

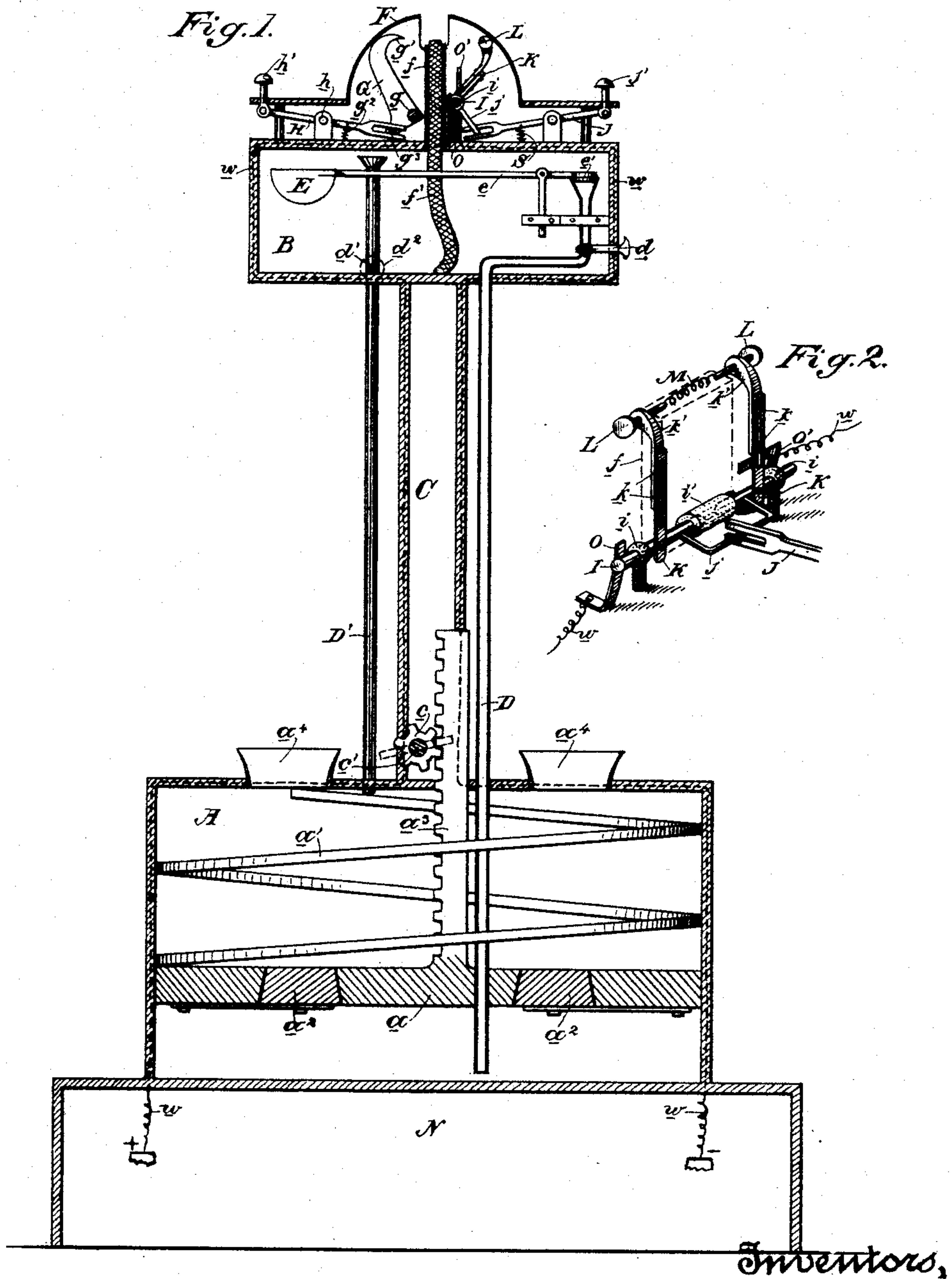
(No Model.)

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ELECTRIC IGNITING DEVICE FOR LAMPS.

No. 412,464.

Patented Oct. 8, 1889.



