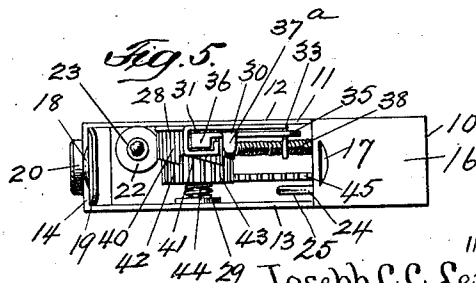
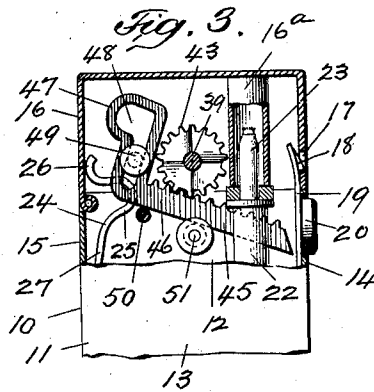
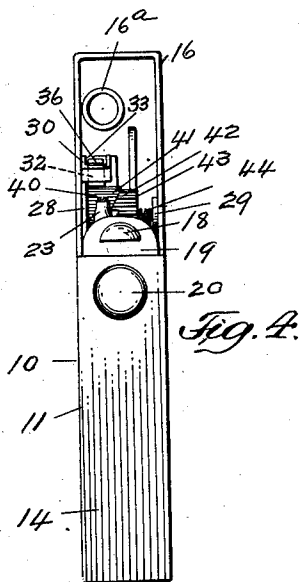
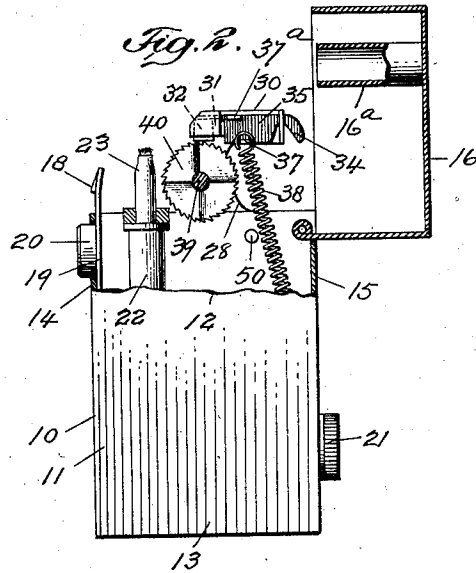
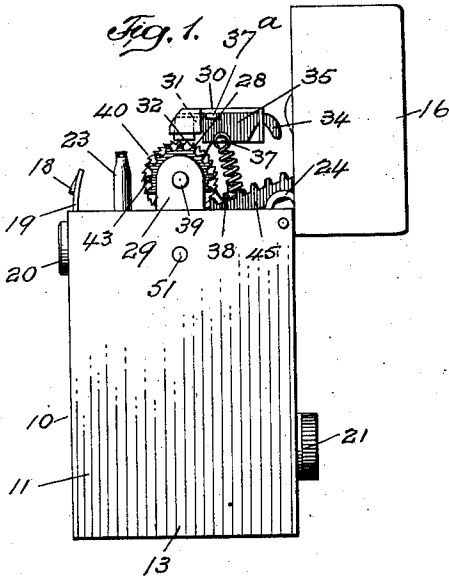


J. C. C. LENZ.
POCKET LAMP.
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987,247.

Patented Mar. 21, 1911.



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POCKET-LAMP.

987,247.

Specification of Letters Patent.

Patented Mar. 21, 1911.

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To all whom it may concern:

Be it known that I, JOSEPH C. C. LENZ, a citizen of the United States, and a resident of Hoboken, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Pocket-Lamps, of which the following is a full, clear, and exact specification.

This invention relates to a class of self-lighting lamps or devices adapted to be carried in the pocket of a person for ready use as occasion requires.

My invention has for its object primarily to provide a lamp carrying a wick saturated with a gaseous liquid fuel and which is adapted to be automatically lighted by one or more sparks from the abrasion of a spark-producing material, thus dispensing with the use of matches, and to provide a simple and compact form of device adapted for convenient use to light cigars, pipes and for other purposes.

