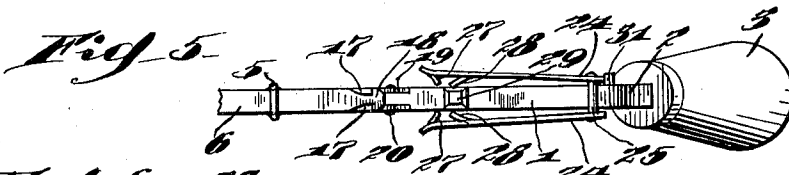
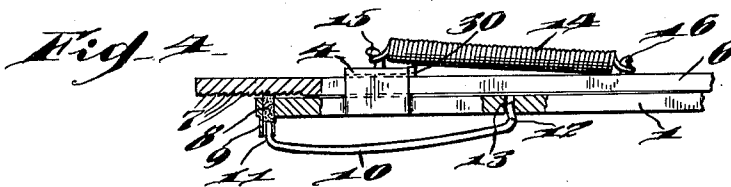
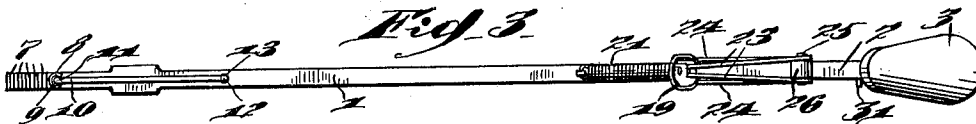
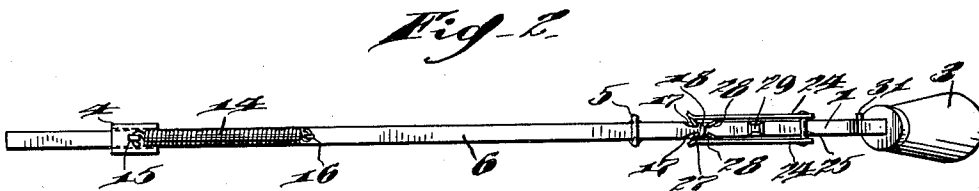
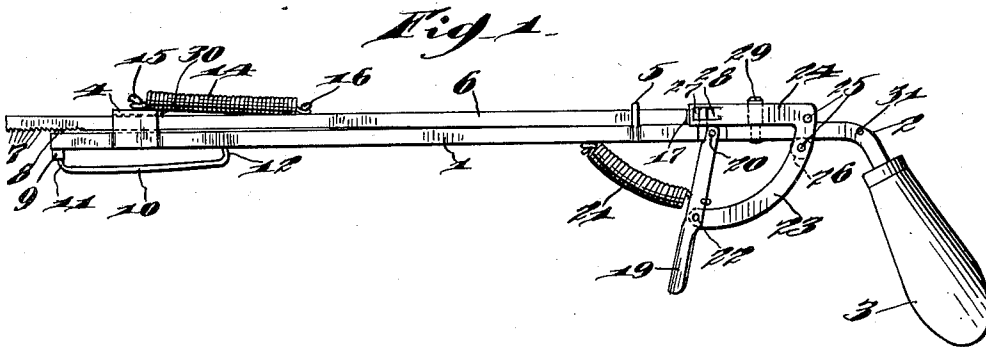


E. LAMPRECHT.
GAS LIGHTER.
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1,029,135.

Patented June 11, 1912.



Witnesses

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EMIL LAMPRECHT, OF PHILADELPHIA, PENNSYLVANIA.

GAS-LIGHTER.

1,029,135.

Specification of Letters Patent.

Patented June 11, 1912.

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To all whom it may concern:

Be it known that I, EMIL LAMPRECHT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Lighters, of which the following is a specification.

My invention relates to improvements in gas lighters, the object of the invention being to provide a device of this character which may be readily operated to eject a spark or a plurality of sparks to light the gas, and so construct the device that it may be manufactured and sold at an extremely low price, and which will most effectually perform the functions for which it is intended.

A further object is to provide a device of this character which resembles a pistol in form, having a grip and a trigger, and a longitudinally movable plunger operated by the trigger to withdraw the plunger against the action of a spring, and then release the plunger, and the latter on its released or outward movement, by reason of its toothed surface, rubbing against a piece of pyrophoric alloy will cause the discharge of a spark or a plurality of sparks at the free end of the device to light the gas.

