No. 851,773. PATENTED APR. 30, 1907.

G. A. PFORTNER.

SMOKING DEVICE.

APPLICATION FILED FEB. 15, 1906.

Fig. 1

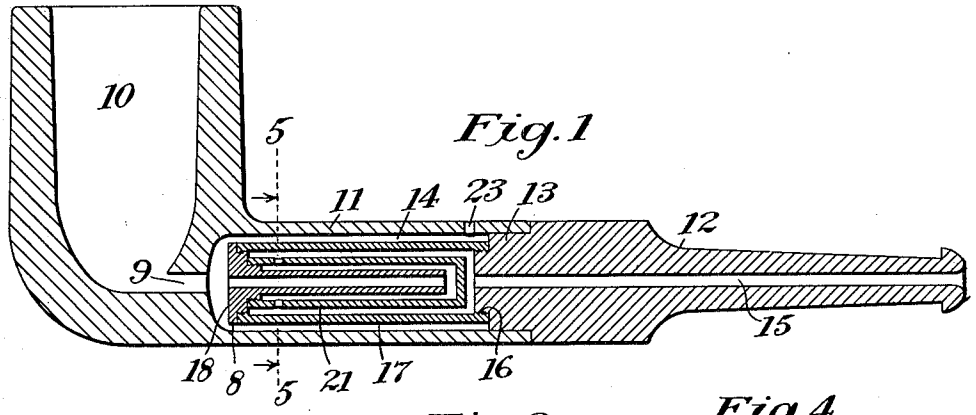


Fig. 2

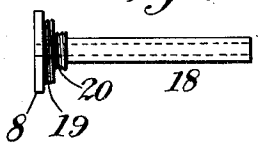


Fig. 3

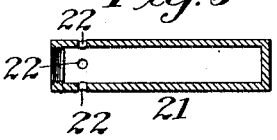


Fig. 4

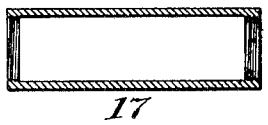


Fig. 5

Fig. 6

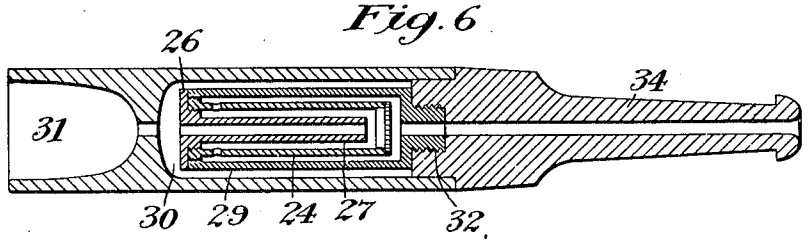


Fig. 7

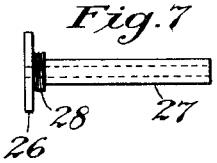


Fig. 8

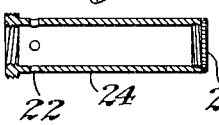
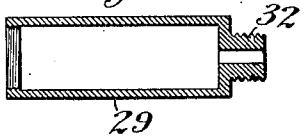


Fig. 9



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UNITED STATES PATENT OFFICE.

GUSTAVE A. PFORTNER, OF NEW YORK, N. Y.

SMOKING DEVICE.

No. 851,773. Specification of Letters Patent. Patented April 30, 1907.

Application filed February 15, 1906. Serial No. 301,216.

To all whom it may concern:

Be it known that I, GUSTAVE A. PFORTNER, a citizen of the United States, residing at borough of the Bronx, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Smoking Devices, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to smoking devices, such as pipes and cigar-holders, and has for its objects the effective cooling of the smoke-conducting parts and the smoke conducted therethrough and of the outer part of the stem, and the effective trapping of condensed or other liquids in the stem so as to prevent it from reaching the bowl.

My invention also has for its objects simplicity of construction, durability, reduced cost of manufacture, facility of taking apart for cleaning or substitution of new parts and ease of cleaning of parts.

I will now describe the smoking devices embodying my invention illustrated in the accompanying drawings and will thereafter point out my invention in claims.

Figure 1 is a longitudinal central section of a pipe. Fig. 2 is a detail elevation of the inner tube of the smoke-conduit. Fig. 3 is a detail longitudinal section of the cup of the smoke-conduit. Fig. 4 is a detail longitudinal section of the outer tube of the smoke-conduit. Fig. 5 is a transverse section taken through the pipe stem on a plane indicated by the line 5—5, Fig. 1. Fig. 6 is a longitudinal central section of a cigar-holder, of modified construction. Fig. 7 is a detail elevation of the inner tube. Fig. 8 is a detail longitudinal section of the cup, and Fig. 9 is a detail longitudinal section of the outer tube of the smoke-conduit of such modified construction.

