

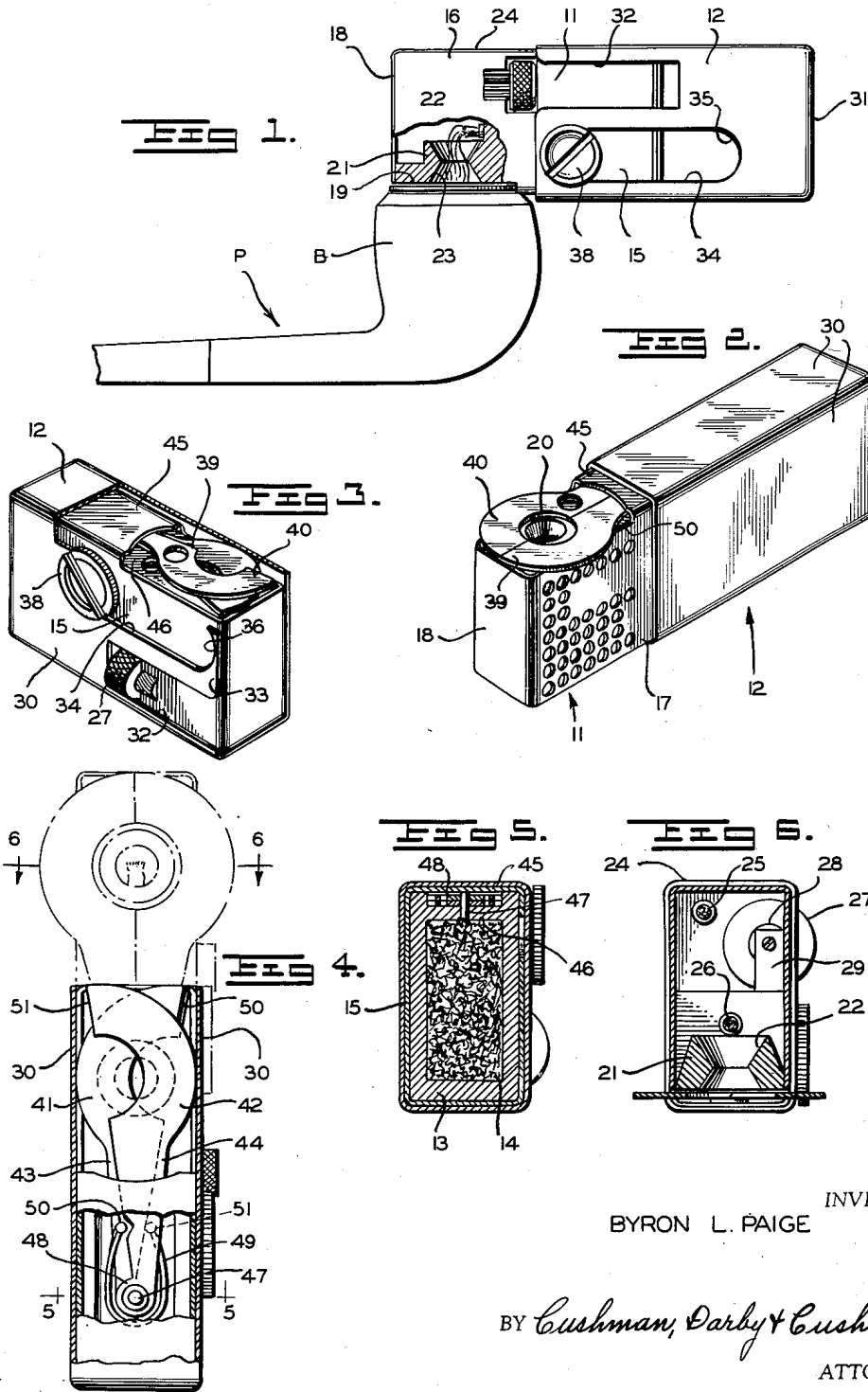
Dec. 23, 1952

B. L. PAIGE

2,622,424

PIPE AND CIGARETTE LIGHTER

Filed Jan. 31, 1950



INVENTOR  
BYRON L. PAIGE

BY *Cushman, Darby & Cushman*  
ATTORNEY

# UNITED STATES PATENT OFFICE

2,622,424

## PIPE AND CIGARETTE LIGHTER

Byron L. Paige, Fort Sill, Okla.

Application January 31, 1950, Serial No. 141,430

9 Claims. (Cl. 67-7.1)

1

This invention relates to a pipe and cigarette lighter, and more particularly, to a lighter having a pipe bowl cover plate adapted to be collapsed and neatly stored when not in use.

