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2,544,206

SMOKING PIPE

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FIG. 1.

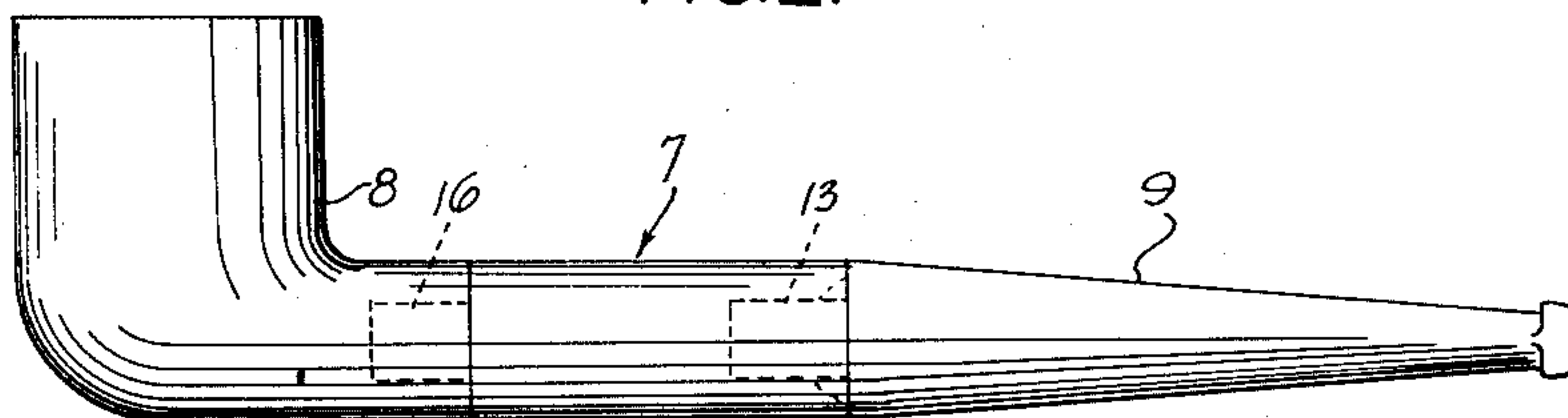


FIG. 2.

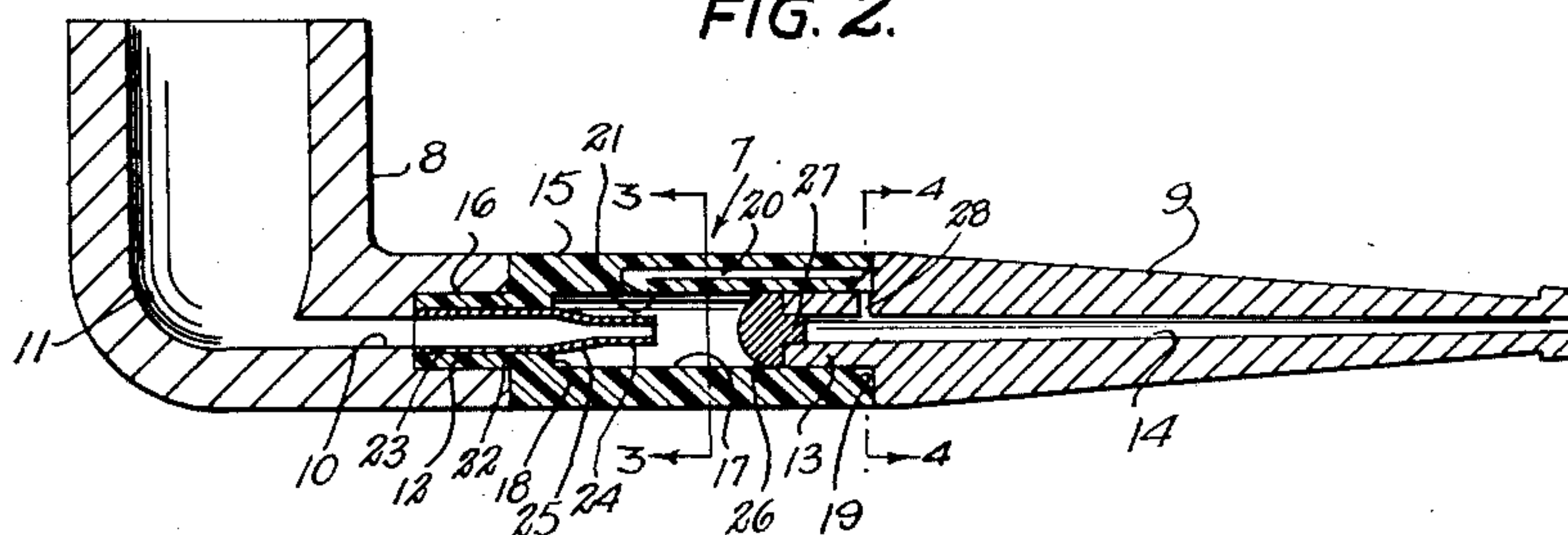


FIG. 3.

