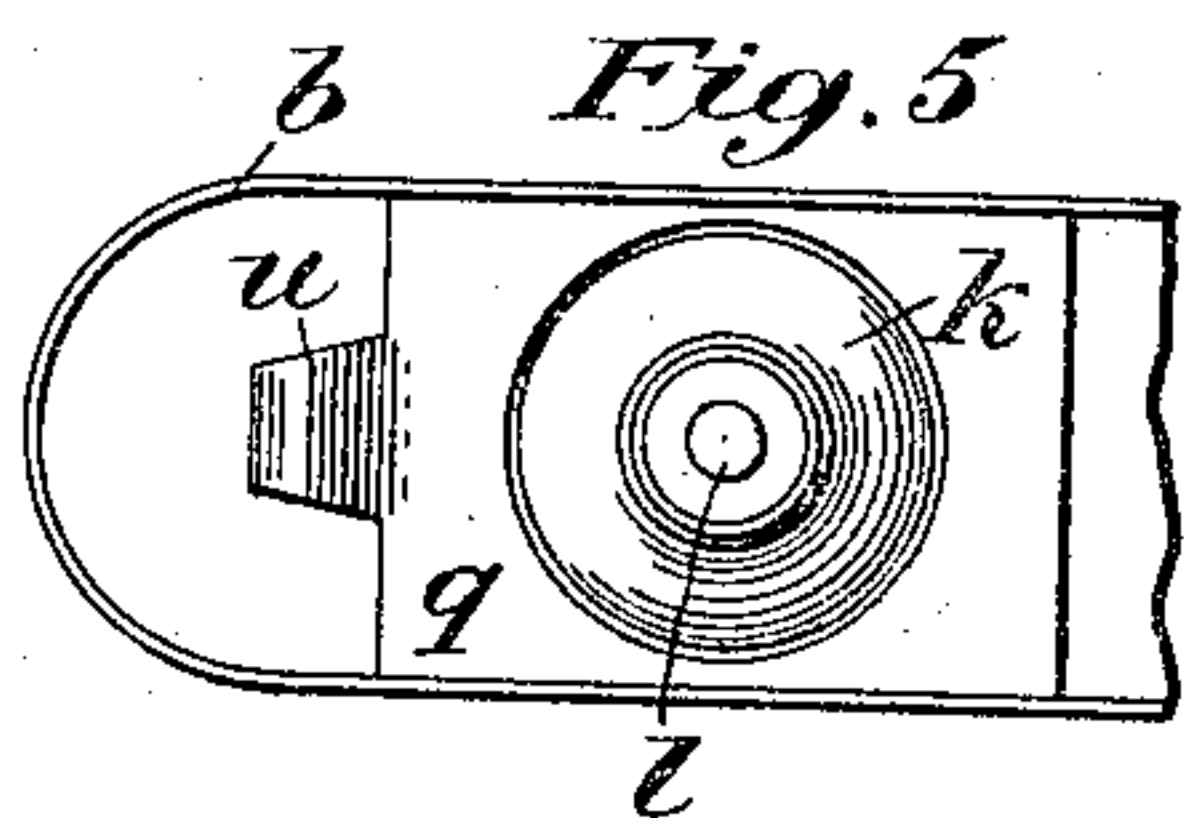
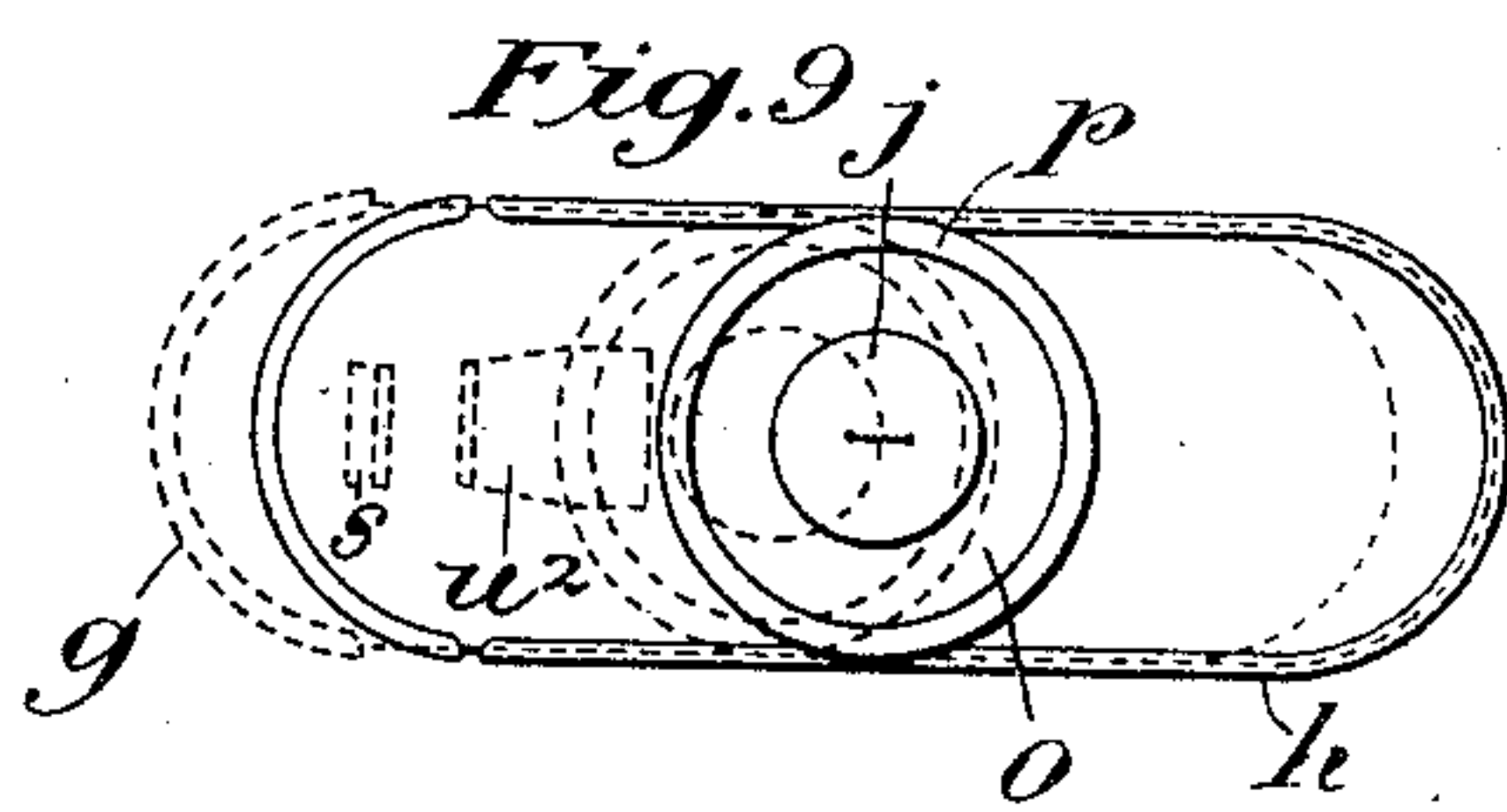
