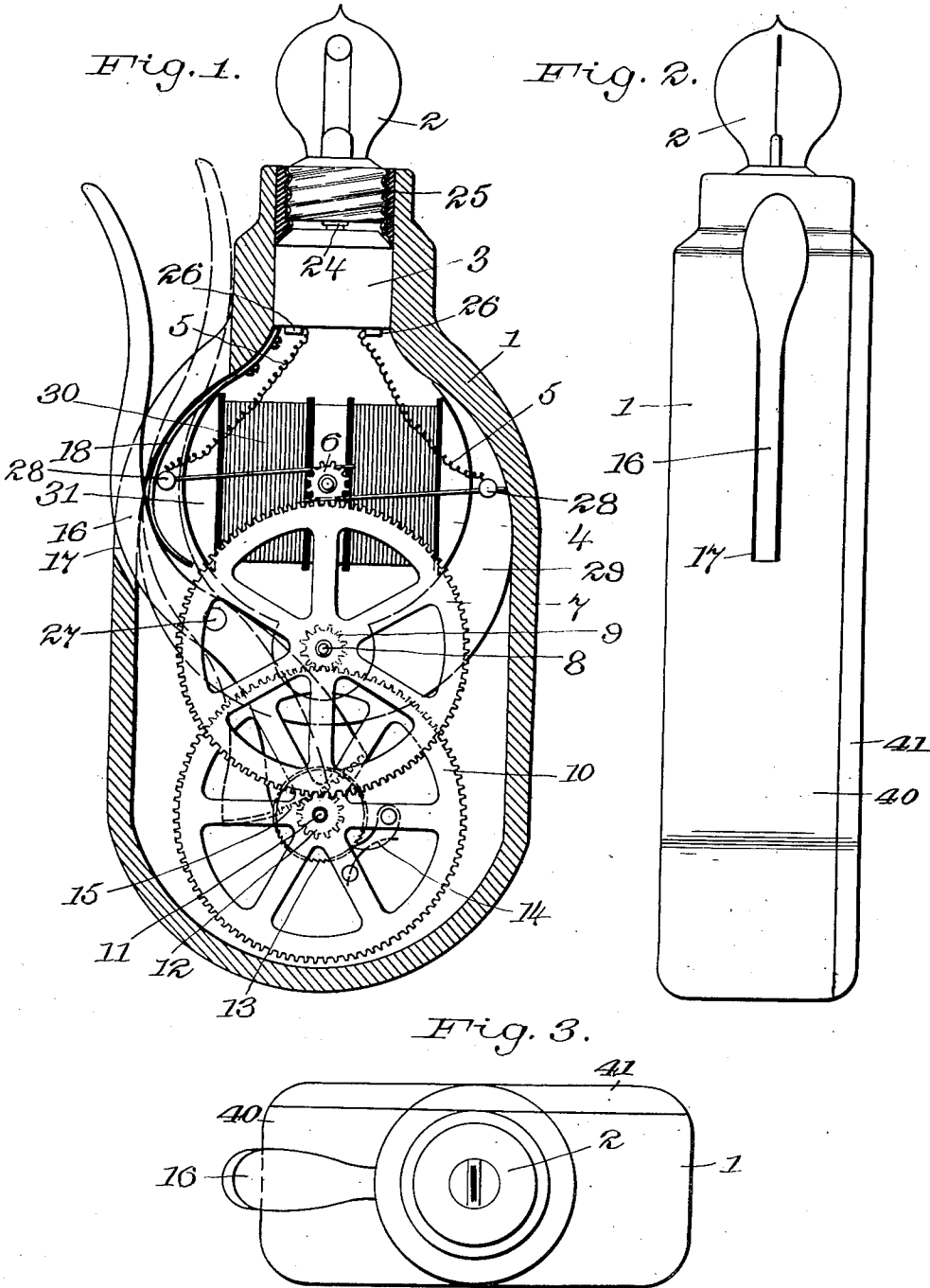


V. SENCE.
PORTABLE ELECTRIC GENERATING APPARATUS.
APPLICATION FILED JUNE 25, 1912.

1,054,872.

Patented Mar. 4, 1913.

