

No. 658,178.

Patented Sept. 18, 1900.

W. B. HUGHES & J. C. RAE.

SMOKE COOLER AND NICOTINE EXTRACTOR FOR TOBACCO PIPES.

(Application filed Apr. 17, 1900.)

(No Model.)

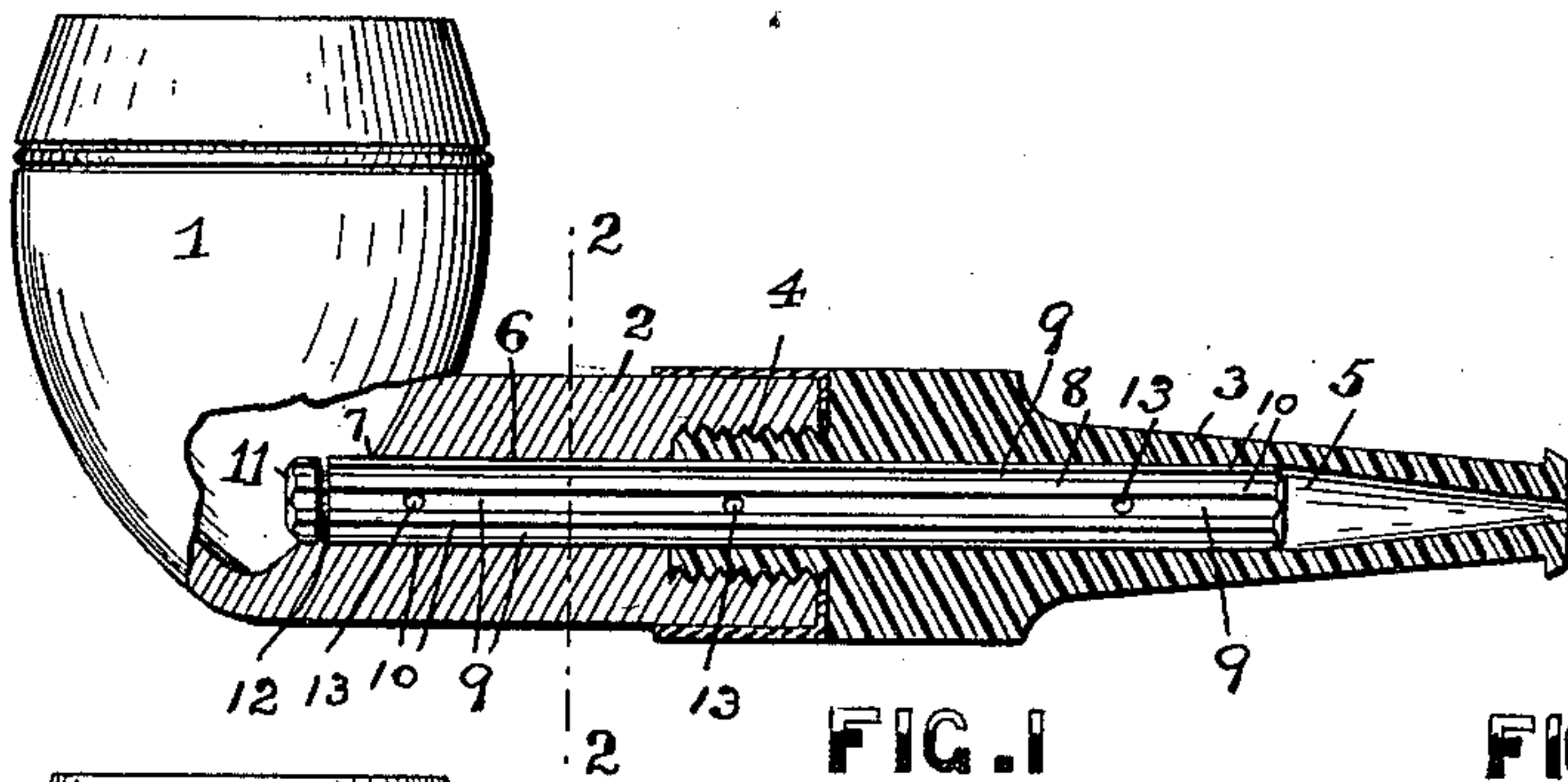


FIG. 1

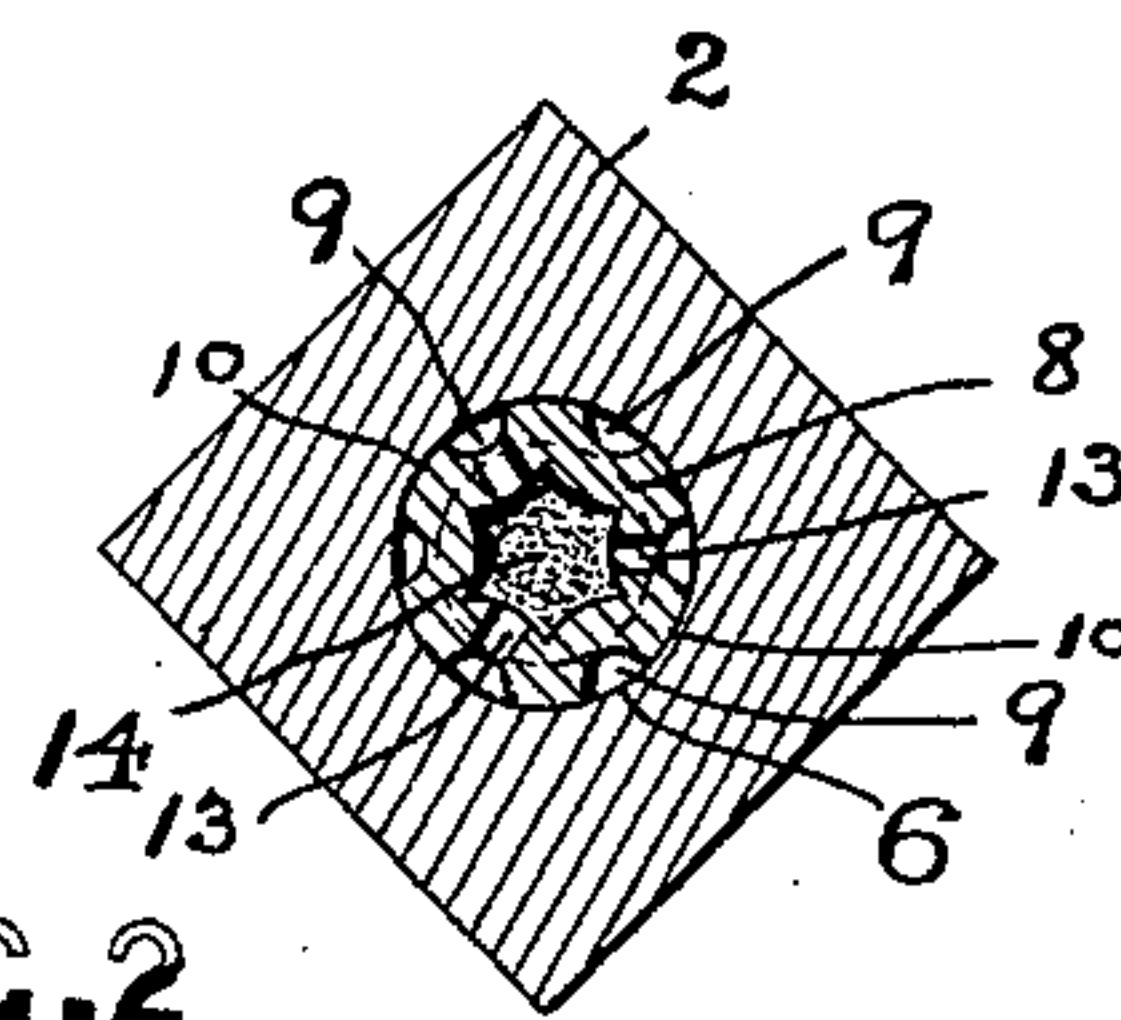


FIG. 2

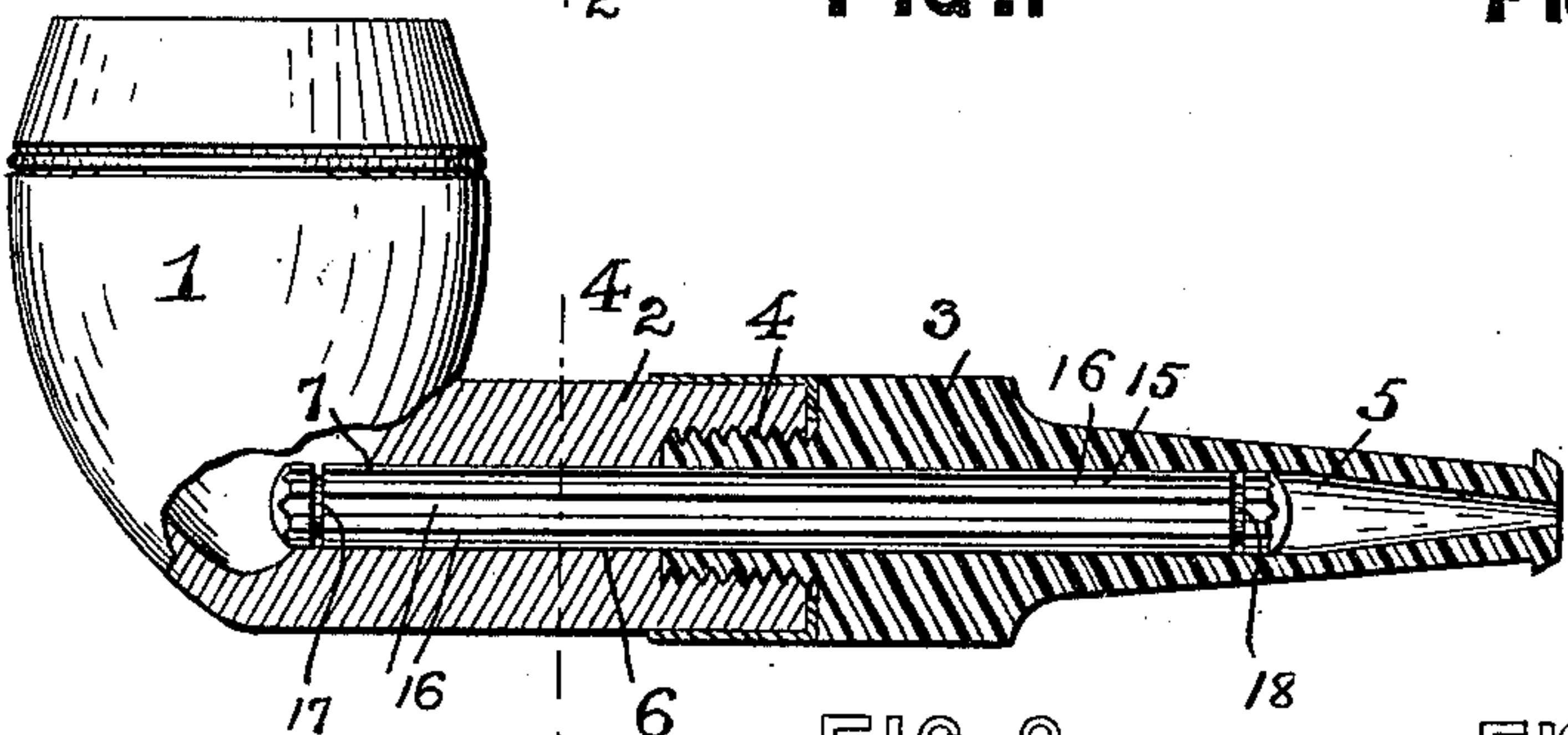


FIG. 3

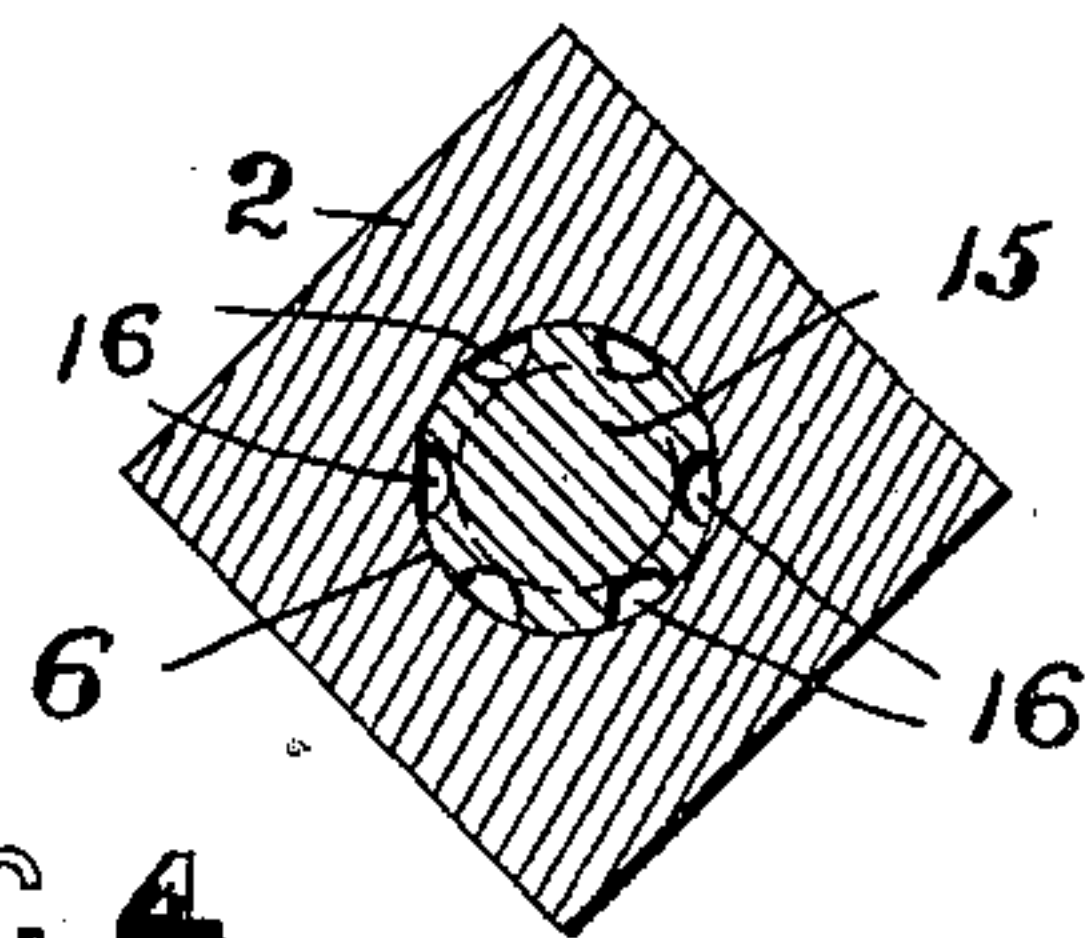


FIG. 4

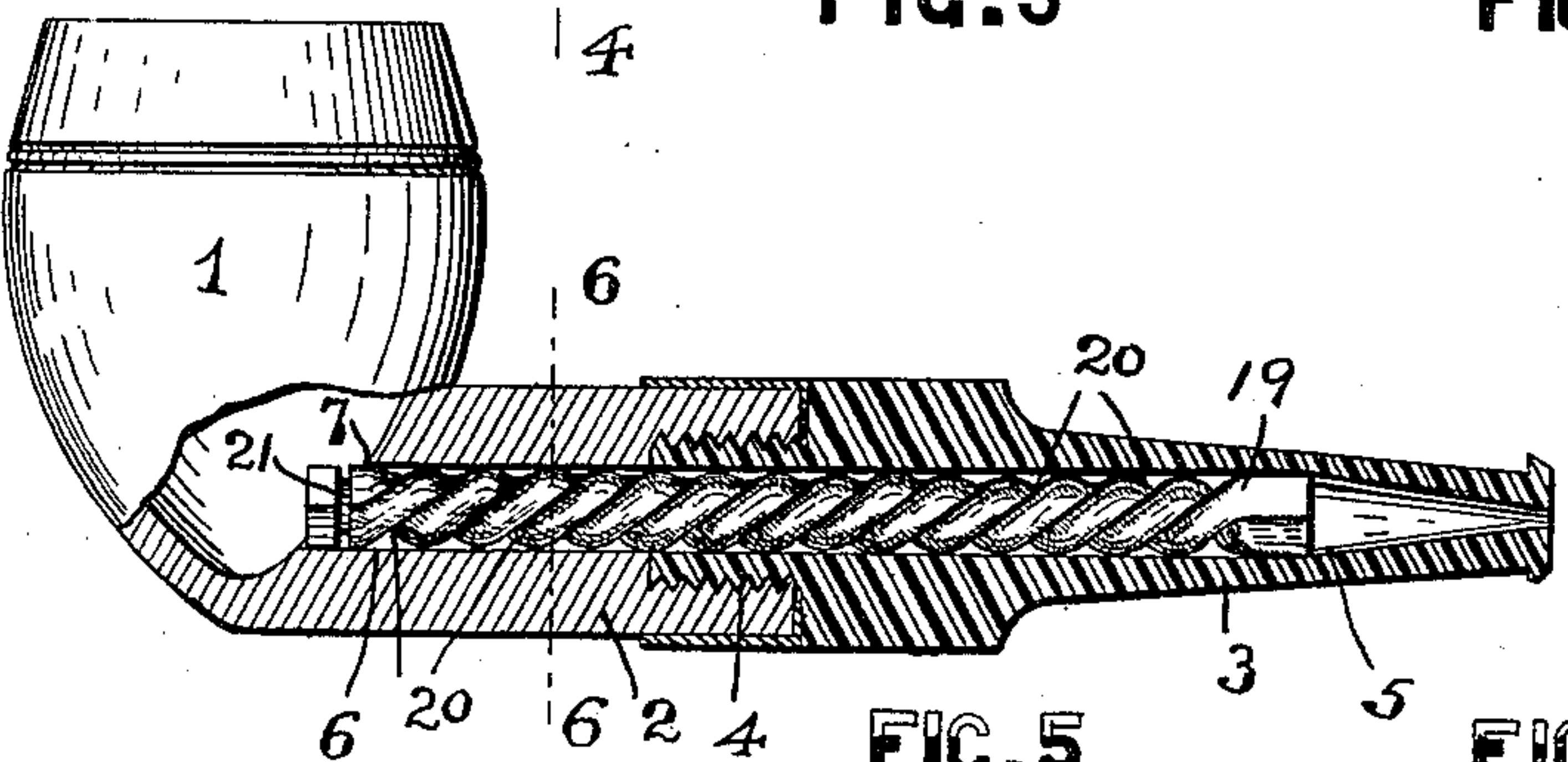


FIG. 5

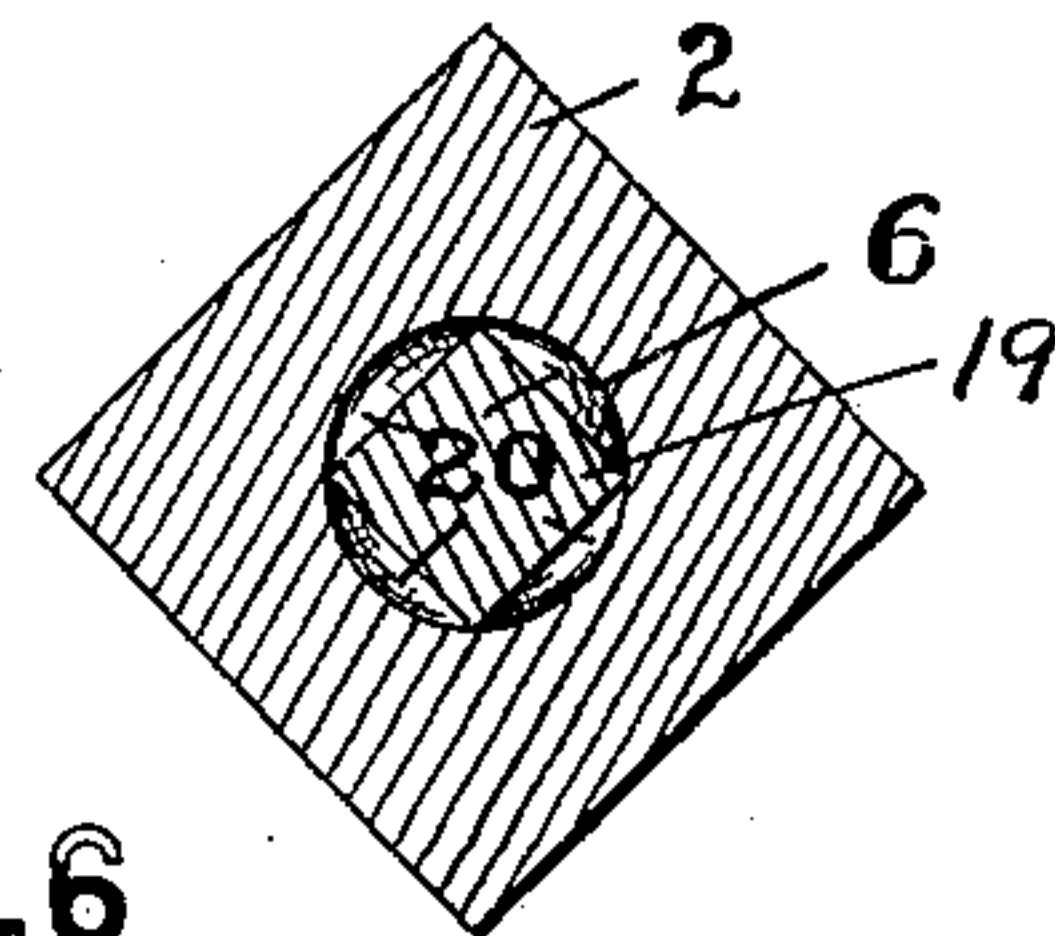


FIG. 6

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SMOKE-COOLER AND NICOTIN-EXTRACTOR FOR TOBACCO-PIPES.

