

C. GANZ.
LIGHTER.

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1,073,229.

Patented Sept. 16, 1913.

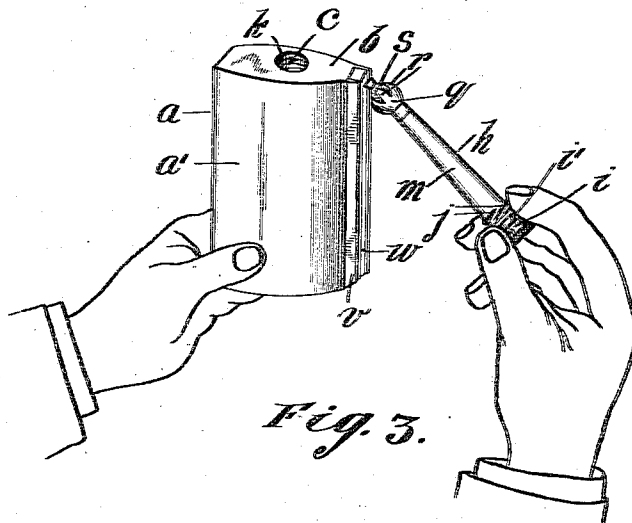


Fig. 3.

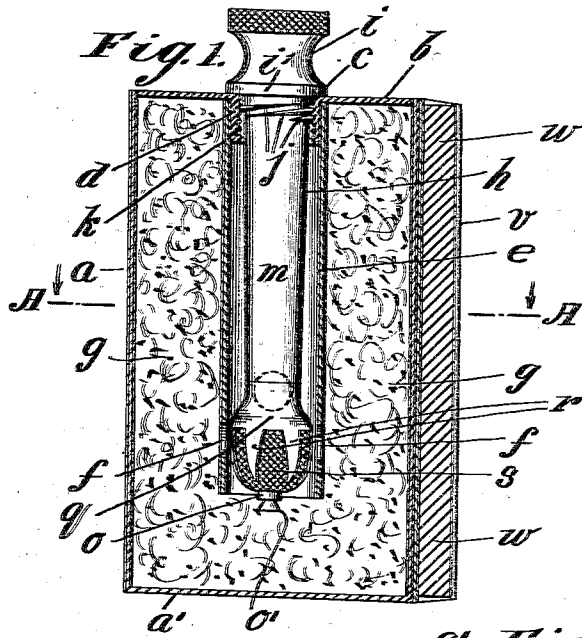


Fig. 1.

Fig. 4.

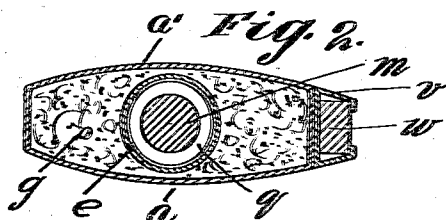
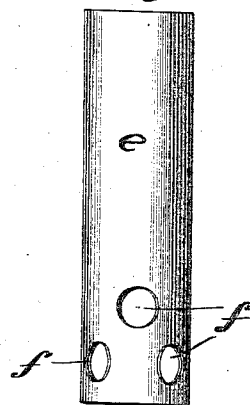


Fig. 2.

Witnesses:
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By his Attorney
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UNITED STATES PATENT OFFICE.

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LIGHTER.

1,073,229.

Specification of Letters Patent.

Patented Sept. 16, 1913.

Original application filed November 13, 1912, Serial No. 731,045. Divided and this application filed August 6, 1913. Serial No. 783,240.

To all whom it may concern:

Be it known that I, CHARLES GANZ, a citizen of the United States of America, residing at the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Lighters, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in lighters and particularly to improvements in lighters in which is used a spark-giving alloy, sometimes called pyrophoric metal; and an object of this invention is to provide a lighter of this type which will be certain in its action.

Another object of this invention is to provide a lighter of this type which will be simple in construction, comparatively cheap in manufacture and efficient and durable in operation and use and which will require practically no expense for upkeep or repairs.

In the drawings illustrating the principle of this invention and the best mode now known to me of applying that principle, Figure 1 is a central vertical section through the lighter, the parts being shown in assembled relation; Fig. 2 is a horizontal section on the line A—A of Fig. 1; Fig. 3 is a perspective view showing one manner of use of the device; and Fig. 4 is a detail in elevation of the vapor-collecting guide-tube.