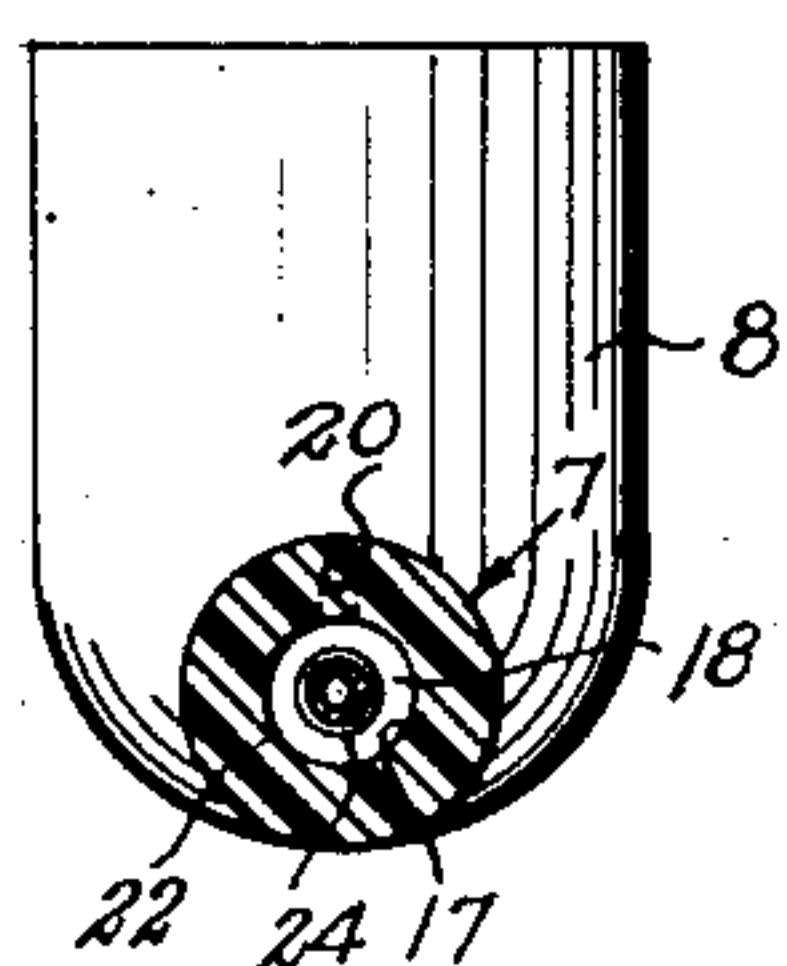


FIG. 4.

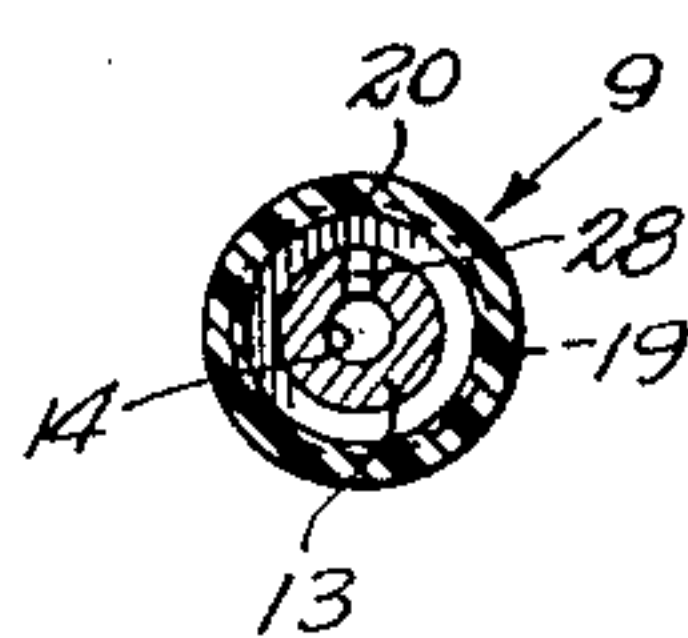


FIG. 5.