A further object is to provide an improved means for holding the piece of pyrophoric alloy in contact with the plunger, and so construct said means that pressure on the alloy may be varied as the alloy wears, so as to exert the proper pressure against the plunger, whether the piece of alloy be relatively large or small.

With these and other objects in view, the invention consists in certain novel features of construction, and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a view in side elevation illustrating my improvements in normal position. Fig. 2, is a top plan view of Fig. 1. Fig. 3, is a bottom plan view of Fig. 1. Fig. 4, is a view in longitudinal section through the outer end of the device. Fig. 5, is an enlarged plan view of the inner end of the device, showing the parts in firing position, and Fig. 6, is a fragmentary view illustrating a modification.

1, represents a bar which is rectangular

in cross section, is bent downwardly at one end as shown at 2, and is provided with a grip or handle 3 secured thereon. Bar 1 is provided with integral metal guide straps 4 and 5 respectively, through which a plunger 6 is mounted to slide. This plunger 6 also comprises a bar rectangular in cross section, and of the same size as bar 1, and is provided on its under face at its outer end with a longitudinal series of teeth 7 to frictionally engage a piece of pyrophoric alloy 8 located in a casing 9 formed in bar 1, and extending therethrough. This piece 8 is held firmly in contact with plunger 6 by means of a spring 10. Spring 10 consists of a wire bent at an angle at both ends, one end 11 bearing against the piece 8, and the other end 12 located in an opening 13 in bar 1.

It will be noted that the angle of the end 12 is such that the greater distance it is forced into the opening 13, the greater will be the spring pressure on the piece 8. In other words, when the piece 8 is long, end 12 will be projected into opening 13 but a short distance. As the piece 8 wears, the ends 12 will be forced farther into the openings 13, and will increase the pressure on the piece 8, so that it is firmly held in contact with plunger 6 until it is entirely used up. Plunger 6 is projected and held in this normally projected position by means of a coiled spring 14, connected at one end to a lug 15 on guide 4, and at its other end to a lug 16 on plunger 6.

The inner end of plunger 6 is recessed at opposite sides as shown at 17, and the extreme end constitutes an arrow head 18, having beveled sides.

19, represents a trigger which is pivotally connected at 20 to bar 1, and a coiled spring 21 holds this trigger in normal position, and returns it to such position. Trigger 19 is connected by a rivet 22, to the downwardly curved members 23 of spring arms 24, the main portion of said arms being positioned parallel with bar 1, and the rearward movement of said spring arms guided by means of rivets 25 projected through the arms at opposite sides of bar 1, and on the lower one of these rivets, a roller 26 is preferably provided. The free ends of arms 24 are stamped forming two pair of inwardly projecting lugs 27 and 28 respectively. These lugs 27 and 28 are positioned at different angles as shown. The lugs 27 are adapted, when the arms move forwardly, to ride over

the head 18, and spring into the recesses 17, it being understood that said arms are of spring metal. The lugs 28 are adapted to engage a fixed post 29 on bar 1, when the plunger has been drawn rearwardly a predetermined distance, so as to move the spring arms outwardly, and release the lugs 27 from engagement in the notches 17, hence permitting the plunger to move forwardly.

The operation is as follows: With the parts in the position shown in Fig. 1, when trigger 19 is drawn rearwardly, arms 24 will draw plunger 6 rearwardly until the lugs 28 strike post 29. This will cause the arms to move outwardly as shown in Fig. 5, releasing the plunger 6. Spring 14 will then move the plunger forwardly as far as permitted by a pin 30 on the plunger, which engages guide 4. This rapid forward movement of the plunger, by reason of the engagement of teeth 7 with the piece of alloy 8, causes a spark or plurality of sparks to be ejected at the free end of the device, and when this free end of the device is located in the gas, it will ignite the same.

To prevent a too great rearward movement of the trigger, a pin 31 is secured in bar 1, at its bend.

If desired, I may insert a separate plate 32 in the end of the plunger and secure it by means of a screw 33. This plate 32 will contain the teeth to engage the alloy, and may be removed and replaced when worn.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. A device of the character described, comprising a bar, a plunger movable longitudinally in contact with said bar, a spring exerting pressure on said plunger to move it outwardly, a receptacle for pyrophoric alloy on said bar, said plunger roughened on its face where it contacts with said alloy, a pivoted trigger removably connected with the plunger and constructed to move said plunger rearwardly, and means on the bar for disengaging said trigger from the plunger when the plunger reaches a predetermined rearward position, substantially as described.

