(No Model.) 2 Sheets—Sheet 1.

E. KRONENBERG.

POCKET LAMP OR LIGHTING DEVICE.

No. 480,267. Patented Aug. 9, 1892.

Fig. 1.

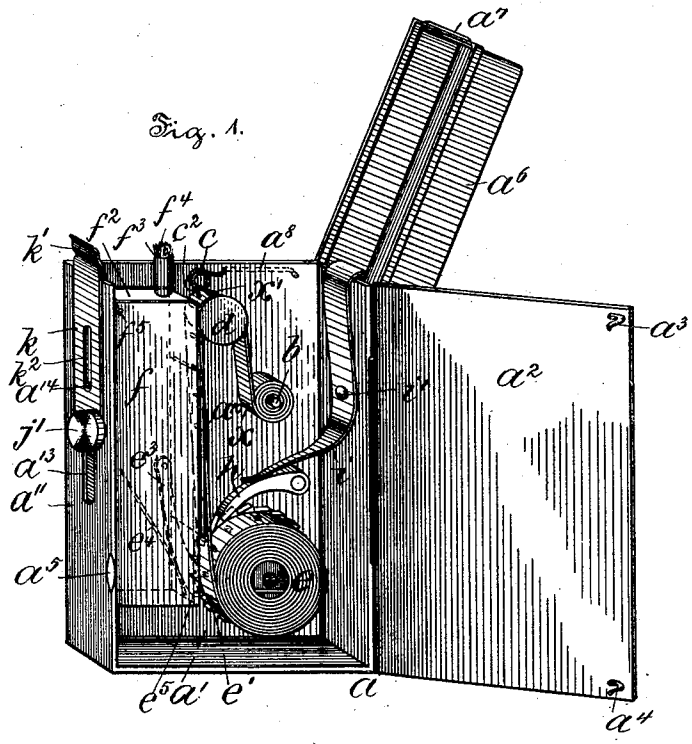
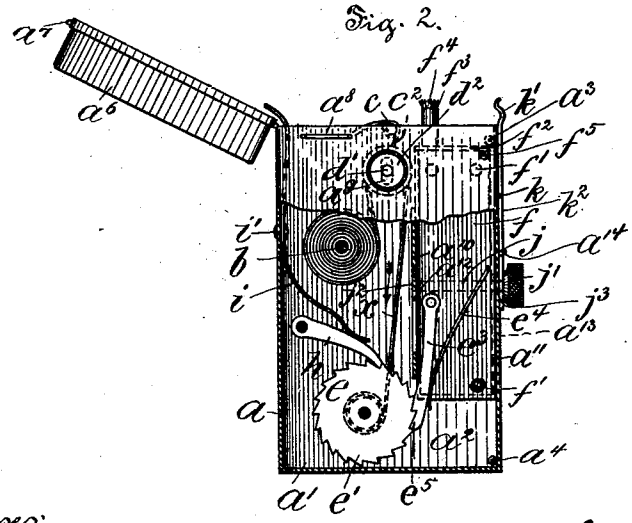


