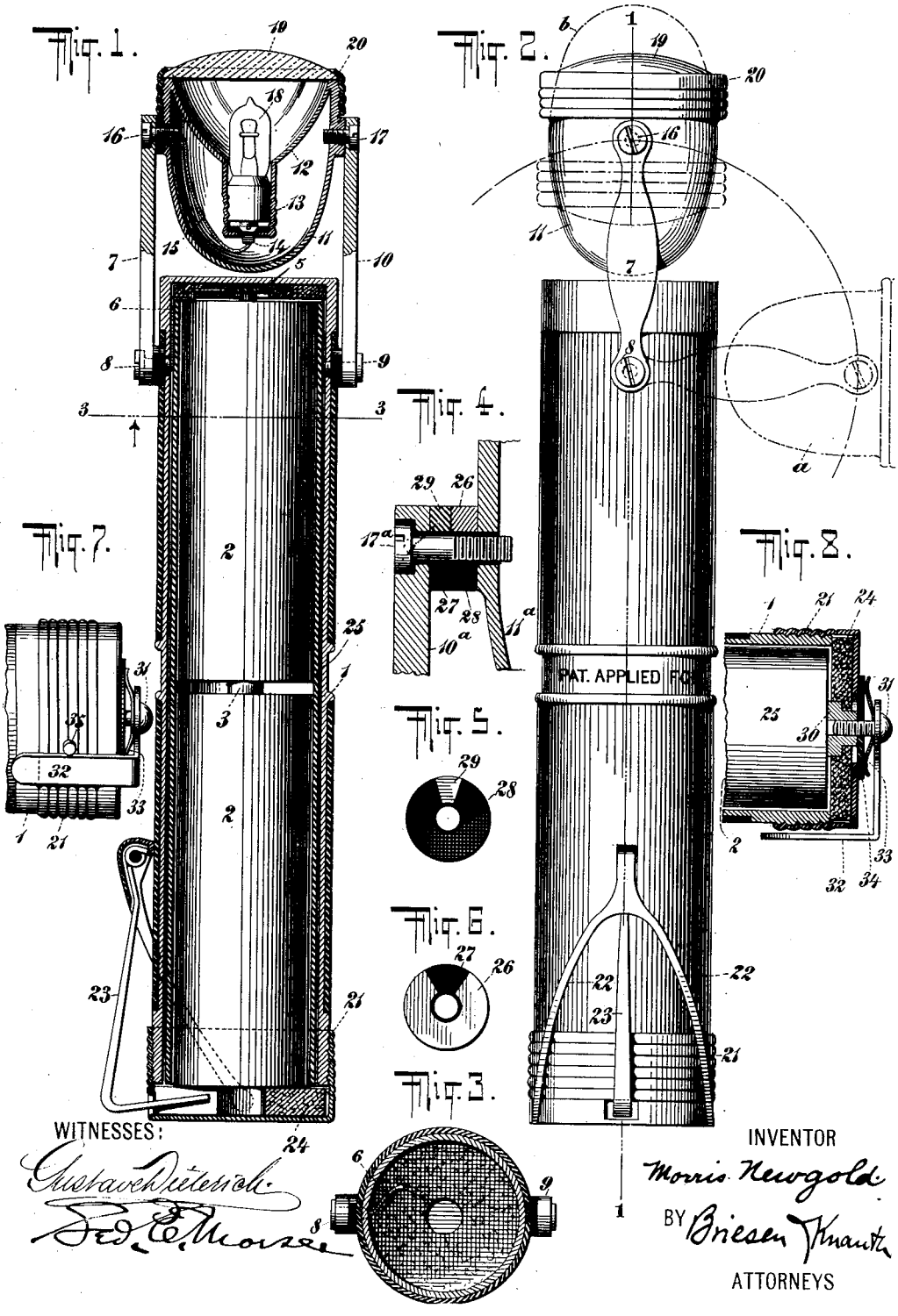
No. 669,546. Patented Mar. 12, 1901.

M. NEWGOLD.

PORTABLE ELECTRIC LAMP.

(Application filed Mar. 8, 1900.)

