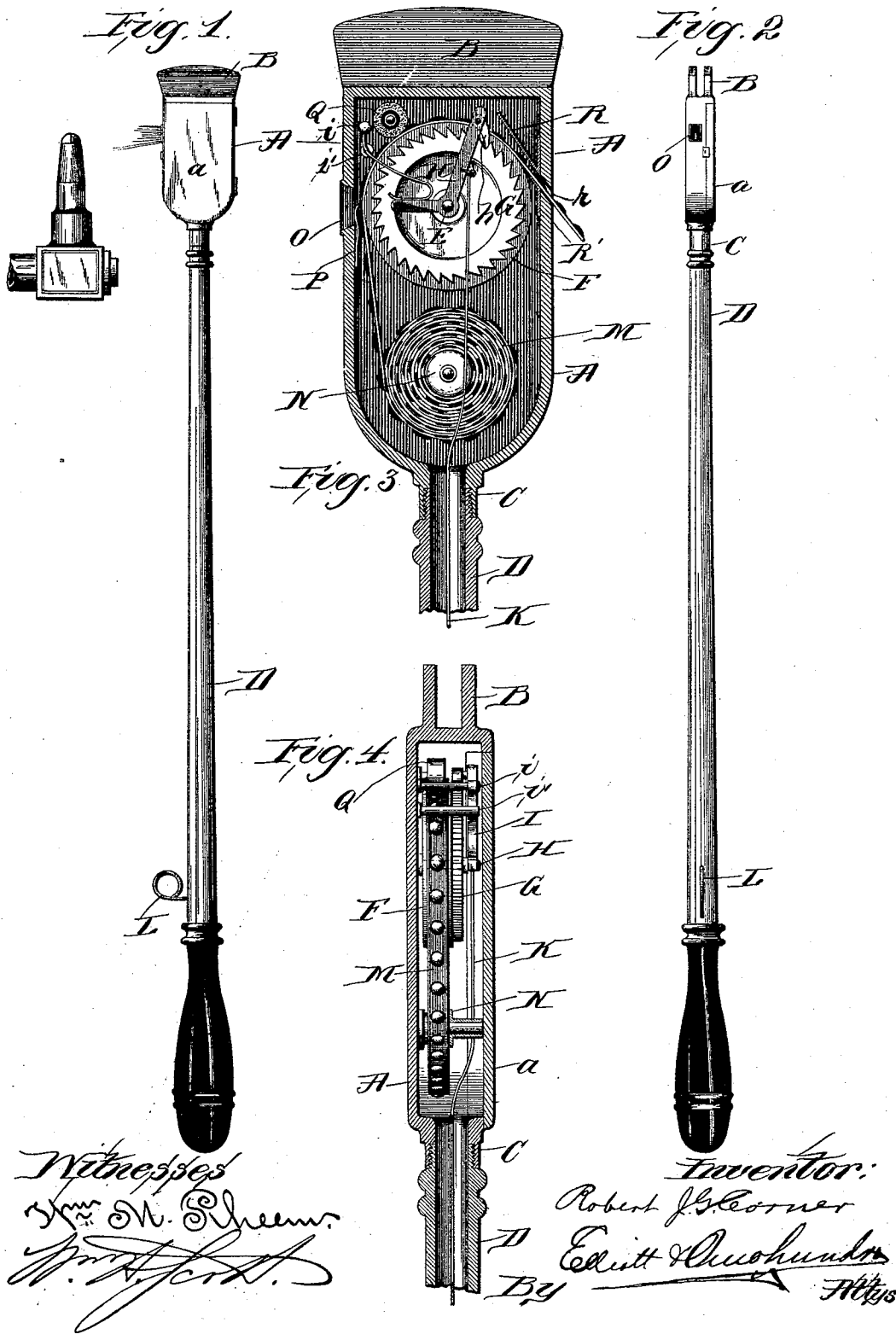


(No Model.)

R. J. G. CORNER.
GAS OR LAMP LIGHTER.

No. 478,953.

Patented July 12, 1892.



UNITED STATES PATENT OFFICE.

ROBERT J. G. CORNER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
CARROLL BOONE VASTINE, OF SAME PLACE.

GAS OR LAMP LIGHTER.

SPECIFICATION forming part of Letters Patent No. 478,953, dated July 12, 1892.

Application January filed 28, 1892. Serial No. 419,511. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. G. CORNER, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gas or Lamp Lighters, of which the following, in connection with the accompanying drawings, is a full, clear, and exact specification.