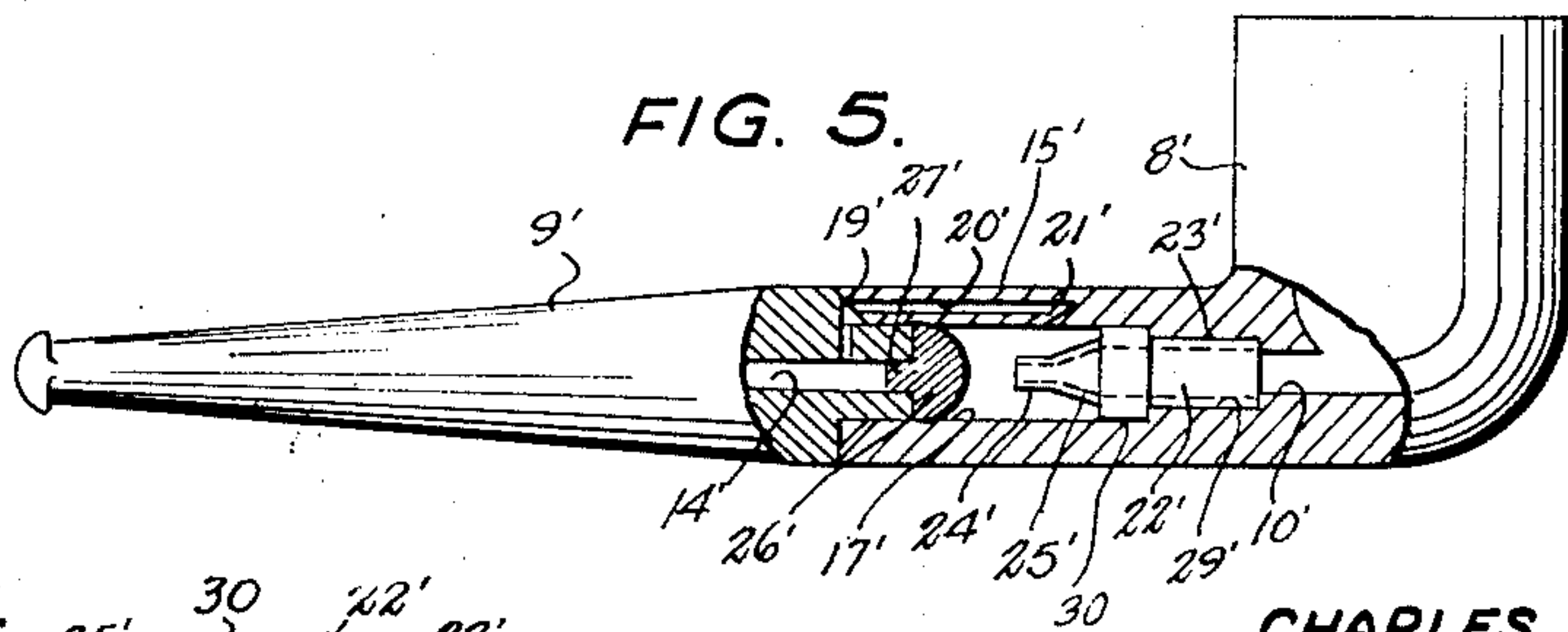
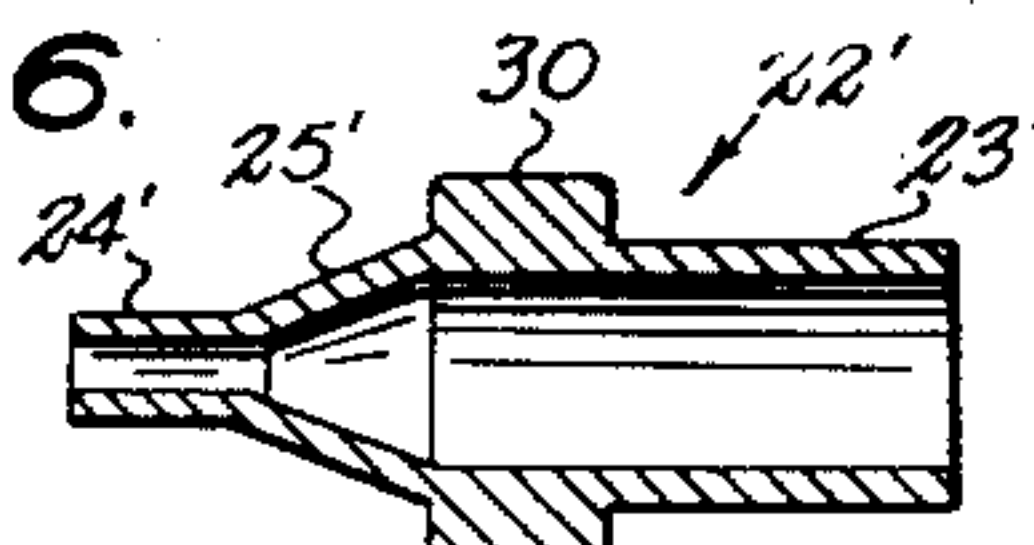