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UNITED STATES PATENT OFFICE.

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ELECTRIC IGNITING DEVICE FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 412,464, dated October 8, 1889.

Application filed October 11, 1888. Serial No. 287,862. (No model.)

To all whom it may concern:

Be it known that we, MANUEL CARRANZA, of Guatemala, Republic of Guatemala, Central America, and JOSÉ MARIA TINOCO, of the city and county of San Francisco, State of California, have invented an Improvement in Electric Igniting Devices for Lamps; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to electric igniting devices for lamps; and our invention consists of the constructions and combinations of devices which we shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of our invention, Figure 1 is a vertical section of a lamp, showing our improvements applied thereto. Fig. 2 is a perspective view of the lighting-frame.

A is the reservoir of the lamp, which may be circular or other shape.

B is the fount of the lamp, supported from the reservoir by the standard C. Within the reservoir is a closely-fitting piston a ; above which is seated a spiral spring a' , serving to press the piston down. The piston is also provided with a number of downwardly-opening valves a^2 . A rod in the shape of a rack-bar a^3 extends upwardly from the piston through the top of the reservoir and is engaged by a pinion c , mounted on a cross-shaft c' , journaled in the standard C, said shaft having on its other end a suitable thumb-screw, whereby it can be rotated, so as to raise the piston a .

D is the supply or feed pipe extending from near the bottom of the reservoir to near the top of the fount.

D' is a safety or overflow pipe extending from near the top of the fount downwardly into the top of the reservoir above the piston.

The operation of the parts as far as described is as follows: Oil is fed to the reservoir through the hoppers or funnels a^4 on its top. By means of the pinion and rack the piston a is raised, so that the oil which is

above it passes down through the valves a^2 into the reservoir under the piston. The spring a' , acting on the piston, serves to force it downwardly against the oil, thereby pressing the oil upwardly in the feed-tube D into the fount above. Within the fount is a float E on the end of a pivoted lever e , the other end of which carries a valve e' , which is seated in and adapted to close the upper end of the supply pipe or tube D. Therefore, when the oil reaches a certain level in the fount it raises the float and causes the valve E to shut off the supply; but when the oil in the fount has been consumed sufficiently to lower its level the float drops and opens the feed-tube. In case this mechanism should fail to operate, the safety-pipe D', serving as an overflow-tube, prevents an undue level of the oil in the fount and a possible overflow through the wick-tube. Traversing the supply-tube is a cut-off valve d , operated by a bar from the outside. This valve may be operated when it is desired to cut off the supply of oil from the reservoir and to only consume whatever oil is in the fount. In the safety-tube D', about at a level with the bottom of the fount, is an opening d' , which is controlled by a valve d^2 , operated from without, so that if it be desired to let the oil out at once which is within the fount the opening may be uncovered, thereby allowing the oil to run down the pipe into the reservoir.

F is the burner inclosing the wick-tube f , in which is the wick f' .

G is an extinguisher-plate, which has the shape of an elbow or bell-crank lever, pivoted at its angle at the point g . The upper end g' of the lever is curved and is adapted to be thrown directly over the top of the wick, thereby extinguishing it. It is held back, however, in its normal position by means of a small spring g^2 . This extinguisher-plate is operated by means of a lever H, which is pivoted at h to a standard on the top of the fount. One end of the lever is forked and embraces a fixed pin g^3 on the horizontal arm of the extinguisher-plate, while the other end of the lever has an upwardly-extending button h' .

The spring g^2 , holding the extinguishing-plate back out of action, also causes the button to remain up. Therefore by pressing down on the button the lever H is vibrated, so as to turn the extinguishing-plate on its pivotal center and throw its upper curved end over the wick, thereby extinguishing the light. On the other side of the wick-tube is a transverse shaft I, which is mounted and adapted to rock in electrically-insulated bearings i by means of a pivoted lever J, the forked inner end of which embraces a bail j on the shaft. The outer end of the lever has a button j' , whereby said lever is operated.

