Nov. 3, 1936. F. RINGER 2,059,807

CIGAR LIGHTER

Filed April 13, 1933

Fig. 1

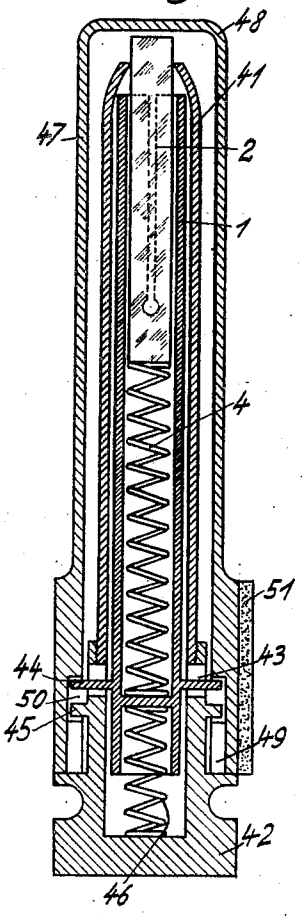


Fig. 2

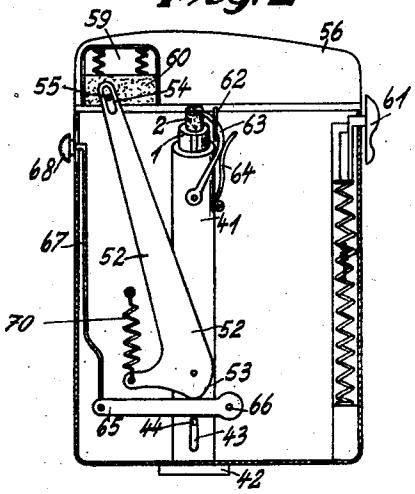
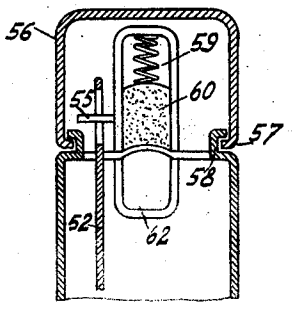


Fig. 3



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Patented Nov. 3, 1936 2,059,807

UNITED STATES PATENT OFFICE

2,059,807

CIGAR LIGHTER

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Application April 13, 1933, Serial No. 666,003
In Austria April 16, 1932

8 Claims. (Cl. 67—7)

The invention relates to cigar lighters and has for its object to provide a cigar lighter, in which, instead of a liquid fuel or a match cord heretofore usual, a repeatedly ignitible igniting stick is utilized, substantially such as is described in my Patent No. 1,941,621, issued January 2, 1934.

According to the present invention, the repeatedly ignitible stick is ignited by rubbing against a prepared surface. The igniting stick is movable in a guide or protecting sleeve and there is provided a clamping device cooperating with the protecting sleeve, to automatically clamp the stick in position after it has been fed.

In the drawing two constructional forms of the subject matter of the invention are shown by way of example—

Fig. 1 shows a longitudinal section of a bar shaped cigar lighter embodying the present invention. Fig. 2 is a transverse section of a similar square shaped automatic cigar lighter. Fig. 3 shows a detail of Fig. 2.

Referring now to Figure 1 embodying one constructional form of the invention, the lighter comprises a protecting cylindrical sleeve 1, which is slotted at its upper end to frictionally hold therein the igniting stick 2 whose upper end when projecting from the top of the protecting sleeve 1, is embraced by a cylindrical clamping sleeve 41. The clamping sleeve is larger in transverse dimensions than the protecting sleeve 1 so that the protecting sleeve and the igniting stick may be placed within the clamping sleeve and maintained there by a head 42 which has a screw thread connection with the clamping sleeve. The head 42 is hollow to provide a chamber for a compression spring 46 which presses against the bottom of the chamber and against a partition or wall in the lower end of the protecting sleeve 1. It may be seen that the lower end of the protecting sleeve slides within the head 42.

The protecting sleeve is permitted limited axial movement within the clamping sleeve and its head by reason of radially extending pins 44 mounted on the lower end of the protecting sleeve and sliding in a pair of slots 43 formed longitudinally in the upper edge of the head 42.

