Nov. 18, 1941. E. LACKOW ET AL 2,263,464

COOLING MEANS FOR PIPES AND THE LIKE

Filed Feb. 3, 1940

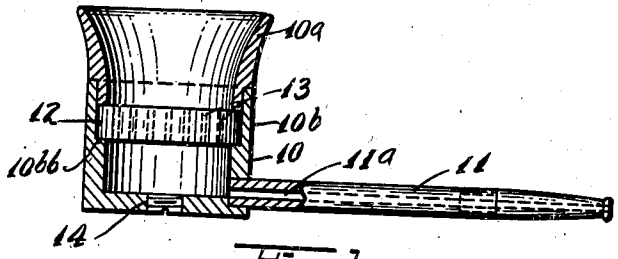


Fig. 1.

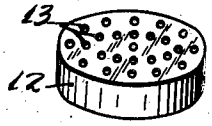


Fig. 2.

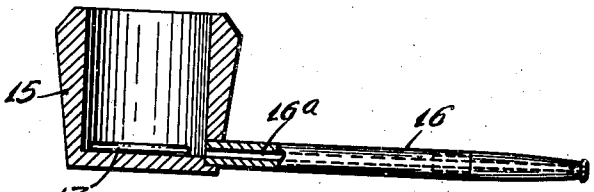


Fig. 4.

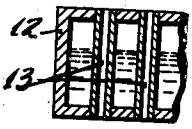


Fig. 3.



Fig. 5.

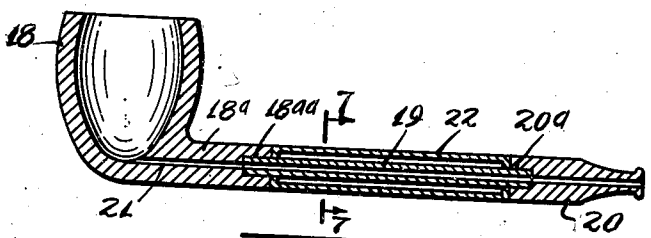


Fig. 6.

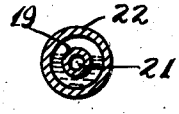


Fig. 7.

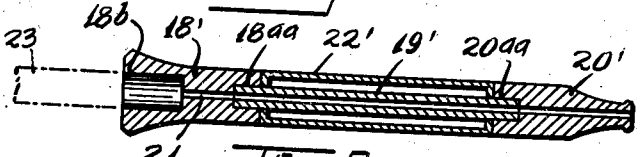


Fig. 8.

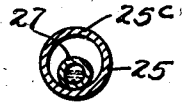


Fig. 10.

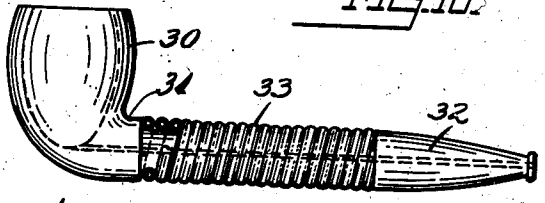


Fig. 11.

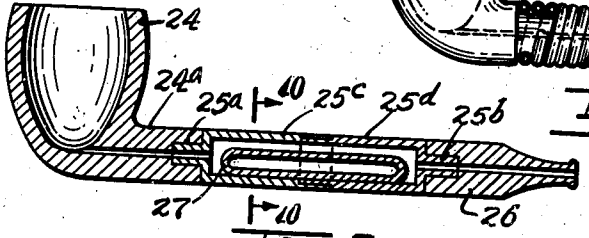


Fig. 9.

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Patented Nov. 18, 1941 2,263,464

UNITED STATES PATENT OFFICE

2,263,464

COOLING MEANS FOR PIPES AND THE LIKE

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Application February 3, 1940, Serial No. 317,098

2 Claims. (Cl. 131—194)

This invention relates to new and useful improvements in a cooling jacket for pipe stems and the like.

More specifically, the invention proposes the construction of a cooling member adapted to be arranged in a specific manner with relation to a pipe bowl or stem of cigar or cigarette holder and which is adapted to be cooled and to subsequently absorb heat from the smoke before entering one's mouth in order to cool the same.

