Aug. 2, 1938. D. HOPPENSTAND 2,125,637

LIGHTER

Filed Oct. 22, 1935

Fig. 1.

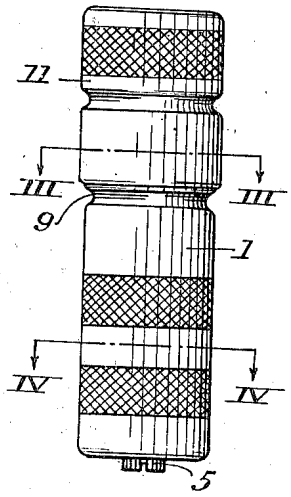


Fig. 2.

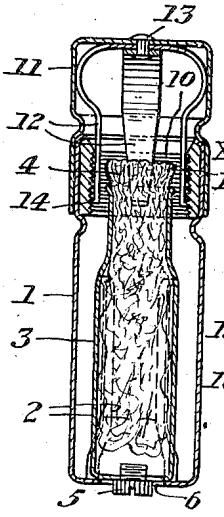


Fig. 11.

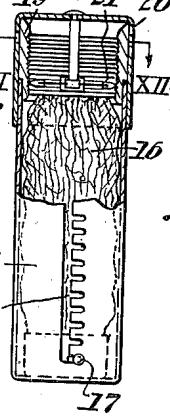


Fig. 5.

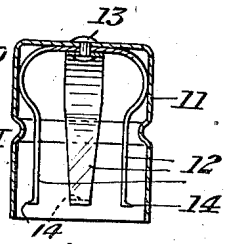


Fig. 6.

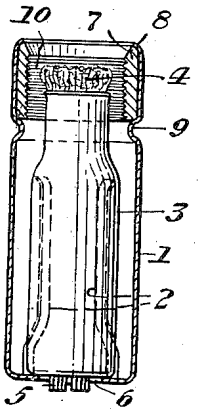


Fig. 3.

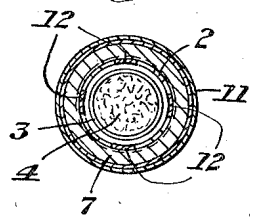


Fig. 4.

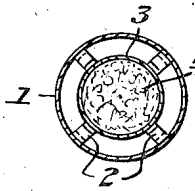


Fig. 12.

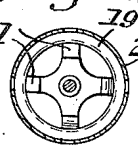


Fig. 7.

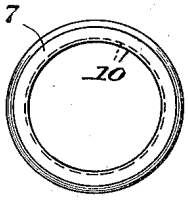


Fig. 8.

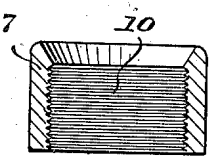


Fig. 9.

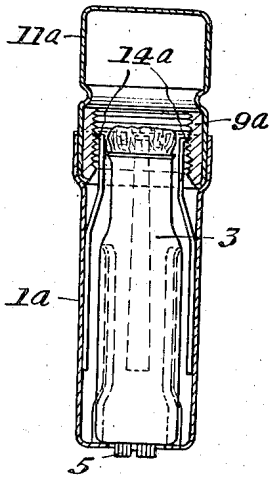
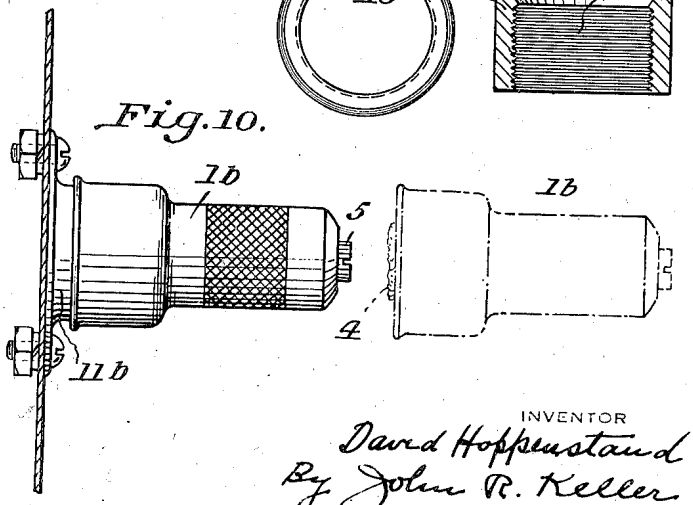


Fig. 10.



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By John R. Keller

his Attorney

Patented Aug. 2, 1938

2,125,637

UNITED STATES PATENT OFFICE

2,125,637

LIGHTER

David Hoppenstand, Glenshaw, Pa.

Application October 22, 1935, Serial No. 46,092

1 Claim. (Cl. 67—7.1)

My invention relates to a lighter, or mechanical device for producing a flame.

While numerous types of lighters have been proposed heretofore, all such with which I am familiar are characterized by rather serious objections such as complex mechanism, high cost of manufacture, and worst of all, failure to operate with certainty and regularity.

