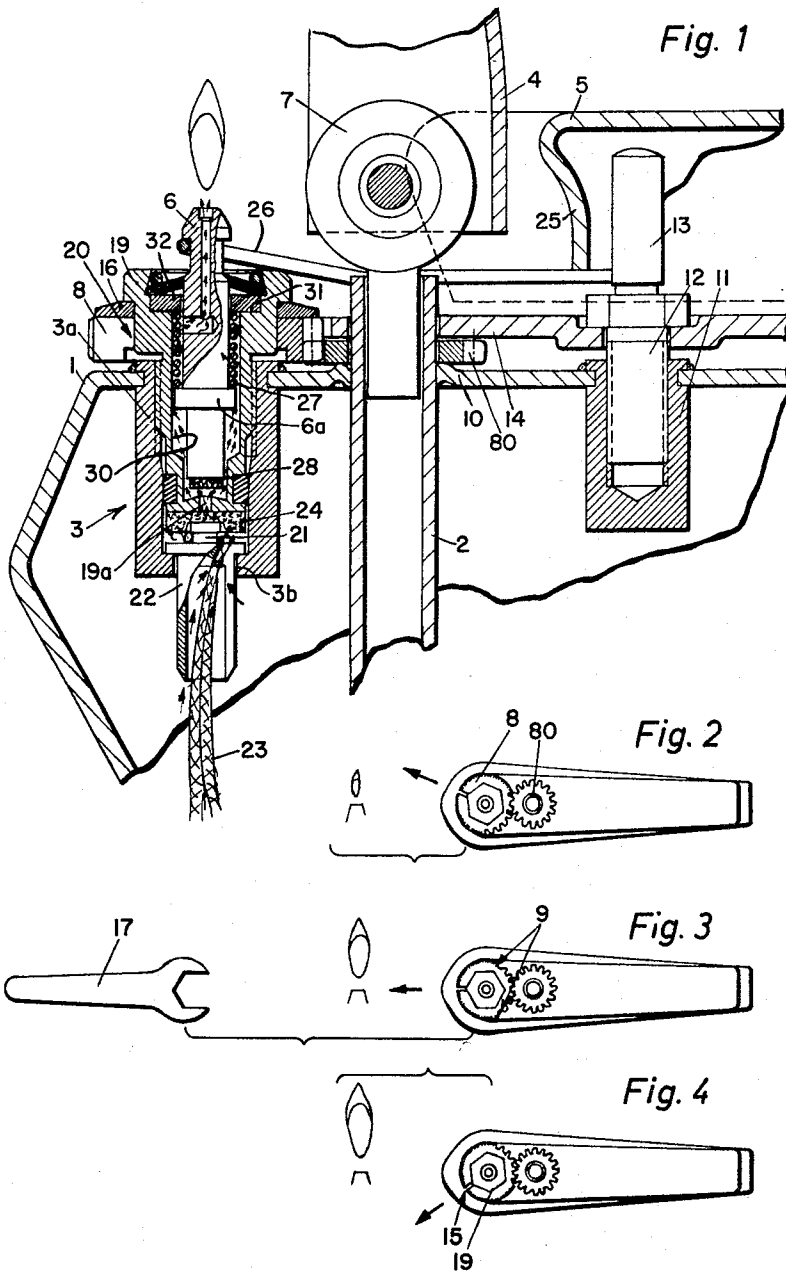


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GAS CIGARETTE LIGHTER  
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## GAS CIGARETTE LIGHTER

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The present invention relates to a gas lighter for cigarettes and the like which is equipped with an adjusting screw for adjusting the desired height of the flame from zero to a maximum, and vice versa, said adjusting screw having an adjusting head below which a collar is provided on which a slotted small manually operable wheel is tight-fitted.

Heretofore, the lighter housing was provided with abutments for limiting the adjustment of said manually operable wheel which latter represents the fine adjusting means for the height of the flame. Such abutments, however, limit the designer with regard to the shape the lighter might be given.

It is, therefore, an object of this invention to provide a lighter with flame adjustment, which will overcome the above-mentioned drawbacks.

It is another object of the present invention to provide a gas lighter with flame adjustment, in which the flame adjusting means are greatly simplified and do not interfere with the shaping of the exterior of the lighter.

These and other objects and advantages of the invention will appear more clearly from the following specification in connection with the accompanying drawing, in which:

FIGURE 1 illustrates on a considerably enlarged scale a vertical section through the upper portion of a lighter according to the present invention;

FIGURES 2 to 4 illustrate in approximately original size various positions of the flame adjusting means including the respective flame height as well as an adjusting wrench and the directional adjusting wedge.

