

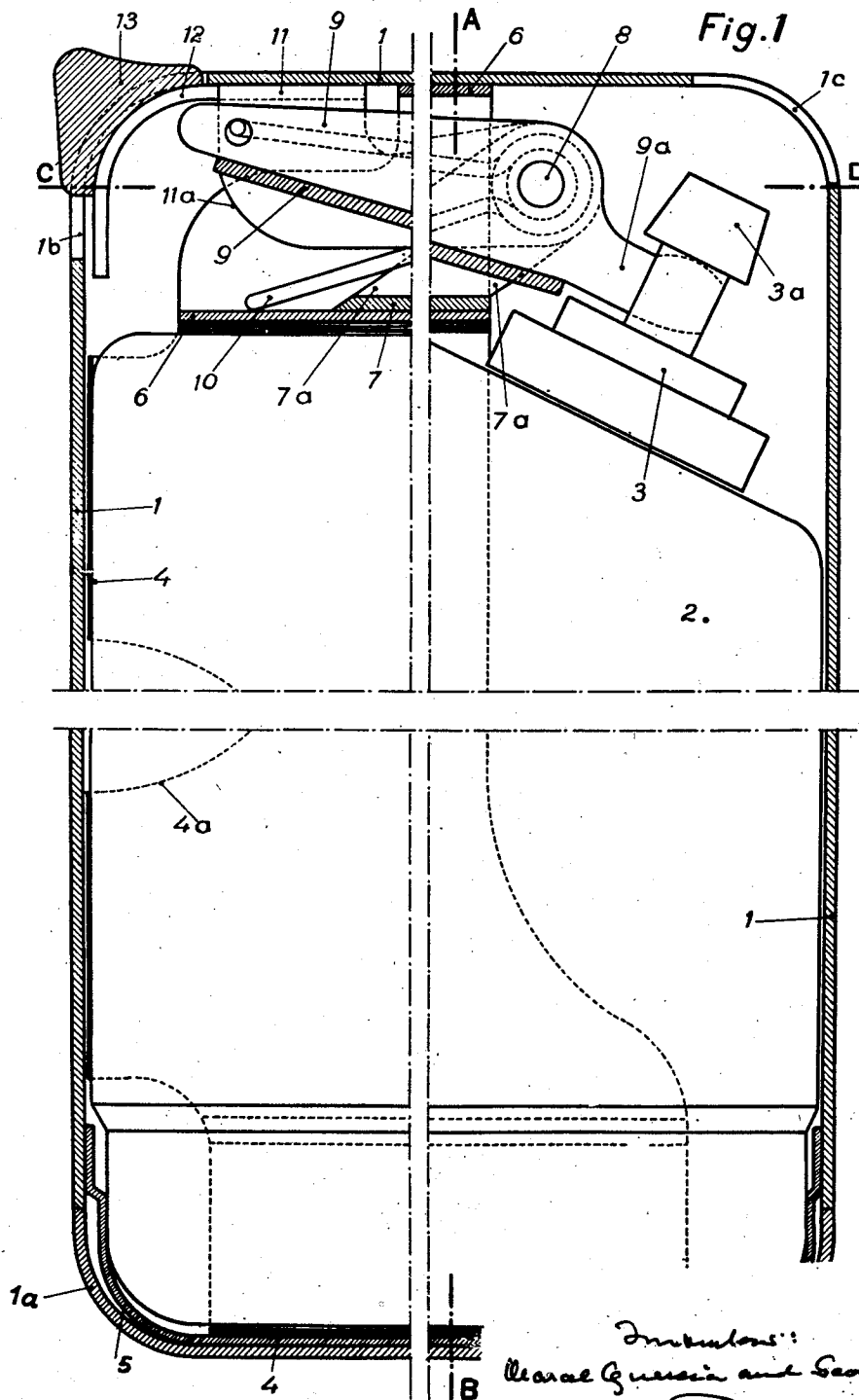
Jan. 24, 1950

M. QUERCIA ET AL
POCKET GAS LIGHTER

2,495,345

Filed May 1, 1948

3 Sheets-Sheet 1



