

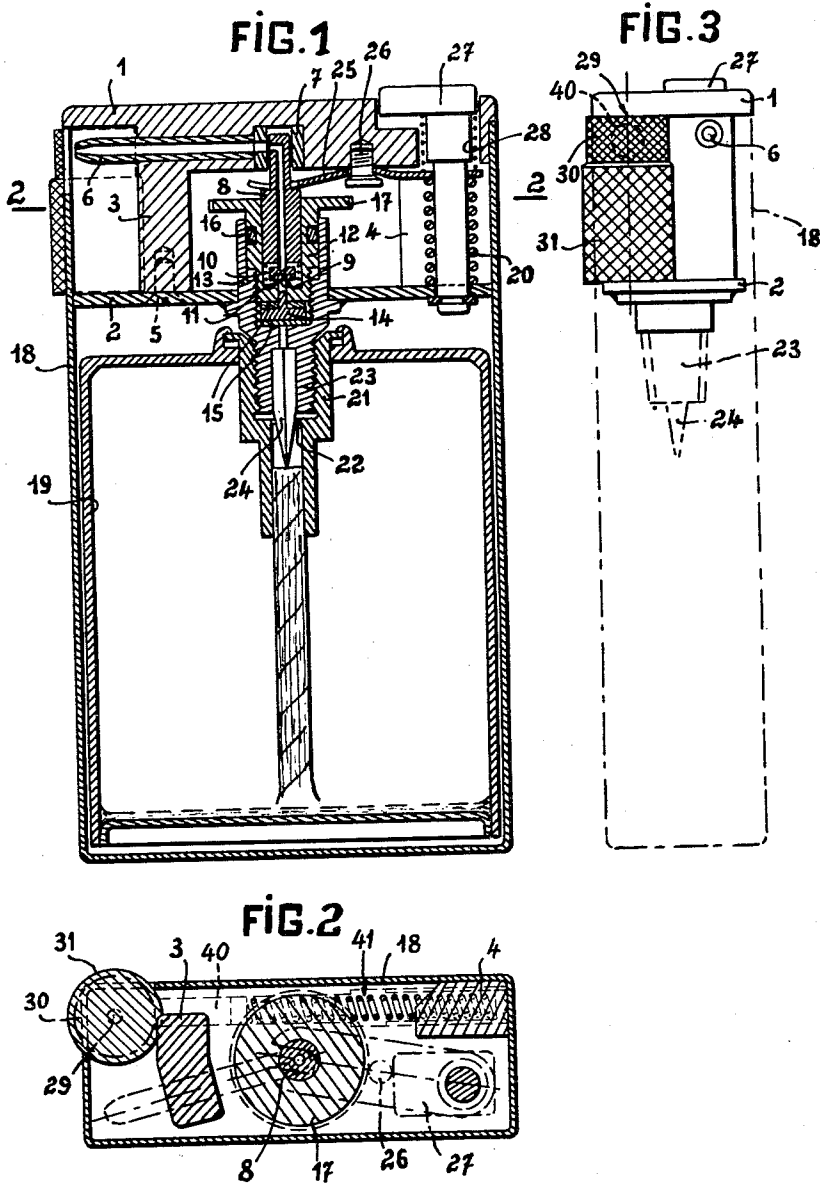
March 23, 1965

J. GENOUD
GAS LIGHTER HEAD

3,174,310

Filed Nov. 9, 1962

2 Sheets-Sheet 1



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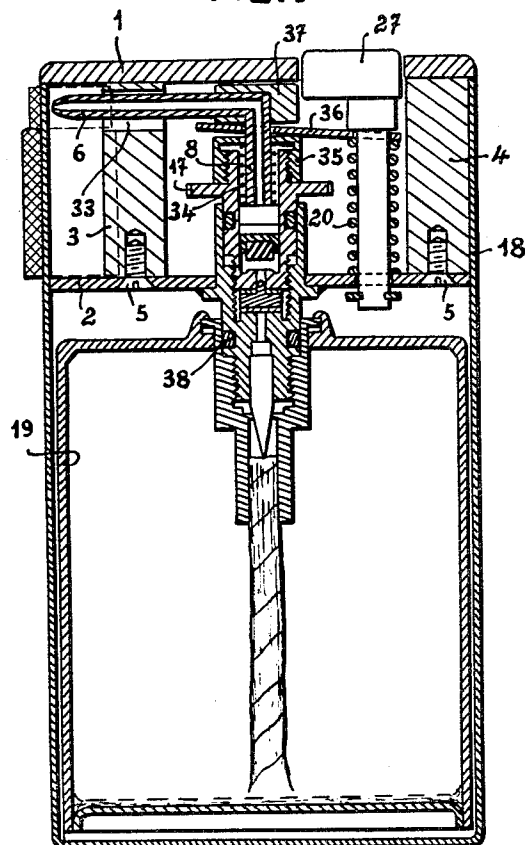
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FIG. 4