The pipe shown in Fig. 1 has a bowl 10 and has a stem made up of two parts, one of which is the shank 11 of the bowl member and the other the mouth-piece 12, the mouth-piece being secured to the shank by a frictional joint comprising a reduced portion 13 at the front end of the mouth-piece fitting snugly into the rear end of the shank 11. The stem shown is a straight stem and the parts are described as with the stem in the horizontal position shown, the bowl end being described as the front end of the pipe. The shank 11 of the bowl member has a large chamber 14 formed therein and the reduced front end of the mouth-piece 12 enters this chamber, and this chamber extends from the mouth-piece 12 to within a short distance of the bowl 10, and is connected with the bowl 10 by a short bore or smoke-passage 9. The mouth-piece 12 is provided with the usual bore or smoke-passage 15 and has a threaded stud 16 at its front end over which is screwed the outer tube 17 of a smoke-conduit comprising a plurality of tubular parts of different diameters forming a plurality of reversely arranged smoke-passages. This outer tube 17 of the smoke-conduit is provided at its front end with an internal thread into which is screwed a threaded portion 19 on the enlarged front end of the inner tube 18 of the smoke-conduit, a shoulder 8 being provided on the extreme front end of this enlarged portion of the inner smoke-tube to abut against the front end of the outer tube 17 and make a tight joint and also to afford a grip for unscrewing the parts.

In the construction shown in Figs. 1 to 5, inclusive, the inner tube 18 of the smoke-conduit is also provided with another enlarged threaded portion 20 of smaller diameter than the threaded portion 19, and upon this second threaded portion 19 is screwed an intermediate tubular portion 21 which has a closed rear end and which I shall denominate a cup. The inner tube of the smoke-conduit is enveloped on its sides and at its rear end by the cup 21, but with a sufficient annular and rear end space between the cup and inner tube for the passage of smoke. The cup 21 is provided in proximity to its front end with suitable apertures 22 which permit flow of smoke therethrough from the annular passage between the inner tube 18 and cup 21 to an annular passage between the cup 21 and the outer tube 17. The rear end of the cup 21 terminates at a sufficient distance in advance of the front end of the mouth-piece to permit the flow of smoke from the annular passage between the cup 21 and the outer tube 17, to the smoke-passage 15 of the mouth-piece.

By the means described a plurality of reversely arranged passages is provided in the smoke-conduit whereby the smoke is compelled to travel, first, from the front to the rear end of the inner tube 18, then from rear to the front end of the annular passage between the inner tube 18 and the cup 21, and then from the front to the rear end of the an-

nular passage between the cup 21 and the outer tube 17, before it enters the smoke-passage of the mouth-piece. The outer tube 17 of the smoke-conduit is of smaller diameter than the inner periphery of the wall of the chamber 14 so that there is a longitudinal and annular space between the smoke-conduit and the wall of the chamber, and the front end of the smoke-conduit terminates in rear of the front wall of the chamber 14 so that here also there is a clearance space of substantially the full diameter of the chamber 14. One of the consequences of this construction is that any liquid which may possibly flow forward through the inner tube 18 would not flow into the bowl, but would be trapped in the chamber 14. Another consequence of this construction is that the outer wall of the chamber is separated by an air space from all parts in which the smoke is circulated and therefore the shank 11 remains comparatively cool. This latter result is accentuated by providing an air-inlet leading into the chamber 14, this air-inlet 23 being formed in the shank 11 near the rear end thereof, so that cold air may enter the annular space about the smoke-conduit, cooling both surfaces with which it flows in contact and finally mixing with and cooling the smoke entering the smoke-conduit. The cooling action of the inflowing cold air may be made more effective by employing a metal, such as aluminium, as the material of which the smoke-conduit is partly or wholly made, particularly the outer tube 17.

The cigar-holder shown in Figs. 6, 7, 8 and 9, is of a slightly modified construction in that the inner tube 27 of the smoke-conduit has only one threaded portion 28, and the cup is screwed thereon. Here also the cup is made of two parts, a tubular portion 24 and a removable closure or plug 25, this plug 25 being screwed into the rear end of the tubular portion 24. The front end of the tubular portion 24 of the cup is screwed over the enlarged threaded part of the inner smoke-tube 27, as above described, and is also externally threaded so that the front end of the outer tube 29 of the smoke-conduit may be screwed over it. A shoulder 26 acts as an abutment both for the cup and the outer tube. The outer tube 29 is here partly closed at its rear end, and has an externally threaded stud 32 projecting therefrom which screws into a counterpart enlarged threaded portion at the front end of the mouth-piece 34, and this rear end of the outer tube has a bore contiguous with the smoke-bore of the mouth-piece. Here the enlarged chamber 30 for the smoke-conduit and the cigar-receiving portion or bowl 31 are formed in one member, as in the pipe construction, and the mouth-piece 34 is frictionally attached to this member, also as in the pipe construction. In this cigar-holder construction the air-inlet opening into the space between the outer tube of the smoke-conduit and the wall of the chamber is omitted, but this space nevertheless performs its heat insulating function.