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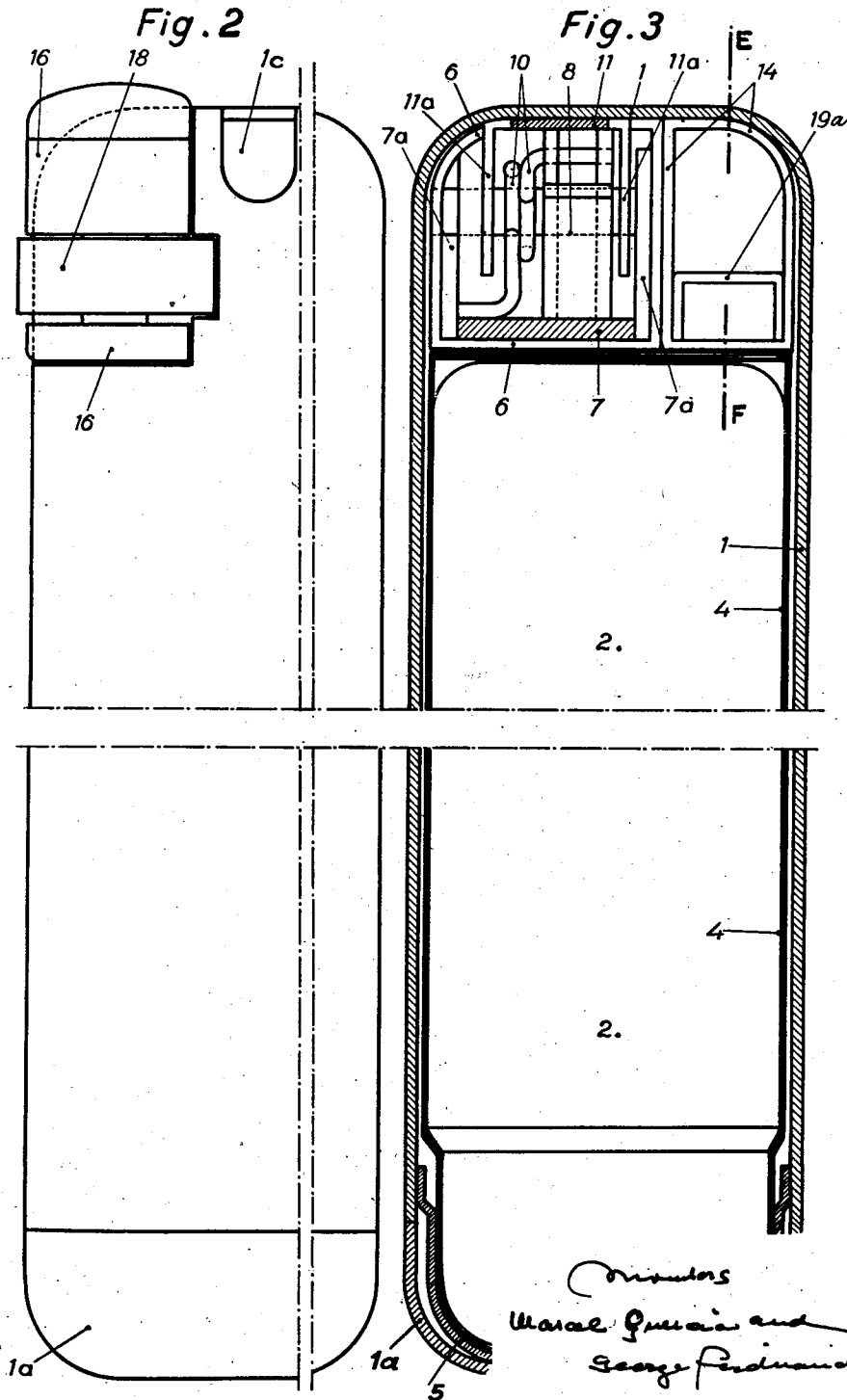
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Fig. 5

