

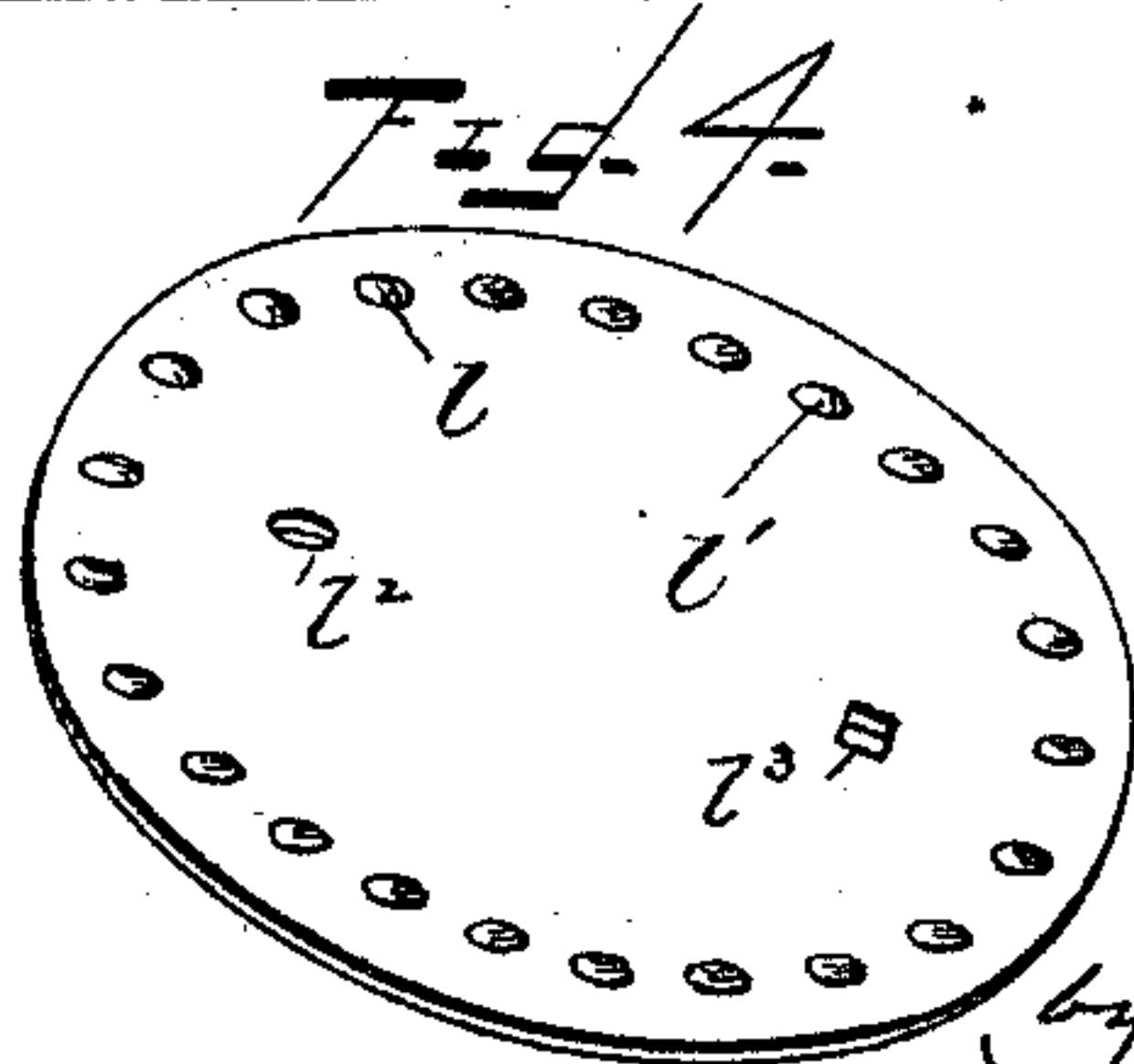
