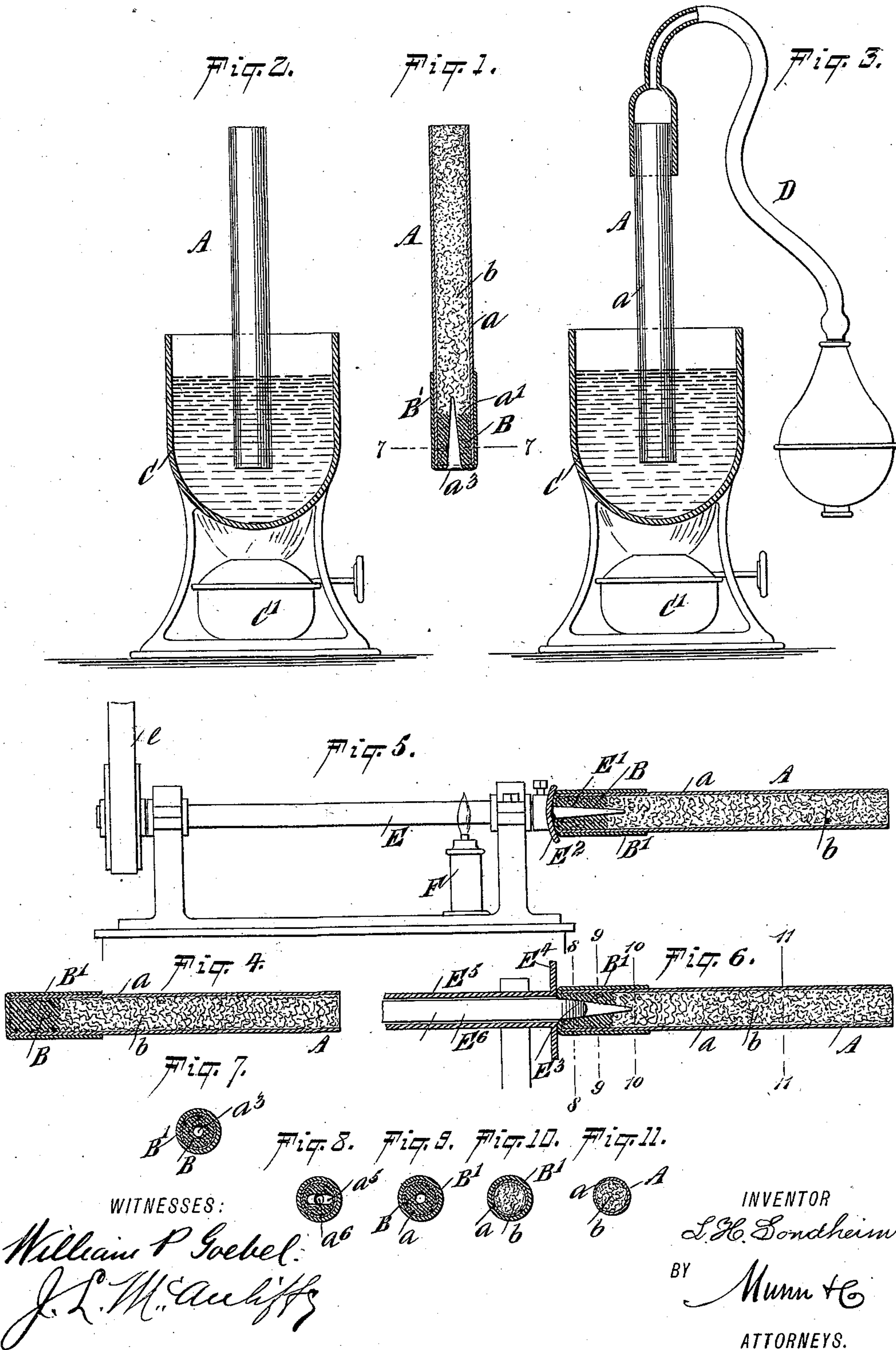


(No Model.)