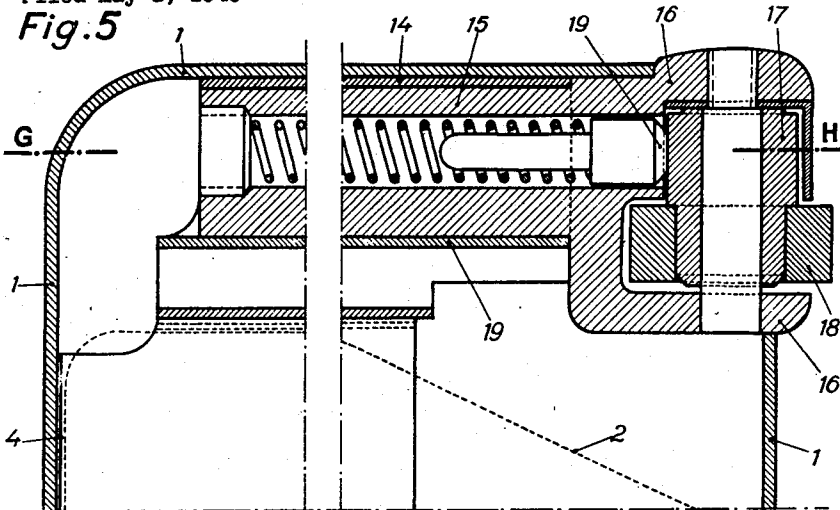


Fig. 6

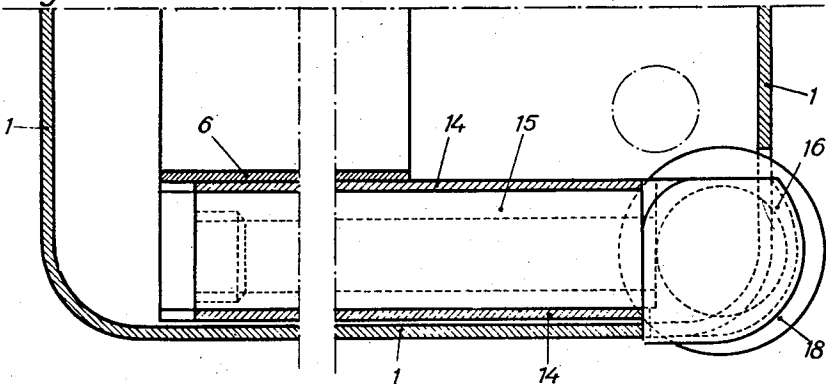
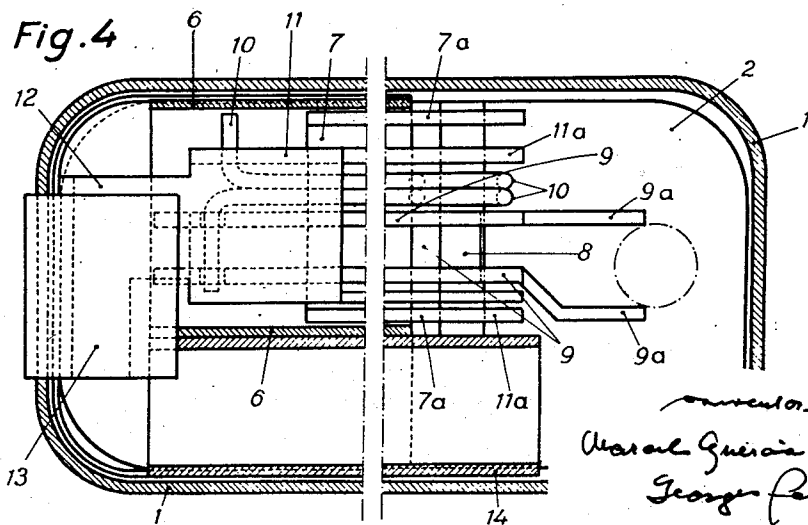


Fig. 4



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UNITED STATES PATENT OFFICE

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POCKET GAS LIGHTER

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Application May 1, 1948, Serial No. 24,617

6 Claims. (Cl. 67-7.1)

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The present invention relates to pyrophoric lighters for use with a liquified gas, and more particularly to pocket cigar lighters.