My invention relates to that class of lamp or gas lighters in which percussion-caps or similar explosives are employed for producing the requisite flash or flame for igniting the jetting gas or the wick, as the case may be; and it has reference more particularly to devices of this character especially designed and adapted for lighting lamps or jets arranged at high elevations or out of reach of persons of ordinary height—such as street-lamps or gas-jets—or lamps upon chandeliers.

The invention has for its object to improve the general construction of devices of this nature, whereby their bulk may be reduced to a minimum, and thus make it possible to insert the lighter through the opening in the bottom of the globe, a method of use impossible with lighters of this kind as heretofore constructed.

My invention also has for its object to cause the waste ribbon or tape upon which the percussion caps or pellets are usually stuck to be pulled past the scratcher and ejected from the device as soon as the pellets or caps are consumed, thus simplifying the device and doing away with the space or room ordinarily required for containing such waste tape until all the pellets thereon are consumed.

My invention consists in certain features of novelty in the construction and combination of parts by which the said objects and certain other objects hereinafter described are attained, which features will now be fully described with reference to the drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a view illustrating the manner of using my device, the same being shown in side elevation. Fig. 2 is an edge view of the complete device. Fig. 3 is a vertical longitudinal section thereof, portions being broken away, drawn to an enlarged scale; and Fig. 4 is a similar view,

the section being taken at right angles to the plane of the section of Fig. 3 and the interior mechanism being shown in elevation.

In the drawings, wherein like signs of reference indicate like parts throughout the several views, A represents a casing whose upper end is preferably provided with prongs B, which form a wrench or clutch for turning the key or cock of the gas-fixture, and its lower end is provided with a hollow screw-threaded neck C, into which is screwed the upper end of the hollow handle or stem D, which latter may be of any desired length.

Journaled upon a suitable shaft E within the upper portion of the casing A is a drum F, to one side of which is secured a ratchet-wheel G, of slightly less diameter than the drum. Mounted, preferably, upon the same shaft E, so as to be capable of rotation independently of the drum F and wheel G, is a bell-crank lever H, whose one arm is provided with a dog or pawl h, pivoted thereto and arranged to drop into engagement with the teeth of the wheel G, and upon the other arm of this bell-crank bears a spring I of any suitable construction, secured in suitable studs i and acting to rotate the bell-crank in one direction, while a cord or wire K is suitably secured to the other arm of the bell-crank and acts to rotate it in the opposite direction, thus causing an intermittent rotation of the wheel G and drum F. The wire or cord K passes downward through the hollow handle D and is secured to any suitable pull or trigger, such as L, projecting through a slot in the handle near the lower end thereof within convenient reach of the operator, so that the device may be held in one hand and the requisite rotation imparted to the drum F by means of pressure of one of the fingers or thumb of the same hand applied to such trigger. The tape M, having the explosive pellets thereon, may be coiled in the lower portion of the casing A under the drum F in any suitable manner; but I prefer to wind such tape upon a reel or spool N, suitably journaled in the casing, so as to avoid the entanglement of the tape with the operating mechanism.

The casing is provided in one side edge with an orifice O for the discharge of the flame or flash produced by the explosion of the pellets or caps, and secured, preferably, to the

side of the case adjacent to this orifice O is a scratcher or ignitor P, composed, preferably, of spring metal and having its upper end intumed toward the drum F, so as to scratch and thereby ignite the pellets as they pass between it and the drum, thus causing the flame and sparks to be emitted through the opening O, which, if at the time is in the vicinity of the jetting gas or the lamp-wick, will cause the same to be ignited.

Journalled in the upper portion of the casing upon any suitable pin or shaft is a pressure-roller Q, which, for the sake of simplicity and cheapness, I prefer to construct of soft rubber or other elastic material, so as to produce a constant but yielding pressure upon the periphery of the drum F. The tape M passes from its reel N upward over the drum F, first between such drum and the scratcher P, and then between such drum and the pressure-roller Q, which latter bears upon the tape and produces sufficient friction between the periphery of the drum and the tape to cause the latter to be pulled or drawn upward when the drum is revolved, thus pulling the pellets between the scratcher and the drum with great force and at all times keeping the tape taut or tight, the roller Q of course being arranged to grip the tape after it leaves the scratcher. As the pellets on the tape are consumed and the tape passes over the drum it strikes against a shield or guide R, which directs its end toward and into a discharge-aperture r , formed in the side of the casing A, and between which and the scratcher the roller Q is located, thus permitting the waste tape to be removed as fast as the pellets are consumed. If desired, the aperture may also be provided with a guard or guide R', arranged adjacent to its lower side and having its end in close proximity to the periphery of the drum, so as to guard against the possibility of the tape missing the aperture r and passing downward between the periphery of such drum and the side of the casing A.