In my copending application, Serial No. 79,085, filed March 1, 1949, there is disclosed a pipe and cigarette lighter having as a component part a detachable annular flange which covers the periphery of the pipe bowl so as to concentrate and intensify the flame drawn downward into the tobacco. In the form of the invention disclosed in said copending application, the annular flange or pipe bowl cover plate is manually removed from the operative position and is attached to the body of the lighter when not in use. When the lighter of said copending application is to be used for lighting a pipe, the pipe bowl cover plate must be manually disengaged from its stored location on the body of the lighter and then manually attached to the lighter body in its operative or use position.

A primary object of the present invention is to provide a lighter having a pipe bowl cover means which is collapsed and stored within the lighter when not in use and which is automatically moved to an operative position when the lighter is conditioned for use, thereby avoiding the manual detaching and applying steps necessary in the lighter disclosed in my said copending application.

A further object of the present invention is to provide a lighter having an elongated chimney within which one or more wicks may be disposed to provide a flame which may be sucked downwardly into a pipe bowl in combination with a pipe bowl cover means which may be quickly and easily moved into operative position adjacent the discharge end of the chimney and just as easily moved to a stored position within the lighter.

Another object of the present invention is to provide a lighter having a pipe bowl cover plate formed of a plurality of segments each pivoted to the lighter body and an outer casing slidably mounted on the lighter body and adapted to move said segments to a collapsed stored position when the casing is manually moved to a closed position on the lighter body.

A further object is to provide in a lighter having a chimney extending therethrough and exposed to the atmosphere at both ends, a casing slidably mounted on the body so as to seal off the chimney from the atmosphere, and a collapsible pipe bowl cover means adapted to be collapsed and stored between the lighter body

2

and the outer casing when the latter is moved to a closed or chimney sealing position.

Additional objects and advantages of the invention will appear as the description proceeds.

In the drawings accompanying this specification and illustrating one form in which the invention may be embodied:

Figure 1 is a side elevational view of the lighter applied to a pipe bowl, the front side wall of the chimney being partially broken away to show the relative locations of the pipe bowl, the cover means, the Venturi tube and one of the pair of wicks.

Figure 2 is a perspective view of the lighter showing the casing in the operative, non-sealing or open position and the segments of the pipe bowl cover plate in extended operative relation.

Figure 3 is a perspective view of the lighter showing the outer casing in the closed or chimney sealing position, an end wall of the outer casing being partially broken away to show the cover plate segments in collapsed or stored position.

Figure 4 is an end elevational view of the lighter partially broken away to show the stored position of the collapsed cover plate segments, the dash-dot lines showing the position of the lighter body and the segments when the body has been moved upwardly with respect to the outer casing.

Figure 5 is a sectional view taken substantially on the line 5-5 of Figure 4, and Figure 6 is a sectional view taken on the line 6-6 of Figure 4.

The lighter comprises, generally, a body 11 and an outer casing 12 which are constructed substantially similar to the construction disclosed in my said copending application, Serial No. 79,085, except as to several immaterial details. Therefore, the body 11 and casing 12 are shown and described in the present application only to the extent necessary to disclose the mode of cooperation of the new form of pipe bowl cover plate with the lighter.

The lighter body 11 comprises a fuel container 13, having an interior 14 filled with cotton adapted to be saturated with fuel, as best seen in Figure 5. An inner casing 15 surrounds the fuel container 13 and has two parallel side walls 16 and 17 extending from the container 13. A third wall 18 joins the ends of the walls 16 and 17, whereby the walls 16, 17, 18 form a chimney.

The fuel container 13 has a portion which extends to the chimney wall 18 so as to form an end wall 19 for the chimney. The chimney end

3

wall 19 has a circular opening 20 therethrough. A Venturi tube 21 is secured to the end wall 19 and has a converging entrance portion 22 communicating with the interior of the chimney and a diverging exit portion 23 in communication and in alignment with the opening 20 in the end wall 19. It will thus be seen that the draft drawn downwardly through the chimney and into the pipe bowl can leave the chimney only through the Venturi tube 21 and the opening 20 in the chimney end wall 19.