The lighter illustrated in FIG. 1 comprises a fuel tank 1 having connected thereto a flint stone F carrying tube 2 and a burner valve 3, flint stone F cooperating in well known manner with a flint wheel 7 supported by a lighter cap or snuffer 4. In a manner known per se tank 1 or mounting plate 14 above the tank bottom 10 and connected thereto, has pivotally connected thereto a press member 5 to which is pivotally connected said lighter cap or snuffer 4 in a manner well known in the art, for instance as disclosed in FIG. 1 of U.S. Patent 3,141,317, so that actuation of member 5 opens snuffer 4 and causes flint wheel 7 to strike a spark on the flint stone as it has likewise been known in the art for many years. This flint stone, flint wheel arrangement does not form a part of the invention and, if desired, the flint wheel may instead also be actuated manually. The burner valve 3 comprises a cup-shaped member 3a connected to tank 1, for instance by soldering and has its bottom provided with a bore 3b through which extends a wick-holder 22. The upper portion of cup-shaped member 3a has an inner thread which is threadedly engaged by an adjusting head screw 19. Head screw 19 has a longitudinal axial bore 30 therethrough which at the top is somewhat enlarged to form a recess 31. Within said recess 31 there is fixedly held an abutment plate 32 against which rests one end of a spring 27 the other end of which rests against a collar 6a of a burner nozzle 6.

The bottom of the burner nozzle 6 has connected thereto a seal 28 which, when the burner nozzle is in its lower position—when the lighter is closed—closes a bore 19a in the bottom of head screw 19. Between the bottom of

screw 19 and the wick-holder 22 and extending around pin 21 thereof there is located a filter 24.

Connected to tank bottom 10, for instance by soldering, is a cup-shaped member 11 with an inner thread threadedly engaged by a corresponding thread of a bolt 13 the upper end of which forms an abutment for press member 5, limiting the extent to which the latter may be pressed downwardly.

As will be evident from FIG. 1, a pinion 80 is arranged between mounting plate 14 and tank bottom 10 and is freely rotatable about tube 2. The lighter according to the present invention furthermore comprises a manually adjustable handwheel 8 the circumference of which is provided with a gear segment 9 meshing with pinion 80. Wheel 8 is connected to adjusting screw 19 by a tight fit but screw 19 is turnable relative to wheel 8 by a wrench 17 by overcoming said tight fit thereby permitting a pre-adjustment of screw 19 and the valve at the factory. Handwheel 8 is covered by a cover disc 16 protecting said handwheel against dust.

As will be evident from the above, the pinion 80 which may also be designated as the locking pinion, serves in cooperation with handwheel 8 to limit the flame height for the fine adjustment thereof. In other words, when either end of the gear segment of handwheel 8 reaches the teeth of the locking pinion 80, no further hand-adjustment of wheel 8 is possible and consequently, no flame adjustment beyond said point is possible. The rough adjustment of the height of the flame is effected at the manufacturer's plant by means of wrench 17 by overcoming the tight fit of wheel 8 on screw 19.

In customary manner, the wick 23 conveys the liquid gas to filter 24 which converts the liquid gas into a gaseous condition. Said filter 24, which is pressed by screw 19 against pin 21 is more or less gas-permeable, depending on the pressure against which the bottom of screw 19 presses against said filter. This results in the flame having a greater or lower height.

When depressing the press member 5, the element 25 presses against a nozzle lifter 26 the left-hand end (with regard to the drawing) of which lifts the nozzle 6 against the thrust of spring 27, so that seal 28 frees the opening 19a thereby permitting the gas to enter and pass through nozzle 6.

It is, of course, to be understood that the present invention is, by no means, limited to the particular construction shown in the drawing, but also comprises any modifications within the scope of the appended claims.

What I claim is:

1. In a gas lighter, especially for cigarettes, cigars, and pipes: a tank, a burner valve supported by said tank and comprising gas conveying passage means, a burner nozzle extending outside said tank and communicating with said passage means, valve means interposed in said passage means and operable to control and vary the flow of gas through said passage means to said burner nozzle to thereby vary the height of the lighter flame formed when the gas leaving said nozzle is ignited, flint stone means arranged adjacent said burner nozzle for igniting the gas leaving same, supporting means connected to said tank and supporting said flint stone means, a first toothed wheel freely rotatably supported by said supporting means, a rotatable adjusting member extending from the outside of said tank to the interior thereof and forming a part of said valve means, and an adjustable second toothed wheel tight-fitted to said rotatable adjusting member so as normally to adjust the same in response to a turning movement of said second toothed wheel to thereby adjust the valve means and the flame of said lighter, said second toothed wheel also being forcibly rotatable relative to said adjusting member for changing the rela-

tive position of said second toothed wheel with regard to said rotatable adjusting member, one of said toothed wheels having a portion only of its periphery provided with teeth meshing with the teeth of the other toothed wheel thereby limiting the manual adjustment of said one toothed wheel.

2. A lighter according to claim 1, in which said burner valve comprises a cup-shaped member connected to said tank and provided with an inner thread and also provided with an opening in its bottom, a wick holder supported by said bottom, a wick supported by said wick holder, compressible filter means above said wick holder, and compressible by said rotatable adjusting member, the lower end of said rotatable adjusting member having a plate-shaped portion connected thereto with a bore

therethrough communicating with said passage means, and said burner nozzle having a shank and sealing member connected to the bottom thereof for cooperation with said bore.

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