A further object of the invention is to provide a form of lamp having a spring controlled lid hinged to the body or casing thereof and which is adapted to be held to the casing in locked engagement when closed upon the casing and when released is adapted to move a toothed rack in a manner by which a toothed ratchet-faced wheel will be rotated to abrade the spark-producing material held in contact therewith for throwing off one or more sparks to ignite the wick of the lamp.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawing which forms a part of this specification and will then be pointed out in the appended claims.

In the drawing, Figure 1 is a side elevation of one form of pocket lamp embodying my invention. Fig. 2 is an elevation, partly in section, of the side of the lamp opposite to the view shown in Fig. 1. Fig. 3 is a detail side view of the operating mechanism of my lamp, showing in section the lid thereof closed down upon the casing. Fig. 4 is an end view of the front of the lamp with the front wall of the lid thereof removed, and Fig. 5 is a top plan view of the lamp when the lid is thrown open.

My improved pocket lamp 10 has preferably a substantially rectangular body or casing 11 provided with side walls 12, 13 and end walls 14, 15. Upon the end wall 15 is

hinged a lid 16 carrying a light-extinguishing tube, as 16^a, and in the opposite end of said lid is formed a notch 17 adapted to be engaged by the clip 18 of the spring lock 19 connected to the end wall 14 of said casing and which is operated by pressing inwardly the thumb button 20 for releasing the lid 16 when locked to the casing. Within the casing is provided a fuel chamber or receptacle in which is placed a quantity of cotton or other absorbent material which is saturated preferably with gasolene or like inflammable gaseous fuel with which the fuel chamber or receptacle is filled through an opening formed in the end wall 15 and closed by a stopper or cap 21. In proximity to the end wall 14 of the casing 11 is provided upon top of the fuel chamber or receptacle of said casing a vapor chamber having a burner 23 upon the top thereof. In the burner 23 is carried a wick and around the base of said burner is held a buffer or washer of cork, rubber, or other material whereby an air-tight engagement may be formed between the top of the vapor chamber 22 and the free end of the tube 16^a when said tube is passed over the burner 23 simultaneously with closing of the lid 16 upon the casing 11. When the lid 16 is released from engagement with the lock 19 it is swung open with considerable force by a spring 24 having a substantially U-shaped portion 25, a curved arm, as 26, which engages the inner surface of the hinged wall of said lid and an oppositely disposed arm 27 the free end of which is in engagement with the inner surface of the wall 15 of the casing 11.

To produce one or more sparks for lighting the wick in the burner 23 simultaneously with the movement of the lid 16 to an open position upon the wall 12 of the casing 11 is provided an upwardly projecting bracket 28 and upon the wall 13 of said casing is a second upwardly projecting bracket 29. Upon top of the bracket 28 is provided a small longitudinally disposed casing or substantially rectangular box 30 having in one end thereof a compartment 31 in which is loosely held a block of spark-producing material 32 which preferably consists of cerium or the alloys of cerium. In the top edge of the opposite end of the casing or box 30 is formed a slot 33 in which is movably guided the notched end 34 of a retaining lever 35 and upon top of the opposite end of said

retaining lever is a laterally disposed flange 36 forming a cap adapted to hold the block of spark-producing material 32 against displacement in the compartment 31.

- 5 Substantially centrally of the lower edge of the retaining lever 35 is a lug 37 which is attached to one end of a coil spring 38 having its opposite end connected interiorly of the casing 11, and said spring normally
10 serves to direct the retaining lever 35 toward the casing 11 so that the flange 36 of said lever tends to press the block of spark-producing material downwardly and outwardly through the lower end of the com-
15 partment 31 of the casing or box 30. For the purpose of replenishing the compartment 31 of the rectangular box 30 with a new block of spark-producing material upon the upper edge of the retaining lever 35
20 is formed a flange or lug 37^a which may be gripped to raise the retaining lever 35 to permit the spark-producing material to be readily inserted in the compartment 31.

- In the brackets 28 and 29 is journaled a
25 shaft 39 carrying a wheel 40 provided preferably with saw-teeth upon its peripheral edge and against which the spark-producing material 32 is resiliently held so as to be abraded thereby when said wheel is re-
30 volved. Upon one face of the wheel 40 is formed a ratchet 41 the teeth of which registers with the ratchet face 42 of a cog wheel 43 also held upon the shaft 39 and to retain the ratchet faces of the serrated wheel 40
35 and cog wheel 43 in resilient engagement a spring 44 is arranged around the shaft 39 between said cog wheel and the opposed face of the projecting bracket 29 of the casing 11. It is evident that the serrated wheel 40
40 is revolved by the cog wheel 43 and to rotate said cog wheel I provide a rack 45 having a straight arm 46 at one end of which is an angularly disposed plate 47 in which is provided a cam-shaped slot or opening 48. In
45 the cam-slot 48 is guided the peripherally grooved head of a pin 49 held in one wall of the interior of the lid 16 of the casing 11.