The end of the chimney 24, opposite the end having the Venturi tube 21, is substantially open and relatively exposed to the atmosphere, as shown more clearly in said copending application. As seen in Figure 6, a first wick 25 projects from the fuel container 13 into the chimney adjacent the relatively open end 24 of the chimney. A second wick projects into the chimney adjacent the entrance portion 22 of the Venturi tube 21. A manually operable thumb wheel 27 and a flint wheel 28 are rotatably mounted adjacent the first wick 25 on a bracket member 29 in the conventional manner well-known in the art. The chimney wall 17 is provided with a plurality of vent holes 17' extending therethrough, as more particularly described in my said copending application.

The outer casing 12 is formed of four parallel side walls 30 and a bottom wall 31. One of the side walls 30 has a rectangular slot 32 extending to the edge 33 and a second slot 34 having arcuate ends 35 and 36. The outer casing 12 is slidable with respect to the lighter body 11, and the slot 32 provides clearance for the thumb wheel 27. A thumb screw 38 is threadably secured within a fuel refilling opening (not shown) extending through the fuel container 13. The thumb screw 38 extends through the slot 34 and in addition to limiting the relative sliding movement of the lighter body 11 and the casing 12 by abutting against the arcuate ends 35, 36 of the slot 34, also enables the operator to cause said relative sliding movement of the lighter body 11 and the casing 12. The hand of the operator grasps the casing 12 with his thumb placed on the thumb screw 38 and it will be obvious that by moving the thumb screw 38 relative to the casing 12, the latter may be moved with respect to the lighter body 11 either to the operative or open or non-sealing position shown in Figures 1 and 2, or to the closed or inoperative position shown in Figures 3 and 4. In the operative position, the ends of the chimney are unsealed and the lighter is ready for use; whereas, in the closed position, the ends of the chimney are sealed off from the atmosphere by the outer casing 12 so as to prevent undue evaporation of the fuel from the wicks 25, 26.

The pipe bowl cover means is formed of two segments 39 and 40. Each of the segments comprises a semi-annular portion, indicated at 41 and 42 respectively, and a shank portion indicated at 43 and 44 respectively, as best shown in Figure 4.

As best seen in Figures 2 and 3, the inner casing 15 is provided with an end wall 45 spaced from the adjacent end wall 46 of the fuel container 13. As shown in Figures 4 and 5, a pivot pin 47 is fixedly secured to the end wall 46 of the fuel container 13 and projects into the space between the walls 45 and 46. The lower ends of the shanks 43, 44 of the cover plate segments 39, 40 are provided with bearing portions 48. The bearing portion 48 of the shank 43 is rotatably mounted

4

on the pivot pin 47 adjacent the wall 46, and the bearing portion 48 of the shank 44 is rotatably mounted on the pin 47 between the wall 45 and the bearing portion 48 of the shank 43. It will thus be seen that in the collapsed relation of the segments 39, 40, as viewed in Figures 3 and 4, the segments 39, 40 will be in superimposed relation, the segment 40 being on top of segment 39.

As shown in Figure 4, a spring 49 has its opposite ends 50, 51 secured to the shanks 43, 44 respectively. The spring 49 is under flexural stress and biases the segments 39, 40 so that they will be subjected to a constant torque tending to pivot them about the pin 47 outwardly toward the extended or operative position of the segments as shown in Figure 2. The inner casing 15 is provided with abutment means 50 which act as stops so as to limit the outward pivotal movement of the segments 39, 40 to the operative position or relation shown in Figure 2.

When the segments 39, 40 are moved outwardly by the spring biasing means 49 to the operative position shown in Figure 2, the semi-annular sections 41, 42 cooperate to form a flat, substantially-circular pipe bowl cover plate having a circular opening therethrough of approximately the same size as, and in alignment with, the opening 20 in the chimney end wall 19.

The operation of the device will now be briefly described: The lighter is normally carried in the pocket of the user in the closed position shown in Figure 3. As seen in Figure 4, it will be obvious that the walls 30 of the outer casing 12 engage against the outer arcuate peripheral surfaces of the semi-annular sections 41, 42 so as to move the segments 39, 40 together in a collapsed relation when the casing 12 is in the closed or inoperative position on the lighter body 11. When it is desired to light a pipe, as at P in Figure 1, the operator grasps the outer casing 12 in the palm of his hand and actuates the thumb screw 38 so as to move the lighter body 11 with respect to the outer casing 12 to the open or operative position shown in Figures 1 and 2. When the casing 12 is in the operative position, the spring means 49 will bias the segments 39, 40 outwardly to their extended or operative position shown in Figure 2. The lighter is then placed over the bowl B of the pipe P, as shown in Figure 1, the plate formed by the semi-annular cover plate sections 41, 42 covers the opening in the pipe bowl B so that the interior of the bowl B may communicate with the atmosphere only through the opening 20, Venturi tube 21, and the chimney of the lighter. By thus sealing off the opening of the pipe bowl, the total force of the draft created by sucking on the pipe P will be exerted through the chimney so as to result in a maximum draft for the wicks 25, 26 and a large intensified wind-protected flame drawn through the Venturi tube 21 into the pipe bowl B.

