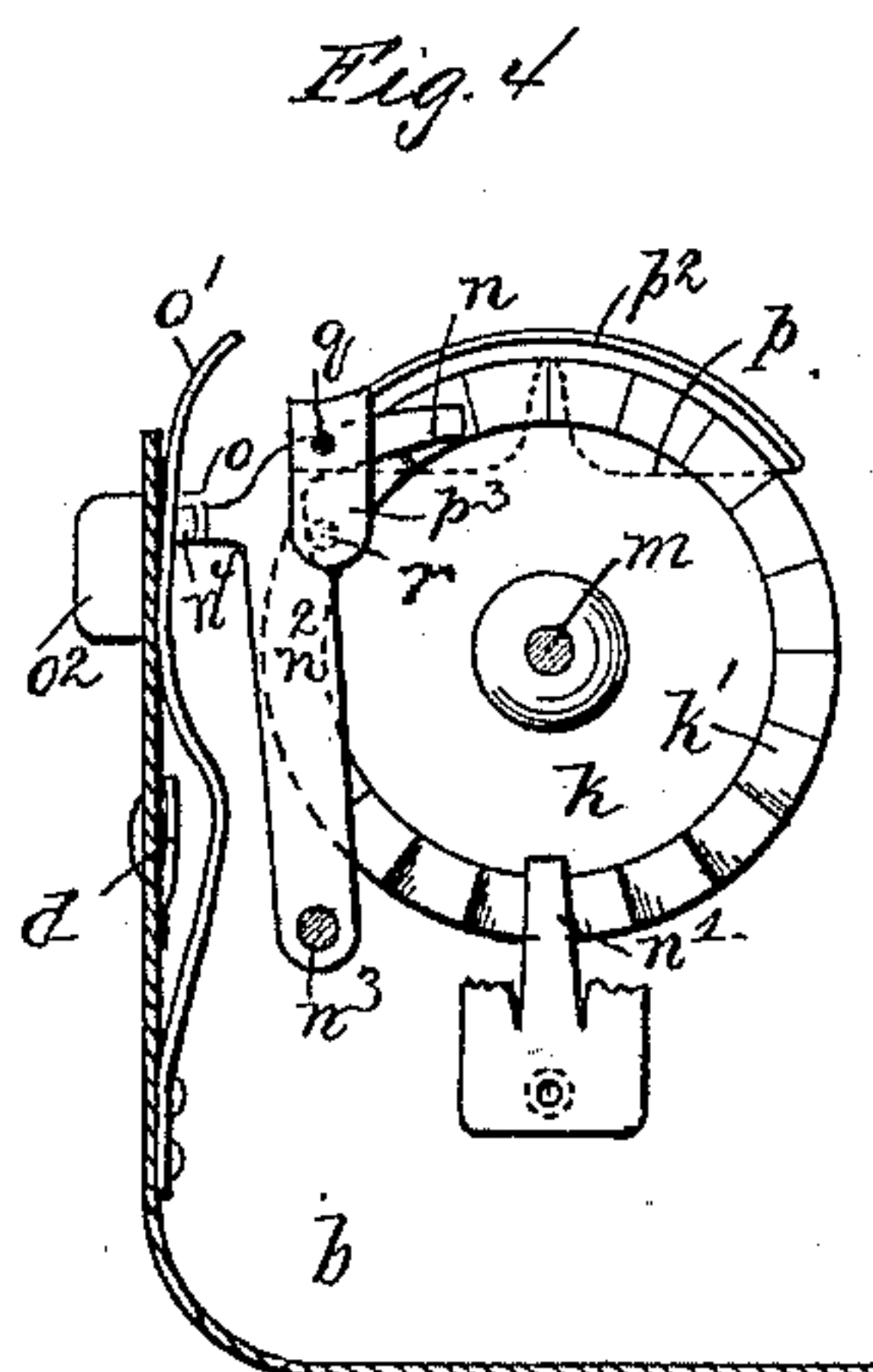