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

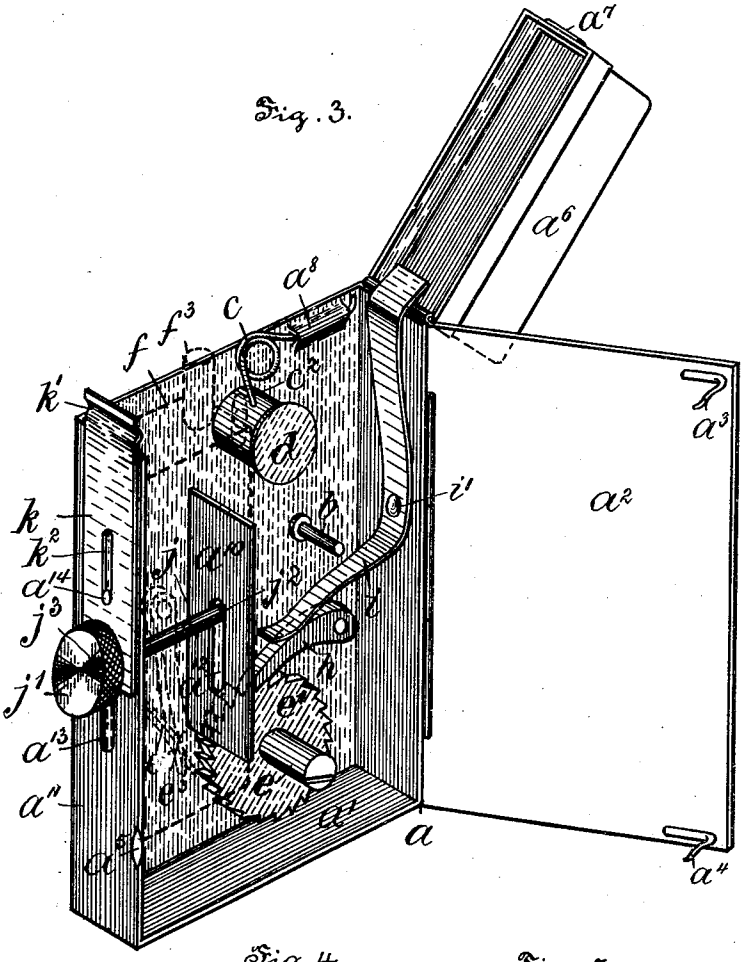


Fig. 4.

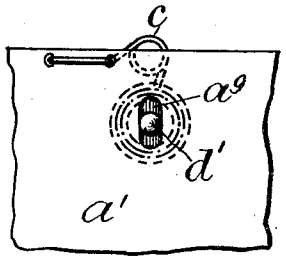
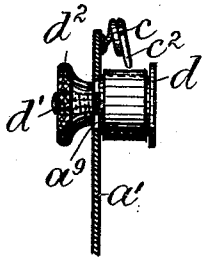


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD KRONENBERG, OF PHILADELPHIA, PENNSYLVANIA.

POCKET LAMP OR LIGHTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 480,267, dated August 9, 1892.

Application filed March 28, 1891. Serial No. 386,814. (No model.)

To all whom it may concern:

Be it known that I, EDWARD KRONENBERG, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pocket Lamps or Lighting Devices, of which the following is a specification.

The principal objects of my invention are, first, to provide a compact, inexpensive, and efficient pocket lamp or lighting device having convenient means accessible from the exterior of the housing of the lamp or lighting device and adapted to release the cover or lid and to shift the oil-reservoir in order to bring the wick into close proximity with a scratcher or ignitor, and to feed or advance fulminates, pellets, caps, or ignitible material into contact with the scratcher or igniter, whereby the same in regular succession are exploded to light a wick or other light-producing appliance; second, to provide convenient means accessible from the exterior of the housing for adjusting the position of a support or carrier with relation to the ignitor or scratcher, and, third, to so arrange and construct the various parts of the device as that the number of soldered joints or seams and consequently the cost of manufacture are appreciably reduced.

My invention consists of a pocket lamp or lighting device comprising a housing, a hinged cover, a movable oil-reservoir, a hand-knob attached to said reservoir and protruding through said housing, and a catch attached to said hand-knob or adapted to engage and release said cover or lid when the oil-reservoir and hand-knob are shifted.

My invention further consists of a pocket lamp or lighting device comprising a scratcher or ignitor for contacting with and igniting a fulminating carrier or strip, tape, or ribbon, provided with fulminating pellets, caps, or ignitible material, a movable oil-reservoir, a feeding appliance for winding upon itself the fulminate carrier or tape, strip, or ribbon provided with fulminating pellets, caps, or ignitible material, and pawl-and-ratchet connections between said oil-reservoir and feeding device for operating the latter by the shifting of the oil-reservoir.

My invention further consists of a lighting device or pocket-lamp comprising a housing, a hinged cover, a scratcher or ignitor for contacting with and igniting a fulminate carrier or strip, tape, or ribbon, provided with fulminating pellets, caps, or ignitible material, a movable oil-reservoir, a feeding appliance for winding upon itself the fulminate carrier or tape, strip, or ribbon, provided with fulminating pellets, caps, or ignitible material, pawl-and-ratchet connections between said oil-reservoir and feeding device for operating the latter by the shifting of said oil-reservoir, a hand-knob accessible from the exterior of the housing and connected with said oil-reservoir, and a catch attached to said hand-knob for fastening and releasing said lid or cover.

My invention further consists of a pocket lamp or lighting device provided with a fixed scratcher or ignitor and an adjustable support or carrier for holding a strip, tape, or ribbon, having pellets, fulminates, or ignitible material applied thereto.

My invention further consists of a pocket lamp or lighting device provided with a housing having a hinged cover, a feeding device adapted to wind upon itself a fulminate carrier or tape, strip, or ribbon provided with fulminating pellets, caps, or ignitible material and provided with a ratchet-wheel, a detent for engaging said ratchet-wheel, and a spring riveted at or near the center thereof to said housing and having one extremity in engagement with said lid or cover and the other extremity in engagement with said detent.

