

L. H. SONDHEIM.
METHOD OF PRODUCING MOUTHPIECES ON CIGARETTES.
APPLICATION FILED JULY 1, 1911.

1,013,825.

Patented Jan. 2, 1912.

Fig. 1.

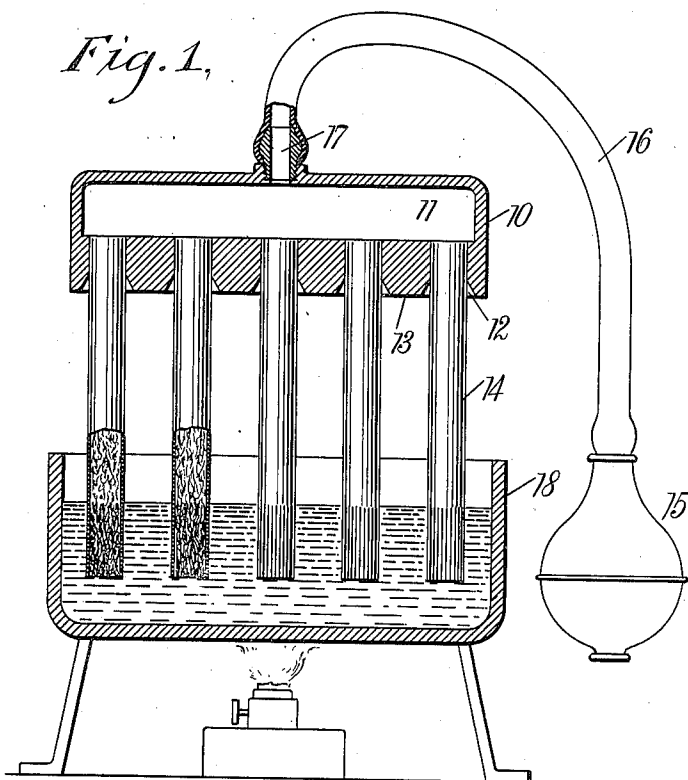


Fig. 3.

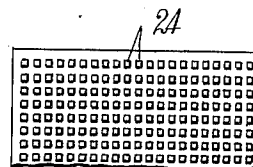


Fig. 4.

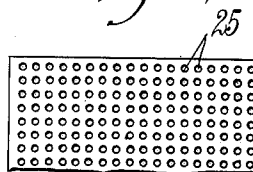


Fig. 5.

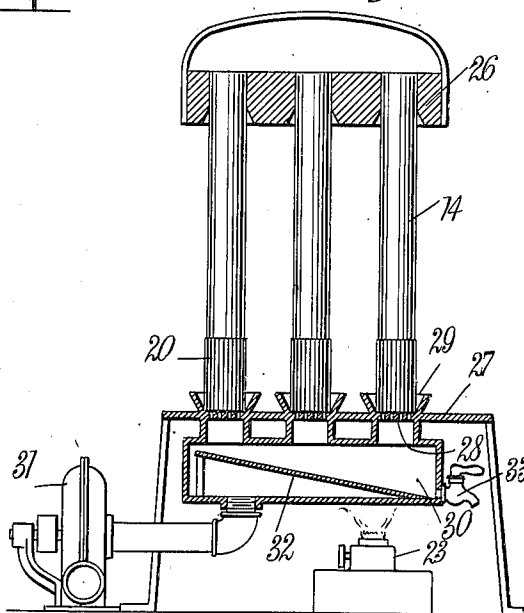
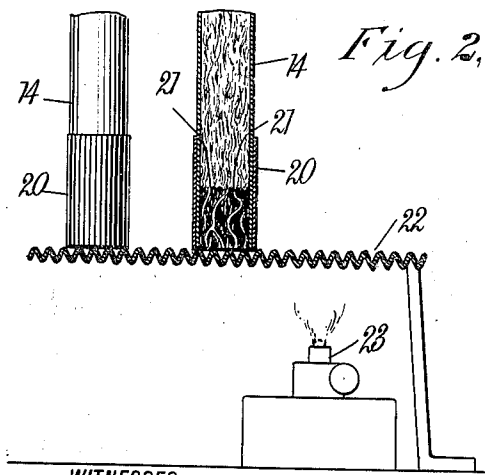


Fig. 2.



WITNESSES

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METHOD OF PRODUCING MOUTHPIECES ON CIGARETTES.

1,013,825.

Specification of Letters Patent.

Patented Jan. 2, 1912.

