May 11 , 1926. 1,584,258

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PYROPHORIC LIGHTER

Filed July 31, 1923

Fig. 1.

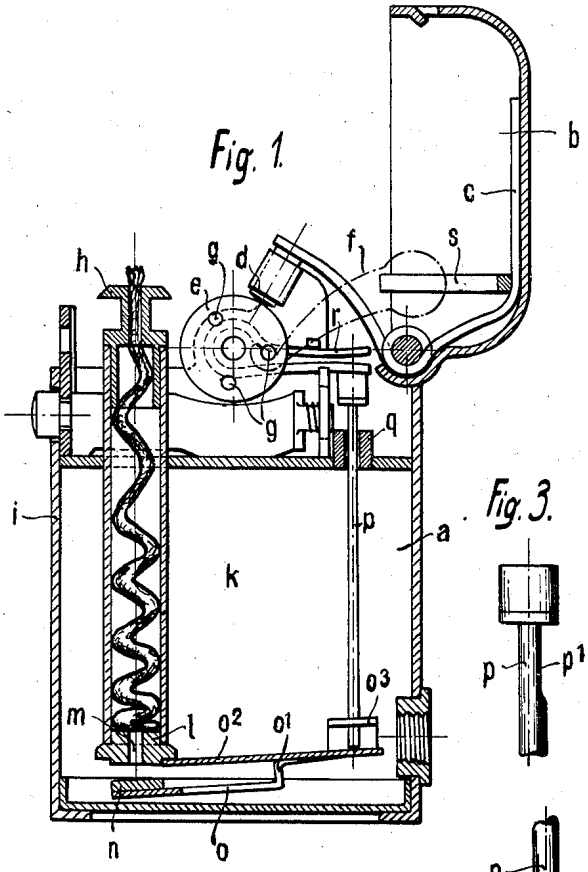
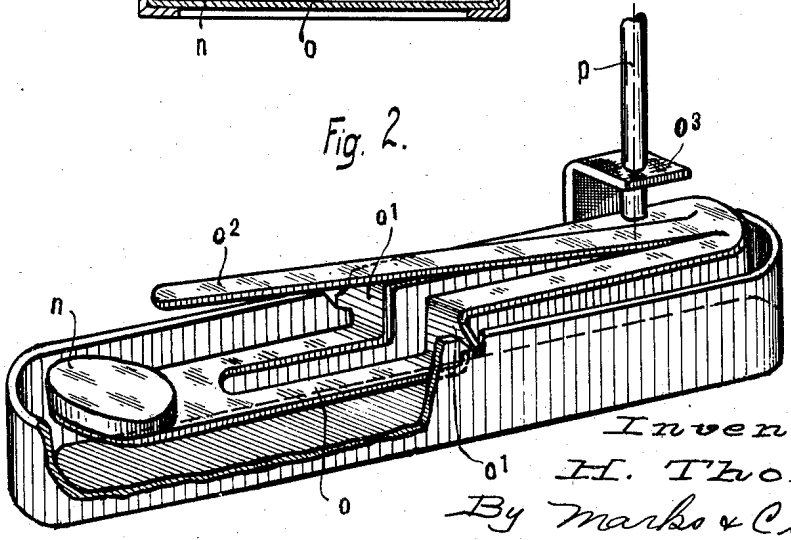


Fig. 3.

Fig. 2.



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PYROPHORIC LIGHTER.

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Pocket lighters hitherto known were mostly made with a receptacle filled up with wadding or other absorptive matter moistened with some inflammable liquid, such as spirit and the like. This mode would prevent any leakage of liquid through the wick which was formed from the wadding and which was extended to the outside, but the trouble was that said receptacle could contain but a very limited quantity of liquid which could furnish perhaps only 50 to 60 ignitions.

The object of the present invention is to provide means for enlarging the range of the working of such lighters but without increasing the bulk of the receptacle.

In the annexed drawing one working form as an example is given of a lighter according to the present invention.

Fig. 1 is a longitudinal sectional view of the lighter and Figs. 2 and 3 are detail views.