My invention further consists in the improvements in pocket lamps or lighting devices hereinafter described, and specifically pointed out in the claims.

The nature and objects of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a perspective view of a lighting device or pocket lamp embodying features of my invention and showing a hinged cover and two-part housing in an open position, so as to expose to view a movable oil-reservoir and the other parts of the device. Fig. 2 is an elevation of the same, showing the housing

broken away in order to expose to view a feeding appliance and pawl-and-ratchet connections adapted to be actuated by the movable oil-reservoir in order to operate the feeding appliance. Fig. 3 is a perspective view of the lighting device or pocket-lamp with the two-part housing having a hinged cover shown in an open position and with the movable oil-reservoir thereof illustrated in dotted lines and showing, also, the slotted side wall and movable catch and internal slotted partition with the stud or pin extending through the same for raising and lowering said reservoir and the catch in the movement thereof adapted to open the cover of the lamp Fig. 4 is a view in elevation of a portion of the housing of the lamp, showing an ignitor or scratcher held in a loop secured to the housing and an adjustable support or carrier for guiding the fulminating or igniting tape, strip, or ribbon; and Fig. 5 is a vertical transverse section of Fig. 4.

In the drawings the housing a comprises two parts a' and a^2, preferably hinged together and provided with spring-latches a^3 and a^4 for retaining the two parts normally in a closed position.

a^5 is a recess or indentation formed in the side wall a^{11} of the housing and adapted for the insertion of the finger-nail in order to open or separate the two parts a' and a^2 of the housing whenever it may become necessary or desirable so to do.

a^6 is a cover or lid hinged to the part a' of the housing and provided with a projection a^7, forming one member of a spring-catch, the other member of which is hereinafter described.

b is a stud or pin attached to the interior wall of the part a' of the housing and adapted to hold or contain upon itself a coil of tape or ribbon x, provided with pellets, fulminates, or ignitible material x'.

c is a coiled spring having one extremity in engagement with a loop a^8, struck up from the wall of the portion a' of the housing and the other extremity curved or bent to form a scratcher or igniter c^2 for frictionally contacting with and igniting the pellets, fulminates, or ignitible material x'. It may be remarked that by employing the loop a^8 the use of solder is dispensed with and the wire c is firmly attached to the housing or support.

d is a carrier for directing the strip, tape, or ribbon into contact with the scratcher or ignitor c^2 and provided with a lug d', adapted to work in a slot a^9, formed in the portion a' of the housing.

d^2 is a set-screw located outside of the housing a and adapted to engage the lug d' in order to retain the carrier or support to place, so that the carrier or support d may be adjusted with reference to the scratcher or ignitor c^2 and clamped to place by means of the set-screw d^2 from the exterior of the housing a.

e is a feeding appliance journaled to the interior wall of the part a^2 of the housing and adapted to wind the strip, tape, or ribbon x upon itself after the pellets, fulminates, or ignitible material have been exploded.

e' is a ratchet-wheel attached to or formed integral with the feeding appliance e.

a^{10} is a partition attached to or formed integral with the part a' of the housing and adapted, together with the side wall a^{11} of the housing, to form ways for the reception of the movable oil-reservoir f.

e^3 is a pawl pivoted to the wall of the oil-reservoir f and adapted to engage the teeth of the ratchet-wheel e' in order to rotate the latter when the oil-reservoir is shifted downward and to pass or slide freely over the same when the oil-reservoir is shifted upward.

e^4 is a spring attached at one extremity to the wall of the oil-reservoir f and having its free extremity in engagement with the pawl e^3 in order to insure the proper engagement of the same with the teeth of the ratchet e'. In the drawings the lower extremity of pawl e^3 is represented as provided with two teeth or a double tooth e^5 in order to insure the proper engagement of pawl e^3 and ratchet-wheel e'; but one tooth may, if preferred, be employed instead of two. However, preference is given to the employment of a double-toothed pawl, because excellent results have been attained in practice by its use.

f' are projections struck up or attached to the side wall of the oil-reservoir f and adapted to contact with and slide upon the interior of the wall of the part a' of the housing a in order to prevent the pawl e^3 and spring e^4 from contacting therewith.

h is a detent pivotally attached to the wall of the portion a' and adapted to engage the teeth of the ratchet-wheel e' in order to prevent a retrograde motion thereof.