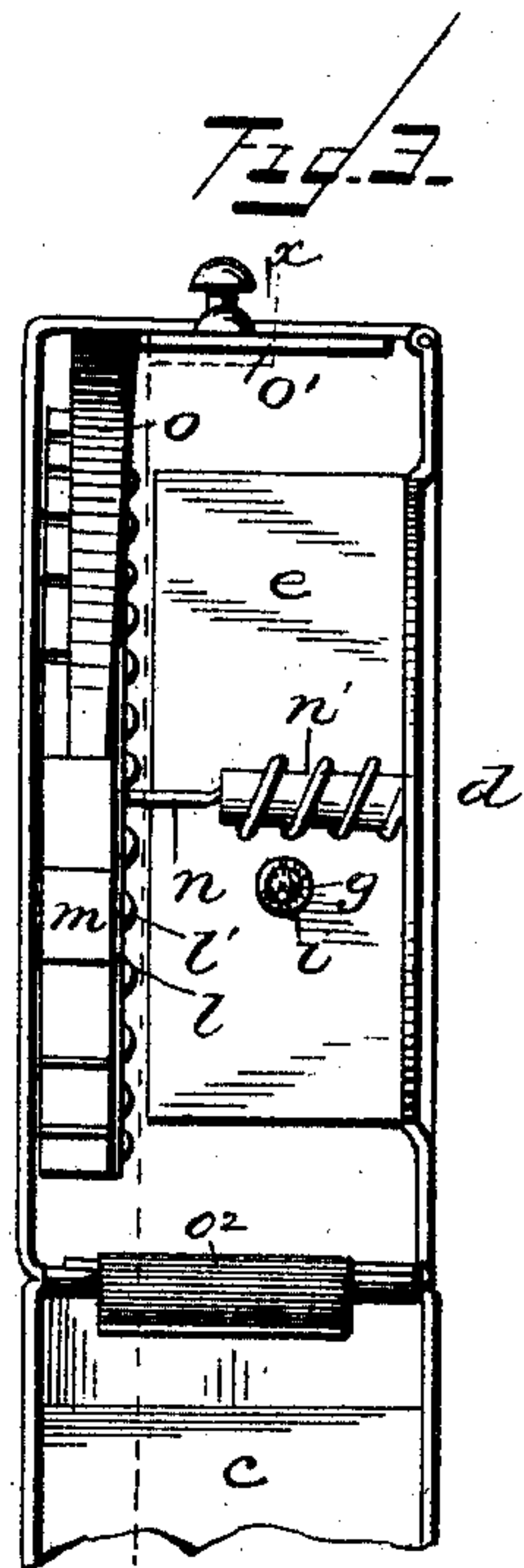
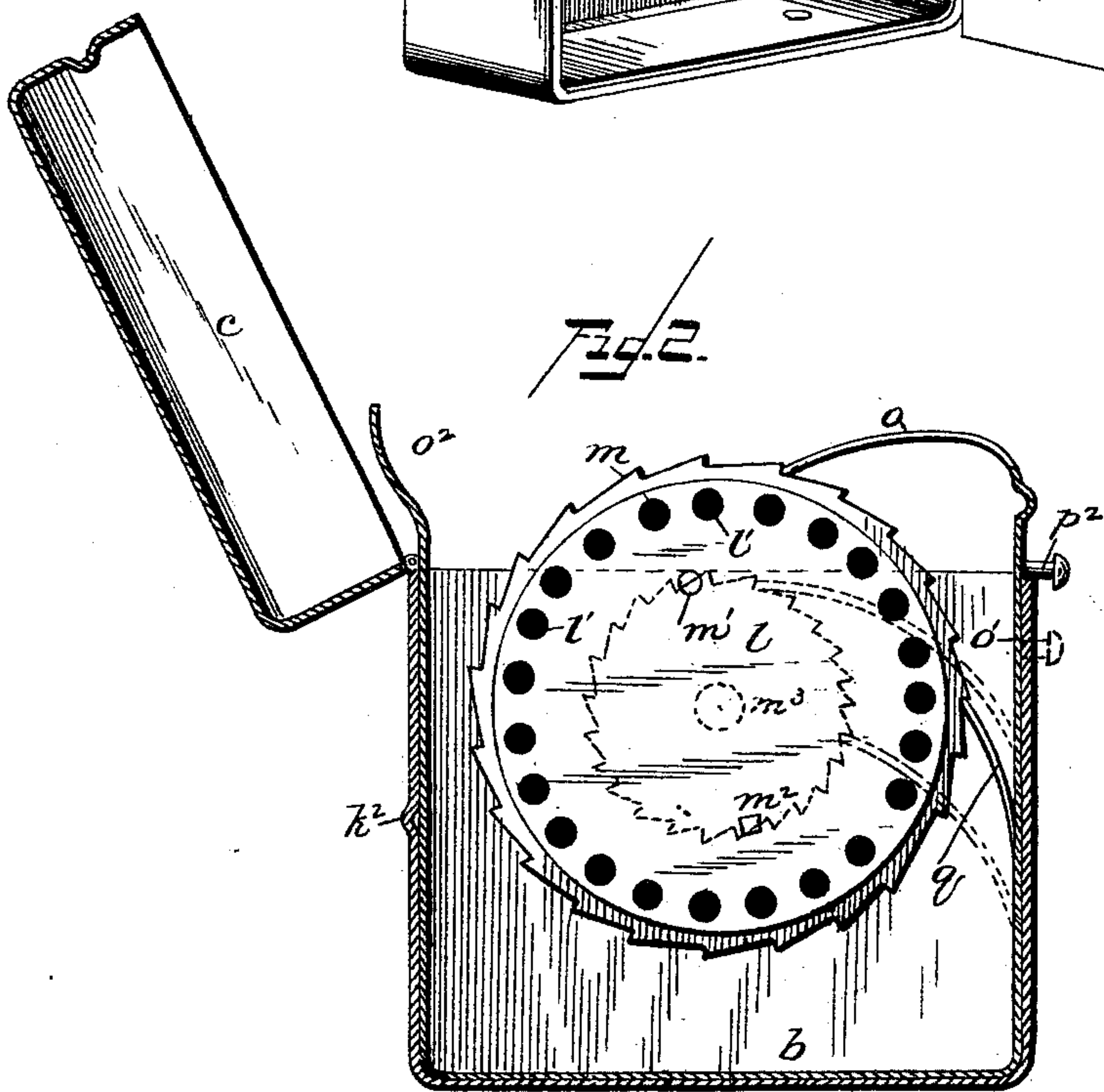