Still further it is proposed to characterize the cooling means by a container having the cooler therein and which is adapted to be mounted in the pipe bowl and which is provided with a plurality of passages extending from the top face through the container to the bottom face thereof in a manner to provide a free passage for the smoke.

A further object of this invention proposes to characterize the cooling means by a closed tubular coil adapted to be placed upon the base wall of the pipe bowl to cool the smoke before entering the pipe stem.

Still further the invention proposes to characterize the cooling means by a jacket containing cooling medium, encircling a portion of the pipe stem in a manner to cool the smoke as it passes through the stem.

Still further it is proposed to characterize the cooling means by a hollow capsule removably mounted within a portion of the pipe stem in a manner to permit the smoke to circulate thereabout while passing through the stem to cool the same.

According to a still further modification of the invention it is proposed to characterize the cooling means by a closed tubular coil encircling the outside face of the pipe stem and removably mounted thereon in a manner to cool the smoke as it passes through the stem.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a partial sectional view of a pipe having a cooling member in accordance with this invention.

Fig. 2 is a perspective view of the cooling member per se.

Fig. 3 is a vertical sectional view of a portion of the cooling member.

Fig. 4 is a view similar to Fig. 1 but illustrating a modification of the invention.

Fig. 5 is a sectional view of the cooling member used in the form of the invention shown in Fig. 4.

Fig. 6 is a sectional view of a pipe constructed according to a still further modification of the invention.

Fig. 7 is an enlarged sectional view on the line 7—7 of Fig. 6.

Fig. 8 is a sectional view of a cigarette holder embodying the form of the invention shown in Fig. 6.

Fig. 9 is a sectional view of a pipe embodying a still further modification of the invention.

Fig. 10 is a sectional view on the line 10—10 of Fig. 9.

Fig. 11 is an elevational view of a pipe constructed according to a still further modification of the invention.

The cooling jacket for pipe stems and the like is preferably used in combination with a pipe having a bowl 10 and a stem 11 having a smoke passage 11a for conveying the smoke from the pipe bowl 10 to the interior of one's mouth. According to this form of the invention the pipe bowl 10 consists of a top section 10a and a bottom section 10b. The top section 10a is formed with a reduced portion which is adapted to be extended into the top of the bottom section 10b for holding the top section in position thereon. A closed condenser 12 for holding a substance which is adapted to be cooled is mounted within the pipe bowl 10 and is spaced from the bottom wall thereof.

The bottom section 10b is preferably formed with a shoulder 10bb upon which a portion of the bottom section of the container 12 is adapted to rest. The bottom edge of the top section 10a, when in position upon the bottom section 10b, is adapted to abut the top face of the container 12 for fixedly holding the same in position within the pipe bowl 10. The container 12 is preferably constructed of metal and the substance contained therein might be water, brine or alcohol, or any other cooling medium, and the condenser 12 is sealed to prevent evaporation.

The interior of the container is only partially filled providing space for permitting the substance to expand during the absorption of heat from the smoke. The condenser 12 is provided with a plurality of passages connecting the top face with the bottom face in a manner to permit the smoke passing therethrough to be cooled by the cooling substances contained therein.

These passages are in the form of tubes 13 extended completely through the closed condenser 12 as shown in Fig. 3.

For mounting the condenser 12 in its proper position within the bowl 10 it is necessary to first remove the top section 10^a and rest the condenser 12 upon the shoulder 10^{bb}. The top section 10^a is returned to its normal position with its bottom edge engaging the top face of the container to fixedly hold the same in position within the bowl. The top section 10^a is then filled with tobacco and the same is lit. The condenser 12 may also be placed in the pipe in any other suitable manner.

The smoke drawn from the burning tobacco will pass through the tubes 13 and be cooled by the cooling substance in the condenser 12 and then pass through the stem 11 into a person's mouth. The bottom wall of the bowl 10 is provided with a removably mounted plug 14 which is adapted to be removed for cleaning the interior of the bowl for permitting an article to be passed therethrough to force the container 12 out of the bottom section 10^b in the event it become wedged therein.