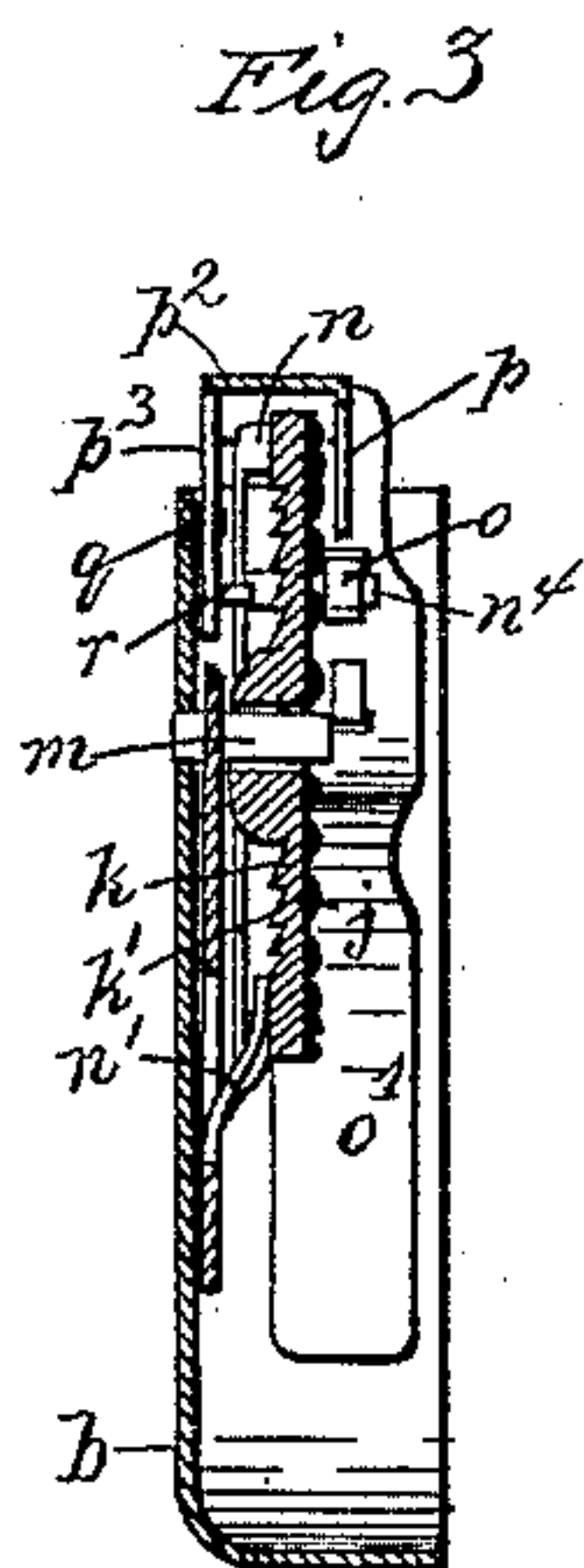
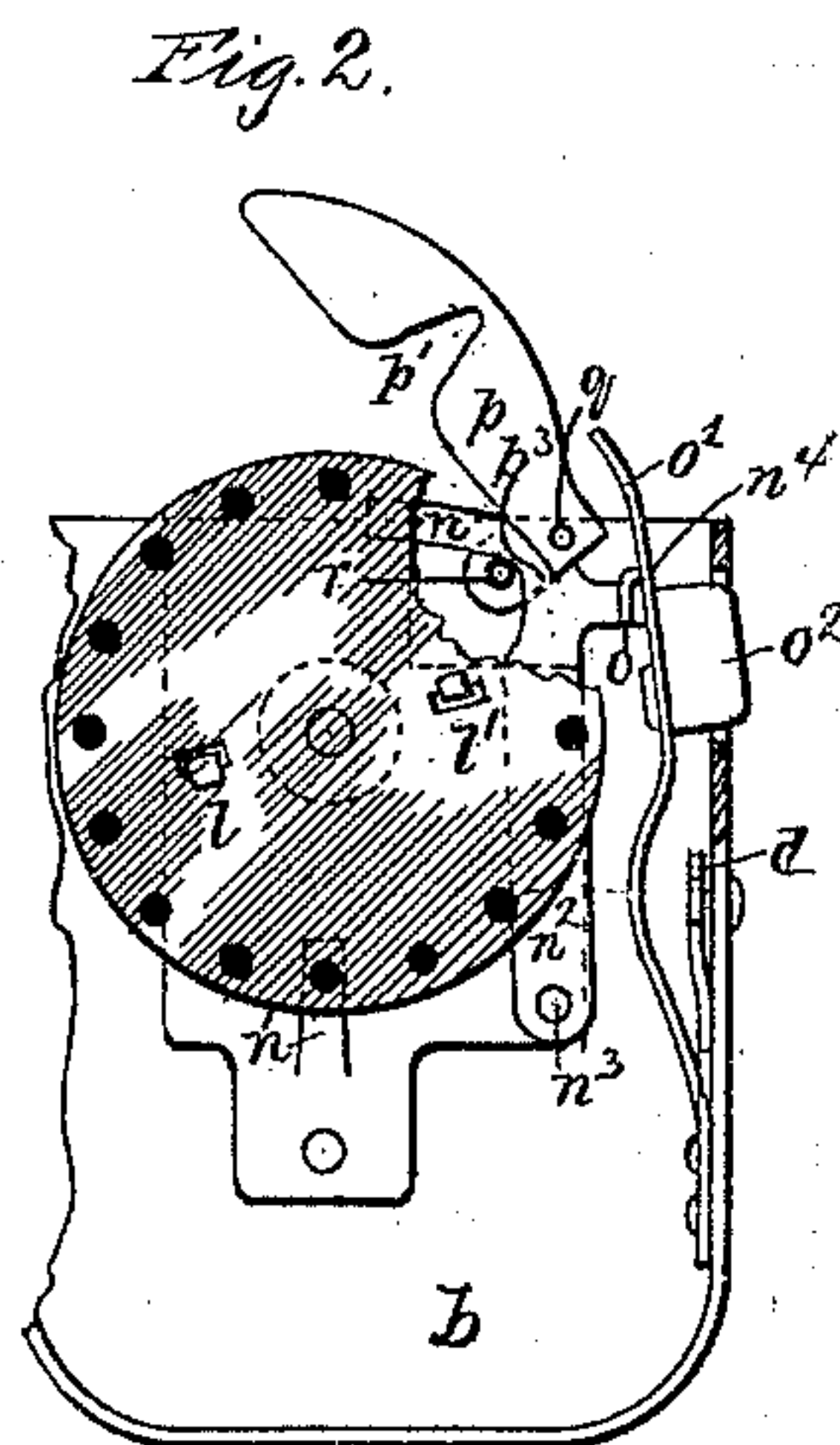