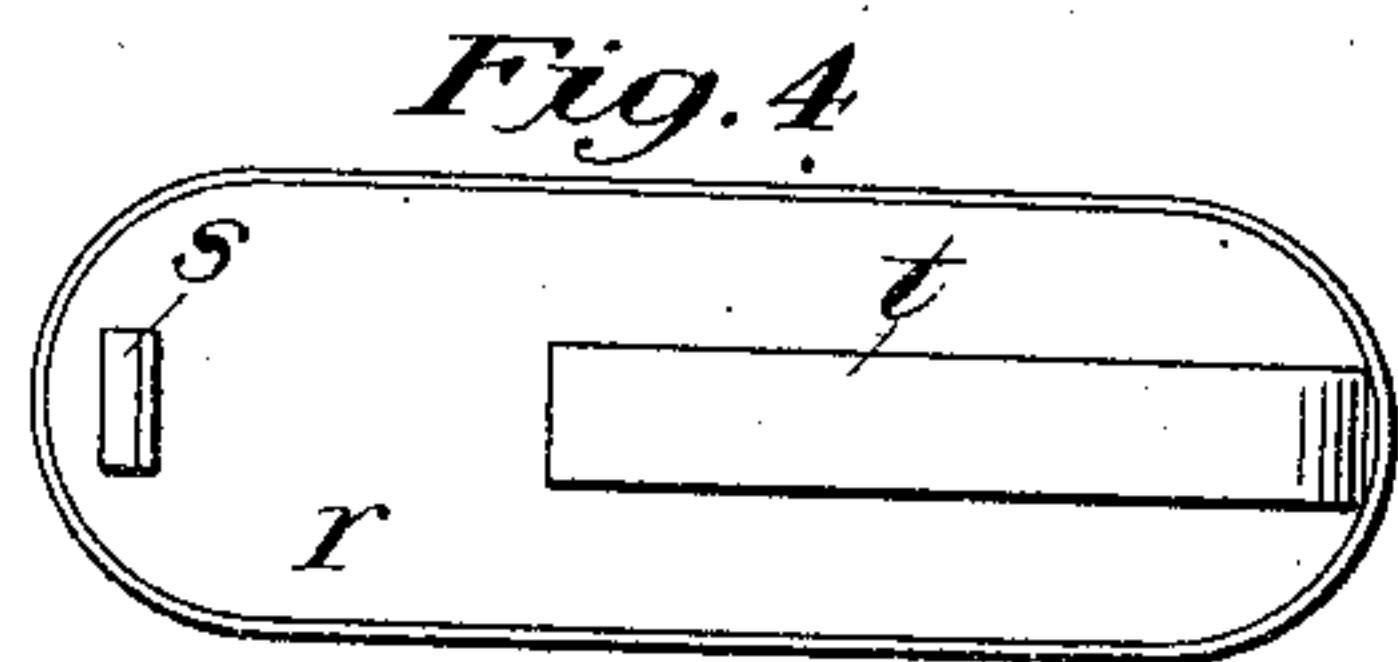