SPECIFICATION forming part of Letters Patent No. 658,178, dated September 18, 1900.

Application filed April 17, 1900. Serial No. 13,181. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM B. HUGHES, residing at Newark, in the county of Essex and State of New Jersey, and JOHN C. RAE, residing at New York, (Brooklyn,) in the county of Kings and State of New York, citizens of the United States, have invented certain new and useful Improvements in Smoke-Coolers and Nicotin-Extractors for Tobacco-Pipes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

This invention relates to a novel construction of device for extracting the nicotin from tobacco-pipes; and the invention has for its principal object to provide a simple and cheaply-constructed device which can be readily arranged in the stem of a tobacco-pipe and serves to cool the smoke, and, furthermore, being provided with an annular groove or duct at one or both ends, it collects the nicotin and other objectionable and poisonous fluids or oils contained in the smoke for removal from the stem of the pipe.

The invention therefore consists in the novel device for extracting nicotin from tobacco-pipes hereinafter set forth more in detail and finally embodied in the claim which forms a part of this specification.

Our invention is fully illustrated in the accompanying drawings, in which—

Figure 1 represents one form of tobacco-pipe equipped with our invention, a portion of the bowl, the stem, and mouthpiece of the pipe being represented in longitudinal vertical section with one form of smoke-cooler and nicotin-extractor therein represented in side elevation; and Fig. 2 is a vertical cross-section, on an enlarged scale, taken on the line 2 2 in said Fig. 1. Figs. 3 and 5 are views similar to that represented in Fig. 1, but each view illustrating a tobacco-pipe provided with a smoke-cooler and nicotin-extractor of a slightly-modified form of construction, but still embodying the leading features of our invention; and Figs. 4 and 6 are ver-

tical cross-sections, on enlarged scales, said sections being taken on lines 4 4 and 6 6 in Figs. 3 and 5, respectively.

Similar numerals of reference are employed in all of the said above-described views to indicate corresponding parts.

Referring to the several figures of the drawings, 1 designates the bowl, 2 the stem, and 3 the mouthpiece of any suitable construction of tobacco-pipe. The said stem 2 and mouthpiece 3 are separable parts, being screwed together, as at 4, in the usual manner, the mouthpiece having a duct portion 5 and the stem a duct portion 6, which latter portion leads into the bowl 1 at the hole or opening 7. Within the continuous duct thus provided is placed the smoke-cooler and nicotin-extractor embodying the principles of our present invention.

