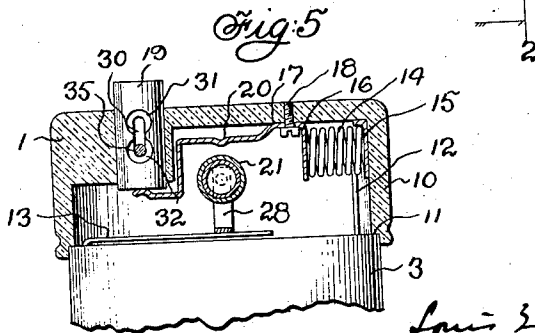
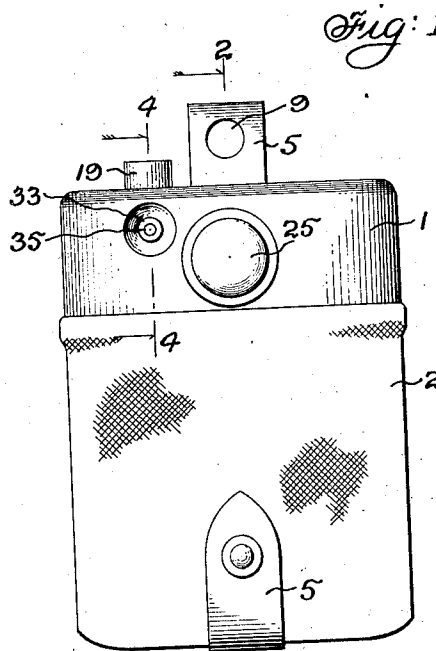
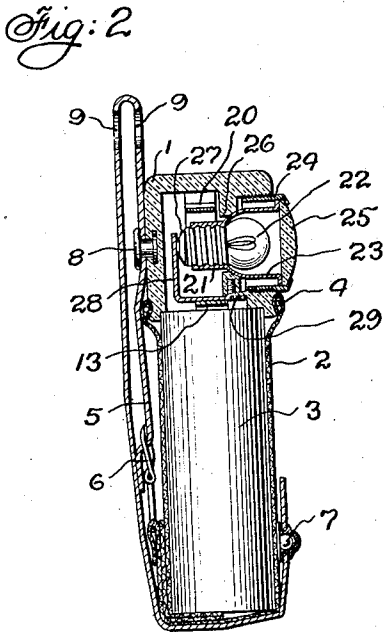
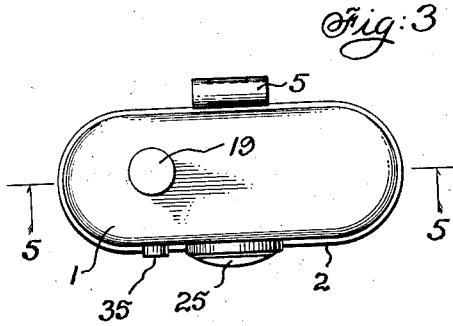
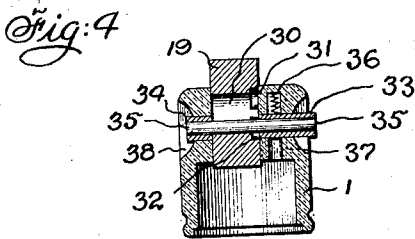


L. E. SHAW AND F. M. ROSENFELD.
 PORTABLE ELECTRIC LAMP.
 APPLICATION FILED JAN. 17, 1918.

Patented Nov. 22, 1921.

1,397,705.



Louis E. Shaw INVENTOR
 Francis M. Rosenfeld

BY
 [Signature] ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS E. SHAW, OF EAST ORANGE, NEW JERSEY, AND FRANCIS M. ROSENFELD, OF NEW YORK, N. Y., ASSIGNORS, BY MESNE ASSIGNMENTS, TO DIAMOND ELECTRIC SPECIALTIES CORP., OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PORTABLE ELECTRIC LAMP.

1,397,705.

Specification of Letters Patent.

Patented Nov. 22, 1921.

Application filed January 17, 1918. Serial No. 212,325.

To all whom it may concern:

Be it known that we, LOUIS E. SHAW, a citizen of the United States, and a resident of East Orange, Essex county, New Jersey, and FRANCIS M. ROSENFELD, a citizen of the United States, and a resident of the city, county, and State of New York, have invented an Improvement in Portable Electric Lamps, of which the following is a specification.