The new lighter has the well known "Thorens" shape and is constituted of a case *a* enclosing a reservoir *k* of an inflammable liquid and carrying all the essential parts of this kind of a lighter attached thereto, to wit a lid *b* opening under the effect of a spring *c* which is pressing a spark-producing stone *d* against a circular file *e*. Each time the lid is opened a hook *f* hinged to the lid and catching one of the pins *g* will turn the file for about 60° which is sufficient to produce sparks on stone *d*. The burner *h* is affixed to the top of a tube *i* enclosing the wick and extending into the liquid reservoir *k* which contains no liquid-absorbent matter so as to have the whole of its bulk with exception of the space occupied by the wick-tube and some other small parts of mechanism available for the liquid.

The bottom of the wick-tube *i* is closed by a valve-seat *l* perforated at *m* and constituting with a clack *n* of some plastic matter a check-valve, the clack being fixed at the end of a tilting member *o* which is more fully illustrated in Fig. 2. This member is a strip of metal resting pivotally with two lateral shoulders o^1 provided at its double bent middle part on the rim of a lining at the bottom of the reservoir.

Cut-out from the middle part of this strip *o* is a tongue o^2 forming a spring which resting on said valve-seat *l* causes the filling-member *o* to assume a position where clack *n* is withdrawn from the valve-seat *l*. Extending over the end of the strip *o* which is opposite to the valve *l*, *m*, *n* is a guide o^3 of a pusher *p* which is also guided at *q* in the top wall of the reservoir and is provided outside of the same with a head made of resilient material like cork for instance.

A bent flat spring *r* is mounted pivotally on the axis of the circular file *e* and rests with one end on said head of pusher *p* while the other end is in the path of a peg *s* fixed inside of the lid *b*. Whenever said lid is shut this peg meeting with said spring will cause said pusher *p* to be pushed downward so as to operate the filling member *o* and to shut the valve *l*, *m*, *n* which when the lid was thrown open had been opened temporarily under the effect of spring o^2 in order to feed the wick with liquid. At the same time pusher *p* is pushed again upwards. This pusher is provided at its upper part with a flattened portion p^1 (Fig. 3), so as to open a vent-hole in the upper wall of the reservoir at each opening of the lid and to avoid thereby the arising of any pressure within the reservoir which pressure would cause a wasteful feeding of the wick.

I claim:

1. In a pyrophoric pocket-lighter of the kind where a case having a spring actuated lid encloses a fuel reservoir, the combination of a tube containing the wick and extended into the reservoir, a check-valve arranged so as to control the feeding of fuel into said wick-tube and means adapted to operate said valve automatically whenever the lid is thrown open.

2. In a pyrophoric pocket-lighter of the kind described and in combination, a fuel reservoir, a tube enclosing a wick extended into said reservoir, a clack-valve arranged for controlling the feed of the wick, a tilting member pivotally mounted within said reservoir and carrying at one end the clack of said valve and a pusher guided within said reservoir and resting on the other end of said tilting member, substantially as shown and described and for the purpose set forth.

3. In a pyrophoric pocket-lighter of the kind described and in combination a fuel reservoir, a tube enclosing a wick extended into said reservoir, a clack-valve arranged for controlling the feed of the wick, a tilting member pivotally mounted within said reservoir and carrying the clack of said valve, a pusher guided within said reservoir and resting on the other end of said tilting

member and a peg fixed to the lid so as to meet said pusher when the lid is thrown open, substantially as shown and described and for the purpose set forth.

4. In a pyrophoric pocket-lighter of the kind described and in combination, a fuel reservoir, a tube enclosing a wick extended into the same, a clack-valve arranged for controlling the feed of the wick, and means for operating said valve comprising a pusher arranged slidingly in said reservoir and a pivotally mounted tilting-member carrying the clack of said valve and engaged at one end by said pusher and resting with its other end on the valve seat by means of a tongue cut-out from its body, all substantially as shown and described and for the purpose set forth.

5. In a pyrophoric pocket-lighter of the kind described and in combination, a fuel reservoir, a tube enclosing a wick extended into said reservoir, a clack-valve arranged for controlling the feed of the wick, and means for operating said valve and for ventilating said reservoir, the latter means comprising a pusher slidingly arranged within said reservoir and having a flattened portion at the part traversing the top wall of said reservoir substantially as shown and described and for the purpose set forth.

In testimony whereof I affix my signature.

HERMANN THORENS.