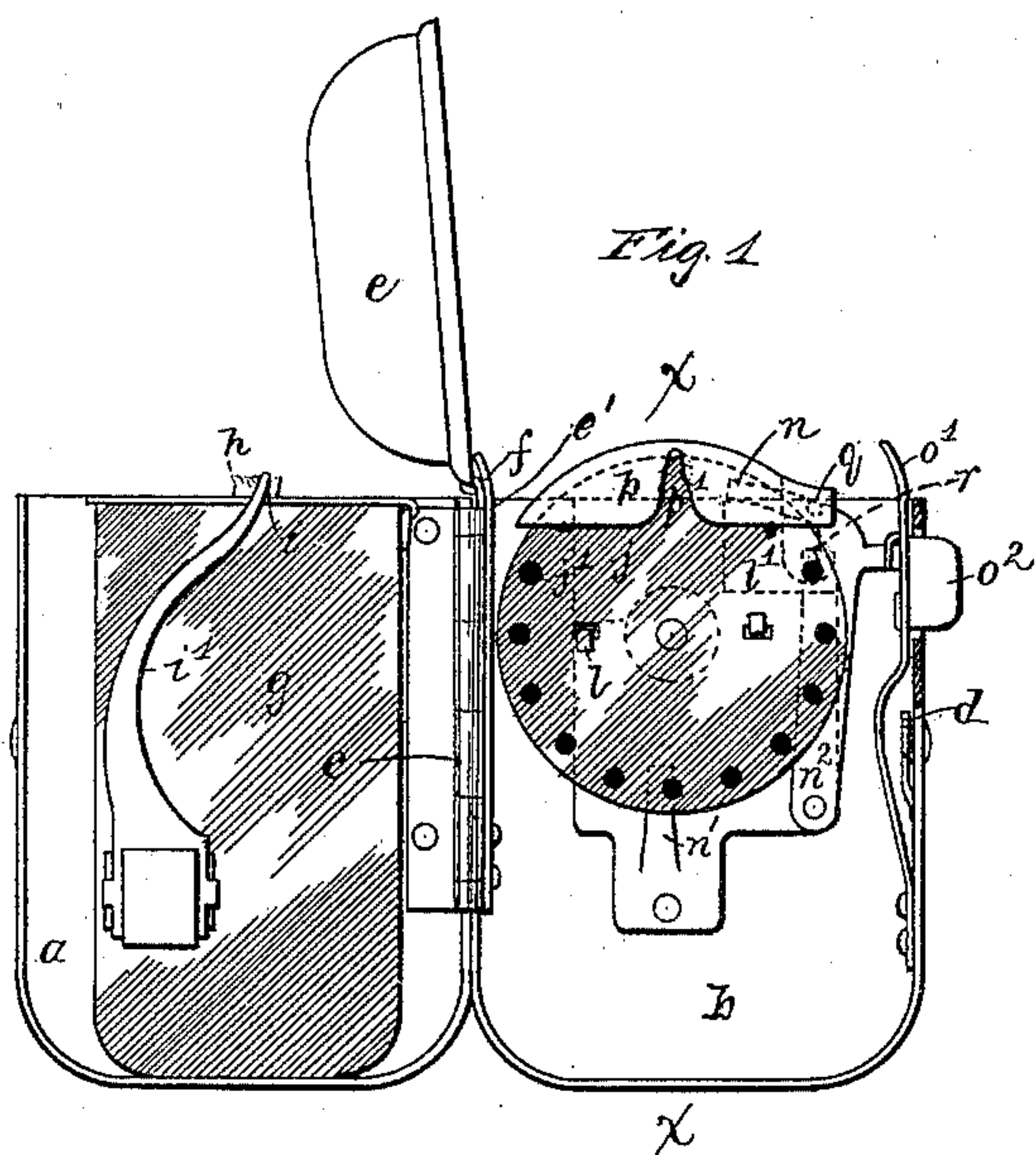