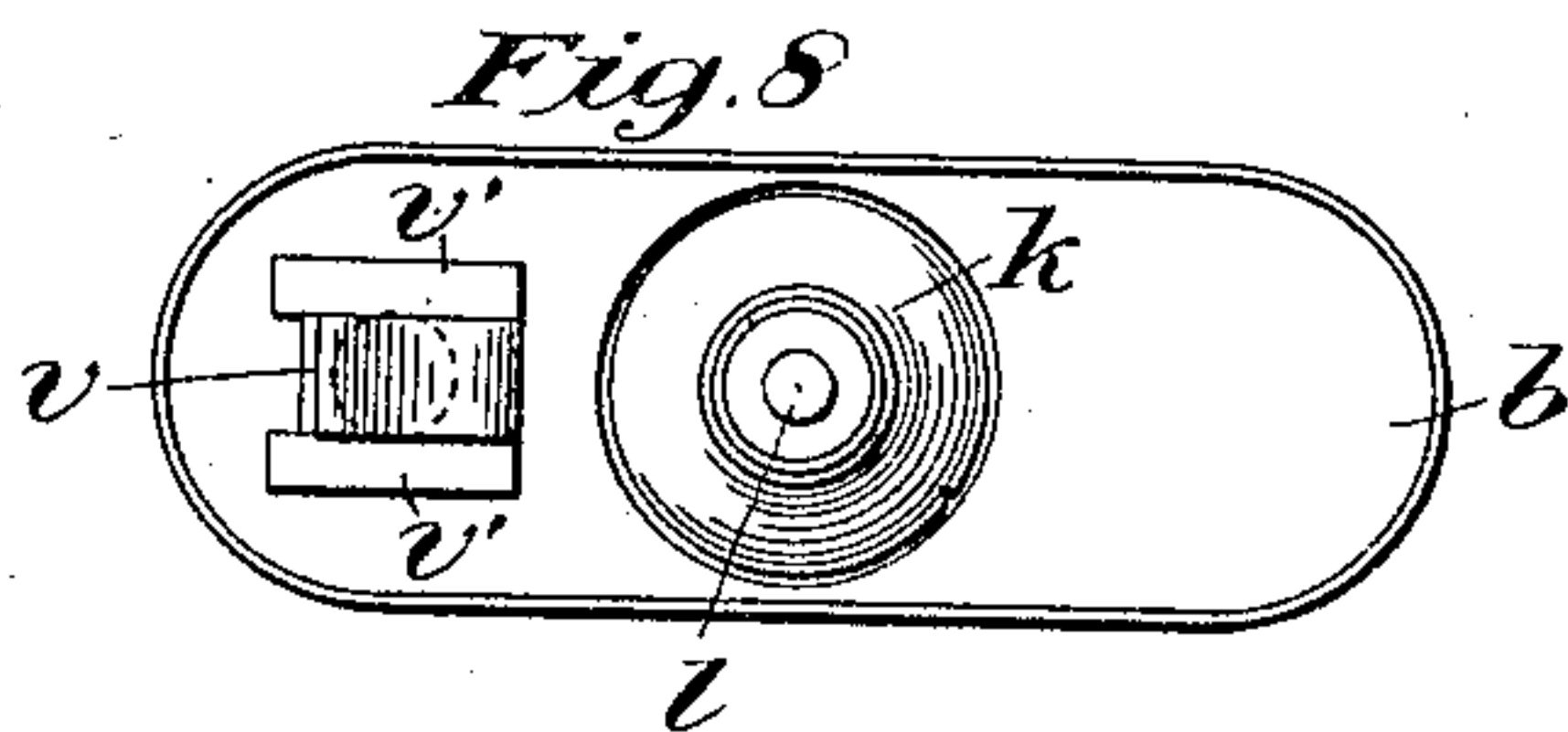
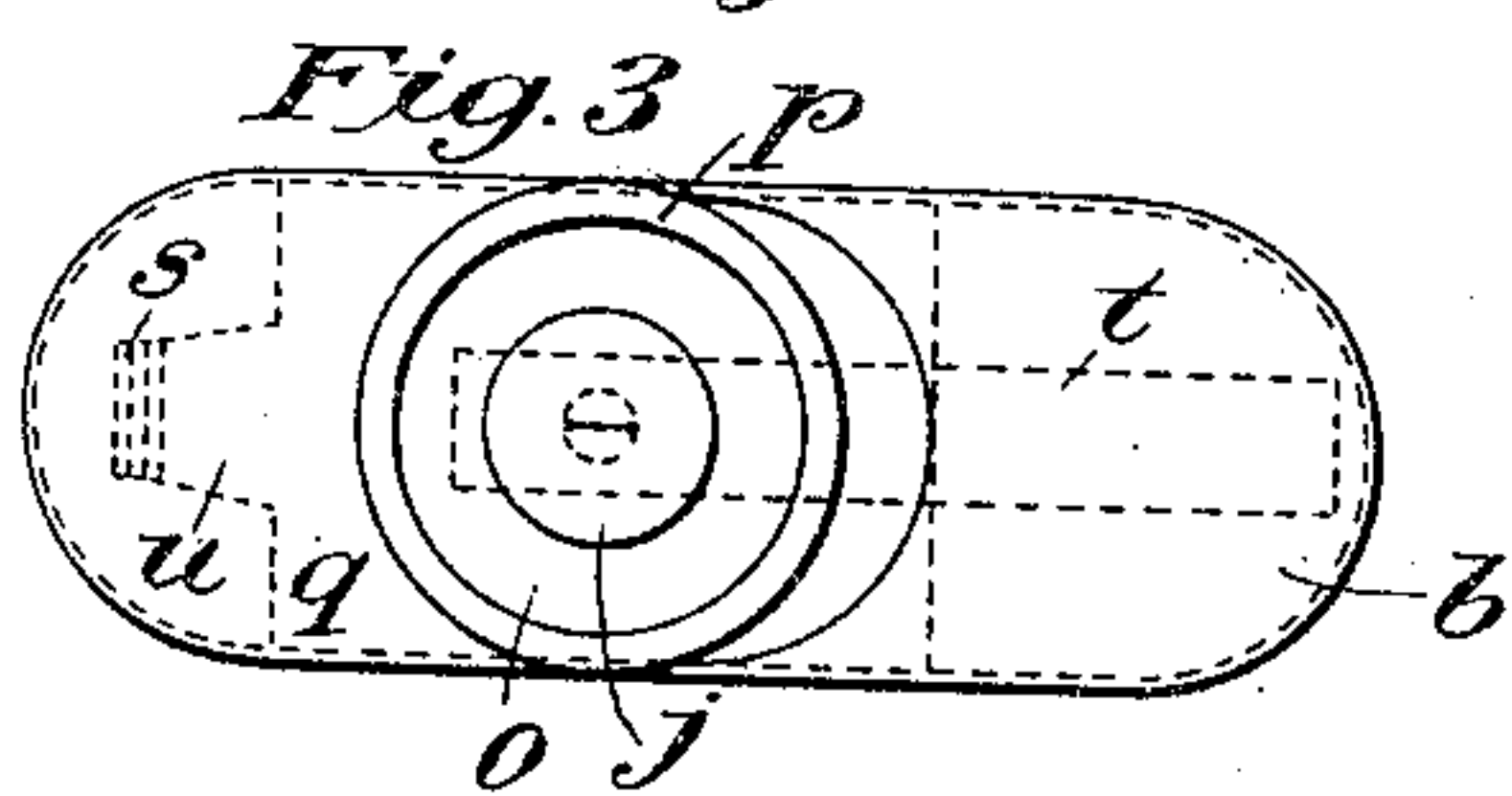