In Figs. 1 and 2 is represented one form of smoke-cooler and nicotin-extractor, which consists, essentially, of a hollow rod or tube 8, provided in its outer cylindrical surface with a multiplicity of grooves 9, the intermediate raised portions 10 fitting closely against the inner cylindrical surface of the duct portions 5 and 6, as illustrated. One end 11 of said rod or tube 8 is preferably made to project from the hole or opening 7 into the bowl of the pipe 1; but this arrangement of said end is not absolutely necessary. It will thus be evident that by the arrangement of the multiplicity of grooves 9 a number of smoke-passages will be formed by said grooves and portions of the inner surface of the duct in the stem and mouthpiece of the pipe, whereby the smoke will become greatly diffused and materially cooled. At the same time a full draft is maintained, and the usual quantity of smoke can be drawn from the lighted tobacco in the bowl of the pipe, since the combined cross-area of the several ducts formed by the grooves 9 is equal to the usual cross-area of the smoke-conduit in the usual construction of tobacco-pipes. An annular groove 12 may be provided at or near the end 11 of the tube 8, in which the nicotine and other particles, such as fluids and oils, can collect and which serves as an extractor for the removal of the objectionable particles when the mouthpiece 3 and stem 2 are sepa-

rated and the tube 8 is withdrawn to be cleansed. The said tube 8 may be provided with perforations 13, and within its inner part may be arranged a suitable absorbent 5 14, made of porous clay or any suitable fibrous material, for the collection of objectionable substances and for the purpose of purifying the smoke in its passage from the bowl to the end of the mouthpiece.

10 In Figs. 3 and 4 we have shown a smoke-cooler and nicotin-extractor made from a solid rod 15, provided in its cylindrical surface with longitudinal channels or grooves 16, which, with the inner surfaces of the duct 15 portions of the stem and mouthpiece, will form smoke-passages for the diffusion and cooling of the smoke in the manner hereinabove set forth. This form of rod 15 may be 20 provided at the one end with an annular groove 17 and at the other end with an annular groove 18, both of which serve for the collection of the nicotin or other fluids and oils and for the extraction of such objectionable particles from either or both the stem 2 and 25 the mouthpiece 3.

In some cases the smoke-cooler and nicotin-extractor may be a twisted rod 19, as illustrated in Figs. 5 and 6. In this construction of rod the twisted portions of the rod will 30 provide, with the inner cylindrical surfaces of the duct portions of the stem and mouthpiece, certain helical channels or smoke-passages 20, through which the smoke must pass in a long circuitous course, whereby it is 35 properly cooled. This form of rod 19 may also be provided with an annular groove 21, as shown, for the collection and extraction of the nicotin in the manner hereinabove set forth.

40 All of the rods herein described are usually made of metal, and to provide the lightness

aluminium is preferred; but of course it will be understood that the rods may be made of glass or any other material suitable for the purposes for which said rods are intended. 45

It will be evident that various changes may be made in the several arrangements and combinations of the parts without departing from the scope of our present invention, and the smoke-cooler and nicotin-extractor may 50 be used with any kind of tobacco-pipe. We therefore do not limit our invention to the exact arrangements and combinations of the several parts as described herein and as represented in the drawings, nor do we confine 55 ourselves to the exact details of the construction of any of the parts thereof.

Having thus described our invention, what we claim is—

A smoke-cooler and nicotin-extractor for tobacco-pipes, consisting, essentially, of a rod adapted to be arranged in a duct portion of the pipe, said rod having in its peripheral surface a multiplicity of channels or ducts forming with the inner surface of said duct portion 60 of the pipe a series of smoke-passages for diffusing and cooling the smoke, and means at or near one or both ends of said rod for collecting and extracting the nicotin or other objectionable matter, constructed to 65 provide an annular passage directly around said rod and across the said channels or ducts, at right angles thereto, substantially as and for the purposes set forth. 70

In testimony that we claim the invention set forth above we have hereunto set our hands this 14th day of April, 1900. 75

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Witnesses:

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