A spring 4 is provided in the upper part of the protecting sleeve pressing against the partition in the lower end of that sleeve and against the igniting stick in the upper end of the sleeve. This spring works against the slight friction between the protecting sleeve 1 and the stick 2 and tends to keep the stick 2 pressed up into the upper end of the sleeve 1.

The front end of the clamping sleeve is tapered inwardly, the reduced diameter being approximately equal to the diameter of the stick 2 so that the stick is clamped and movement of it into the sleeve 41 is resisted but movement out of the sleeve 41 may be accomplished by merely overcoming the clamping friction between the sleeve 41 and the stick 2.

Over the protecting sleeve and clamping sleeve an outer cylindrical sleeve or casing 47 is placed. This sleeve is closed at its upper end as at 48, thus serving to limit the forward movement of the igniting stick. At the lower open end of the casing there are a pair of bayonet slots having axial portions 49 and circumferential portions 50. Upon the head 42 at the lower ends of the slots 43 are radially extending fixed stop pins 45 which are adapted to fit into the bayonet slots 49—50. The outer ends of the pins 44 and 45 may both fit within the circumferential portion 50 since that portion is wider than the distance between these pins when they are in their closest proximity as shown in Figure 1.

On the outside of the casing 47 there is secured a prepared rubbing surface 51, consisting of some known compositions adapted to ignite the igniting stick whenever said stick is rubbed on the rubbing surface.

When the bar shaped cigar lighter is outside the outer sleeve 47 the protecting sleeve 1 is forced forward by the spring 46 and thereby the igniting stick is firmly clamped and can be ignited by rubbing it on the rubbing surface 51. When the bar shaped cigar lighter is pushed into the outer sleeve 47, the stop pins 44 first strike the inner edge of the circumferential portion 50. Therefore on further pushing in the bar shaped cigar lighter, the protecting sleeve 1 is drawn back in the clamping sleeve 41 until, for instance, the pins 44 strike against the rear ends of the slots. In this position the head and therefore also the sleeves 1 and 41 are turned, so that also the stop pins 45 enter into the circumferential portion 50 of the bayonet slots. In this position the outer sleeve 47 and the bar shaped cigar lighter are locked together. During the putting of the casing 47 on the "lighter" the igniting stick has had the protecting sleeve 1, drawn back on it so that the stick can move outwards under the action of the spring 4, when the casing 47 is again removed from the lighter for fresh use. To use the lighter first the head 42 is turned, until the stop pins 44, 45 enter the slots 49 and thereafter the lighter is pulled out from the outer sleeve 47. At the same time the protecting sleeve 1 is forced forward by the spring 46 so that a fresh end of the igniting stick is clamped in the end of the sleeve 41 ready for a fresh ignition.

In Figs. 2 and 3 an automatic cigar lighter is shown. In the casing a protecting sleeve 1 with the igniting stick 2, the clamping sleeve 41, and the slots 43 are provided, in which the stop pins 44 of the protecting sleeve 1 are movable. The clamping device is actuated by a bellcrank lever 52 provided with a cam 53 and acting through

the medium of an intermediate lever 65 serving simply as a pressure transmitter on the pin 44. The bell crank lever 52 is, acted upon by a spring, tending to turn it in a clockwise direction. The upwardly extending arm of the lever 52 is provided with a longitudinal slot 54 cooperating with a stud 55 secured to the cover of the casing. The cover 56 of the casing is provided with guide ribs 57 which run in guides 58 on the top edge of the casing. In the cover 56 of the casing a chamber 59 is provided, in which the spring actuated rubbing surface 60 is set on edge and the narrow side edge of which cooperates with the point of the igniting stick. At the front side of the casing a spring actuated bolt 61 is provided, which projects into the path of the cover 56 of the casing. Furthermore the cover of the casing carries a downwardly projecting yoke 62 near the igniting stick, engaging a stop hook 63 pivoted in the casing or on the clamping sleeve. A spring 64 permanently tends to push the stop hook into the path of the igniting stick. The lever 65 interposed between the cam 53 and the pin 44 is pivoted in the casing at 66 and a rod 67 is connected with its free end. This rod is connected with an external actuating button 68 through a slot in the casing.