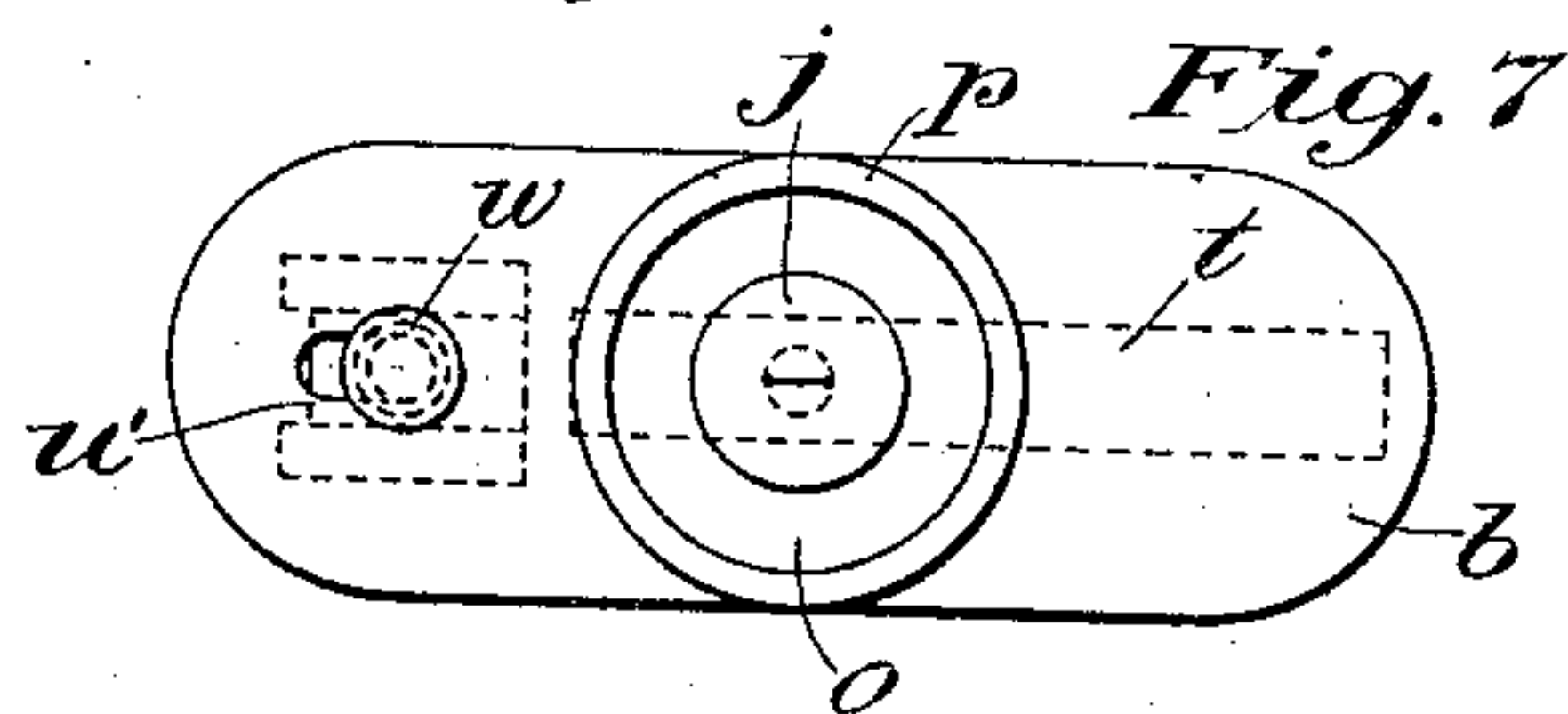