2 SHEETS—SHEET 1.



Witnesses:
C. H. Jewell
M. G. Crawford

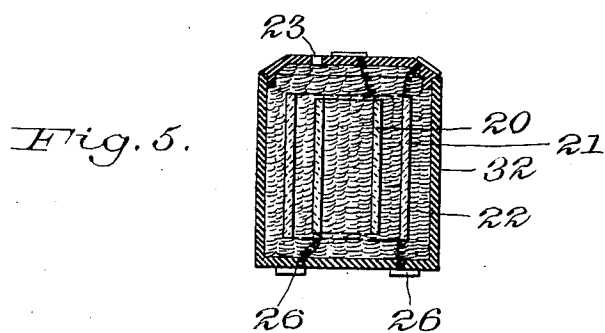
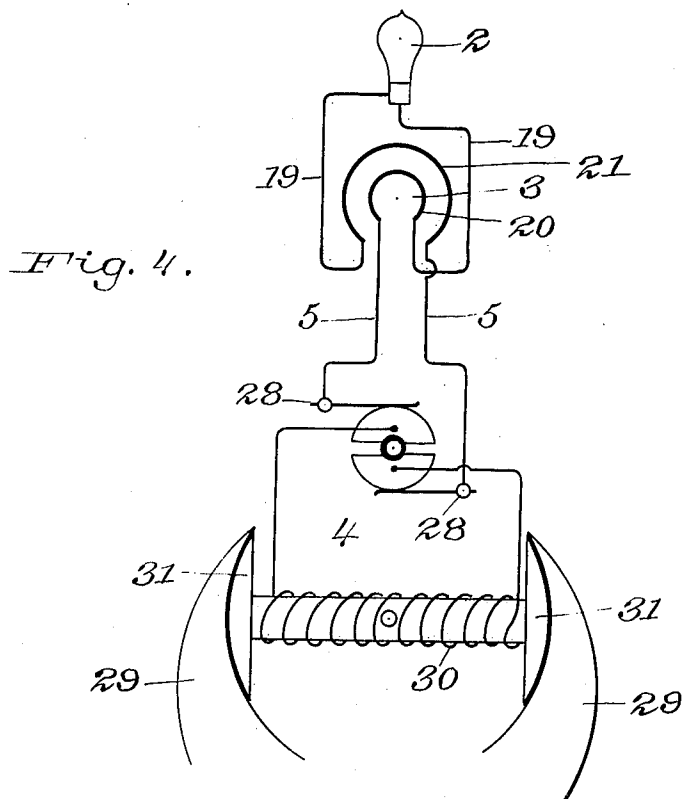
Inventor
V. Sence
By his Attorney
A. H. Perkins

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2 SHEETS—SHEET 2.



Witnesses:
 C. H. Jewell
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UNITED STATES PATENT OFFICE.

VICTOR SENCE, OF NEW YORK, N. Y.

PORTABLE ELECTRIC GENERATING APPARATUS.

1,054,872.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed June 25, 1912. Serial No. 705,820.

To all whom it may concern:

Be it known that I, VICTOR SENCE, a citizen of the United States of America, residing at New York city, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Portable Electric Generating Apparatus, of which the following is a specification.

My invention relates to portable apparatus for operating small incandescent lamps and comprises a compact mechanism for generating the necessary current set in a small flask or casing, adapted to be conveniently carried in the hand, and means for operating said mechanism by pressure of the thumb of the hand holding the flask.

Heretofore portable incandescent lamps have been operated by small storage batteries alone, which batteries soon run down and require recharging usually at a time when the light is most needed. My invention overcomes this difficulty and provides an apparatus which is always ready to supply light up to the full candle power of the lamp.

The best form of apparatus at present known to me embodying my invention is illustrated in the accompanying two sheets of drawings in which,

Figure 1 is a central section of the apparatus. Fig. 2 is an edge elevation. Fig. 3 a plan view. Fig. 4 a diagram of the electrical circuits, and Fig. 5 a central section of the storage battery.

Throughout the drawings like reference characters indicate like parts.

1 is a flask shaped casing preferably formed of non-conducting material composed of two portions 40 and 41 cemented together.

2 is a small incandescent electric lamp set in the neck of the flask.

3 is a small storage battery.

4 is a small dynamo or other mechanical generator of electricity, the poles or commutator brushes of which are connected by wires 5, 5, to the contact screws 26, 26, forming the charging connections of the battery.