In the closed position of the cigar lighter shown, the stop hook 63 is held in the path of the igniting stick by the spring 64. The igniting stick is unclamped, the protecting sleeve having been pushed back by the pins 44 by the action of the cam 53 and the igniting stick is in contact with the hook 63. If now the bolt 61 is withdrawn from the path of the cover 56, the bell crank lever 52 is turned by its spring and moves the cover 56 to the right. At the same time the cam 53 releases the pin 44, so that the protecting sleeve is again clamped in the clamping sleeve. The stop hook 63 has been pushed out of the path of the igniting stick by the yoke 62. The rubbing surface 60 strikes with its narrow side face against the point of the igniting stick and runs thereover igniting the same. After extinguishing the igniting stick the cover and thereby also the lever 52 are again returned into the initial position, the cam 53 releasing the clamping and the stop hook 63 enters again into the path of the igniting stick. If the igniting stick has to be unelamped by hand, while the cigar lighter is open, for instance, for inserting fresh igniting sticks the protecting sleeve 1 is drawn back by the button 68 and the lever 65.

As an example for the composition of the igniting stick used in each of the forms of the invention described, the following combination of ingredients as disclosed in my Patent No. 1,941,621, may be used:—

	Parts by weight
Potassium chlorate	35
Calcium plumbate	3.7
Sulphur	0.9
Benzoyle peroxide	3.7
Powdered glass	14.2
Hexamethylene tetramine	42.5

are mixed with a small quantity of a solution of glue and if desired with a small quantity of formaline. The mixture is then moulded to sticks. If desired the sticks may be treated with gaseous formaldehyde but this is not absolutely necessary.

As an example of the composition of the rubbing or igniting surface used in each of the described forms of the invention, the following combination of ingredients may be used.

Red phosphorus	20	30	60	80
Antimonytrisulphide	40	30	20	---
Combination of antimony, sulphur and oxygen	20	15	---	---
Powdered glass	20	20	20	20
Sulphur	---	5	---	---
	100	100	100	100
Caoutchouc	20	10	5	---
Cellulose acetate	---	---	5	5
Bakelite	---	5	---	---

The cigar lighters according to the invention may be constructed in a simple manner as table, wall, or household lighting devices.

What I claim is:

1. A cigar lighter comprising a casing, a rubbing surface, a combustible igniting stick adapted to be repeatedly lighted by rubbing it against said rubbing surface, a protecting sleeve guiding said stick, and clamping means cooperating with said stick and adapted to automatically clamp said stick in position after it has been advanced.

2. A cigar lighter as claimed in claim 1 characterized in that its casing and the cover of the casing are so connected with the clamping means, that on closing the casing the igniting means are thrown out of operation and on opening the casing the clamping means are thrown into operation.

3. A cigar lighter as claimed in claim 1 characterized in that the clamping of the igniting stick is accomplished by jaws movable relatively to the igniting stick.

4. A cigar lighter comprising a casing, a rubbing surface, an igniting stick adapted to be repeatedly lighted by rubbing it against said rubbing surface, a protecting sleeve guiding said stick, and clamping means cooperating with said stick and adapted to automatically clamp said stick in position after it has been advanced, said clamping means comprising a clamping sleeve surrounding said protecting sleeve to bring about the clamping by an axial movement relatively to the protecting sleeve, stops provided on at least one of said sleeves and means causing the clamping means to be thrown out of operation on closing of the casing and into operation on opening of the casing.

5. A cigar lighter as claimed in claim 4 characterized in that the protecting sleeve axially guided in the clamping sleeve is permanently forced outwards into clamping position by means of a spring.

6. A cigar lighter as claimed in claim 4 characterized in that the protecting sleeve is provided with stops extending through a narrow slot in the clamping sleeve and cooperating with the control element in such a manner, that on closing the casing the protecting sleeve is automatically drawn back the clamping means being thus thrown out of operation.

7. A cigar lighter as claimed in claim 4 characterized in that there is provided a cover adapted to close the casing of the igniting stick and the releasing of the clamping is accomplished by control elements carried by the cover.

8. A cigar lighter as claimed in claim 1 characterized in that stops limiting the feed of the igniting stick are provided.

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