(No Model.)

S. N. AYRES.  
POCKET LAMP.

No. 462,026.

Patented Oct. 27, 1891.



Witnesses  
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*J. E. Greer*

Inventor  
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# UNITED STATES PATENT OFFICE.

SERENO N. AYRES, OF NEW YORK, N. Y.

## POCKET-LAMP.

SPECIFICATION forming part of Letters Patent No. 462,026, dated October 27, 1891.

Application filed February 28, 1891. Serial No. 383,263. (No model.)

*To all whom it may concern:*

Be it known that I, SERENO N. AYRES, of New York, in the county and State of New York, have invented a new and useful Improvement in Pocket-Lamps, of which the following is a specification.

This invention relates to that class of pocket-lamps which are provided with a reservoir for burning fluids supplied with a wick, and also provided with a strip or disk containing spots of fulminate, and also with mechanism whereby said spots of fulminate are moved successively into such position that when ignited they will light the lamp, and also provided with a scratching or pricking device adapted to ignite the successive spots of fulminate when in position.

In the use of these lamps the tendency of the fire to be communicated from the wick to the fulminates and from one fulminate to another, so as to prematurely ignite the fulminates, has been a very serious difficulty, and the object of my present invention is to overcome the same. This I do by providing a movable partition located between the wick and the strip or disk containing the fulminates and mechanism, whereby this partition is removed when a spot of fulminate is intentionally ignited and returned to its former position again as soon as the fire from this fulminate has had an opportunity to communicate with the wick.

In the drawings, Figure 1 is an elevation of the lamp entirely open, showing the partition in position between the wick and the series of fulminates. Fig. 2 is a portion of Fig. 1, showing the partition removed from between the wick and the series of fulminates. Fig. 3 is a vertical section through the line  $x x$  of Fig. 1. Fig. 4 is a rear view of the parts attached to half  $b$  of the case.

The operative parts of the lamp are inclosed in a case consisting of the two halves  $a$  and  $b$ , hinged together at  $c$  and provided with a catch  $d$ , by which they are held shut.

$e$  is a cover of the case hinged to the other parts at  $f$ .

$g$  is the oil-reservoir of the lamp, which is provided with a wick projecting from the top

at  $h$  and permanently secured to the half  $a$  of the case.

$i$  is a scratcher or pricker mounted upon a spring-arm  $i'$ , which is fixed upon the case  $a$ .

$j$  is a disk, preferably made of paper, which bears near its periphery a series of fulminate spots  $j'$ . The fulminate-disk is secured to the face of a metallic disk  $k$  by the fingers  $l$  and  $l'$ , and the metallic disk  $k$  is revolutely mounted upon a stationary shaft  $m$  and is provided upon its rear face with a circle of ratchet-teeth  $k'$ , corresponding in distance apart with the distance between the fulminate spots on the fulminate-disk.

$n$  is a pawl engaging with the ratchet-teeth to revolve the disk  $k$ , and  $n'$  is a stationary spring-pawl adapted to hold the disk  $k$  from turning excepting when it is actuated by the pawl  $n$ . The pawl  $n$  is a projection from the arm  $n^2$ , which is pivoted at  $n^3$  to the case and contains a flange  $n^4$ , which is held by an overlapping flange  $o$  on the spring  $o'$ , which holds the cover shut. From this spring a thumb-piece  $o^2$  projects out through a hole in the edge of the case.