L. H. SONDHEIM.
CIGARETTE AND METHOD OF MAKING SAME.

No. 556,218.

Patented Mar. 10, 1896.



UNITED STATES PATENT OFFICE.

LEWIS H. SONDEHEIM, OF NEW YORK, N. Y.

CIGARETTE AND METHOD OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 556,218, dated March 10, 1896.

Application filed November 13, 1895. Serial No. 568,773. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. SONDEHEIM, of New York city, in the county and State of New York, have invented a new and Improved Cigarette and Method of Making the Same, of which the following is a full, clear, and exact description.

The object of my invention is to provide an improved mouthpiece on cigarettes by treating the tobacco filling at one end thereof with a binding substance, so that it will be bound together and solidified to back the wrapper on the inside of same, said solidified filling extending forward from the extreme end for a sufficient distance to impart transverse strength and resistance to the mouthpiece at the point usually pressed upon by the teeth in smoking. Thus the cigarette may be held firmly between the teeth, if desired, without the mouthpiece being disintegrated, particles of tobacco will be prevented from being detached and adhering to the lips or tongue of the smoker, and a smooth and desirable end finish will be given the tobacco. In connection with this interiorly-solidified filling an exterior coating or covering is preferably employed, the whole forming an improved integral and very desirable mouthpiece on the cigarette.

Briefly described, the binding substance for treating the tobacco may be wax or wax and a coloring-matter—resin, shellac, water-glass, or like substances—the coloring-matter being primarily employed for giving the desired opacity to the exterior coating for concealing the stained wrapper due to the action of the binding substance within the cigarette. The exterior coating may be a coloring substance of any kind, and it may be applied prior to treating of the tobacco, or the process may be reversed, or the two may be done simultaneously by mixing a coloring-matter with the binding substance, assuming the latter has not the body and opacity to form a suitable exterior coating.

The invention will be described more fully hereinafter and then defined in the claims.

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.

Figure 1 is a sectional elevation of a cigar-

ette having a mouthpiece produced in accordance with my invention. Fig. 2 is a sectional elevation of a simple form of apparatus that may be employed and showing a cigarette being dipped. Fig. 3 is a view similar to Fig. 2, but showing a device for applying the liquid substance by suction. Fig. 4 is a longitudinal section showing a cigarette with the mouthpiece partly finished. Fig. 5 is a sectional side elevation of an apparatus for finishing the mouthpiece, the cigarette being shown in longitudinal section. Fig. 6 is a view similar to Fig. 5, but showing a slight modification of the apparatus. Fig. 7 is a cross-section taken through the cigarette, shown in Fig. 1 on line 7 7; and Figs. 8, 9, 10, and 11 are cross-sectional views of the cigarette, taken respectively on the lines 8 8, 9 9, 10 10, and 11 11, Fig. 6.

The cigarette A may be of ordinary form, having a paper or other thin wrapper *a* filled with tobacco *b* or any suitable medicinal preparation, the end being open. Herein-after I will refer to the filling as "tobacco" for brevity. Any suitable substance which liquefies by heat and hardens when cold, or a substance which will harden by drying, may be employed—such as wax, paraffine, resin, shellac, water-glass or the like—in forming the mouthpiece, and, as stated, a coloring-matter may be added thereto or applied separately to the exterior of the cigarette.

When the interior binding substance is wax or the like, the same is placed in a vessel C, for instance, and melted, as by a lamp C', and the end of the cigarette is immersed therein to the desired extent—as, for instance, to the point *a'*—and the said end is allowed to soak in the substance until the latter is absorbed by and permeates the tobacco to the desired extent, the material being heated to such a degree as readily to respond to capillary force. After the said substance has hardened, if a separate coating substance is to be applied the cigarette end is dipped into same, preferably to a distance beyond the point to which the binding substance has permeated the tobacco, thereby forming the exterior coating B'. If desired, however, the exterior coating and interior binding substance may extend coequally. In withdrawing the cigarette from the coating substance it is done slowly