i is a spring attached at or near the center thereof to the side wall of the portion a' of the housing a by means of a rivet i' and having one of its free extremities in engagement with the lid or cover a^6 in order to cause the same to tend to spring into an open position and having the other of its free extremities in engagement with the detent h in order to maintain the latter normally in engagement with the ratchet-wheel e'.

j is a stud or pin provided with a hand-knob j' and extending transversely through the oil-reservoir f and having the respective extremities j^2 and j^3 thereof extending beyond the side walls of the oil-reservoir. These extremities j^2 and j^3 of the pin j are adapted to work in suitable slots a^{12} and a^{13}, cut or otherwise formed in the side wall a^{11} of the housing and in the partition a^{10}, respectively, in order to guide and limit the movement of the oil-reservoir f.

f^2 is a lid provided with an aperture f^3 for the passage of the wick f^4, and hinged to the oil-reservoir f, as at f^5, in order to permit the latter to be conveniently filled.

k is a strip of spring metal attached at one

extremity thereof to or formed integral with the hand-knob j' and curved at the free extremity k' thereof in order to form the other member of the spring-catch a^7 for retaining the lid or cover a^6 in a closed position.

k^2 is a slot formed or cut in the strip k and adapted to engage a lug a^{14}, struck up from the side wall a^{11} of the housing a, in order to prevent the strip k from being shifted accidentally out of position.

In use the wick f^4, protruding from the oil-receptacle f, may be lighted and the cover a^6 opened by the simple operation of sliding the hand-knob j', and with it the strip k, downward. This motion of the hand-knob releases the spring-catch a^7 and shifts the oil-reservoir f downward, so that the wick f^4 is brought into proximity with the scratcher or ignitor c^2. Moreover, the downward motion of the oil-reservoir f causes the pawl e^3 to rotate the ratchet-wheel e' and feeding device e. The rotation of the feeding device causes the fulminate carrier, strip, tape, or ribbon x to be wound thereon, thereby advancing a pellet or fulminate x' over the support or carrier d into contact with the scratcher or ignitor c^2, whereby the pellet or fulminate x' is frictionally ignited and the wick f^4 lighted. The oil-reservoir f may then be shifted upward by means of the hand-knob j', in order to cause the wick f^4 to extend outside of the housing a, so as to be available for lighting cigars, pipes, and other purposes. Moreover, this upward motion of the oil-reservoir f shifts the pawl e^3 into position for rotating the ratchet-wheel e' and spring k into position for engaging the cover or lid a^6, as is illustrated in the drawings. The lamp may be extinguished by the simple operation of closing the lid or cover a^6. When all the pellets, fulminates, or ignitible material x' on the strip, tape, or ribbon x have been ignited, the portion a^2 of the housing may be opened, as illustrated in Fig. 1, by means of the recess a^5 and such expended tape, strip, or ribbon removed and replaced by another strip, tape, or ribbon provided with fresh pellets, fulminates, or ignitible material.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in details. For example, the pawl-and-ratchet connections and movable oil-reservoir may be employed in connection with other types of fulminate or pellet carriers or other types of devices for advancing the same to a scratcher or ignitor without departing from the spirit of the invention, and hence I do not limit myself to the exact construction illustrated in the drawings; but,

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A pocket lamp or lighting device comprising a two-part housing having a spring-actuated hinged cover, a movable reservoir having a wick protruding through the same, a stud-pin extending through the slotted side wall of the housing and through the reservoir into a slotted internal partition provided in said housing, a movable catch connected with said stud-pin and adapted to engage the cover of said housing by the shifting of the reservoir, an ignitor or scratcher, a feeding appliance adapted to advance a fulminating or igniting tape to said ignitor or scratcher, and means for operating said feeding appliance by the shifting of said reservoir, substantially as and for the purposes set forth.

2. A pocket lamp or lighting device comprising a housing provided with a slotted partition and a slotted side wall forming ways, a movable oil-reservoir adapted to be shifted in said ways, and lugs or pins connected with said oil-reservoir and working in the slots of said partition and side wall, substantially as and for the purposes set forth.

3. A pocket lamp or lighting device comprising a housing provided with a slotted partition and a slotted side wall forming ways, a movable oil-reservoir adapted to be shifted in said ways, and a pin passing through said oil-reservoir and working in the slots in said partition and side wall, substantially as and for the purposes set forth.

4. A pocket lamp or lighting device comprising a stretcher or ignitor for contacting with and igniting pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for advancing said pellets, fulminates, or ignitible material to said scratcher or ignitor, and pawl-and-ratchet connections between said oil-reservoir and feeding device for operating the latter by the shifting of the oil-reservoir, substantially as set forth.