(No Model.)



WITNESSES:

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MORRIS NEWGOLD, OF NEW YORK, N. Y.

PORTABLE ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 669,546, dated March 12, 1901.

Application filed March 3, 1900. Serial No. 7,762. (No model.)

To all whom it may concern:

Be it known that I, MORRIS NEWGOLD, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Portable Electric Lamps, of which the following is a specification.

My invention relates to portable electric lamps, and has for its object to produce a portable lamp which may be applied to a variety of uses, and is especially adapted to be employed as a flash-light to temporarily illuminate objects at night, and as a carriage or bicycle lamp by being strapped or lashed to the pole of the carriage or the steering-fork of the bicycle.

In the accompanying drawings I have shown by way of example a portable lamp embodying my invention.

The characteristic features of my invention will be clearly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal section through the lamp structure, the section being taken on line 1 1 of Fig. 2. Fig. 2 is an exterior view of the lamp structure. Fig. 3 is a section on line 3 3 of Fig. 1 looking in the direction of the arrow. This view is intended to show the wire connection between the stationary contact-plate in the interior of the casing, which receives the impact of the battery-terminal, and one of the lamp-carrying arms. Fig. 4 is an enlarged detail sectional view of a modified form of lamp-mounting, in which the switching of the current is effected by turning the lamp to a certain position. Figs. 5 and 6 are detail face views of the contact-washers by which the switching just mentioned is effected; and Figs. 7 and 8 are external and sectional views, respectively, of a modified form of switch arrangement.

In the drawings, 1 is a suitable metal battery-casing, preferably cylindrical, and adapted to contain a battery of a suitable number of cells 2, herein shown as dry cells, whose terminals abut—that is, the upper terminal 3 of the lower cell abuts against the jacket of the upper cell, whose upper terminal 4 is adapted to reach contact with the contact-plate 5 in the battery-casing. The contact-plate 5 is insulated from the metal casing and is connected by a wire 6 and stud 8 with one of the lamp-carrying arms 7, which is also suitably insulated from the casing 1. The arm 7 swings freely upon the stud 8 in the side of the casing 1 and is insulated therefrom. At the opposite side of the battery-casing 1 is another stud 9, electrically connected to the battery-casing 1 and serving as the pivot of the other lamp-carrying arm 10. These arms 7 and 10 support the lamp-casing and its connected parts. This lamp-casing is shown herein as an outer shell 11 of sheet metal, having integral therewith a reflector 12 and a lamp-socket 13. One terminal of the lamp-socket is constituted by the casing formed integral with the reflector, and the other terminal of the lamp-socket is constituted by a screw 14, insulated from the casing, which is connected by wire 15 to the screw or stud 16, upon which the lamp is adapted to swing. The arm 10 is electrically connected to the lamp-casing 11 by the screw 17, by which the parts are pivotally secured together. The lamp 18 fits in the socket in the usual manner. The end of the lamp-casing is or may be suitably closed by a bull's-eye 16, which is secured in place by a clamping-ring 20, which engages the lamp-casing. At the opposite end of the battery-casing is a suitable cap 21, carrying a fork 22, in which a springy switch-arm 23 is pivotally mounted. This switch-arm 23 is of angular form and enters a slot in the side of the cap 21 and is adapted when depressed to make momentary contact with the jacket of the lower cell of the battery. The switch-arm is, however, adapted to make permanent contact, if desired. A suitable washer 24, of insulating material, may be employed in the cap 21 to cause the battery to be given a strong forward thrust when the cap 21 is on the battery-casing in order to make good connection, and the batteries are surrounded by a tube of insulating material 25, preferably ordinary cardboard, in order to entirely insulate the battery from its casing.