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GAS LIGHTER HEAD

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Filed Nov. 9, 1962, Ser. No. 236,563

Claims priority, application France, Dec. 12, 1961,

Patent 1,307,899

3 Claims. (Cl. 67-7.1)

This invention relates to the heads of gas lighters. Gas lighter heads have been generally constituted as a unit of a light metal alloy molded under pressure and subsequently machined so as to allow it to carry the different parts to be incorporated within the lighter head. My invention has for an object the provision of a novel construction for a gas lighter head and it consists chiefly in forming said head by means of two superposed parallel plates which are spaced with reference to each other and are interconnected by at least two staying uprights so that said head appears as a laterally open cage having access through its sides.

Said arrangement simplifies the fitting of the different parts to be carried by the head and it allows chiefly positioning in the free space extending between said two plates, the means for adjusting the height of the lighter flame, said adjusting means being thus readily accessible and operable through a lateral engagement thereof between the user's thumb and forefinger.

The spindle of the knurled wheel and its driving means may furthermore cooperate advantageously in the assembly of the two plates.

Said improved head is applicable to any type of lighter but it is more particularly suitable, although not in an exclusive manner, to the case of lighters using disposable refills which are adapted for being made operative by the perforation or bursting of a covering diaphragm.

The invention will be better understood by referring to the accompanying drawing given solely by way of example and wherein two embodiments are illustrated.

In said drawings:

FIG. 1 is an elevational view in cross-section of the assembled lighter according to the invention, the valve being shown in its closed position,

FIG. 2 is a sectional view taken along line 2-2 of FIG. 1,

FIG. 3 is a lateral elevational view of the lighter in FIG. 1.

FIG. 4 is a view similar to FIG. 1 of a second embodiment according to the invention wherein the valve is shown in its open position.

According to the invention, the lighter head is constituted by two plates 1 and 2, the plate 1 being cast integral with uprights 3 and 4, which are secured by screws 5 to the plate 2. The upright 4 connects the plates 1, 2 together in a peripheral zone while the upright 5 is an interior upright and connects the plates 1 and 2 together in an interior zone.

The burner tube 6 is fitted transversely in the plate 1 and its inner end opens in registry with a port provided in a small ring 7 fitted coaxially in said plate.

The upper end of the valve 8 is free to slide inside said ring. Said valve includes a packing 9 and it is urged upwardly by a weak spring 10. The seat 11 of said valve is formed in a member 12 screwed inside a shouldered sleeve 13 secured by a weld seam to the plate 2.

The throttling of the gases is obtained by a small plate carrying a stud 14 and held between two small disks 15 made of a porous material.

A fluid tight relation is obtained between the sleeve 13 and the member 12 inside which it is screwed by means of toroidal shaped packing 16. The member 12 is formed at its upper end above the sleeve 13 as a knurled knob 17.

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By turning said knurled knob 17 the pressure exerted on the small disks 15 is varied and, thereby the flow of gas, and consequently the height of the flame, are also varied.

It will be readily understood that such an adjustment is very easily performed. It is sufficient, as a matter of fact, when it is desired to reach said knurled knob, to remove or merely disengage slightly the casing 18 which is fitted around the upper plate 1 and surrounds the gas container 19.

Said container 19 carries a conventional tapped member 21 closed by a diaphragm 22. The sleeve 13 extends downwardly to form a threaded nozzle 23 provided with a punch 24 having a polygonal outline.

When the nozzle 23 is screwed into the member 21, the punch pierces the disk 22, which opens a passage for the escape gas from the container towards the lighter head.

In the embodiment in FIG. 1, the sleeve 13, including its nozzle 23, is made of plastic material and the thread connecting the nozzle 22 with the member 21 is conical, which allows obtaining fluidtightness between the assembled parts without requiring the insertion of auxiliary packing.