$p$  is the movable partition which I interpose between the wick and the spots of fulminate in the vicinity of the same. This partition must be moved out of the way whenever the disk  $k$  is turned, so as to bring a new fulminate past the scratcher  $i$ , and various mechanisms may be employed for this purpose for moving it in various directions. I prefer, however, to pivot it at one end, as at  $q$ , and cause it to swing upward, as shown in Fig. 2. I cause a pin  $r$ , located upon a tail of the partition  $p$ , projecting beyond the pivot, to engage with a slot in the arm  $n^2$ , so that the reciprocation of the arm  $n^2$  under the pressure of the thumb-piece  $o^2$  in one direction and the spring  $o'$  in the opposite direction will compel the partition  $p$  to move up and down, and thus insure its being up when the fulminate-disk is moved forward and down when the fulminate-disk is stationary.

The form of the partition  $p$  is immaterial; but a good form is represented in Fig. 2, and it is convenient to combine with it a curved flange  $p^2$ , extending over the edge of the disks



and provided on the opposite side of the disks from the partition and next the face-plate of the case *b*, with a downward projection *p*<sup>3</sup>, forming a connection with the pivot *q*, and constituting the tail-piece already referred to.

The operation of the device is as follows: Starting with the pocket-lamp entirely closed the user presses upon the thumb-piece *c*<sup>3</sup>, which causes three things to take place: first, the cover *e* to open under the pressure of the hinge-spring *e'*; second, the fulminate-disk to revolve sufficiently to cause one of the fulminate spots to pass under the scratcher and be ignited; third, the partition *p* to be raised from the position of Fig. 1 to the position of Fig. 2 and thus removed from between the fulminate spot being ignited and the wick, permitting the fire of the fulminate to ignite the wick. The removal of the pressure from the thumb-piece *o* permits the spring *o'* to cause the partition *p* to return to the position of Fig. 1, and the pawl *n* to assume its normal position ready for engaging with the next ratchet-tooth. When the partition *p* is in this position the lamp may be carried with perfect freedom without endangering any communication between its flame and the fulminate spots which remain unignited.

*p'* is an opening cut into the partition, which will be employed in case the scratcher *h* is attached to the case *a*, as shown in the drawings, so that as the cases *a* and *b* open on their hinge the movement of the scratcher away from the disk may take place through the opening *p'*.

I claim—

1. In a lighting device, a light-producing apparatus, a disk containing fulminate spots and arranged so that as it is rotated the fulminate spots are presented successively opposite and at one side of the wick, and a partition automatically movable at the time of lighting arranged parallel with the disk and between it and the wick, substantially as described.

2. In a lighting device, in combination, a light-producing apparatus having a wick, a fulminate-carrier containing fulminate spots and so arranged that each fulminate spot when in position for igniting the wick is located at one side thereof, whereby it is removed from the direct course of the flame, a

partition interposed between the wick and the fulminate-carrier, and mechanism whereby said partition may be moved at the instant that the fulminate spot is ignited and returned to its normal position when the wick is lighted, substantially as described.

3. In a lighting device, in combination, a light-producing apparatus, a fulminate-carrier provided with fulminate spots, a movable partition separating the fulminate spots from the flame, and mechanism whereby said partition may be automatically moved to permit communication of fire from a fulminate spot to the light-producing apparatus only at the instant of lighting, substantially as described.

4. In a lighting device, in combination, a light-producing apparatus, a fulminate-carrier provided with fulminate spots, a scratcher adapted to ignite said fulminate spots, mechanism whereby said carrier is moved to subject said fulminate spots successively to said scratcher, a partition interposed between the light-producing apparatus and the fulminate spots, mechanism whereby said partition is temporarily moved to permit communication between the light-producing apparatus and the fire from the fulminate spots, a thumb-piece, and connections between said thumb-piece and said mechanism for moving the fulminate-carrier and said mechanism for moving the partition, whereby the removal of the partition and the movement of a fulminate spot under the scratcher occur simultaneously, substantially as described.

5. In a lighting device, in combination, a light-producing apparatus, a fulminate-carrier provided with fulminate spots, a movable partition interposed between the light-producing apparatus and the fulminate spots, mechanism whereby said partition is removed from between the fulminate spots and the light-producing apparatus and back again, whereby a momentary communication is admitted between the fire from a fulminate spot and the light-producing apparatus, substantially as described.

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Witnesses:

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