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To all whom it may concern:

Be it known that I, LEWIS H. SONDEHEIM, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented a new and Improved Method of Producing Mouthpieces on Cigarettes, of which the following is a full, clear, and exact description.

10 The invention relates to mouth-pieces for cigarettes formed by treating the tobacco filling at one end with a binding substance, so that the tobacco is bound together or solidified to a degree to withstand the pressure of the teeth in the smoking of the cigarette.

15 In the present invention I provide for producing a series of indirect smoke passages through the mouth-piece, thereby avoiding the possible objection against direct and unobstructed passages that the smoke impinging on the tongue in concentrated jets may result in more or less of a burning sensation. I furthermore by the present invention, maintain the bulk of the tobacco forming the body of the cigarettes against contamination by fumes or gaseous emissions from the binding substances employed, and thereby I preserve the normal flavor of the tobacco. By forming the mouth-piece with numerous indirect and minute passages, the mouth-piece is made essentially porous, whereby a large total surface is provided against which the smoke will impinge in its passage through the mouth-piece, and on which surface nicotine and the like will be deposited to a material degree.

20 Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

25 Figure 1 is a sectional elevation of one means that may be employed in applying a binding substance to the material in the formation of a mouth-piece, a number of cigarettes being shown, some partly broken away; Fig. 2 is a fragmentary sectional elevation of a second device to which the cigarettes are applied after the step of dipping; Figs. 3 and 4 are given to show modifications in the contact plate of the device

shown in Fig. 2; and Fig. 5 is a sectional elevation of another form of device that may be utilized in the manufacture of the mouth-piece, for maintaining a current of air through the cigarette in the direction of the mouth-piece, and will be hereinafter more particularly explained.

30 In carrying out my invention by the means shown in the example given in Fig. 1 of the drawings, a holder 10 is provided, having a chamber 11 and openings 12 in the bottom wall 13, adapted to receive a number of cigarettes 14. In connection with said holder an air pressure device or pump is employed, a simple bulb 15 in the instance shown, which bulb communicates with the air chamber 11 through a tube 16 and inlet 17, whereby an air pressure may be produced in said chamber. In connection with the holder and pressure device a receptacle as 18, is employed for receiving a binding substance, which may be of any suitable materials, preferably of the kind that become liquid or semi-liquid by heat and will solidify upon cooling.

35 I preferably use as a binding material a composition formed of shellac dissolved in stearin or stearic acid at or near the boiling point of the latter, or such other combination of a resinous gum with a modifier of similar wax-like nature, as may produce an equivalent product.

40 Any suitable coloring matter may be employed, and to give capacity, finely powdered chalk, talcum, or the like, may be added.

45 In practice the cigarettes are dipped in the binding substance as far as the outer coating of the mouth-piece is to extend, and the said substance will rise on the inside a sufficient distance to form the solidified interior.

50 Concurrently with the dipping I prefer to maintain a slight pressure in the chamber 11 to prevent any gaseous matter from the binding substance rising into the body of the cigarette, but insufficient to cause the air escaping at the dipped end to inordinately disturb the surface of the fluid binding material.

55 Whether the mentioned slight pressure is produced or not during the dipping, a strong pressure of air is produced as soon as the

end of the cigarette has been withdrawn from the impregnating material, causing an air current to pass through the cigarette from the clear end to the impregnated end, and sufficient to expel all gases arising from the material in the impregnated end, and to force the air through said end.

I do not confine myself to producing the current by pressure from the undipped end, and have shown another method of producing the air current in Fig. 5, wherein suction is applied to the dipped end, causing an air current to pass through the cigarette from the clear end toward and through the dipped end with the same purpose and result.

In passing through the impregnated end the air currents will seek outlets around and among the particles of tobacco, producing numerous and indirect smoke passages through the mouth-piece 20, so that when the binding substance has set to unchangeable form while under the influence of said air current, the mouth-piece will have been formed into an essentially porous and filter-like mass, which mass will be substantial, solidified and cohesive to withstand the process of smoking.

If the binding materials that I employ are not subjected to the air current while fluid, or semi-fluid, the whole mass will become imperforate and essentially non-porous without the necessary passages for drawing the smoke through the mouth-piece in smoking. By employing the air current, however, the necessary smoke passages are produced, while leaving the mouth-piece firm, so that the wrapper, the tobacco filling, the binding substance within, and the coating on the exterior of the wrapper, are formed into a homogeneous mouth-piece.

