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L. R. WAUGH

SMOKING UTENSIL

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Fig. 1,

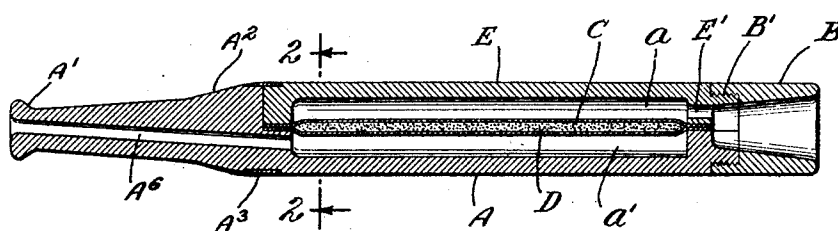
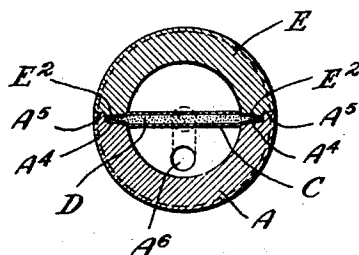


Fig. 2,



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SMOKING UTENSIL.

Original application filed October 5, 1925, Serial No. 60,477. Divided and this application filed September 27, 1926. Serial No. 137,327.

The general object of my present invention is to provide an improved combination of a smoking utensil, such as a pipe, or cigarette or cigar holder with simple and effective means, for eliminating or rendering innocuous injurious and objectionable constituents of the smoke from tobacco or tobacco-like materials, as the smoke passes to the mouth of the smoker.

In carrying out the invention, I incorporate in the improved form of smoking utensil in which the invention is used, a filter through which the smoke is passed and which serves to retain some and render innocuous other harmful or objectionable constituents of the smoke. The filter which I have provided is characterized by the novel provisions made for securing in a simple and effective manner, a large cross sectional area of flow through the filter, and a correspondingly low flow velocity, whereby I obtain an effective filter action without creating an objectionable resistance to the flow of the smoke, and whereby more time than usual is given for chemical action of the filter on the smoke, and whereby I prolong the useful life of each filter which terminates when the filter becomes so fouled by retained impurities as to impair its filtering properties, or to unduly obstruct the flow of smoke through it. The filter is especially characterized by its flat pad-like form, whereby its construction is rendered easy and its assembly in the holder simple. With this form of filter, the smoke flow path in the holder is relatively large, and filter renewal may be quickly and easily effected, when fouling of the filter makes renewal desirable.

In the combustion of tobacco, the gaseous and vapor constituents such as nicotine and others which are most deleterious to the smoker, are alkaline and basic in chemical character, and preferably, though not necessarily, I incorporate in the filter, a suitable chemical for eliminating such deleterious substances or for rendering the latter innocuous. The material used must have acid properties and must be practically suitable, in that it should be cheap and easy to procure and one which does not itself give a harmful or objectionable odor or taste to the smoke. Filter materials having acid properties which I have tried with satisfactory results, include such acids as boric, salicylic and benzoic acids, and the filter material

which I now prefer is powdered boric acid. I have found that boric acid used in the manner described in addition to eliminating objectionable smoke constituents, is advantageous because of its beneficial action on the throat of the user. Boric acid used in the manner described not only does not irritate the throat of the user, but exerts a healing effect when the throat has been irritated or inflamed from some other cause.

In the preferred mode of construction of my improved filter I may incorporate the chemical material with acid properties in a porous filter body of fabric or paper, by coating or impregnating the body with a solution containing said material and then drying the filter in which case the acid crystals formed when the filter dries are interspersed through the latter. When the filter is formed in the manner described, I advantageously line or cover it at one or both sides by a protective layer of thin porous cloth. At present, I prefer in practice that the chemical material with acid properties employed in the filter be in the form of a powder or mass of fine granules, and be held between layers of fabric. The fabric which I prefer to employ is a rather thick and loosely woven web of wool, wool being somewhat preferable to silk and much superior to cotton for the purpose although cotton, silk or linen can be used.

The various features of novelty which characterize my invention are pointed out with particularity in the claims annexed to and forming a part of this specification. For a better understanding of the invention, however, its advantages and specific objects attained with its use, reference should be had to the accompanying drawings and descriptive matter in which I have illustrated and described preferred embodiments of the invention.

Of the drawings:

Fig. 1 is a longitudinal section through a cigarette holder; and

Fig. 2 is a transverse section on the line 2-2 of Fig. 1.