- Upon the upper edge of the straight arm
50 46 of the rack 45 is provided a plurality of teeth meshing with the cog wheel 43 and to maintain the engagement of the toothed rack and said cog-wheel the lower edge of the straight arm 46 passes over a pin 50 held in the wall 12 of the casing 11 and is also
55 guided in a peripheral groove of the head of a pin 51 which is likewise held in the wall 12 of said casing. To light my pocket lamp by this form of mechanism the lid 16 must be locked upon the casing and the
60 thumb button 20 of the spring lock 19 is pressed inwardly for releasing the clip 18 from engagement with the notch 17 of the lid 16 which is then swung open with force by the tension of the spring 24. Simul-
65 taneously with the opening of the lid 16 the

toothed arm 46 of the rack 45 is moved in the same direction as the lid 16 and in turn the cog wheel 43 will be rotated for revolving the serrated wheel 40 which will abrade the spark-producing material 32 and im- 70
mediately throw one or more sparks to ignite the wick of said burner.

In the foregoing description I have embodied the preferred form of my invention, but I do not wish to be understood as limit- 75
ing myself thereto, as I am aware that modifications may be made therein without departing from the principle or sacrificing any of the advantages of this invention, therefore I reserve to myself the right to make 80
such changes as fairly fall within the scope thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:— 85

1. In a pocket lamp; the combination with a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a serrated wheel rotatably held upon one side wall of the casing 90
and having a ratchet face; a cog wheel rotatably held upon the opposite side wall of the casing and also having a ratchet face adapted to register with the ratchet face of the serrated wheel; a toothed rack meshing 95
with the cog wheel and having an angular plate in which is provided a cam-slot; a pin held interiorly of the lid of the casing and having a peripherally grooved head guided in the cam-slot of the angular plate of the 100
toothed rack; a substantially rectangular box supported upon the top of one wall of the casing and having a compartment in one end thereof in which is loosely held a block of spark-producing material; and means pro- 105
vided in the rectangular box and connected to one side wall of the casing and adapted to hold the block of spark-producing material in resilient contact with said serrated wheel.

2. In a pocket lamp; the combination with 110
a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a bracket provided upon the top of each of the side walls of the casing and having a shaft journaled therein; 115
a substantially rectangular casing formed upon one of the brackets and having a slot in one end thereof; a compartment provided in the opposite end of the rectangular casing and having a block of spark producing material loosely held therein; a lever movably held in the rectangular casing, said lever having one end movable in the slot of said casing, and the opposite end thereof serv- 120
ing to press the block of spark-producing material outwardly from underneath said compartment of the casing; a spring having one end attached to the lever and its other end fastened interiorly of the casing, said spring normally serving to force the lever 125
130

downwardly in the rectangular casing; a flange formed upon the upper edge of the lever and adapted to be gripped to raise said lever from the rectangular casing to replenish the spark-producing material; a wheel held upon the shaft journaled in the brackets and having saw-teeth provided in its peripheral edge; a cog wheel held upon said shaft and adapted when rotated to simultaneously revolve the saw-toothed wheel; a rack having a toothed edge meshing with the cog wheel and having an angular plate at one end thereof in which is provided a cam-slot; a pin held to one of the walls interiorly of the lid of the casing and having a peripherally grooved head guided in the cam-slot of the angular plate; and a guide provided interiorly of the casing upon one of the side walls thereof and adapted to hold the toothed edge of said rack in engagement with the cog wheel.

3. In a pocket lamp; the combination with a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a bracket provided upon the top of each of the side walls of the casing and having a shaft journaled therein; a box formed upon the upper end of one of the brackets; a block of spark-producing material loosely held in the box; means provided in the box and adapted to force the block of spark-producing material outwardly from underneath the end of the box; a wheel held upon the shaft journaled in the brackets and having a serrated peripheral edge; a ratchet provided upon one face of the serrated wheel; a cog wheel held upon said shaft; a ratchet provided upon one face of the cog wheel and adapted to register with the ratchet of the serrated wheel; a rack movable within the casing and provided with teeth upon one edge thereof which meshes with the cog wheel; a plate formed upon one end of the rack and disposed at an angle with relation thereto and provided with a cam-slot therein; a pin held to one of the walls interiorly of the lid of the casing and having a peripherally grooved head guided in the cam-slot of the plate of said rack; means provided interiorly of the casing upon one of the walls thereof and adapted to hold the teeth of the rack in engagement with the cog wheel; and means adapted to lock and release the lid from the casing.