FIG. 6.



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SMOKING PIPE

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6 Claims. (Cl. 131—195)

1

This invention relates to improvements in smoking pipes, the primary object of the invention being to provide more efficient and practical means for cooling and cleaning the smoke, before it reaches the mouth of the smoker, by condensing the vapor out of the smoke and trapping the condensate.

Another important object of the invention is to provide smoke condensing and cooling means of the above indicated character which is adaptable for easy and convenient installation between the bit and the bowl of an ordinary pipe, without alteration to such pipe.

Another important object of the invention is to provide such improved smoke condensing and cooling means in a specially constructed pipe having a conventional external appearance and no substantial increase in weight and little increased manufacturing cost over that of ordinary smoking pipes.

Other important objects and advantageous features of the invention will be apparent from the following description and appended drawings, wherein, for purposes of illustration only, specific embodiments of the invention are set forth in detail.

In the drawings:

Figure 1 is a side elevation of one embodiment.

Figure 2 is a central vertical longitudinal section therethrough.

Figures 3 and 4 are transverse vertical sections taken on the lines 3—3 and 4—4, respectively, of Figure 2.

Figure 5 is a side elevation of another embodiment, partly in vertical longitudinal section, and,

Figure 6 is an enlarged vertical longitudinal section taken through the smoke compressing tube.

Referring in detail to the drawings, and first to Figures 1 through 4, thereof, showing an embodiment of the invention involving a smoke condensing and cooling device adapted for installation in an ordinary smoking pipe, the numeral 7 generally designates such device, shown in association with an ordinary smoking pipe comprising the bowl section 8 and the stem section 9. The bowl section 8 has a smoke passage 10, leading from the bowl 11, and enlarged at its outer end as a socket 12 into which the plug 13 of the stem section 9 is ordinarily inserted, the stem section having a smoke passage 14 extending therethrough and a bit at one end thereof.

The smoke condensing and cooling device, is removably connected to the bowl section 8 and stem section 9, and, therefore can be readily dis-

2

connected for cleaning or for replacement by a device already cleaned, is preferably made of transparent material, such as plastic, so that a condition of contamination thereof is readily apparent to indicate desirability of a change or replacement.

The device 7 is in the form of a cylinder 15 of the same outside diameter as the meeting parts of the smoking pipe and has an axial tubular plug 16 on its forward end to replace the stem plug 13 in the socket 12 of the bowl section, with the forward end of the cylinder 15 abutting the adjacent end of the bowl section. The cylinder 15 is formed with an axial bore 17 of substantially the same diameter as and opening through the rear end of the cylinder to receive the pipe stem plug 13. The bore 17 terminates in spaced relation to the forward end of the cylinder, as indicated at 18. The rear end of the cylinder is chamfered and forms with the end of the stem section 9 a triangular cross section annular smoke cooling channel, indicated at 19, opening into the bore 17.

A relatively small cooled and dried smoke passage 20 extends forwardly in the upper wall of the cylinder 15 from the rear end thereof, where it connects with the annular passage 19, to a point about two-thirds of the length of the cylinder forwardly from the rear end thereof. The forward end of the passage 20 has a sharply rearwardly and downwardly angulated terminal 21 opening into the top of the bore 17, substantially in vertical alignment with the rear end of the metallic smoke compressing tube 22. A small radial passage 28 in the stem section plug 13 connects the stem section smoke passage 14 with the upper part of the annular passage 19.