The circuit of the device may be traced as follows: from the battery by wire 6 to the arm 7, thence by screw 16 and wire 15 to the central lamp-contact through the lamp, reflector and lamp-casing 11, by screw 17, and arm 10, to the metallic battery-casing 1, and

thence, by means of the switch 22 23, to the jacket of the battery, when the switch-arm 23 makes contact with such jacket. It will be understood that the pivotal mountings of the lamp are sufficiently loose to enable the lamp to be swung into various positions—for instance, into the dotted-line position *a* in Fig. 2—and are sufficiently stiff or rigid to maintain the said lamp in the positions into which it is swung. It will thus be seen that the lamp may be turned through an angle of one hundred and eighty degrees and will remain in the positions into which it may be swung, so that the battery-casing may be mounted in any desired position and the lamp swung with reference thereto to bring it into the proper position for use.

It will be understood that while I will in this application show and describe two forms of lamp I do not mean to thereby limit myself to the form shown; but other structures are also within my invention.

In Figs. 4, 5, and 6 I have shown a modification of the structure designed to effect the switching of the current by swinging the lamp into the dotted-line position *b* of Fig. 2. This position is selected for convenience. It is obvious, however, that other positions may be selected without departing from my invention. The structure shown in Figs. 4, 5, and 6 is applied to but one of the lamp-supporting arms, let us say to the arm which corresponds to the arm 10 of the lamp shown in Fig. 1. This arm is lettered 10^a in Fig. 4, and the lamp 11^a is pivotally secured thereto by a screw 17^a, which is insulated both from the casing and from the arm 10^a. The arm 10^a has secured thereto a washer 26, having an insulated bushing and an insulated section 27. The lamp-casing 11^a is provided with a washer 28, composed of insulating material with the exception of the section 29, which is metallic and is in electrical connection with the lamp-casing 11^a and insulated from the screw 17^a. It will be obvious that so long as the contact-plates 26 and 29 are in contact current will pass to the lamp; but when the lamp is swung on its pivotal mounting into the dotted-line position *b* the insulating material 27 will come against the plate 29 and the insulating material 28 will come against the plate 26, thereby breaking the circuit.

In Figs. 7 and 8 I have shown a modified form of switch arrangement, which, however, is preferred by me to the form shown in Figs. 1 and 2. In this form of my construction the washer 24 carries a contact-plate 30, adapted to contact with the lower end of the cell 2. This contact-plate is provided with a pivot-screw 31, upon which a switch-arm 32 swings, which switch-arm is frictionally engaged by a spring-washer 33, bearing against an insulating-washer 34. The switch-arm 32 is adapted for temporary contact with the cap 21 to momentarily close the battery-circuit. When a light other than a flash-light is to be shown, the arm 32 may be rotated on its pivot-screw 31 until it contacts with a stop 35, mounted on and in electrical connection with the cap 21.

What I claim, and desire to secure by Letters Patent, is—

1. In a portable lamp of the character described, the combination of a battery-casing and a lamp-holder and a pivotal electrical and mechanical connection intervening between the lamp-holder and the battery-casing, comprising in its structure two pivotal elements upon each of which the lamp is adapted to swing independently so as to permit the lamp to have two independent swinging movements with respect to the battery-holder.

2. In a portable lamp, substantially as described, the combination of a suitable battery-casing and lamp-holder, a pivotal electrical and mechanical connection uniting the lamp and battery-casing contact-faces 25, 27, 28, 29 of insulating and conducting material embracing the said pivotal connection and forming part of the circuit and adapted to cut off the current upon rotation of the lamp-holder.

3. In a portable lamp structure, the combination of an elongated battery-casing, a lamp at one end thereof, and a circuit-controller therefor at the opposite end of the casing the said circuit-controller comprising in its structure an angularly-bent arm 32 pivotally secured to the end of the casing, at or about the axis of the casing, and extending along the side of the casing and adapted to be brought into electrical connection therewith.

4. In a portable electric-lamp structure, the combination of an elongated battery-containing casing, a lamp and reflector, and a plurality of arms 7, 10 secured to the lamp and pivotally mounted on the casing and forming an electrical and mechanical connection with the casing, circuit connections, and a circuit-controller for the same.

5. In a portable lamp structure, the combination of an elongated battery-containing casing, a plurality of conducting-arms secured thereto, circuit connections, a lamp-casing supporting a reflector and lamp, the said lamp-casing being pivotally secured to the arms by an electrical and mechanical connection, whereby the lamp may be reversed with respect to the casing.

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