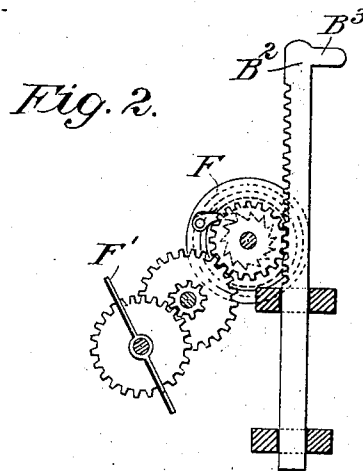
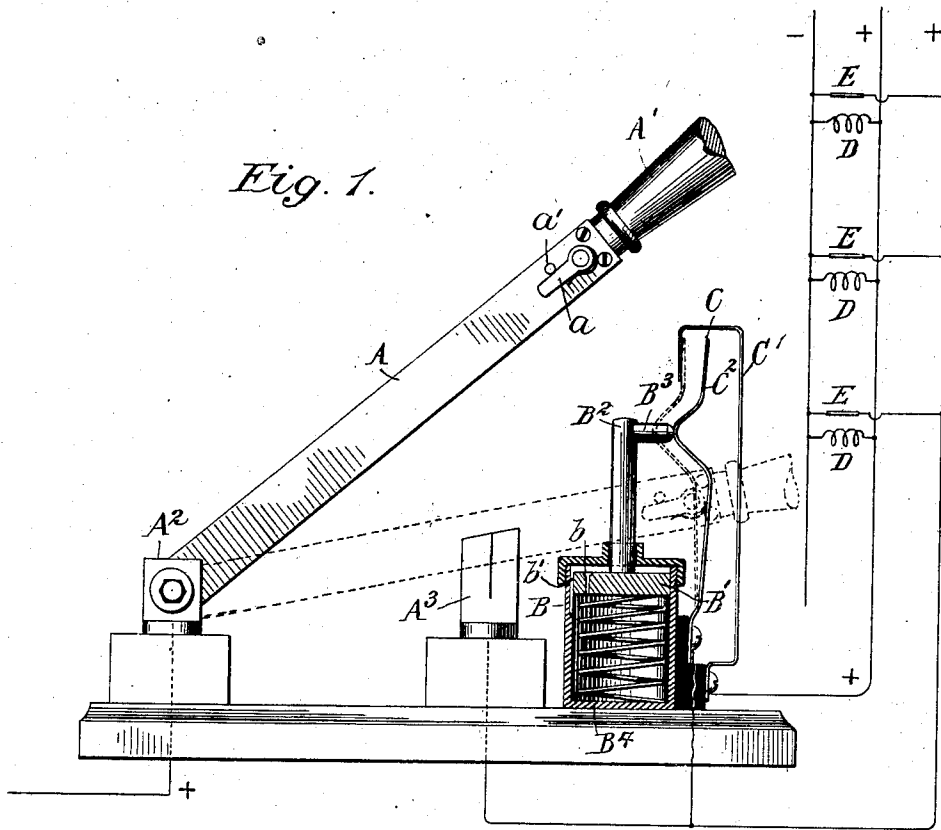


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MEANS FOR STARTING ELECTROLYTIC OR NERNST LAMPS.

APPLICATION FILED JULY 2, 1901.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

EUSTACE OXLEY, OF BROOKLYN, NEW YORK.

MEANS FOR STARTING ELECTROLYTIC OR NERNST LAMPS.

SPECIFICATION forming part of Letters Patent No. 737,460, dated August 25, 1903.

Application filed July 2, 1901. Serial No. 66,813. (No model.)

To all whom it may concern:

Be it known that I, EUSTACE OXLEY, of Brooklyn, in the county of Kings and State of New York, have made certain new and useful Improvements in Means for Starting Electrolytic or "Nernst" Lamps, of which the following is a specification.

My present invention relates to means for starting electrolytic or "Nernst" lamps, as they are now called; and it consists in the arrangement of circuits by which the heaters are cut into or out of circuit, so that current is not wasted by passing through them after their usefulness has ceased.

A principal feature of the invention consists in a switch which when closed completes the circuit through the heaters and the electrolytic light-giving bodies and after a determinate interval, sufficiently long to insure bringing the light-giving bodies to desired incandescence, automatically serves to open the heater-circuit, allowing the entire current-flow to pass through the "burners," as they are commonly called.

Several different arrangements will suggest themselves to the engineer for accomplishing the purposes indicated, and all of these I aim to cover.