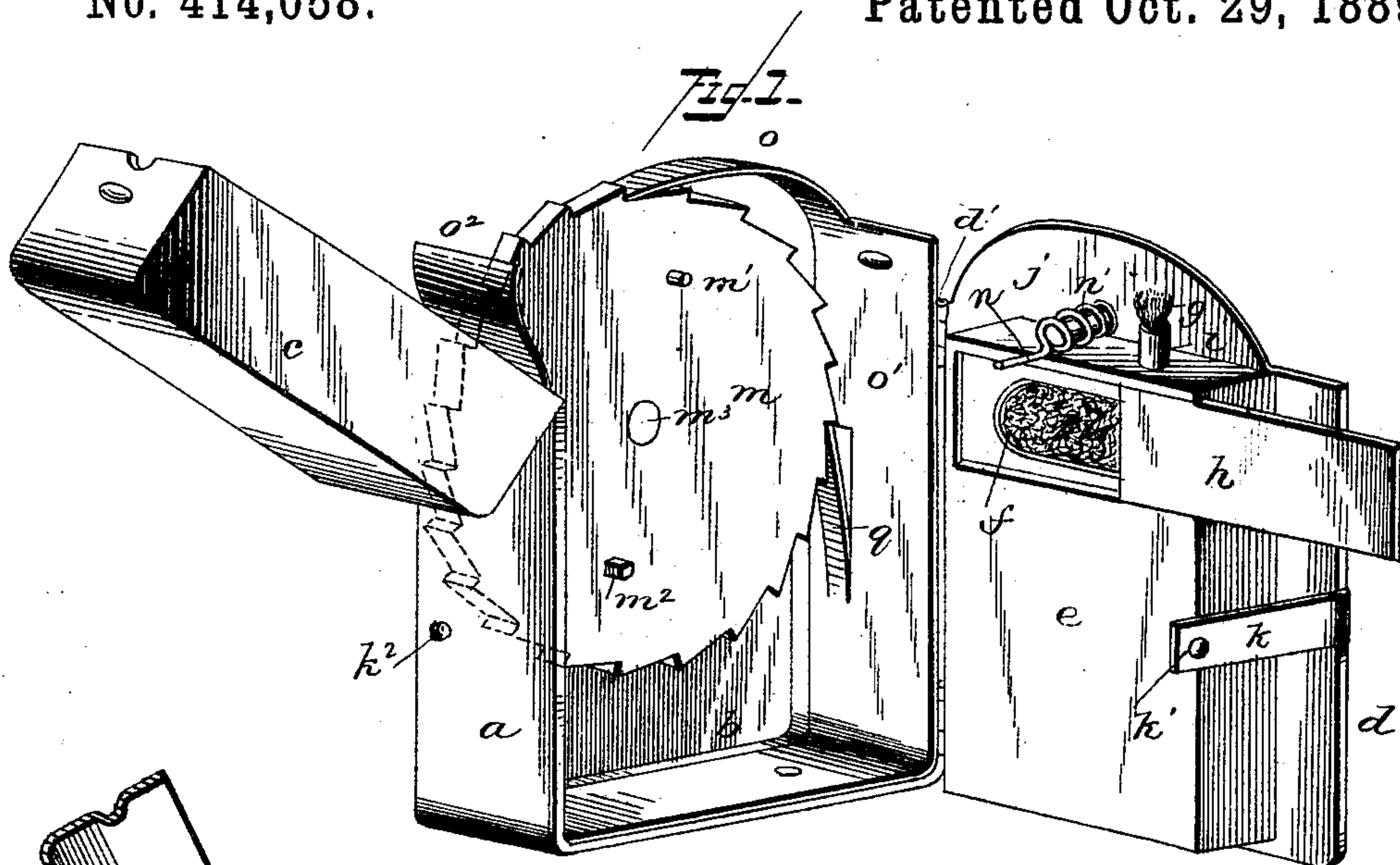
(No Model.)