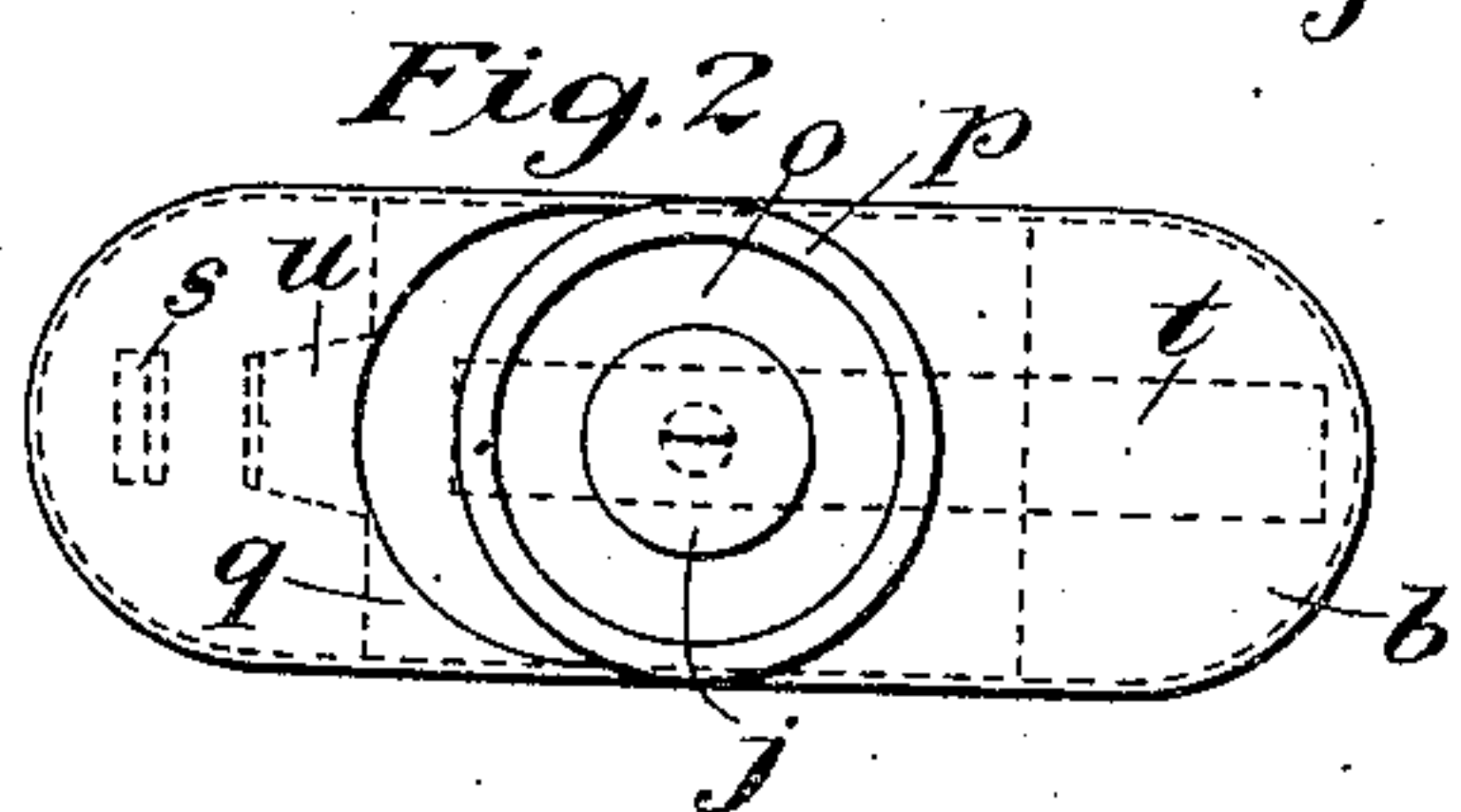
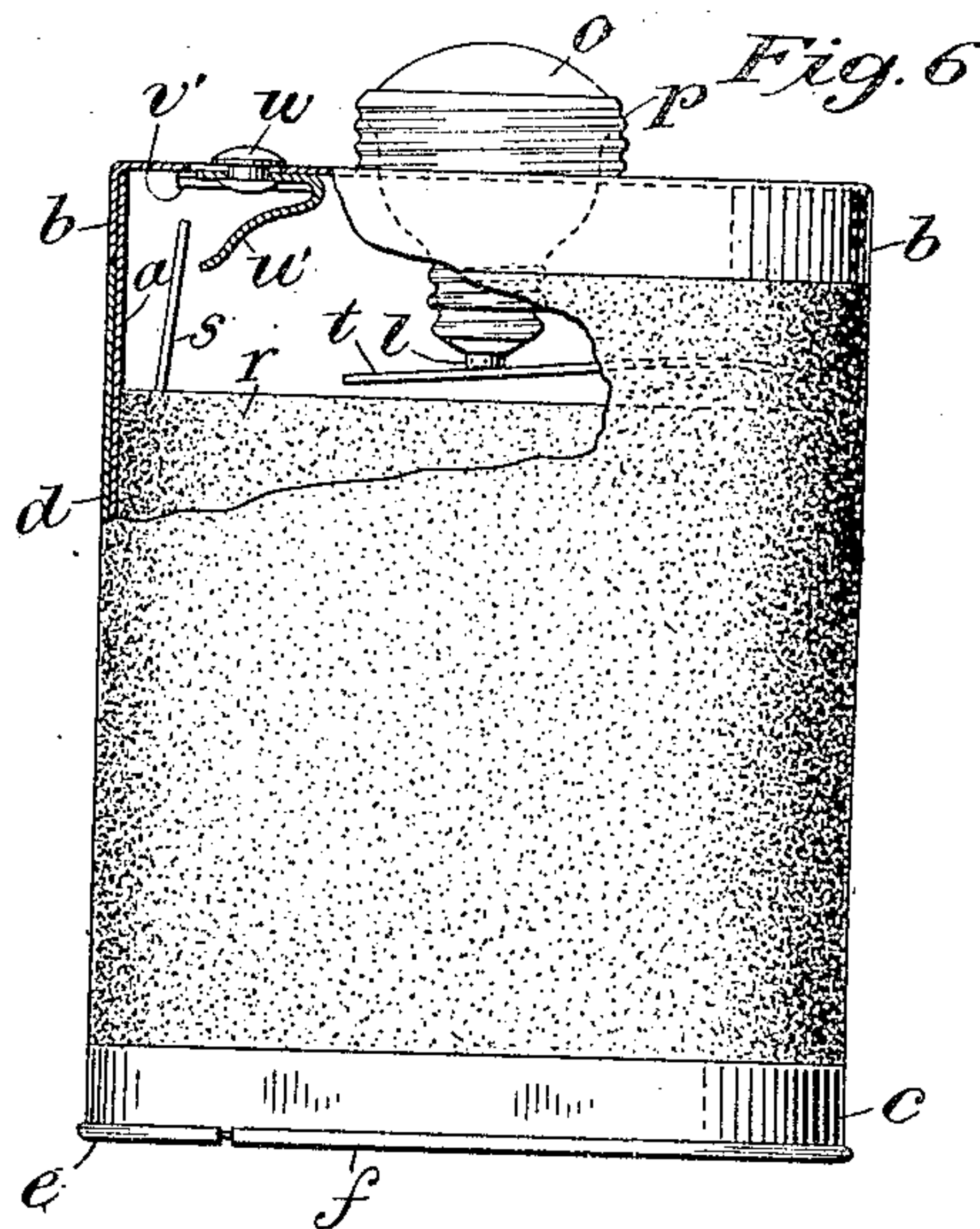