Our invention relates to portable electric lamps of the type commonly known as flashlights and has for its object to produce a lamp particularly adapted to certain requirements and peculiar conditions of use, such as are met with in the use of such lamps in the Army, although it will be understood that many features of our invention are in connection with lamps for other than Army uses.

In a lamp intended for use in field service, a number of special features are desirable; for instance, the lamp should be provided with contacts to produce intermittent or relatively constant illumination at will, so that it may be used for signaling or continuous operation. The lamp should be arranged so as to be readily attachable to the belt or to the clothing of the user, so as to leave the hands free, and when thus attached, should be arranged to project the light in front of the user. When attached to the clothing, the contact device should be in an easily accessible position, particularly if the lamp is to be used for signaling. In order to facilitate shipping and produce as little bulk as possible, the lamp should be collapsible or foldable, and to reduce the weight to be carried by the user, it should be of a construction which will permit it to be made of materials having as little weight as practicable. A device, such as a strap, capable of adjustment to various positions, should also be attached to the lamp.

The lamp of our invention attains the foregoing result and others, as will be apparent from the following specification.

In the drawings, which illustrate an operative form of our device, and which are not intended to illustrate the only form which it may take, we have shown:

In Figure 1, a front view of our improved lamp;

In Fig. 2, a sectional view thereof on the line 2—2;

In Fig. 3, a top view of our improved portable lamp;

In Fig. 4, a sectional view taken on the line 4—4 of Fig. 1; and

In Fig. 5, a sectional view taken on the line 5—5 of Fig. 3.

In general, our improved portable electric lamp consists of a switch supporting member 1, which may be of insulating material, or may be of metal properly insulated and a container 2, adapted to contain a battery 3, said container being made of a flexible material, preferably a woven cloth and being attached to the switch supporting member by means of a cord 4 or other suitable means. Container 2 is arranged to open at its lower end, as illustrated in Fig. 2 and may be also closed by means of the strap 5 and buckle 6, or by any other suitable fastening, thus holding the battery 3 in engagement with the lower edge of the switch supporting member 1.

When the battery is removed from the container 2, the container may be folded about the switch supporting member 1 and an extremely compact construction for shipping thus produced. Strap 5 is preferably attached to the lower portion of the container 2, by means of a snap fastener 7 and to the switch supporting member 1 by means of a button 8. It thus forms a loop, which may be brought around the wearer's belt and is provided with a plurality of buttonholes 9, so that its position may be adjusted upon the belt, or the strap may be buttoned over one of the buttons upon the wearer's garments.

The switch supporting member 1 consists of a shell 10, preferably of insulating material, having formed in it shoulders 11, to engage the upper edge of the battery 3. Battery 3 is of the ordinary type, having one contact 12 extending from the battery in a line parallel to the longitudinal axis thereof and another contact 13 extending across the upper edge of the battery. Contact 12 may be engaged by means of the connector shown at the upper right-hand corner of Fig. 5, consisting of a coiled spring 14, between the convolutions of which the contact 12 enters. A sufficient pressure is thus produced by the spring and the necessity for the exact positioning for the contact 12 is avoided, since it may enter

between any two of the convolutions of the spring 14 that happen to be in a correct position. Spring 14 is supported by means of a plate having depending arms 15 and 16 and a horizontal portion 17 which may be held at the switch supporting member by means of screw 18. A prolongation of the horizontal portion 17 extends under the switch operating button 19, so that it may be depressed to bring the contact 20, formed on the horizontal portion 17 into contact with one pole 21 of the lamp 22, through the reflector 23.

The reflector 23 is preferably held in place by means of a screw-threaded collar 24, mounted in the face of the switch supporting member 1 and encircling the edge of the lens 25. Screwing up upon the collar 24 thus brings the reflector 23 into contact with the shoulders 26 at the inside of the switch supporting member and brings one pole 27 of the lamp 22 into contact with the up-standing part of the connector 28. The horizontal part of the connector 28, which extends substantially across the recess in the switch supporting member 1 makes contact, as shown in Figs. 2 and 5, with the battery contact 13, which extends across the top edge of the battery 3. Connector 28 may be secured to the switch supporting member 1 by means of the screw 29, or in any other suitable manner.