E. B. KOOPMAN.

POCKET LAMP.

No. 414,058.

Patented Oct. 29, 1889.



WITNESSES
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UNITED STATES PATENT OFFICE.

ELIAS B. KOOPMAN, OF NEW YORK, N. Y.

POCKET-LAMP.

SPECIFICATION forming part of Letters Patent No. 414,058, dated October 29, 1889.

Application filed April 24, 1889. Serial No. 308,356. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. KOOPMAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Pocket-Lamps, of which the following is a full, clear, and exact description.

This invention relates to that class of lamps which are to be carried in a person's pocket for lighting cigars and for other purposes. Such lamps have been made with a reservoir for burning-fluid, supplied with a wick, and provided with automatic means for lighting the wick. The lighting devices have comprised, among other things, a strip of fulminate, which is fed into position as one fulminate after another is exploded or ignited, and a scratching or pricking device has been used to explode or ignite such fulminate.

The present invention consists in certain details of construction, and also in certain combinations and arrangements of parts to form a pocket or other lamp or lighting device, as I will proceed now particularly to set forth and finally claim.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view with the parts in open position. Fig. 2 is a sectional elevation taken in the plane of line $x x$ of Fig. 3. Fig. 3 is a plan view with the cover thrown back, and Fig. 4 is a perspective view of the ignitor.

Without thereby limiting my invention to the exact details of form and structure, I will describe the principle of my invention with reference to the accompanying illustrations.

a is a substantially rectangular case, having a fixed side b , to which case is hinged the cover c . The other side d of the case is hinged at d' to the case, and is provided with the reservoir e for the burning fluid or agent, this reservoir being supplied through an opening f with the usual absorbent material and wick g . The opening f is provided with a sliding cover h , preferably dovetailed in the reservoir. The wick is led out through a wick-tube i , where it is ignited. A draft-shield j is erected alongside the wick-tube. The hinged side is fastened to the case by any suitable fastener, and in the illustrations

I have shown a spring-finger k , provided with a cavity k' , to engage a projection k^2 on the case. The side d is hinged and thereby adapted to be swung away from the case in order to facilitate access to the lamp for filling, cleaning, and application of the ignitors. The side d , with its reservoir and wick, I herein designate a "light-producing apparatus," and also the lamp proper.