6 is a pinion on the armature shaft of the generator meshing with gear 7 on counter shaft 8 carrying pinion 9. A gear 10 on driving shaft 11 meshes with pinion 9, and the driving shaft carries pinion 12 loosely mounted thereon. The ratchet wheel 13 is rigid with pinion 12 and meshes with pawl

14 pivoted on a spoke of gear wheel 10. Lever 16 pivoted at 27 inside the flask 1 carries a toothed sector 15 which meshes with pinion 12. This lever projects through an opening 17 in one edge of the flask and is normally held in the position shown in full lines in Fig. 1, by spring 18.

In the diagram (Fig. 4) 19, 19, represent wires running from the plates 20 and 21 of battery 3 to center contact 24 of the lamp 2, and shell contact 25 of the lamp socket (see Fig. 1).

5, 5, represent wires running from the charging contacts of battery 3 to the poles of the generator 4, represented by commutator brushes 28, 28. In Fig. 1 the generator shown has crescent shaped field magnet 29, armature winding 30, and armature pole piece 31.

The preferred form of storage battery shown in Fig. 5 has a closed casing 32 filled with slag wool, 22, or fine spun glass fibers, or equivalent mineral fiber which is a non-conductor of electricity and partial absorbent of the acid used in batteries of this kind. The battery plates 20, 21, are embedded in this fiber which prevents the fluid from escaping if the battery is tipped sideways or even turned upside down. A small vent 23 is left in the shell or casing 32 for the escape of gas generated by the battery in action. The filling of spun mineral fiber also prevents the battery plates from touching one another and short circuiting in case they should buckle and keeps the active material in position.

In use the operator holds the flask 1 in his hand and periodically forces lever 16 into the position shown in dotted lines in Fig. 1 by pressure of the thumb of the hand in which the flask is held. On releasing the pressure spring 18 forces the lever back. Each inward movement of the outer projecting end of the lever spins the armature of generator 4, through action of the pawl and ratchet gearing, and generates a current which charges battery 3. This battery transforms the pulsating current so generated into a constant current supplied to lamp 2, incandescing the same.

The storage battery might be omitted, other forms of mechanical generator used, and the improved form of battery shown could be used in other portable apparatus.

The advantages of my invention arise from the fact that the generator is driven

by the motion of a movable member, preferably a lever, projecting from the casing, movable at right angles to the surface of said casing, and preferably located under the thumb of the operator, whereby, as the casing is held naturally with the lamp projecting forward, the entire muscular force of the hand can be conveniently exerted to force the movable member toward the casing by the contraction of the hand, the casing and movable projection being pressed together between the thumb and all four fingers, or palm, of the hand. In this way the power necessary to generate a useful amount of light can be easily and continuously exerted by a person of ordinary muscular development for some time without fatigue.

Having, therefore, described my invention, I claim:

1. The combination with a portable casing adapted to be grasped by the hand of an operator, of an incandescent electric lamp set in one end of said casing, a mechanical generator of electric current located in said casing and connected to said lamp, a lever fulcrumed in, and projecting out of, the casing at a point under the thumb of the hand of an operator grasping the casing in a normal manner, and ratchet gearing conveying motion from said lever to said generator, the projecting end of said lever being movable in a direction substantially normal to the axis of the casing.

2. The combination with a portable casing adapted to be grasped by the hand of an operator, of an incandescent electric lamp set in one end of said casing, a mechanical generator of electric current located in said casing and connected to said lamp, a lever fulcrumed in, and projecting out of, the

casing at a point under the thumb of the hand of an operator grasping the casing in a normal manner, and ratchet gearing conveying motion from said lever to said generator, the projecting end of said lever being movable in a direction substantially normal to the axis of the casing together with a storage battery also located in said casing and connected in series between the generator and lamp.

3. The combination with a flask shaped casing formed of electrically non-conducting material adapted to be grasped by the hand of an operator, of an incandescent electric lamp set in one end of said casing, a mechanical generator of electric current located in said casing and connected to said lamp, a lever fulcrumed in, and projecting out of, the casing at a point under the thumb of the hand of an operator grasping the casing in a normal manner, and ratchet gearing conveying motion from said lever to said generator, the projecting end of said lever being movable in a direction substantially normal to the axis of the casing.

4. The combination with a flask shaped casing of electrically non-conducting material provided with the usual terminal neck and with a slot near said neck, of an incandescent electric lamp set in said neck, a mechanical generator of electricity located in the body of the flask and connected to said lamp, ratchet gearing for rotating said generator and a lever connected to said ratchet gearing, projecting out of the flask through the slot therein and extending alongside the neck thereof.

VICTOR SENCE.

Witnesses:

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