One side of the casing A is provided with a hinged or other suitable door a to afford convenient and ready access to the interior mechanism for refilling the tape-reel N, or for inspecting or repairing the mechanism.

It will be seen that by arranging the feeding-drum for the tape and the reel upon which the tape is wound one above the other in this manner the device may be made very compact and need be but slightly thicker than the width of the tape itself, thus making it possible to insert the lighter through the under side of globes having even unusually small openings.

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

1. The combination of the casing having an orifice for the discharge of the flame or flash and a discharge-aperture for the tape, a scratcher adjacent to said flame-orifice, and means for drawing the tape past said scratcher

and ejecting it through said tape-aperture, said means being adapted to grip the tape between the scratcher and the said tape-discharge opening after it passes the scratcher, substantially as set forth.

2. The combination of the casing having an orifice for the discharge of the flame or flash and a discharge-aperture for the tape, a scratcher adjacent to said flame-orifice, a rotary drum and pressure-wheel, between which the tape passes, and which drum and pressure-wheel are arranged to grip the tape after it passes said scratcher, and means for actuating said drum, substantially as set forth.

3. The combination of the casing having an orifice for the discharge of the flame or flash and a discharge-aperture for the tape, a scratcher adjacent to said flame-orifice, a drum over which the tape passes to said tape-discharge aperture, a lever having a pawl, a ratchet-wheel with which said pawl engages, connected to said drum, the shaft E, upon which said drum, lever, and ratchet-wheel are journaled, a pressure-wheel arranged to bear upon said drum, and means for actuating said lever, substantially as set forth.

4. The combination of the casing having a flame-orifice and a tape-discharge aperture, a scratcher arranged adjacent to said flame-orifice, means for feeding the tape past said scratcher and toward said tape-discharge orifice, arranged between the scratcher and said discharge-orifice, and guides for directing the waste tape from said feeding mechanism into said discharge-aperture, substantially as set forth.

5. The combination, with the casing having a flame-orifice, of the drum journaled in said casing, means for actuating said drum, a rubber or elastic roller journaled in said casing, with its periphery bearing upon said drum, and a scratcher impinging the periphery of said drum adjacent to said flame-orifice, substantially as set forth.

6. The combination, with the casing having a flame-orifice, of the drum journaled in said casing, means for actuating said drum, a rubber or elastic roller journaled in said casing with its periphery bearing upon said drum, and a scratcher impinging the periphery of said drum adjacent to said flame-orifice and being arranged and adapted to impinge the tape before the tape reaches the said roller, substantially as set forth.

7. The combination, with the casing having the flame-orifice, of the drum journaled in said casing, a ratchet-wheel for actuating said drum, a bell-crank having a pawl engaging said ratchet-wheel, a spring bearing upon one arm of said bell-crank, the hollow handle communicating with said casing and having a pull or trigger, a wire or cord connecting said trigger with one arm of said bell-crank, a pressure-roller bearing upon the periphery of said drum, and a scratcher impinging the periphery of said drum adjacent to said flame-orifice, substantially as set forth.

8. The combination, with the casing having a flame-orifice in one side and a tape-discharge aperture in its other side, of a drum journaled between said orifice and aperture in the upper part of said casing, a tape-reel journaled in said casing directly below said drum, a pressure-roller journaled in the casing and arranged to bear upon the drum at a point between the said flame-orifice and tape-discharge orifice, a scratcher arranged to impinge the drum adjacent to said flame-orifice, a handle secured to said casing under said tape-reel, and means for actuating the drum, substantially as set forth.
9. The combination of an upright casing having a flame-orifice in its side edge, a drum

journaled in the upper portion of said casing, a tape-reel journaled in said casing immediately below said drum a hollow handle, secured to the lower side of said casing immediately below said tape-reel, a scratcher arranged to impinge the periphery of the drum adjacent to said flame-orifice, a pressure-wheel journaled in the casing and arranged to impinge the periphery of the drum on its upper side, and a wire for actuating said drum, passing downward through said handle, substantially as set forth.

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Witnesses:

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