The body portion of the device is in the form of a small can or reservoir *a* the top of which is closed by a cover-plate *b* having a centrally-disposed opening or mouth *c* the wall of which is formed by an inwardly-projecting rim-flange or annular lip *d* screw-threaded on its interior. On the outside of this annular lip *a* is suitably mounted the upper end of a vapor-collecting tube *e* the inner or lower end of which is formed with holes *f* designed to allow the vapor to pass from the absorbent material, such as cotton *g*, contained in the can *a* and surrounding the tube *e*, as shown in Fig. 1. This absorbent material is maintained saturated with a suitable hydrocarbon oil, preferably high-grade benzin, gasoline or naphtha. The outer end of the carrier-pin *h* is in the form of a head *i* which serves as a finger-hold (Fig. 3) and which is formed with an annular flange *j'* just below which are screw-

threads *j* adapted to engage the screw-threads *h* formed on the interior of the annular wall *d* of the mouth or opening *c*. By two-thirds of a turn of the carrier-pin *h*, engagement is made between the same and the annular wall *d* of the mouth *c* of the can, thereby tightly closing the latter and preventing the escape of the vapor, as well as locking the carrier-pin *h* securely in place. The body portion or shank *m* of the carrier-pin *h* is conical in form to facilitate its ready insertion in the can *a*; and the inner or torch end of the carrier-pin is provided with an abrader-pin *o*. Just above its lower end or torch-end the carrier-pin *h* is provided with a wad-holder *q*, which is formed with prongs or claws *r* adapted to hold securely the wad *s*. This wad is made out of suitable material, such as asbestos, and is preferably rolled from a strip. To one side of the can *a* is suitably fastened an alloy-holder *v* which is in the form of a channel adapted to receive the stick of spark-giving alloy *w*.

The wad-holder *q* and the wad *s* held by the same constitute in reality a sort of torch. It is intended that the wad *s* shall be kept undisturbed in the grip of the claws *r*, until it is worn out and becomes useless, whereupon the claws are opened, a new wad is substituted for the one worn-out and the claws again are bent firmly into gripping position.

The receptacle part or body *a'* of the can or box *a* is drawn into shape and is, therefore, a single piece of metal without seams, crevices or slots and is thus made vapor-tight so that the vapor of the hydrocarbon oil with which the cotton *g* is saturated will be retained and the device may be used for a long time without the necessity of replenishing the supply of hydrocarbon.

There are at the top of the carrier-pin *h* a plurality of screw-threads *j* each of which is independent of the others and (in the particular example given) makes two-thirds of a turn, so arranged that it requires only two-thirds of a turn to fasten the carrier-pin in place or to release the same. Obviously, if there were two threads each of one-half turn, only a half turn of the carrier-pin *h* might be necessary in order to engage or release it from the box. This is an important fea-

ture of this invention, since it makes the device handy, convenient and rapid in use. The screw-threads *j*, *k* serve also to seal the mouth or opening *c*, when the carrier-pin is screwed into place.

It will be understood that the centrally-disposed tube *e* serves as a receiver and guide-tube for the carrier-pin *h*, and keeps free an opening for the same in the mass of absorbent material with which the inside of the can *a* is stuffed.

In Fig. 3 there is illustrated one manner of use of the device. By giving the carrier-pin *h* a part (two-thirds) of a turn, it will be loosened from the can *a* and may then be wiped lengthwise over the exposed face of the alloy *w*, the abrader *o* being held in a slanting position so as to bring the edge *o'* thereof into tearing or scraping relation with the alloy. The sparks given off by the alloy will ignite the vapor of the hydrocarbon with which the absorbent wad *s* is saturated, whereupon a luminous torch-like flame is produced; indeed the carrier-pin *h* may be used after the manner of a torch, since the flame will persist for some time, depending in part upon the degree of saturation of the wad *s*.

This application is filed under the provisions of Rule 106 as a divisional application under my pending parent application Serial No. 731,045 filed November 13, 1912.

I claim:

1. A lighter comprising a can formed with an opening; a carrier-pin provided with an absorbent wad and adapted to enter the can through said opening; said can and carrier-pin being provided with spark-producing elements adapted to co-act with each other; a guide-tube mounted in said can in line with said opening and formed with holes at its inner end and in close proximity to said absorbent wad, when said carrier-pin is in position within the can; and absorbent material arranged in the space between said guide-tube and the walls of the can and adapted to retain a volatile substance the vapor of which passes through said holes and impregnates said wad.

2. A lighter comprising a can formed with an opening the wall of which is threaded; and a carrier-pin provided with a spark-producing element and formed with a plurality of separate threads, whereby only a partial turn is required to engage fully said can and carrier-pin.

In testimony whereof I hereunto set my hand at the borough of Manhattan, city, county and State of New York this fifth day of August, 1913, in the presence of the two undersigned witnesses.

CHARLES GANZ.

Witnesses:

M. E. WOARDELL,
JAMES HAMILTON.