It is an object of the present invention to provide a pyrophoric lighter with a detachable gas tank which can be easily removed and exchanged.

It is another object of the present invention to provide a pyrophoric lighter in which the parts are locked when in operative position.

The invention comprises a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a sheath partially enclosing said tank; means mounted on said sheath for controlling said gas-releasing device; a casing arranged to envelop said sheath enclosing said tank and carrying said controlling means; and a detachable flint-holding device engaging said sheath and engaging said casing and forming a locking means for holding said sheath and said casing in position.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

Figure 1 is a vertical section of the lighter according to the invention.

Figure 2 is an end view of the lighter.

Figure 3 is a vertical section along line A—B of Figure 1.

Figure 4 is an horizontal section of the lighter along line C—D of Figure 1.

Figure 5 is a vertical section along line E—F, of Figure 3.

Figure 6 is an horizontal section along line G—H of Figure 5.

As can be seen from these drawings, the cigar lighter comprises a case or outer envelope 1, closed at its base by a removable bottom 1^a (Fig. 2). Inside this case is housed the tank 2, comprising a closed envelope containing the liquefied compressed gas used as a fuel. On an inclined part of the roof of the tank 2, the gas releasing device 3 is arranged, through which the expanded gas escapes, and which, in the shown embodiment, also acts as a burner, the assembly of the tank and the gas releasing device forming a unit.

The tank unit 2, previous to its insertion in case 1 is engaged inside a sheath 4 which partially surrounds it and which, on its side edge, has a

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notch 4^a allowing the easy disengagement of the tank unit.

A removable sheath 5 is provided between the movable bottom 1^a of the case and the sheath 4 containing the tank unit 2 in order to hold the sheath and the tank unit in position.

In the upper part of case 1, above the sheath 4 of the tank, is arranged a small independent casing 6, wherein is housed the whole of the control mechanism for the gas releasing and igniting device 3. This mechanism comprises a small plate 7 bearing on the lower bottom of the casing 6 and including two ears 7^a which serve as bearings for an axle 8 on which a lever 9 is mounted for rotation whose end terminates into a fork 9^a arranged under the head of the releasing and igniting device 3 (Figure 1). A spring 10, for instance a torsion spring, tends to pull downwards the end of the fork 9^a of lever 9. On axle 8 are articulated the two downwards moving ears 11^a of a small plate 11, which presses against the upper part of case 1 and which is extended by a lever 12 whereon is attached a push control 13 extending outwardly through an aperture 1^b of the case. In the upper part of the case, next to the casing 6, is housed a second small casing 14 (see Figures 3, 5 and 6), wherein is engaged the stem 15 of the flint holding device, extended by yoke 16, whose axle carries the ignition wheel 17 for acting on the ferrocium flint 19 and its control wheel 18. A lining 19^a closes, at its base, the casing 14, so as to leave in the latter an aperture of a particular shape which allows the replacing of the flint holding device in a correct position in its housing.

An aperture 1^c, provided in the upper part of the case (Figures 1 and 2) above the burner 3^a of the gas releasing device 3, allows the exit of the flame from said burner.

The two small upper casings 6 and 14 are formed by an S-shaped plate which is attached to the upper part of sheath 4, so as to allow their removal from the case, together with the sheath and tank. Once the sheath is in position inside the case, the flint holding device engaged in casing 14 constitutes a lock which prevents any undue exit of the sheath together with the tank and the control mechanism for the gas releasing device.