2. A device of the character described, comprising a bar, guides on the bar, a plunger movable in said guides in contact with said bar, and a spring exerting pressure on said plunger in an outward direction, of a casing formed in said bar adapted to contain a piece of pyrophoric alloy, and said

plunger roughened on its face where it contacts with said alloy, a wire spring bent at both ends, said bar having an opening to receive one end of said spring, and the other end of said spring positioned in the casing to press the alloy against the plunger, and said wire bent at its other end so that the pressure of the spring on the alloy is increased as the end is forced into the opening in the bar, substantially as described.

3. A device of the character described, comprising a bar, guides on the bar, a plunger movable in said guides in contact with said bar, and a spring exerting pressure on said plunger in an outward direction, of a casing formed in said bar adapted to contain a piece of pyrophoric alloy, and said plunger roughened on its face where it contacts with said alloy, means for drawing said plunger rearwardly, and means on the bar constructed to release the plunger from said first-mentioned means when the plunger reaches a predetermined position, substantially as described.

4. A device of the character described, comprising a bar, guides on the bar, a plunger movable in said guides in contact with said bar, and a spring exerting pressure on said plunger in an outward direction, of a casing formed in said bar adapted to contain a piece of pyrophoric alloy, and said plunger roughened on its face where it contacts with said alloy, a wire spring bent at both ends, said bar having an opening to receive one end of said spring, and the other end of said spring positioned in the casing to press the alloy against the plunger, and said wire bent at its other end so that the pressure of the spring on the alloy is increased as the end is forced into the opening in the bar, means for drawing said plunger rearwardly, and means for releasing said last-mentioned means, substantially as described.

5. A device of the character described, comprising a bar, guides on the bar, a plunger movable in said guides in contact with said bar, and a spring exerting pressure on said plunger in an outward direction, of a casing formed in said bar adapted to contain a piece of pyrophoric alloy, and said plunger roughened on its face where it contacts with said alloy, one end of said bar bent, a handle on said bent end of the bar, a trigger pivotally connected at one end to the bar, a spring holding said trigger in normal position, means on said trigger constructed to engage the plunger and move it rearwardly when the trigger is moved, and means on said bar constructed to release the said plunger from said means on the trigger, substantially as described.

6. A device of the character described, comprising a bar, guides on the bar, a plunger movable in said guides in contact with said bar, and a spring exerting pressure on

5 said plunger in an outward direction, of a
 casing formed in said bar adapted to con-
 tain a piece of pyrophoric alloy, and said
 plunger roughened on its face where it con-
 10 tacts with said alloy, a wire spring bent at
 both ends, said bar having an opening to re-
 ceive one end of said spring, and the other
 end of said spring positioned in the casing
 to press the alloy against the plunger, and
 15 said wire bent at its other end so that the
 pressure of the spring on the alloy is in-
 creased as the end is forced into the open-
 ing in the bar, one end of said bar bent, a
 handle on said bent end of the bar, a trigger
 20 pivotally connected at one end to the bar,
 a spring holding said trigger in normal po-
 sition, means on said trigger constructed to
 engage the plunger and move it rearwardly
 when the trigger is moved, and means on
 25 said bar constructed to release the said
 plunger engaging means, substantially as
 described.

7. A device of the character described,
 comprising a bar, guides on the bar, a plun-
 25 ger movable in said guides in contact with
 said bar, and a spring exerting pressure on

said plunger in an outward direction, of a
 casing formed in said bar adapted to con-
 tain a piece of pyrophoric alloy, and said
 plunger roughened on its face where it con- 30
 tacts with said alloy, one end of said bar
 bent, a handle on said bent end of the bar, a
 trigger pivotally connected at one end to the
 bar, a spring holding said trigger in normal
 position, spring arms secured at one end to 35
 the trigger, devices on said spring arms
 guiding their movement on the bar, said
 plunger having recesses in its opposite sides,
 lugs on said spring arms adapted to engage 40
 in said recesses, and move the plunger rear-
 wardly when the trigger is moved rear-
 wardly, a post on said bar, and lugs on said
 spring arms adapted to engage said post to
 move the arms outwardly and release the
 plunger, substantially as described. 45

In testimony whereof I have signed my
 name to this specification in the presence of
 two subscribing witnesses.

EMIL LAMPRECHT.

Witnesses:

CHARLES E. POTTS,
 R. H. KRINKEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
 Washington, D. C."