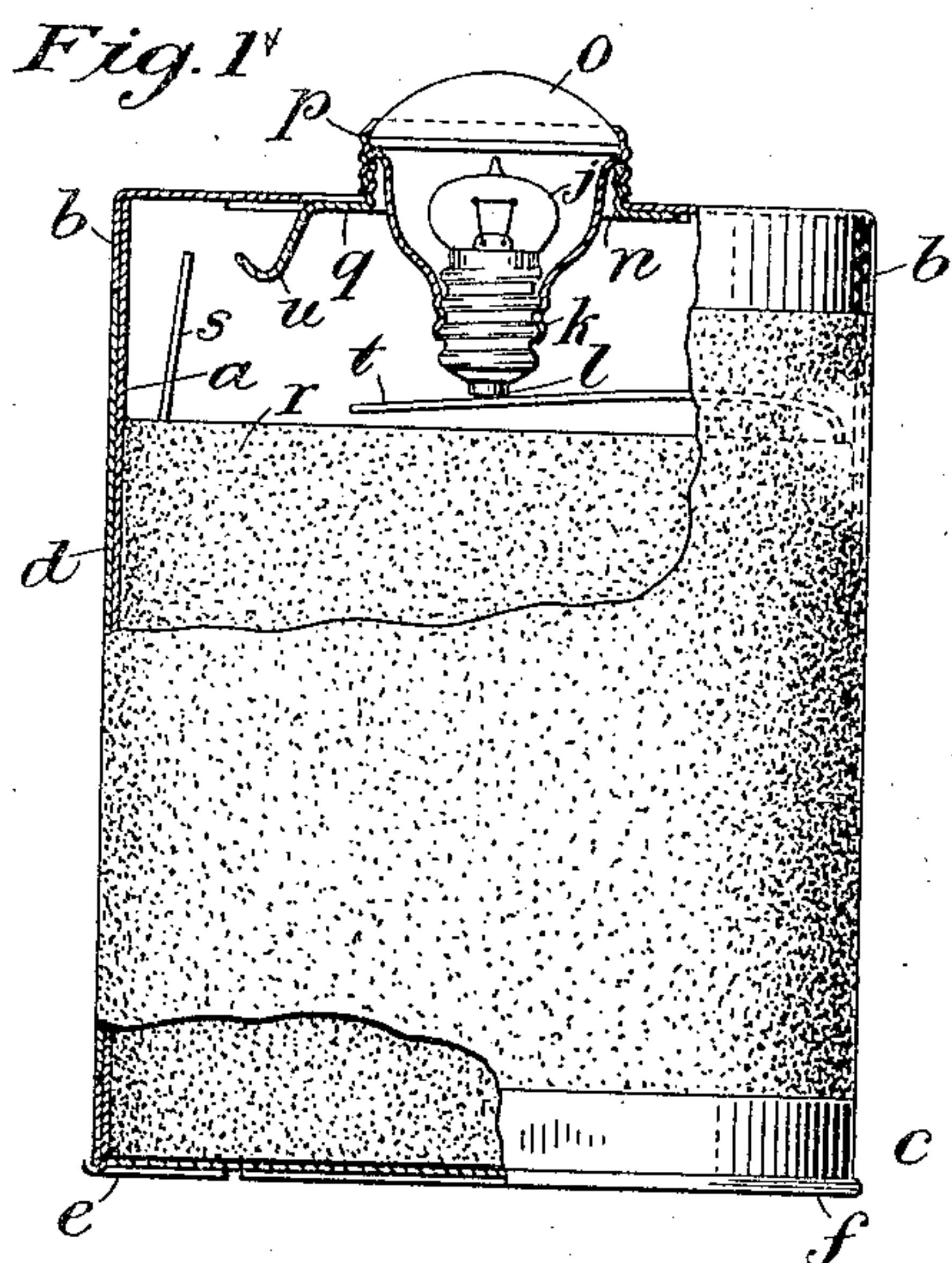