The member 12 with its seat 11 and its knurled adjusting knob 17 may also be made of plastic material.

Lastly, the opening of the valve 8 is performed by allowing said valve to rise under the action of the spring 10 associated with the thrust exerted by the gas. The release of the valve is obtained by raising a small lever 25 adapted to pivot about a screw 26 which secures said lever to the plate 1. Said lever 25 normally bears against the valve 8 under the action of a spring 20. The opening of the valve is obtained by depressing a key 27. A weak spring 28 is inserted between the lever 25 and the head of the key 27 so as to ensure the return of the key into its normal position.

The two plates 1 and 2, furthermore, support a spindle 29 rigid with the knurled knob 30 and with its actuator flint wheel 31. The flint 40 is urged against the knob 30 by spring 41 in a conventional manner as shown for example in U.S. Patents 2,608,081 and 2,724,253.

To operate the lighter, the key 27 is depressed while simultaneously the flint wheel is actuated. The operation may be carried out by using both hands but generally one hand will be used, the lighter being held in the palm of such hand while the index finger depresses key 27 and the thumb actuates flint wheel 31.

In the embodiment illustrated in FIG. 4, the uprights 3 and 4 are not cast integrally with the plate 1, but are secured thereto for instance by brazing or welding.

In the embodiment in FIG. 4, the burner 6 extends through an elongated port 33 formed in the upright 3 and is rigid with the valve 8, so as to accompany the upward and downward movements of the latter.

The movement of said valve is furthermore opposite to that provided in the embodiment illustrated in FIG. 1, the closing of the valve being ensured by a spring 34 fitted under a cap 35 screwed over the member 12 while the opening is obtained through a pivoting of a lever 36 controlled by the key 27 and bearing permanently against the stationary flange of said cap 35 while its end engages the movable member 37 securing the burner 6 to the valve 8, the spring 20 ensuring merely the return of the key 27 to its normal position.

In the embodiment illustrated in FIG. 4, the thread securing the threaded nozzle 23 inside the well 21 is cylindrical, fluid tightness being ensured by toroidal shaped packing 38.

Obviously and as disclosed hereinabove, the invention is not limited to the embodiments described hereinabove and given solely by way of examples and it covers in con-

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tradistinction, all the modifications of said embodiments falling within the scope of the accompanying claims.

What I claim is:

1. In a lighter, the combination of a burner, gas-throttling means for feeding gas to said burner, a laterally open lighter head carrying said burner, a casing, said burner displaceably resting on said casing and including two parallel spaced superposed plates and at least two staying uprights holding said plates in position, and means including a knurled wheel controlling said throttling means and thereby the length of the flame formed by the burner, said wheel being located centrally of the laterally open lighter head to be engaged between an operator's fingers with the head displaced from the casing to expose the knurled wheel.

2. In a lighter, the combination of a burner, gas-throttling means for feeding gas to said burner, a laterally open lighter head carrying said burner, a casing, said burner displaceably resting on said casing and including two parallel spaced superposed plates and at least two staying uprights holding said plates in position, and integral with at least one of the plates, a flint-controlling knob, a spindle for said knob held between the two plates of the lighter head and means including a knurled wheel controlling said throttling means and thereby the length of the flame formed by the burner, said wheel being located centrally of the laterally open lighter head to be engaged between an operator's fingers with the head displaced from the casing to expose the knurled wheel.

3. In a gas lighter: a casing and a head assembly displaceably supported on the casing, said head assembly comprising two parallel spaced superposed plates, two spaced uprights connecting said plates together and defining an open head assembly, a sleeve supported in said head assembly between the uprights, a burner tube extending laterally in the head assembly through one of the

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uprights, a control member threadably supported in said sleeve, valve means operatively associated with the burner tube and slidably supported within the control member for movement between open and closed positions for controlling the passage of gas to the burner tube from a source of gas in the lighter, resilient means coupled to the valve means to normally urge the same to closed position, means supported in the head assembly in association with the valve means for opening the same, said control member including a knob positioned between the uprights and adapted for being turned to thereby adjust the position of the control member in the sleeve, and means supported within the sleeve for being acted upon by the control member for adjustably throttling the flow of gas to the burner tube, in correspondence with the position of the control member in the sleeve, the control member being externally accessible upon sufficient relative displacement between the casing and head assembly to expose the control member.

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