4. In a pocket lamp; the combination with a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a bracket provided upon the top of each of the side walls of the casing and having a shaft journaled therein; a wheel held upon the shaft journaled in the brackets and having a serrated peripheral edge; a ratchet provided upon one face of the serrated wheel; a cog wheel

held upon said shaft; a ratchet provided upon one face of the cog wheel and adapted to register with the ratchet of the serrated wheel; a substantially rectangular box formed upon the upper end of one of the brackets, said box having a compartment in one of its ends and a slot provided in the opposite end thereof; a lever held in the rectangular box and having a notched end loosely held in the slot at the end of said rectangular box; a flange formed at the opposite end of said lever and engaging the top of the spark-producing material; a spring having one end held to the lever and the opposite end held within the casing and normally serving to force the lever downwardly in the rectangular box; a toothed rack movable in the casing and meshing with the cog wheel; a cam-slot provided in one end of the toothed rack; a pin provided interiorly of the lid of the casing and held to one of the side walls thereof, said pin having a peripherally grooved head guided in the cam-slot of the angular plate of the toothed rack; and a guide provided interiorly of the casing upon one of the side walls thereof and adapted to hold the teeth of the rack in engagement with the cog wheel.

5. In a pocket lamp; the combination with a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a wheel held upon a shaft journaled at the top of the casing and having a peripherally serrated edge; a ratchet formed upon one face of the serrated wheel; a cog wheel also held upon the shaft carrying the serrated wheel; a ratchet formed upon one face of the cog wheel and adapted to register with the ratchet of said serrated wheel; a spring arranged upon the shaft between the opposite face of the cog wheel and the opposed surface of the side wall of the casing; a block of spark-producing material; means provided upon the top of the casing and adapted to hold the block of spark-producing material in resilient engagement with the serrated wheel; an arm movable within the casing and provided with teeth upon its upper edge which mesh with the cog wheel; a plate formed upon one end of the arm and disposed at an angle with relation thereto, said plate having a cam-slot therein; a pin provided interiorly of the lid of the casing and held to one of the side walls thereof; said pin having a peripherally grooved head guided in the cam-slot of the angular plate of the toothed arm; a guide provided interiorly of the casing upon one of the side walls thereof and adapted to hold the teeth of said arm in engagement with the cog wheel; and means adapted to lock the lid to the casing and release said lid therefrom.

6. In a pocket lamp; the combination

with a casing provided with a burner carrying a wick and having a lid adapted to be swung open by a spring; of a bracket provided upon the top of each of the side walls
5 of the casing and having a shaft journaled therein; a wheel held upon the shaft, said wheel having a toothed peripheral edge and having a ratchet face; a cog wheel also held
10 upon said shaft and having a ratchet face adapted to register with the ratchet face of the toothed wheel; a spring arranged upon the shaft between the opposite face of the cog wheel and the opposed wall of the casing; a substantially rectangular box formed
15 upon one of the brackets and having a slot in one end thereof; a compartment provided in the opposite end of the rectangular box and having a block of spark-producing material loosely held therein; a lever having
20 a notched end movably held in the rectangular box; a flange formed at the opposite end of the lever and held in contact with the top of the spark-producing material; a lug formed centrally of the lever; a coil
25 spring having one end held to the lug and

its opposite end held within the casing; a flange formed upon the upper edge of the lever and adapted to be gripped to raise said lever from the rectangular box to replenish the spark-producing material; a
30 rack having a toothed edge meshing with the cog wheel; an angular plate formed at one end thereof and having a cam-slot therein; a pin held to one of the walls interiorly
35 of the lid of the casing and having a peripherally grooved head guided in the cam-slot of the angular plate; a pin held to one of the walls interiorly of the casing and having a peripherally grooved head adapted to
40 hold the toothed rack in engagement with the cog wheel; and means adapted to lock the lid to the casing and release said lid therefrom.

This specification signed and witnessed
this twenty-fifth day of October A. D. 1910. 45

JOSEPH C. C. LENZ.

Witnesses:

ROBT. B. ABBOTT,
S. SAHNER.