No. 835,529.

PATENTED NOV. 13, 1906.

C. HUBERT.  
PORTABLE ELECTRIC LIGHT.  
APPLICATION FILED MAY 19, 1905.



Witnesses:

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Atty.



# UNITED STATES PATENT OFFICE.

CONRAD HUBERT, OF NEW YORK, N. Y.

## PORTABLE ELECTRIC LIGHT.

No. 835,529.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed May 19, 1905. Serial No. 261,157.

*To all whom it may concern:*

Be it known that I, CONRAD HUBERT, a citizen of the United States, residing at the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Portable Electric Lights, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to portable electric lights, and particularly those of small dimensions and convenient shape to adapt them to be carried in the pocket of the user.

My invention has for its objects simplicity and compactness of construction, non-liability to accidental closure of circuits and consequent exhaustion of battery, durability, ease, and reliability of operation, and retention of closed-circuit condition without effort on the part of the operator.

I will now describe the portable electric lights illustrated in the accompanying drawings and embodying my invention and will thereafter point out my invention in claims.

Figure 1 is a front elevation, partly in section. Fig. 2 is a top or plan view with the circuit-closer in open position. Fig. 3 is a similar view showing the circuit-closer in closed position. Fig. 4 is a plan view of the battery detached. Fig. 5 is an underneath plan view or view looking upward with the battery and bottom plate of the casing removed. Fig. 6 is a front elevation, partly in section, of a modified construction of the circuit-closer. Fig. 7 is a top or plan view of the same. Fig. 8 is an underneath plan view of the same with the battery and bottom plate of the casing removed. Fig. 9 is a plan view of another modified construction.

The casing is shaped to form a thin flat package without angular corners or protuberances, so as to be well adapted to be carried in the pocket of the user. The body *a* of the casing is made of either a conductive or non-conductive material and if of metal preferably has a suitable covering, as shown, and the casing is wide at the flat sides and semicylindrical at the thin sides, so as to follow closely the contour of the inclosed battery-cells. The body of the casing is closed at each end by end pieces, caps, or covers, of metal or other conductive material.

In the constructions shown in Figs. 1, 2,

3, 6, 7, and 8 the cover *b* at the upper end of the casing is fixed upon the casing, while the lower cover *c* is partly removable and includes a sliding cover-plate *e*, sliding in grooves provided on a collar *c*, the collar *c* being permanently fitted on the lower end of the casing.

In the construction shown in Fig. 9 the cover at the upper end of the casing includes a sliding cover-plate *g*, which slides in the collar *c*, permanently fitted on the upper end of the casing.

The battery *r* is composed of a plurality of cells arranged side by side and suitably fastened together and covered so as to make a single package, which may be readily removed when the battery is exhausted and replaced by a new battery made up in a similar package. The contact-terminals of this battery are two metallic strips *s* and *t*, the strip *t* being of considerable length and extending over the battery a sufficient distance to contact with the projecting terminal *l* of the lamp and the other contact-strip *s* extending upward in suitable position to coact with the circuit-closer.

The lighting element consists of a miniature electric light *j*, which is threaded in a metallic socket *k* and which carries at its lower end a terminal *l*. This lamp-socket is shaped like an inverted dome, and its inner wall is provided with a reflecting-surface such that as a result of its concave shape the socket also serves as a powerful light-reflector. The upper portion of this lamp-socket *k* flares outward and rests upon the top of a threaded ring-shaped neck *n*, which projects upward above the upper cover *b*. A lens *o* rests upon the upper face of the flaring portion of the socket, and a threaded clamping-ring *p* is secured over the threaded neck *n* and clamps the lens and reflector in place.

In the constructions shown in Figs. 6, 7, and 8 the projecting threaded neck *n* is a part of the cover and may be integral therewith. In the construction shown in Figs. 1, 2, 3, and 5 this threaded neck projects upward from and may be, as shown, integral with a sliding plate *q*, which is fitted to slide against the under or inner face of the top portion of the upper cover *b*, an elongated opening being formed in such top portion of the cover of sufficient size to permit the desired sliding movement of the plate *q* and the threaded neck *n* projecting upward therefrom. This



sliding plate *g* also carries an inwardly-projecting contact-piece *u*, which coacts with the contact strip or terminal *s*, projecting upward from the battery. This movable lamp-carrying part is the circuit-closer, and when it is in its extreme position to the right, as shown in Figs. 1, 2, and 5, the contacts *u* and *s* are separated and the circuit open, and when it is in its extreme position to the left, as shown in Fig. 3, the contacts are together and the circuit is closed.

In the construction shown in Figs. 6 to 8, inclusive, the projecting threaded neck carrying the lens, lamp-socket, and lamp is stationary, and a separate slidable part is provided for closing the circuit, this separate slidable part comprising the sliding button *w*, the head of which slides upon the top of the upper cover and the shank of which protrudes through an elongated opening in the top of the upper cover and is secured to an inner sliding plate *v*, which is guided between strips *v' v'* on the inner face of the top of the cover, and which carries a contact-piece *u'*, shown as bent down therefrom and projecting to the left in suitable position to coact with the contact-strip *s* of the battery. This movable part is a circuit-closer and is actuated by pushing the button *w* to the right or the left, its movement to the left carrying its contact-piece into circuit-closing position and its movement to the right opening the circuit.