One of the ways of operating the invention is to employ a spring-actuated dash-pot, so arranged that after the switch is closed a supplemental switch in the heater-circuit is opened by a part controlled by the dash-pot. Of course the dash-pot may be capable of adjustment or regulation to afford a desired interval of time between the closing of the main switch and the opening of the auxiliary or heater switch.

A second form of the invention is a clock-work attachment with a fly, the clock serving to open the heater-switch in the same way as the spring-actuated dash-pot. Electromagnetic cut-outs have been devised for interrupting the circuit of the heaters automatically, and thermostatic devices have been applied to the same purpose. My invention differs from these in being purely mechanical in its operation.

The devices just described are also controlled by the current in the burner, whereas

by my invention the opening of the heater-circuit is dependent only on the time interval for which the switch may be set.

The accompanying drawings show an embodiment of the invention.

Figure 1 shows an arrangement in which the spring-actuated dash-pot is employed, being partly in section, partly in side elevation, and partly in diagram. Fig. 2 is a detail illustrating the application of the clockwork.

In Fig. 1, A is the blade of the switch, of which A' is the handle and A² A³ the contacts. a is a spring-actuated finger with a stop a', both carried by the switch-blade. The dash-pot B has a piston B', connected to a rod B². The latter has a toe B³, which operates the auxiliary switch or contact C, and the spring B⁴ holds up the dash-pot piston.

The heaters are illustrated diagrammatically at D D, connected between the + and the - side of the circuit. The burners E E are similarly connected, but to a different lead on one side of the circuit, in the case illustrated on the + side. The path of the current is through the contacts A² A³ and the switch-blade A, and thence from the contact A³ to the burners. As is well understood, these do not when cold pass current, and therefore the current passes through the switch C, composed of the blades C' C², to the second lead, and thence to the heaters D. When the latter have fulfilled their office, the burners pass current and both are for the time in circuit and active. When the switch A is closed, the finger a strikes on the top of the rod B². The stop a' continuing to force it down it depresses the rod B² and piston B' against the force of the spring B⁴, permitting the closure of the switch C, the switch being in the dotted-line position when the switch-blade A has entered the contact A³. The pawl a passes over the rod to the dotted-line position. The rod then begins to rise, and when the toe B³ connects with the blade C² of the switch C the latter is opened and the heaters D are cut out of circuit. A vent e² is provided in the piston B', by regulating the size of which in any desired manner the speed of the piston can be regulated. At the top of the dash-pot a clearance b' is provided,

which permits it to act promptly at the instant of opening the switch C, preventing an arc at the switch-contacts.

In Fig. 2 I show the application of a clockwork as a retarding and operating device for the switch C. The spring-wheel F is connected by a rack and pinion to the rod B², and a fly F' is provided, by changing the area of which in any well-known way the speed of the clockwork can be regulated. By this means when the switch is closed the spring is wound up.

In both of the forms of the invention here illustrated the operation is entirely automatic—that is to say, the closing of the switch supplies current to the heaters, and after they have fulfilled their function they are cut out automatically, the judgment of the operator not being required after the apparatus is once adjusted.

Other forms of the invention not departing in principle from those illustrated are within the scope of the claims.

Having thus described my invention, what I claim, and desire to protect by Letters Patent of the United States, is—

1. A switch for electrolytic lamps, comprising main contacts in a circuit leading to both the burners and the heaters, supplementary contacts in the heater-circuit only, automatic means for opening the latter contacts, and a

mechanical retarding device controlling such means.

2. A knife-blade switch for electrolytic lamps, comprising a main switch-blade and contacts and auxiliary contacts for controlling the circuit through the heaters, automatic means for opening the latter contacts after the main switch is closed, and a dash-pot for retarding the opening.

3. A knife-blade switch for electrolytic lamps, comprising a main switch-blade and contacts and an auxiliary switch for controlling the circuit through the heaters, automatic means for opening the latter, a mechanical retarding device connected with such means, and means for releasing the retarding device at the time of opening the auxiliary switch.

4. In a switch for electrolytic lamps, the combination of a main switch and an auxiliary switch for the heaters, automatic means for opening the latter switch, a dash-pot controlling such means, and a clearance at or near the end of the stroke of the dash-pot piston.

In witness whereof I have hereunto set my hand, this 1st day of July, 1901, in the presence of two witnesses.

EUSTACE OXLEY.

Witnesses:

T. J. JOHNSTON,
ERMINA E. WALKER.