The smoke compressing tube 22 comprises a forward portion 23 whose bore is the same in diameter as the bowl section smoke passage 10, and a rearward reduced diameter portion 24 connected to the rear end of the portion 23 by a rearwardly tapered portion 25, the portions 24 and 25 extending axially within and spaced from the sidewalls of the cylinder bore 17. The diameter of the tube portion 24 is substantially less than that of the tube portion 23 in order to obtain an effect of compressing smoke drawn into the bore 17 from the pipe bowl 11 and direct and impinge this compacted smoke against a convexity at the rear end of the bore 17, in the form of a metal button 26 having a shank plug 27 inserted in and closing the forward end of the pipe stem section passage 14.

With the foregoing construction, the exertion

3

of suction by the smoker through the stem section smoke passage 14 draws smoke from the bowl 11 through the bowl section smoke passage 10, into the compressing tube 22. As the smoke is drawn through the tube 22 it is compressed and jetted into the cylinder bore 17 in a whirling movement and impinged against the button 26, with the result that vapor and other particles present in the smoke are condensed and fall to the bottom of the bore 17 and there remain while the thus cleaned and cooled smoke passes off at the top of the bore 17, and is further cooled by its travel rearwardly through the reduced passage 20 to the annular passage 19 and radial passage 20.

Referring now to Figures 5 and 6 of the drawings, showing a built in embodiment of the invention, the cylinder 15 of the above described embodiment is replaced by a non-removable cylinder 15' in the form of an elongation of the pipe bowl section 8'. Further, the portion 23' of the smoke compressing tube 22' is directly set into the bowl section in alignment with and in an enlargement 29' of the smoke passage 10', the tube 22' having a collar or diametrical enlargement 30 fitting against the enlargement 29' at the forward end of the bore 17'. Otherwise the construction of the first described embodiment is present in the embodiment shown in Figures 5 and 6, as indicated by similar but primed numerals.

What is claimed is:

1. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a sidewall of said shank extension being formed with a smaller passage leading rearwardly from an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem and said plug forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the bit smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage.

2. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a sidewall of said shank extension being formed with a smaller passage leading rearwardly from

4

an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem and said plug forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the stem smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage, said closure means comprising a metallic smoke condensing button fitting the bore of said shank extension at the rearward end thereof and having a reduced portion inserted in the forward end of the stem smoke passage.

3. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a sidewall of said shank extension being formed with a smaller passage leading rearwardly from an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem and said plug forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the stem smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage, said shank extension being integral with said bowl shank.

4. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a sidewall of said shank extension being formed with a smaller passage leading rearwardly from an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the

5

same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the stem smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage, the rearward end of said shank smoke passage being enlarged in diameter to provide a socket, said shank extension being separate from said shank and formed on its forward end with a reduced plug inserted in the last-mentioned socket, said reduced plug containing a reduced portion of the bore of said extension providing communication between the shank smoke passage and the bore of said extension.

5. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a side-wall of said shank extension being formed with a smaller passage leading rearwardly from an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem and said plug forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the stem smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage, and smoke compressing means comprising a tube

6

inserted in an enlarged portion of the rearward end of the shank smoke passage, said tube having a reduced rearward end extending into the forward part of the shank extension bore.

6. A smoking pipe comprising a bowl section comprising a bowl having a shank provided with a smoke passage, a shank extension having the forward end connected to said shank, said shank extension being formed with a bore extending therethrough of relatively large diameter communicating with the shank smoke passage, a side-wall of said shank extension being formed with a smaller passage leading rearwardly from an intermediate part of said bore to the rearward end of said extension, a stem section comprising a bit having a forward end of substantially the same diameter as the rearward end of said shank extension, the forward end of the stem having a reduced plug inserted in the rear end of the bore of the shank extension, the forward end of the stem and the rearward end of the shank extension being abutted, the rearward end of said shank extension being formed with a chamfered portion surrounding said plug and with the forward end of said stem and said plug forming an annular smoke passage, there being a radial passage in said plug providing communication between said annular smoke passage and the stem smoke passage, and closure means closing the forward end of said stem smoke passage whereby suction applied to the outer end of the stem smoke passage causes smoke to be drawn from the bowl shank passage into the shank extension bore, thence through said smaller passage into and around said annular passage and through said radial passage into the stem smoke passage, and smoke compressing means comprising a tube inserted in an enlarged portion of the rearward end of the shank smoke passage, said tube having a reduced rearward end extending into the forward part of the shank extension bore, said tube having an external annular flange fitting against said extension bore and abutting the forward end of said extension bore.

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