In the construction shown in Fig. 9 the projecting threaded ring is also stationary relative to and may be integral with the cover-plate *g*; but this cover-plate, as above described, is slidable as a whole. The contact-piece *u'*, carried by this upper sliding cover-plate *g* is moved into contact with the battery-terminal *s* when the cover-plate *g* is moved to the left, as shown in Fig. 9, and is moved into circuit-opening position when the cover-plate is moved to the right.

It will be noted that one of the terminals of the battery, the contact-strip *t*, is at all times in contact with the projecting terminal *l* of the lamp. This contact is made when the battery is inserted into the casing and the spring resistance of the contact-strip *t* produces a constant pressure, such as will maintain a satisfactory contact so long as the battery and lamp are in place. The other terminal *s* of the battery, as above described, is brought into contact with the projecting contact-strip of the circuit-closer by an intentional act on the part of the user. In the construction shown in Figs. 1, 2, 3, and 5 this intentional act is the movement of the lens and lamp-carrying projection to the left. The circuit thus closed flows from the terminal *t* of the battery to the terminal *l* of the lamp, through the lamp and to the conductive sleeve thereof, and through the socket and contact *u* to the terminal *s* of the battery. In the other constructions shown the

circuit is closed in a similar manner; but in the construction shown in Figs. 6, 7, and 8 the sliding button *w* is actuated to open and close the circuit, while in the construction shown in Fig. 9, as in the first construction shown, the circuit-closing operation is performed by moving the projecting lens and lamp-carrying part to the left; but in this instance the entire top plate of the casing is moved with the projecting part in the circuit-closing operation.

It is desirable that the movable circuit-closer should be movable only by intentional operation, and therefore the sliding parts are fitted with sufficient tightness to assure their maintenance of the positions to which they have been intentionally moved. They will therefore hold the circuit in closed condition without effort on the part of the operator to maintain that condition.

It is to be noted that in the constructions above described, in which the lamp-carrying part is movable, the lamp-terminal *l* is caused to rub over the contact-strip *t* of the battery during each circuit-closing and circuit-opening operation, and thus each operation of the circuit-closer tends to rub these contacts and keep them clean. The other contacts are also kept in clean condition by their ordinary operation by reason of their spring resistance and wiping action of the contacts.

It is obvious that various other modifications may be made in the constructions shown and above particularly described within the principle and scope of my invention.

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

1. A portable electric light comprising a casing and a battery therein, an electric lamp carried by the casing, and circuit-completing means from the battery to the lamp including a bodily-sliding circuit-closer fitted to slide in ways formed in the casing and slidably movable into and out of circuit-closing position and having a projecting contact-piece within the casing movable into and out of contact with a terminal of the battery.

2. A portable electric light comprising a casing and a battery therein, an electric lamp carried by the casing, and circuit-completing means from the battery to the lamp including a bodily-sliding circuit-closer within the casing and fitted to slide in ways formed therein and having a manually-operative portion extending to the outside thereof and slidably movable into and out of circuit-closing position.

3. A portable electric light comprising a casing and a battery therein, an electric lamp carried by the casing, and circuit-completing means from the battery to the lamp including a bodily-sliding circuit-closer slidably movable into and out of circuit-closing position and having a projecting contact-piece



within the casing movable transversely of the casing into and out of contact with a terminal of the battery.

4. A portable electric light comprising a casing and a battery therein, an electric lamp, a combined lamp-carrying part and a circuit-closer projecting from the casing and movably held thereto, and circuit-completing means from the battery to the lamp including contacts controlled by the movable lamp-carrying part and circuit-closer.

5. A portable electric light comprising a casing and a battery therein, an electric lamp, a lamp-carrying part movable transversely of the casing, and circuit-completing means from the battery to the lamp including contacts controlled by the movable lamp-carrying part.

6. A portable electric light comprising a casing and a battery therein, an electric lamp, a slidably movable lamp-carrying part, and circuit-completing means from the battery to the lamp including contacts controlled by the movable lamp-carrying part.

7. A portable electric light comprising a casing and a battery therein, an electric lamp, a projecting lamp-carrying part slidably movable transversely of the casing, and circuit-completing means from the battery to the lamp including contacts controlled by the lamp-carrying part.

8. A portable electric light comprising a

casing and a battery therein, an electric lamp, a socket for the lamp, a part projecting at the end of the casing and carrying such socket and slidably connected to the casing, and circuit-completing means from the battery to the lamp including contacts controlled by the projecting part, substantially as described.

9. A portable electric light comprising a casing and a battery therein, an electric lamp contacting at one terminal with a terminal of the battery, a socket for the lamp, and a slidable part carrying such socket and provided with a contact-piece cooperative with the other terminal of the battery to open and close the circuit as the slidable part is moved, substantially as described.

10. A portable electric light comprising a casing and a battery therein, an electric lamp, circuit-completing means from the battery to the lamp, and a lamp-carrying part carried by the casing and the circuit-completing means, such lamp-carrying part being movable without detachment into different positions to effect such control.

In testimony whereof I have affixed my signature in presence of two witnesses.

CONRAD HUBERT.

Witnesses:

HERMAN DANEMAN,  
HENRY BARNES.