The operation of the cigar lighter so designed is effected very simply by depressing the push control 13, which, through the action of the forked lever 9—9^a, causes the opening of the gas releasing device 3, and, consequently, the

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exit of the gas. By acting at the same time on wheel 18, it produces through the action of wheel 17 on the ferro-cerium flint the spark igniting the gas jet issuing from the burner. The arrangement of the push-control 13 and the wheel 18, are such, as can be seen, that this operation can be performed with one hand, one finger of which (for instance, the forefinger) presses on the push-control 13, while the thumb acts on wheel 18.

The replacement of the ferro-cerium flint, after it has been worn out, is effected very simply by withdrawing the flint holding device from casing 14. The replacement of the gas tank 2 is effected by removing the lower bottom 1^a of case 1 and by withdrawing the sheath 4 together with the tank 2 which it partially clamps, after having, of course, previously withdrawn the flint holding device to unlock the sheath. The tank is easily removed from the sheath by pushing it through the side notch 4^a of the latter.

The tank used with this cigar lighter is preferably a tank containing an inner absorbent support for producing a first expansion of the gas of the kind described in our copending U. S. application No. 757,314 filed on June 26, 1947. The releasing device carried by this tank is preferably of the type described in our copending application U. S. No. 646,540, filed on February 9, 1946.

What we claim is:

1. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a sheath partially enclosing said tank; means mounted on said sheath for controlling said gas-releasing device; a casing arranged to envelop said sheath enclosing said tank and carrying said controlling means; and a detachable flint-holding device engaging said sheath and engaging said casing and forming a locking means for holding said sheath and said casing in position.

2. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a sheath partially enclosing said tank; a small case mounted on top of said sheath; means mounted in said small case for controlling said gas-releasing device; a case arranged to envelop said sheath enclosing said tank and carrying said small case enclosing said controlling means; and a detachable flint-holding device engaging said sheath and engaging said casing and forming a locking means for holding said sheath and said casing in position.

3. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a sheath partially enclosing said tank; a first small case mounted on top of said sheath; means mounted in said first small case for controlling said gas-releasing device; a second small case mounted on top of said sheath; a casing arranged to envelop said sheath enclosing said tank and carrying said small cases; and a detachable flint-holding device engaging said second small case and forming a locking means for holding said sheath and said casing in position.

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4. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a head forming part of the gas-releasing device; a sheath partially enclosing said tank; a first small case mounted on top of said sheath; a shaft mounted in said first small case; a spring-loaded lever arranged for articulation about said shaft and acting on said head; a second small case mounted on top of said sheath; a casing arranged to envelop said sheath enclosing said tank and carrying said small cases; a press button arranged to protrude to the outside of said casing and adapted to act on one end of said lever; and a detachable flint-holding device engaging said second small case and forming a locking means for holding said sheath and said casing in position.

5. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a sheath partially enclosing said tank; a first small case mounted on top of said sheath; means mounted in said first small case for controlling said gas-releasing device; a second small case mounted on top of said sheath; a casing arranged to envelop said sheath enclosing said tank and carrying said small cases; and a detachable flint-holding device including a yoke arranged on the side of said casing; said flint-holding device engaging said second small case and being adapted to lock in position said sheath with said tank in said casing.

6. A pyrophoric lighter for use with a liquified gas, comprising in combination, a detachable gas tank; a device mounted on said tank for releasing and igniting the gas; a head forming part of the gas-releasing device; a sheath partially enclosing said tank; a first small case mounted on top of said sheath; a shaft mounted in said first small case; a spring-loaded lever arranged for articulation about said shaft and acting on said head; a second small case mounted on top of said sheath; a casing arranged to envelop said sheath enclosing said tank and carrying said small cases; a press button arranged to protrude to the outside of said casing and adapted to act on one end of said lever; and a detachable flint-holding device including a yoke arranged on the side of said casing; said flint-holding device engaging said second small case and being adapted to lock in position said sheath with said tank in said casing.

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