I have invented a lighter which overcomes the foregoing objections to previous devices of this type, and in addition, has other novel features and advantages which will be referred to in the course of the following detailed description, and particularly pointed out in the appended claims.

In accordance with my invention, I provide a case or lighter body of tubular or other convenient form with a wick holder and reservoir for a readily inflammable fluid. In the open end of the case, I mount a striker flint of annular form. A cap removably closing the open end of the body has striker points adapted to cooperate with the flint to the end that on removal of the cap, a liberal shower of sparks is produced by the plurality of points, effective regularly and with certainty to ignite the saturated wick.

One form of the invention together with certain modifications thereof, is illustrated in the accompanying drawing, in which

Fig. 1 is a side elevation of the invention;

Fig. 2 is a longitudinal sectional view;

Fig. 3 is a transverse sectional view along the line III—III of Fig. 1;

Fig. 4 is a similar view along the line IV—IV of Fig. 1;

Fig. 5 is a partial sectional view similar to Fig. 2 showing the cap;

Fig. 6 is a view similar to Fig. 5, showing the body portion of the lighter, with parts in elevation;

Fig. 7 is an end view of the striker flint;

Fig. 8 is an axial section thereof;

Fig. 9 is a view similar to Fig. 2 showing a modified form;

Fig. 10 is a side elevation of a further modified form adapted for panel mounting; and

Fig. 11 is a view similar to Fig. 2, showing still a different form; and

Fig. 12 is a sectional view along the line XII—XII of Fig. 11.

Referring first to Figs. 1–8, the lighter of my invention comprises a tubular body or case 1 having spring fingers 2 secured therein in any convenient manner as by welding or soldering. A wick holder and reservoir 3 is removably held by the fingers 2, and is provided with a wick 4 and a filling hole normally closed by a plug 5. The plug extends outwardly of the case through a hole 6.

In the open end of the case 1 an annular striker flint 7 is positioned, between inturned flange 8 and bead 9. The interior of the flint is grooved [illegible] at 10, in the manner of threads or the like. A cap 11 is removably disposed over the open end of the case and is provided with striker points 12 secured thereto, for example, by a rivet 13. The extreme, out-turned ends of the points shown at 14 are hardened for engagement with the grooved interior of the flint 9 to produce showers of sparks when the cap 11 is removed from the case 1.

The plurality of points 14 produce such a quantity of sparks that ignition of the wick immediately on removal of the cap is practically certain to result in every instance. When the wick thus lighted has served its purpose, replacement of the cap effectively snuffs it.

The striker flint is composed of the materials usually employed for such purposes in previous forms of lighters. The fingers 12 tend to flex outwardly and thus engage the flint so as to insure the production of an abundance of sparks on removal of the cap. As a result, the wick is ignited every time, even though the inflammable fluid has been completely used up. As shown the points 14 engage the striker ring adjacent its inner end when the cap is in place, and thus scrape along practically the entire length of the interior thereof as the cap is removed. This generates a flood of sparks and by the time the cap is removed and air is admitted to the wick the temperature of the space surrounding the latter has been raised above the ignition point and combustion of the fluid or the wick itself begins immediately.

Fig. 9 shows a modified form of the invention similar to that already described except that the striker ring or flint 9a is mounted in the cap 11a, and the case 1a has striker points 14a secured interiorly thereof for cooperation with the flint when the cap is removed.

Fig. 10 shows a further modification in which the body portion 1b is removably carried on a fixedly mounted plug portion 11b. The former carries a wick and reservoir as in Figs. 1–8, together with the striker flint or points, while the other of the two last named elements is mounted on the plug.

Figs. 11 and 12 show a still further form of the device. A case 15 has a wick of inflammable

fiber such as cotton disposed therein as shown at 16. The wick may be advanced as used by a plug positioned therebelow in the case. A pin 17 on the plug cooperates with a toothed slot 18 in the case to hold the wick at any position to which it may be moved. A striker flint 19 is mounted in the open end of the case and a cap 20 removably positioned thereon carries radially extending striker fingers or points 21. The operation of this form of the invention is similar to that of Figs. 1–8.

From the foregoing description, it will be clear that the lighter of my invention, by reason of the profusion of sparks produced by the multiplicity of striker points simultaneously engaging the flint, can be relied on to ignite every time the cap is removed from the case. In addition, the lighter described is very simple in construction and may be manufactured cheaply. At the same time, the flint is of such size and shape as to have a very long life, and the case may be designed with a large capacity for fluid without unduly enlarging the outside dimensions of the device.

While I have shown herein only a few of the many possible forms of my invention, it will be understood that I intend to include all variations of size, shape and details of construction within the scope of the following claim.

I claim:

A lighter comprising a tubular case having an open end, a wick disposed substantially axially therein and terminating slightly below the open end of said case, an annular flint seated in said open end of the case, and terminating short of a medial transverse plane through said case, said flint being grooved circumferentially on the interior thereof, a cover removably disposed on said end of said case, and resilient striker points secured to said cover and engaging the flint adjacent its inner end when said cover is positioned on said case.

DAVID HOPPENSTAND.