The outer ends of the semi-annular sections 41, 42 are beveled as shown at 50, 51 respectively. When the lighter is no longer to be used, the outer casing 12 is moved to the closed position and the walls 30 of the casing 12 will coact with the arcuate peripheral edges of the sections 41, 42 so as to pivot said sections together into the collapsed or stored position shown in Figures 3 and 4. The beveled edges 50, 51 enable segment 40 to be moved over and in superimposed relation with respect to segment 39 at the beginning of the closing or collapsing movement of the segments.

It is to be understood that the specific embodi-

5

ment of the invention shown and described in the drawings and specification is merely illustrative of one form which the invention may take, the scope of the invention being delineated in the appended claims.

I claim:

1. A lighter comprising a body having a chimney extending therethrough and communicating with the atmosphere at both ends, a wick projecting into said chimney, a pipe bowl cover means at one of said ends, said cover means comprising a plurality of segments having semi-annular sections cooperating to form a circular opening in an operative position, and means for movably mounting said segments on said body whereby the segments may be slidably moved as desired either to a collapsed position or to an operative position.

2. A lighter comprising a body having two extending side walls and a third side wall joined therewith to form a chimney, an end wall at one end of the chimney and having an opening therethrough, a wick projecting into the chimney, a pipe bowl cover means at said one end of the chimney, said cover means comprising a plurality of segments movably mounted on said body to either a collapsed or an operative relation, said segments when in said operative relation coacting to form a segmented plate lying flat against said end wall, and said plate having a hole therethrough of substantially the same size and shape as and in alignment with said end wall opening.

3. The combination set forth in claim 2 wherein said segments are mounted for pivotal movement on said body.

4. A lighter as set forth in claim 2 having a second wick projecting into said chimney and spaced longitudinally of the chimney from said first-recited wick.

5. A lighter as set forth in claim 2 having a Venturi tube including an entrance portion communicating with the interior of the chimney and a discharge portion communicating with the atmosphere through said chimney end wall opening.

6. A lighter comprising a body having a chimney extending therethrough and communicating with the atmosphere at both ends, a casing slidably mounted on said body, a wick projecting into said chimney, a pipe bowl cover means at one of said ends, said cover means comprising a plurality of segments, means biasing said segments toward one of their two positions, and means on said casing and coacting with said segments for moving said segments against the force of said biasing means in response to movement of the casing.

7. A lighter comprising a body having a chim-

6

ney extending therethrough and communicating with the atmosphere at both ends, a casing slidably mounted on said body, a wick projecting into said chimney, a pipe bowl cover means at one of said ends, said cover means comprising a plurality of segments, means on said casing coacting with said segments for moving said segments from a collapsed position to an operative position and from an operative to a collapsed position in response to movement of said casing, said segments when in operative position cooperating to form a flat segmented plate lying in a plane perpendicular to the axis of said chimney, said plate having a hole therethrough whereby one end of said chimney may communicate with the atmosphere through said hole.

8. A lighter comprising a body having two extending side walls and a third side wall joined therewith to form a chimney, an end wall at one end of the chimney and having an opening therethrough, a wick projecting into the chimney, a pipe bowl cover means at said one end of the chimney, said cover means comprising a plurality of segments, spring means biasing said segments away from each other, and abutment means on said body for limiting the spring biased pivoted movement of said segments to positions wherein the segments are in operative relation, and means on said casing causing said segments to move toward each other to their collapsed relation in response to movement of said casing in one direction relative to said body, said casing having means for sealing off the chimney from the atmosphere when said casing has been moved in one direction to a predetermined position.

9. A lighter as set forth in claim 8 wherein said casing has a wall adjacent, spaced from and parallel to said chimney end wall, and wherein when said casing has been moved to said predetermined position said collapsed segments are disposed entirely within the space between said casing wall and said chimney end wall.

BYRON L. PAIGE.

#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
1,961,983	Pirrone	June 5, 1934
2,293,225	Terrill	Aug. 18, 1942
2,543,798	Paige	Mar. 6, 1951

#### FOREIGN PATENTS

Number	Country	Date
347,209	Germany	Jan. 16, 1922