It will be noted that the several parts may be readily separated for cleaning and may be readily thoroughly cleaned, the manipulations for separating and assembling the parts being too obvious to require description. It is obvious that part or all of the threaded jointures shown may be replaced by simple frictional joints, and the frictional joints shown may be partly or wholly replaced by threaded joints, and that different parts of the device may be made integral or may be otherwise separated or united, and that other modifications may be made in the construction shown and above particularly described within the principle and scope of my invention.

What I claim as new and desire to secure by Letters Patent, is:—

1. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating at its front end with the bowl, and a smoke-conduit arranged within the chamber and having a smoke-inlet leading from the front end of the chamber into the smoke-conduit at the front end of the smoke-conduit, the chamber having an air-inlet leading into the rear end thereof for cooling the smoke-conduit and for mixing air with the smoke that is entering the smoke-conduit, the stem having a smoke-passage therein in rear of the chamber and the smoke-conduit having a smoke-outlet leading directly into such smoke-passage.

2. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating at its front end with the bowl, and a smoke-conduit arranged within the chamber so as to provide a longitudinal space between it and the wall of the chamber and a connected end space between its front end and the front end of the chamber and having a smoke-inlet leading from the front end of the chamber into the smoke-conduit at the front end of the smoke-conduit, the chamber also having an air-inlet leading into the rear end thereof for cooling the smoke-conduit and for mixing air with the smoke that is entering the smoke-conduit, the stem having a smoke passage therein in rear of the chamber and the smoke-conduit having a smoke-outlet leading directly into such smoke-passage.

3. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating at its front end with the bowl and also having an air-inlet leading into the rear end of the chamber, and a smoke-conduit arranged in the chamber and having reversely arranged connected smoke-passages with an inlet from the front end of conduit, the stem having a smoke-passage

the chamber at the front end of the smoke therein in rear of the chamber and the smoke-outlet from the smoke-conduit leading into such smoke-passage.

4. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating at its front end with the bowl and also having an air-inlet leading into the rear end of the chamber, and a smoke-conduit arranged in the chamber so as to provide a longitudinal space between it and the wall of the chamber and a connected end space between its front end and the front end of the chamber and having reversely arranged connected passages with an inlet from the front end of the chamber at the front end of the smoke-conduit, the stem having a smoke-passage therein in rear of the chamber and the smoke outlet from the smoke-conduit leading into such smoke-passage, whereby the smoke-conduit is cooled by the inflowing air, thus cooling the smoke, and the smoke further cooled by having the air well mixed with it in passing through the passages of the smoke-conduit.

5. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating with the bowl, and a smoke-conduit arranged in the chamber so as to provide an end space between its front end and the front end of the chamber and comprising an outer tube, an inner tube and an intermediate cup, the outer tube being supported within the chamber, the inner tube being supported by the outer tube and having an inlet opening from the chamber at its front end, the cup being closed at its rear end and located between the outer and inner tubes so as to provide a passage between it and the inner tube connected at its rear end with the passage of the inner tube and a passage between it and the outer tube connected at its front end to the passage between the cup and the inner tube, the stem having a smoke-passage therein in rear of the chamber and the passage between the cup and the outer tube being connected to such smoke-passage.

6. A smoking device comprising a bowl and stem, the stem having formed therein a chamber communicating with the bowl and also having an air-inlet leading into the chamber, and a smoke-conduit arranged in the chamber so as to provide a longitudinal space between it and the wall of the chamber and a connected end space between its front end and the front end of the chamber and comprising an outer tube, an inner tube and an intermediate cup, the outer tube being supported within the chamber, the inner tube being supported by the outer tube and having an inlet opening from the chamber at its front end, the cup being closed at its rear end and located between the outer and inner tubes so as to provide a passage between it and the inner tube connected at its rear end with the passage of the inner tube and a passage between it and the outer tube connected at its front end to the passage between the cup and the inner tube, the stem having a smoke-passage therein in rear of the chamber and the passage between the cup and the outer tube being connected to such smoke-passage, substantially as set forth.

7. In a smoking device, the combination of a bowl, a stem having a chamber therein, the chamber having an opening at one point communicating with the bowl and an opening at a different point communicating with the atmosphere directly, and a tortuous smoke-conduit within the chamber and having its inlet adjacent to the opening from the bowl to the chamber and having its outlet end connected to the stem, the stem having a passage into which the outlet from the smoke-conduit opens.

8. A smoking device comprising a bowl and stem, the stem having a smoke-passage therein, and also having therein a chamber communicating with the bowl, and a smoke-conduit arranged in the chamber and comprising an inner tube, a middle tube and an outer tube, the inner tube being open at both ends and communicating at its front end with the chamber and opening at its rear end into the middle tube, the middle tube being closed at its rear end and opening at its front end into the outside tube, and the outside tube being closed at its front end and opening at its rear end into the smoke-passage of the stem.

In testimony whereof I have affixed my signature in presence of two witnesses.

GUSTAVE A. PFORTNER.

Witnesses:
HENRY D. WILLIAMS,
HERBERT H. GIBBS.