When the cigarette is densely packed with tobacco at the impregnated end, the described filling will maintain itself by its contact with the wrapper against ejection by any moderate air current used in forming the smoke passages. But when the cigarette is loosely filled, or in the event of it being desirable to use a very strong air current, I prefer to use a screen plate 20 or other foraminous or reticulated support upon which I place the dipped end of the cigarette before turning on the full air current, and which will retain the tobacco while allowing the air to pass through.

If the impregnating material leaves a bulge upon the end of the wrapper, I maintain the plate 22 (as shown in Fig. 2) at a temperature which will melt the bulge so formed, pressing the end of the mouth-piece several times against said heated plate if required. The use of a heated plate 22, also serves to prevent the mouth piece from sticking to the plate, as is liable to occur when a cold plate is employed.

The plate may be heated by any suitable source of heat, as by a lamp 23. The plate 22 may be simply corrugated in one direction, as indicated in Fig. 2; it may be formed as in Fig. 3 with separate protuberances that leave passages in both directions between the protuberances to permit the entrance of a scraping tool in cleaning the plate, or it may be, as in Fig. 4, a plate with perforations 25.

When employing the apparatus shown in Fig. 5, the cigarettes may be simply held in a block or holder 26 and dipped in the binding material held in a vessel such as 18, after which the cigarettes are immediately carried and pressed against the plate 27, having perforated seats 28 for the cigarettes, which seats may advantageously have flaring guides 29. Below the plate 27 and communicating with the perforations 28 therein, there is a chamber 30 from which the air may be partially exhausted by an exhaust fan 31, so as to produce a current of air downward through the cigarette in the direction of the mouth-piece 20, to withdraw all fumes and prevent their rising in the cigarette, as previously explained. The chamber 30 may be provided with a drip plate 32 for any excess of binding substance that may be carried by the mouth-piece and dropped therefrom, and such excess material may be withdrawn through a cock 33. I prefer, however, to employ the method described in connection with Fig. 1, of maintaining a pressure during the application of the binding material and coating, as well as subsequently to the dipping. The step of removing the fumes by a current of air is important in any case whether the smoke orifices are formed by said current or by other means, and whether the binding substance, or a coating, is applied by dipping or otherwise. Therefore, with respect to my invention of producing an air current through the cigarette from the end opposite the mouth-piece, I do not confine myself to the formation of smoke passages by means of the air current, nor to the maintaining of pressure during the application of the coating, nor to the application of the coating by dipping, as the step of passing the air current through as stated is applicable to any cigarettes the mouth-piece of which is formed by applying to the cigarette or its wrapper a substance which would clog the mouth-piece and close the same against the passage of smoke, or which would contaminate the tobacco by fumes.

It is to be understood that the invention applies not only to cigarettes having paper wrappers, but also to those having tobacco wrappers, and to cigars open at both ends, or cheroots, and in using the term cigarettes in this specification and the claims, I wish it to be understood as comprising cigarettes

having paper wrappers, cigarettes with tobacco or other wrappers, and open end cigars or cheroots.

5 Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

10 1. A method of forming mouth-pieces on cigarettes, consisting in impregnating an end thereof with a binding substance, and producing an air current therethrough.

2. The method of forming mouth-pieces on cigarettes, consisting of impregnating an end thereof with a binding substance while maintaining an air current through the cigarette, from the opposite end toward the impregnated end.

3. A method of forming mouth-pieces on cigarettes, consisting in impregnating an end thereof with a binding substance, producing an air current through the cigarette from the opposite end, and opposing an obstruction to the free outlet of air at the impregnating end except at segregated points.

25 4. The method of treating cigarettes in the formation of mouth-pieces, consisting in applying at an end thereof a substance to form a coating, and passing a current of air

through the cigarette from the opposite end to expel any fumes produced by said substance.

5. In the production of a mouth piece on a cigarette end, the herein-described process consisting in immersing the end of the cigarette in a substance made fluid by heat and which sets when cold, withdrawing the immersed end from the said fluid, and subjecting the said end to heat after its withdrawal from the fluid and while maintaining an air current through the cigarette in a direction toward the treated end.

6. A cigarette having a wrapper, water-proof at the mouth end, a filler, and a water proof binding material liquid when heated but solid at normal temperatures solidifying the filler at the said mouth end, and having air-blown passes or openings therethrough providing draft passages.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS H. SONDEHEIM.

Witnesses:

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PHILIP D. ROLLHAUS.