In order to provide for intermittent or continuous illumination at will, the push button 19 is provided with a locking mechanism, which comprises a vertical slot 30 in the push button 19, said slot having enlargements 31 and 32 at the opposite ends thereof. Traversing the push button is a locking member, which may consist of sleeves 33 and 34 mounted upon the rod 35, which may be attached to the sleeves in any suitable manner. A friction spring 36 is inserted in the recess 37 before the locking member is put into place and serves to hold the locking member against accidental displacement. When the parts are in the position shown in Fig. 4, the push button 19 may be moved downwardly against the spring provided by the horizontal portion of contact 17 and intermittent illumination may thus be obtained. It will be observed that the push button 19, being at the top of the lamp, is in a convenient position to be operated by the thumb when the lamp is supported upon the belt or clothing of the user, and it is thus peculiarly well adapted for signaling. If when the parts are in the position shown in Fig. 4 the locking member be moved to the left, the sleeve 33 will enter the enlarged opening 32 and lock the button against movement, thus preventing accidental lighting of the lamp. If continuous illumination is desired, the button 19 is depressed and the locking member is then moved to the left, to

the position shown in Fig. 4 until sleeve 33 enters the enlarged aperture 31. The button will then be locked in the depressed position and continuous illumination may thus be obtained. It is desirable to provide the recess 38, in order that the locking member may be substantially flush with the opposite faces of the switch supporting member to prevent accidental movement thereof, or its catching upon the clothing of the wearer, etc.

While we have only shown one form of our invention, we do not wish to be limited thereby, since it is obvious that many modifications may be made without departing from its general principles.

What we claim is:

1. A portable electric lamp, comprising a rigid member, means for containing a battery connected thereto and a connector mounted upon the rigid member and adapted to engage one terminal of the battery and comprising a spiral spring, between the convolutions of which said battery terminal is adapted to be inserted.

2. A portable electric lamp, comprising a hollow, rigid member, a lamp supported in one side thereof, a contact member located within the rigid member and adapted to connect the lamp to a source of current, a depressible contact operating member, projecting through the top of the rigid member and locking means for said member comprising a longitudinal slot in said depressible member, with an enlarged recess at each end, a plurality of sleeves mounted on a slidable detent and adapted to engage said enlarged recesses to control said depressible member, the upper recess to retain said member in depressed position and make contact, and the lower recess to retain said member in raised position and break contact, and a friction spring engaging one of the sleeves of said locking member to hold it in place.

3. A portable electric lamp, comprising a rigid member, having a recess, a battery connecting strip bridging said recess and extending into it, a lamp mounted at the side of the member and projecting through one of its side walls into contact with said connecting strip, a battery connector, comprising a spiral spring, between the convolutions of which one pole of the battery is adapted to be engaged, located within the recess, a spring contact connected to said connector, and a depressible contact projecting through the top of the rigid member and abutting against the spring contact and adapted to move it into contact with one pole of the lamp.

4. In a portable electric lamp, a battery, having one pole in the form of a flat projecting strip and a connector in the form of a spiral spring, adapted to engage said strip between its convolutions.

5. In a portable electric lamp, a battery, having its poles in the form of flat projecting strips, one of said strips being substantially in the direction of the longitudinal axis of the battery and the other being at an angle thereto, a switch carrying member, a connector, comprising a spiral spring, between the convolutions of which the strip in the direction of the longitudinal axis is adapted to be engaged, mounted upon said switch carrying member, and a second connector also mounted thereon, comprising a metallic member, mounted transversely of the switch carrying member.

6. A portable electric lamp comprising a casing, a lamp supported in one side thereof, a battery and a contact within the casing, a contact operating plunger extending through a wall of the casing said plunger having a longitudinal slot and transverse recesses communicating with said slot, and a slidable detent extending through said slot and en-

tirely through the casing to expose both ends of the detent for manual operation, and means on the detent for engaging said transverse recesses. 25

7. A portable electric lamp comprising a casing having opposed peripheral recesses, a lamp supported by the casing, a battery and a contact within the casing, a contact operating plunger extending through a wall of the casing, said plunger having a longitudinal slot and transverse recesses communicating with said slot, and a slidable detent extending through said slot and having both its end projecting into the peripheral recesses and exposed for manual operation, and means on the detent to engage the transverse recesses in the plunger. 30 35

In testimony whereof, we have signed our names to this specification this 9th day of January, 1918. 40

LOUIS E. SHAW.
FRANCIS M. ROSENFELD.