5. A pocket lamp or lighting device comprising a scratcher or ignitor, a strip, tape, or ribbon provided with pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for winding upon itself the tape, strip, or ribbon, and pawl-and-ratchet connections between said oil-reservoir and feeding device for operating the latter by the shifting of the oil-reservoir, substantially as and for the purposes set forth.

6. A pocket lamp or lighting device comprising a scratcher or ignitor for contacting with and igniting pellets, fulminates, or ignitible material, a support or carrier, a movable oil-reservoir, a feeding appliance for advancing said pellets, fulminates, or ignitible material into contact with said support or carrier and scratcher or ignitor, and pawl-and-ratchet connections between said oil-reservoir and feeding device, substantially as and for the purposes set forth.

7. A pocket lamp or lighting device comprising a scratcher or ignitor, a strip, tape, or ribbon provided with pellets, fulminates, or ignitible material, a support or carrier, a movable oil-reservoir, a feeding appliance for winding upon itself the tape, strip, or ribbon, and pawl-and-ratchet connections between said oil-reservoir and feeding device for op-

erating the latter, substantially as and for the purposes set forth.

8. A pocket lamp or lighting device comprising a scratcher or ignitor, a retaining stud or pin, a tape, strip, or ribbon provided with pellets, fulminates, or ignitible material, a scratcher or ignitor, a carrier or support, a movable oil-reservoir, a feeding appliance for winding upon itself the tape, strip, or ribbon, and pawl-and-ratchet connections between said oil-reservoir and feeding device for operating the latter, substantially as and for the purposes set forth.

9. A pocket lamp or lighting device comprising a housing provided with a hinged cover, a scratcher or ignitor, pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for advancing said pellets, fulminates, or ignitible material, pawl-and-ratchet connections between said oil-reservoir and feeding appliance, a knob accessible from the exterior of the housing and connected with said oil-reservoir, and a catch attached to said knob for fastening and releasing said lid or cover by the shifting of the oil-reservoir, substantially as and for the purposes set forth.

10. A pocket lamp or lighting device comprising a housing provided with a hinged cover, a scratcher or ignitor, a strip, tape, or ribbon provided with pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for winding upon itself the tape, strip, or ribbon, pawl-and-ratchet connections between said oil-reservoir and feeding device, a hand-knob connected with said oil-reservoir, and a catch attached to said hand-knob for fastening and releasing said lid or cover, substantially as and for the purposes set forth.

11. A pocket lamp or lighting device comprising a housing and cover, a scratcher or ignitor, a support or carrier, pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for advancing said pellets, fulminates, or ignitible material, pawl-and-ratchet connections between said oil-reservoir and feeding appliance, a hand-knob connected with said oil-reservoir, and a catch attached to said hand-knob for fastening and releasing said lid or cover, substantially as and for the purposes set forth.

12. A pocket lamp or lighting device comprising a housing provided with a hinged cover, a scratcher or ignitor, a retaining stud or pin, a strip, tape, or ribbon provided with pellets, fulminates, or ignitible material, a movable oil-reservoir, a feeding appliance for winding upon itself the tape, strip, or ribbon, pawl-and-ratchet connections between said oil-reservoir and feeding device, a hand-knob connected with said oil-reservoir and a catch attached to said hand-knob for fastening and releasing said lid or cover, substantially as and for the purposes set forth.

13. In a pocket lamp or lighting device, the combination of an ignitor or scratcher and an adjustable support or carrier for guiding a tape, strip, or ribbon, substantially as and for the purposes set forth.

14. In a pocket lamp or lighting device, the combination of a slotted housing, an ignitor or scratcher, a carrier or support provided with a threaded stud working in the slot of the housing, and a set-screw engaging said stud, substantially as and for the purposes set forth.

15. In a pocket lamp or lighting device, the combination, with a housing provided with a loop, an ignitor or scratcher having a shank mounted in said loop, of an adjustable support or carrier mounted in a slot in the wall of said housing for guiding a tape, strip, or ribbon, and means for feeding and drawing the tape, strip, or ribbon over said carrier or support into contact with and from said ignitor or scratcher, substantially as and for the purposes set forth.

16. A pocket lamp or lighting device provided with a housing having a hinged cover or lid, a feeding device having a ratchet-wheel and a detent, and a spring secured at or near the center thereof to said housing and having one extremity in engagement with said lid or cover and the other extremity in engagement with said detent, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

EDWARD KRONENBERG.

Witnesses:
HERMANN BORMANN,
RICHARD C. MAXWELL.