounds the absorbent material U' which is saturated with the medicine contained in the receptacle T. At the same time the electrical current is trying to pass through wire 9 around coil X through a plurality of wire windings 1, 2, 3, 4, to contacts 5, 6, 7, or 8, through wire 10 to the insulated base I, to electrode W', to electrode W, then through the barrel of the pump to wire 11 and out to line. The passage of current actually occurs when the electrodes are in contact as shown, but as the piston rises the electrodes separate and a high tension spark is produced at the contact points, which acting upon the surrounding air in the base below the piston forms ozone gas as is well understood. The next stroke of the piston forces the air and ozone into the receptacle O, to be medicated

and passes out through tube N' for immediate use or storage in another receptacle without deterioration of the medicine as occurs with bottles having tubes extending into the solution.

By the construction shown, a chamber is formed in the base I beyond the piston when it reaches the limit of its outstroke and in this chamber the ozone gas is formed and is forced into the receptacle O where it is medicated.

The subject matter contained in canceled claims 14, 15 and 16, is contained in a divisional application, filed December 23, 1912, Serial No. 738,223.

Having thus fully described my invention, what I claim is—

1. In an ozone-generator, an air pump, opposing electrodes within the pump chamber and means for producing high tension sparks between said electrodes in said chamber.

2. In an ozone-generator, an air pump, a fixed and a movable electrode in the pump chamber, and means for producing high tension sparks between said electrodes in said chamber.

3. In an ozone-generator, an air pump, a fixed electrode, a movable electrode secured to and reciprocated with the piston of the pump, and means for producing high tension sparks between said electrodes in a chamber adjacent to said piston.

4. In an ozone generator, an air-pump, a valve controlling the eduction passage of the pump to produce compression of air in the chamber of the pump and means for producing sparks adjacent to the piston at one end of its stroke.

5. In an ozone-generator, an air pump, a valve controlling the eduction passage of the pump to produce compression of air in the chamber of the pump, electrodes within the pump, and means for producing sparks between said electrodes in the pump.

6. In an ozone-generator, an air-pump, a valve controlling the eduction passage of the pump to produce compression of air in the chamber of the pump, a fixed and a movable electrode in the pump, and means for producing sparks between said electrodes in the pump.

7. In an ozone-generator, an air pump provided with an induction valve, a piston, a valve controlling the eduction passage of the pump to produce compression of air in the pump, a fixed electrode, a movable electrode secured to and reciprocated with the piston of the pump, and means for producing sparks between said electrodes in a chamber adjacent to said piston.

8. In an ozone-generator, an air pump provided with a piston having a passage therethrough, a valve controlling said passage, an air receiving chamber, a compression chamber, a valve in the eduction passage, and means for producing sparks at one end of the cylinder.

9. In an ozone-generator, an air pump, a base therefor supported on a trunnion, electrical insulation between the pump and the base, a chamber formed in said base, a fixed electrode secured to the base, a movable electrode connected to the pump piston, and means for producing high tension sparks.

10. In an ozone-generator, an air pump, a chamber at the end of the compression stroke of the piston formed by the base of the pump and the piston, a fixed electrode and a movable electrode whose contact is made in said chamber, and means for producing high tension sparks in the chamber.

11. In an ozone-generator, an air pump, a base therefor, having a compressed air chamber therein, a trunnion on which the pump oscillates, a fixed electrode supported on the bottom of said base, an electrode connected to a movable member of the pump, and means for producing high tension sparks.

12. In an ozone-generator, an air pump, a fixed and a movable electrode arranged in the discharge end of the pump, an induction coil provided with a plurality of wire windings, a contact for each winding and a switch adapted to engage the several contacts to produce high tension sparks.

In testimony whereof I affix my signature, in presence of two witnesses.

ANDREW L. VAN PATTEN.

Witnesses:

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O. F. SHERER.