In the preferred form of my invention as shown in the drawings, A represents a cigarette holder of tubular form terminating at one end in a mouth-piece A' and having an internally threaded socket B secured to its opposite end to receive a cigarette. The barrel or body A² of the holder is half cut away at its upper side for the major

portion of its length, the opening being closed by a part E semi-cylindrical in cross section. The part E is secured to the body part A² at the end remote from the mouth piece A' by the end piece B which is provided with an internally threaded socket B' receiving end portions of the body part A² and the end member E which unite to form an externally threaded cylinder. At its other end the part E extends under a cylindrical flange A³ carried by the member A², and which advantageously is in the form of a metal band surrounding the holder. A filter C in the form of a flat pad-like structure is clamped at its edges between portions of the parts A² and E. To minimize the possibility of leaky joints, the longitudinal edges of the part E are provided with oppositely inclined surfaces E² which unite with corresponding side edge surfaces A⁴ of the member A², to provide diametrically opposed V-shaped channels opening into the bore of the cigarette holder and in which the edges of the filter C are received. To assist in bringing the side edges of the parts E and A² into proper register and in sealing the joints against air leakage, the part A² is advantageously provided with longitudinal rib portions A⁵ at the outer edges of the surfaces A⁴ which enter rabbets formed for the purpose in the member E at the outer edges of the surfaces E².

The filter C is advantageously formed by two rectangular strips of woolen cloth or other suitable porous fabric with a layer D of powdered boric acid or the like, between the fabric layers. There may be more than two layers of cloth and more than one layer of the chemical, but ordinarily I consider a single layer of chemical between two layers of cloth sufficient. The filter C divides the chamber space in the cigarette holder into two compartments *a* and *a'*. A mouth piece channel A⁶ inclined to the end of the mouth piece A' opens into the compartment *a'*, while the smoke drawn through a cigarette held in the end piece B enters the compartment *a* through a suitable port E' formed in the end portion of the member E. It will be understood, of course, that the cloth portions of the filter C are of themselves effective to arrest dust and condensable tar oil and like vapors in the smoke, and also to arrest some of the nicotine and other positively deleterious constituents of the smoke. Along with a suitable material having acid properties, I may incorporate in the filter other materials to perfume or flavor the smoke.

In the assembly of the smoking utensil shown, the filter pad C is placed in position in the barrel A² and the part E inserted under the flange A³ with the surfaces E² uniting with the surfaces A⁴ of the member A² to hold the edge portions of the filter C in

position. The various parts are locked in position by the threading of the socket B on the composite threaded projection formed by the parts A and E.

Certain novel and patentable features disclosed but not claimed herein are claimed in my prior application Serial No. 60,477, filed October 5, 1925, of which this application is a division.

While in accordance with the provisions of the statutes I have illustrated and described the best forms of my invention now known to me, it will be apparent to those skilled in the art that the general principles of my invention may be embodied in other forms of construction, and I do not wish the claims hereinafter made to be limited to particular details of construction and arrangement disclosed herein more than is made necessary by the terms of the claims and by the prior state of the art.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A smoking utensil comprising a tubular barrel, a flat pad-like filter extending axially of said barrel and dividing the interior of said barrel into two compartments.

2. A smoking utensil comprising a barrel having a chamber therein, a flat pad-like filter extending axially of and dividing said chamber into two compartments, an inlet passage at one end of one compartment and an outlet passage at the opposite end of the other compartment.

3. A smoking utensil comprising a tubular barrel member having a mouth piece at one end thereof and a cut away portion at one side thereof, a semi-cylindrical member secured to said barrel member along its cut away portion, and a filter pad extending axially of said barrel member and secured in position between said barrel member and semi-cylindrical member.

4. A smoking utensil comprising a barrel portion consisting of two semi-cylindrical parts, and a filter having its side edge portions gripped between said semi-cylindrical parts.

5. A smoking utensil comprising a barrel portion consisting of two semi-cylindrical parts, triangular openings formed by adjacent surfaces of said parts, and a filter having its side edge portions in said triangular openings and held in position by said parts.

6. A smoking utensil comprising a barrel portion consisting of two semi-cylindrical parts, a filter having its side edge portions gripped between said parts, and a cylindrical end piece member locking said parts and filter in position.

Signed at Harrisburg, in the county of Dauphin and State of Pennsylvania, this 18th day of September, A. D. 1926.

LESTER R. WAUGH.