The ignitors l are composed of disks of paper, cloth, or card-board, upon which are disposed in a circle a number of pellets, drops, or bits of fulminate or explosive composition l' . These ignitors are provided with openings $l^2 l^3$, for application to a carrier m , and I prefer to provide the carrier with pins m' m^2 of different shape and to make the holes $l^2 l^3$ in the ignitors of corresponding shape, so as to insure the proper placing of the ignitor upon its carrier to bring a bit of fulminate in right position when ignited to throw its flame upon the wick. The carrier is shown as a ratchet-toothed wheel mounted upon a stud m^3 , so as to revolve upon the case a . The bits of fulminate l' will be spaced correspondingly with the teeth, so as to present a fresh one as the carrier is advanced tooth by tooth. The bits of fulminate are ignited by a "scratcher-wire" n , coiled about a post n' on the side d , so as to give it resilience in scraping or scratching the fulminating material to explode it or cause it to ignite.

One but not the only means I contemplate of rotating the carrier is a pawl o , formed on or with the spring o' , which spring is united to the case. This spring has a push-piece p . It is also provided with a projecting piece q , engaging the ratchet to dog it and thus prevent its retrogression and also prevent its slipping when freed from the pawl o . The spring o' is continued around the case and projects at o^2 above the case to act upon the lid or cover c to open it, and on account of its function I designate this projection o^2 the "cover-opener." The lid or cover c is adapted to engage the spring o' and be held closed by it until the spring is moved inwardly by pressure applied to the push-piece p . The same movement that releases and throws open the cover also rotates the carrier, explodes a fulminate, and lights the lamp. Obviously the ignitors may be renewed indefinitely.

Instead of revolving the carrier by the spring-pawl, as just described, I may arrange the pawl lower down upon the spring instead of at its upper end, to engage a ratchet-wheel placed upon the stud m^3 upon or at the back of the carrier, instead of teeth on the rim of the carrier, all as indicated by the dotted lines in Fig. 2. One advantage of this alternative construction is a quicker movement of the carrier. In either construction the carrier is automatically revolved and the lamp lighted simultaneously with the opening of the cover c .

The invention is applicable to other lighting devices than those designed to be carried upon the person.

What I claim is—

1. In a lighting device, a light-producing apparatus, combined with an automatically-revoluble carrier and a removable disk provided with drops or bits of explosive material and applied to said carrier, and a scratcher against which the explosive material is forced and by which it is ignited as the carrier is revolved, substantially as described.

2. In a lighting device, a light-producing apparatus, combined with a rotary carrier provided with teeth, a disk of ignitable pellets applied thereto, a spring-pawl to engage said teeth on the carrier and rotate it tooth by tooth to ignite successive pellets, and a scratcher, substantially as described.

3. In a lighting device, a light-producing apparatus, a case containing it, and a spring arranged in and fastened to said case and having one end formed as a pawl and provided with a button to move it, combined with a rotary fulminate-carrier arranged in said case and constructed with ratchet-teeth adapted to be engaged by said pawl, a disk of ignitable pellets applied to said carrier, and a scratcher, substantially as described.

4. In a lighting device, a light-producing apparatus, a case containing it, and a spring arranged in and fastened to said case and

having one end formed as a pawl and provided with a button to move it, combined with a rotary fulminate-carrier arranged in said case and constructed with ratchet-teeth adapted to be engaged by said pawl, a disk of ignitable pellets applied to said carrier, a projection from the spring to dog said carrier by engagement with its teeth, and a scratcher, substantially as described.

5. In a lighting device, the lamp proper, a case containing it, a cover hinged to said case, a rotary fulminate-carrier provided with ratchet-teeth, a disk of ignitable pellets applied to said carrier, and a scratcher, combined with a spring having one end formed as a pawl to engage the ratchet-teeth of the carrier to rotate it, and also constructed with a detent for the carrier, and also having its other end in engagement with the cover to throw it open as the pawl is actuated to rotate the carrier, substantially as described.

6. A lighting device composed of a case, a hinged side containing the lamp proper, and a scratcher thereon, a rotary toothed fulminate-carrier, a fulminate-disk applied to said carrier, a cover for the case, and a spring comprising a pawl and a detent for the carrier, and a cover-opener, substantially as described.

7. In a lighting device, a light-producing apparatus, combined with a carrier adapted to receive a removable disk of ignitable pellets and provided with a ratchet, a pawl to engage the said ratchet to move it and the carrier tooth by tooth, a detent for the ratchet, and a scratcher against which the ignitable pellets are forced and by which they are ignited as the carrier is revolved, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of April, A. D. 1889.

ELIAS B. KOOPMAN.

Witnesses:

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JULIUS STINE.