

(No Model.)

R. HACKING & G. BRAND.

ELECTRICAL INDICATING AND CUT-OUT APPARATUS FOR PORTABLE
OR OTHER ELECTRIC LAMPS.

No. 566,573.

Patented Aug. 25, 1896.

Fig. 1.

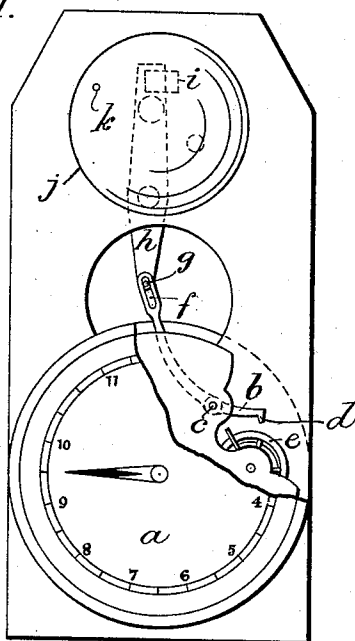
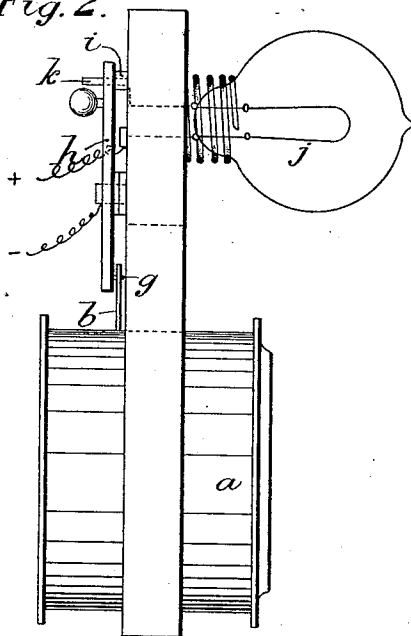


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT HACKING AND GEORGE BRAND, OF NOTTINGHAM, ENGLAND.

ELECTRICAL INDICATING AND CUT-OUT APPARATUS FOR PORTABLE OR OTHER ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 566,573, dated August 25, 1896.

Application filed January 13, 1896. Serial No. 575,227. (No model.)

To all whom it may concern:

Be it known that we, ROBERT HACKING and GEORGE BRAND, subjects of the Queen of Great Britain and Ireland, residing at Nottingham, England, have invented a new and useful Electrical Indicating and Cut-Out Apparatus for Portable and other Electric Lamps, of which the following is a specification.

10 This invention relates to a convenient arrangement of portable electric lamp for cyclists, miners, and others provided with means for indicating the length of time during which the current has been used.

15 For the purposes of our invention we employ a clockwork or time-indicator having a stop mechanism (which may be similar to that of an ordinary stop-watch) so connected with the switch of the electric lamp that the manipulation of the switch to light the lamp
20 sets the clockwork in operation, and the cutting out of the lamp simultaneously stops the clockwork. Thus the indicator acts only at such times as the current is flowing, and in order that our invention may be readily understood we will describe the same with reference to the accompanying drawings, in which—

30 Figure 1 shows a part-sectional elevation, and Fig. 2 a side elevation, of a glow-lamp for the use of cyclists, miners, and others provided with our means for indicating the time the current has been supplied. In both these figures the battery and its casing are
35 omitted.

40 *a* is the clockwork or time-indicator, which may be, for example, a small clock of any suitable construction. *b* is the stop mechanism, consisting of a lever pivoted at *c* and having a tooth or projection *d* at one end, which when the lever is moved upon its pivot can be brought into contact with the rim of the balance-wheel *e* of the clock and stop its motion. The other end of said lever is pro-

vided with a slot *f*, in which works a pin *g* on the end of a switch-lever *h*. We provide an aperture centrally in the base-board to allow the finger to be inserted to conveniently operate the switch *h* and lever *b*.

In the figures the switch-lever *h* is shown over the contact-piece *i*, the circuit through the lamp *j* being completed and the tooth *d* held off the balance-wheel. On moving the switch-lever so that it rests against the stop *k* the circuit will be broken, and at the same time the tooth *d* will be caused to bear upon the balance-wheel *e* and will so stop the clockwork. It will thus be apparent that the time-indicator will show on its dial the total time during which the current has been switched on, independent of interruptions, and hence if the user knows the total length of time the battery was charged for he can readily tell at any moment how much longer the charge still remaining in the battery will last.

We claim as our invention—

The combination with a portable electric lamp and the circuit connections, of a base-board therefor having an opening in it and a timepiece supported by such base-board, a stop-lever with one end adjacent to the balance of the timepiece, a switch and circuit closing contacts and a connection between the switch and the stop-lever at the aperture in the base, whereby access is given for moving the switch and stop-lever to simultaneously turn off the current and stop the time mechanism or the reverse, substantially as set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

ROBERT HACKING.
GEORGE BRAND.

Witnesses:

JOHN BENNETT,
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