In the form of the invention shown in Figs. 4 and 5 a pipe comprising a pipe bowl 15 and a stem 16 having a smoke passage 16^a is shown. This pipe is also provided with a container which is adapted to cool the smoke before entering the stem 16. This member comprises a closed tubular coil 17 partially filled with a substance to cool and which is adapted to rest upon the bottom wall of the pipe bowl 15.

The modification shown in Figs. 6 and 7 of the construction of the pipe comprises a pipe bowl 18 having a portion of a pipe stem 18^a integrally formed therewith. The main portion of the pipe stem 19 is inserted into an enlarged opening 18^{aa} formed in the portion of the pipe stem 18^a which is formed on the pipe bowl 18. The other end of the stem 19 carries a pipe bit 20 which is adapted to be inserted into a smoker's mouth. This pipe bit 20 is provided with an enlarged opening 20^a into which the end of the pipe stem 19 is adapted to be inserted. A smoke passage 21 connects the hollow of the pipe bowl 18 with the bit 20 in a manner to convey the smoke from the burning tobacco to the smoker's mouth.

The pipe stem 19 is further provided with a means for cooling the smoke passing therethrough and consists of a jacket 22 formed upon the pipe stem 19 and extended between the adjacent faces of the pipe bit 20 and that portion of the pipe stem formed integrally with the pipe bowl 18.

This jacket 22 is hollow and partially filled with a substance adapted to cool the smoke passing through the stem 19.

In the modification of the invention shown in Fig. 8 the form of the invention in Fig. 6 is shown applied to a cigarette holder. This cigarette holder comprises a stem 19' and associated jacket 22' which has one of its ends inserted into a bit 20' and the other of its ends inserted into a member 18' having an enlarged opening 18^b into which a cigarette is adapted to be inserted. The position of the cigarette is illustrated by the dot and dash lines 23 in this figure. This stem 19' and its associated jacket 22' is adapted to be used in a manner similar to that described relative to Figs. 6 and 7. In other respects this form of the invention is similar to the previous form.

According to the modification shown in Figs. 9 and 10 the pipe comprises a pipe bowl 24 having a portion of the stem 24^a integrally formed therewith. A tubular pipe stem 25 has a reduced end 25^a which is adapted to be inserted into portion of the pipe stem 24^a formed integrally with the bowl 24. The other end 25^b is also reduced and is inserted into a pipe bit 26. This tubular stem 25 is formed of separate sections consisting of a section 25^c and 25^d. The section 25^d is provided with a reduced end which is adapted to be frictionally engaged into the adjacent end of the section 25^c for permitting these sections to be separated when desired.

The interior of the stem 25 is adapted to receive and hold a tubular closed capsule 27 partially filled with a substance adapted to cool the smoke passing through the stem. This pipe may also be provided with a plurality of capsules 27 for cooling purposes.

The form of the invention shown in Fig. 11 comprises a pipe bowl 30 having a stem 31 with removable bit 32. The stem 31 is provided with a smoke passage for conveying the smoke from the burning tobacco to one's mouth. This form of the invention is also provided with a means for cooling the smoke passing through the stem 31 and comprises a closed tubular coil 33 engaged about the outside of the stem 31. This coil 33 is slidably engaged upon the stem 31 and is filled with a substance adapted to cool the smoke. When the bit 32 is removed from the end of the stem 31 the coil 33 may be slidably disengaged from the stem for permitting the same to be interchanged with another coil 33.

While we have illustrated and described the preferred embodiments of our invention, it is to be understood that we do not limit ourselves to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:

1. In a pipe bowl, annular recess means in the side wall of said bowl, a cooling grid comprising a disk-like container engaging in said annular recess means and extending transversely across said bowl for containing a coolant and having substantially flat top and bottom walls spaced from one another, a side wall connecting said top and bottom walls, portions of the inner surface of said side wall being substantially continuous with the inner wall of said pipe bowl, said top and bottom walls having a plurality of opening therethrough, and tubes connecting said openings to form smoke passages through said container.

2. A cooling grid for engagement in an annular recess in a pipe bowl comprising a disk-like container for containing a coolant and having substantially flat top and bottom walls spaced from one another and a side wall connecting said top and bottom walls and substantially filling said recess, said top and bottom walls having a plurality of openings therethrough, and tubes connecting said openings to form smoke passages through said container.

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