Firmly secured to the shaft I are arms K, extending upwardly at each end of the wick-tube. In the top of these arms are fitted opposing set-screws L, extending between the ends of which is a spiral wire M, made of platinum plated with iridium. It will be seen, therefore, that by pressing down the button j' the lever J will rock the shaft I and its upright arms K, thereby throwing the platinum wire into contact with the top of the wick. A spring S serves to return the parts to position and hold the wire away from the wick.

The platinum wire is included in an electric circuit as follows: Under the reservoir A is a hollow base N, in which is included or contained a suitable electric pile or battery, from which extend the circuit-wires w , which are preferably carried upwardly within the walls of the lamp-structure. At one end of the shaft I, and in contact therewith, is a metallic piece O, with which one of the wires w connects. At the other end is a bent metallic piece O', the end of which lies just back of one of the upright arms K of the shaft, though when said arm is pressed backwardly in normal position it is not in contact with the metallic piece, but only comes in contact with it when the arm is thrown forward. With this metallic piece O' the other wire w is connected.

The shaft I is in two sections, as shown, connected at the center by an insulator or non-conducting-piece i' , so that the course of the current must be through the platinum wire. The circuit, however, remains open when the parts are in normal position, for there is then no contact between the piece O' and the arm; but when the button is pressed down, so as to swing the parts over and carry the platinum wire directly over the top of the wick, then at that moment the circuit is closed by the contact of the arm with the piece O', so that the current passing through the platinum wire heats it to incandescence, and said wire being in contact with the top of the wick lights it. When the button is released, the parts resume their normal positions and the circuit is opened.

In order to adjust the platinum wire accurately to the height of the wick, we make the

arms K extensible by securing to their tops, by means of elongated slots and set-screws k , the pieces k' , which carry the set-screws L and wire M. The set-screws L serve to keep the platinum wire taut.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a lamp, a lighter for the wick, consisting of a swinging frame adapted to be moved forward and backward to close and open an electric circuit, said frame having a spiral platinum wire in said circuit, whereby it is heated to incandescence, the said wire being in contact with the top of the wick, substantially as herein described.

2. In a lamp, a rocking or swinging frame in an electric circuit and adapted to be moved forward and backward to close and open said circuit, a wire carried by said frame and adapted by the movement of the frame to be thrown into contact with the wick, and an electric circuit including the wire, whereby it is heated to incandescence, thereby lighting the wick, substantially as herein described.

3. In a lamp, and in combination with the wick thereof, a swinging frame carrying the wire M, adapted by the movement of the frame to be thrown into and out of contact with the wick of the lamp, the wires of an electric circuit, and connections between said wires and the swinging frame, whereby the circuit is alternately closed and opened by the swinging of said frame, substantially as and for the purpose herein described.

4. In a lamp, the rock-shaft I and the lever-connections and button by which it is operated, in combination with the arms of the rock-shaft, the wire M, secured between the tops of the arms and adapted to be thrown into contact with the top of the wick by the movement of the shaft, and an electric circuit, including the wire, whereby it is heated to incandescence and lights the wick, substantially as herein described.

5. In a lamp, and in combination with its wick-tube and contained wick, the rock-shaft I, the button and lever-connections by which said shaft is moved, and the spring by which it is returned, the arm secured to said shaft, the wire M, secured between the arms, and an electric circuit, including the wire, for rendering it incandescent, substantially as and for the purpose herein described.

6. In a lamp, and in combination with its wick-tube and contained wick, the sectional insulated rock-shaft, the button and lever-connections, and the spring by which said shaft is operated, the arms secured to said shaft, the wire M, secured between the tops of the arms and adapted to be thrown into and out of contact with the wick, the electric-circuit wires w , the contact-piece O, connected with one wire, and bearing on one

end of the shaft, and the contact-piece O',
connected with the other wire and with which
one of the arms of the shaft is adapted to
come in contact when the wire is thrown over
5 into contact with the wick, whereby the cir-
cuit through the wire is closed and said wire
rendered incandescent to light the wick, sub-
stantially as herein described.

In witness whereof we have hereunto set
our hands.

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JOSÉ M. TINOCO.

Witnesses:

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J. H. BLOOD.