to equally distribute and smooth the exterior coating. By this means a practically solid mouthpiece is formed, and the particles of tobacco at the end of the cigarette are hardened and bound into a practically homogeneous body, whereby the particles of tobacco will be prevented from adhering to the lips and tongue of the smoker and from being drawn into the mouth; also, the solidifying of the tobacco at the end, as at B, will practically prevent the saliva from reaching the loose tobacco and combining with the nicotine. Further, the solidified tobacco at the end will better sustain the wrapper against the tendency to be broken in the process of smoking, as it more unyieldingly backs the wrapper and its coating. The use of wax has the advantage that it will cool and harden quickly and the tobacco beyond the solidified filling forming the mouthpiece will not have its flavor affected by moisture or vapors from the solidifying material. Besides, the wax enables the mouthpiece to be readily molded or shaped, such as by the shaping or forming devices hereinafter described, and with the application of a minimum degree of heat.

It may be desirable with some substances to cause the binding substance to be drawn into the cigarette by an air-pump or suction device D, as will readily be understood.

After the material has permeated the tobacco to the desired extent, the cigarette is allowed to stand until the applied substance hardens or partially hardens, in which form the end is a practically solid body transversely for sustaining itself at every point against transverse pressure. One or more draft-apertures are now formed in the solidified end, and the end surface is smoothed, as hereinafter explained, the apertures, however, not being sufficient to materially lessen the transverse strength of the mouthpiece.

The apparatus shown in Fig. 5 comprises a spindle E suitably rotated, as by a belt e, a pointed boring tool or device E' being formed or secured at one end, and at the base of such tool E' a concaved former E² is carried by the spindle; also, in some cases a suitable lamp F or other source of heat is provided for heating the tool and former. By this means, when the spindle is rotated and the cigarette A pressed against the tool E' and finally against the former E², as in Fig. 5, the mouthpiece formed by the solidified tobacco will be pierced, as at a³, Figs. 1 and 7, and also the end will be smoothed and given a somewhat rounding form, as will appear from Fig. 1, leaving it in a desirable finished form.

In the apparatus shown in Fig. 6 the tool E³ is flattened at the base to form a widened orifice a⁵, Fig. 8, and a reduced rounded inner end a⁶ to such orifice, as in Fig. 9. With this form of tool the former E⁴ is formed on a sleeve E⁵ that rotates on the fixed spindle E⁶ carrying the flattened tool E³; also, the for-

mer may be a flat plate, as in Fig. 6. When the heated tool is employed the end of the cigarette is moistened to prevent adhesion of the filling and binding substance.

If the end of the cigarette were not pressed against, as by the former E² or E⁴, when the binding substance became hard there would be left numerous projections that would give a roughened end surface which would be very objectionable.

It will be understood that the apparatus shown is merely for the purpose of showing the simplest means for carrying out my invention. Any suitable apparatus will be employed in practice. I do not confine myself to the shape of tools shown, nor to the application of pressure simply upon the end and edge of the mouthpiece, but consider the application of pressure to smooth, form or shape the mouthpiece in any way after the binding substance has been applied to the filling as within the scope of my invention.

Although I prefer an exterior covering for the end of the cigarette consisting of a coating substance, any other suitable covering may be employed with my novel end filling, which will properly conceal said filling.

I am aware of the fact that mouthpieces have heretofore been formed on cigarettes by coating or covering the wrapper at one end with various materials or substances, but this was done in such way as to leave the tobacco filling within such covered end in its natural state as much as possible, the coated or covered wrapper forming a simple shell over same, and while said wrapper at such end was thereby rendered saliva-proof it would remain liable to be crushed inward upon the loose tobacco filling when pressed upon by the smoker, and particles of the tobacco would be forced or drop from the end of the cigarette into the mouth, while the saliva, having free access to said loose tobacco by its close proximity thereto, would be drawn into same by capillary force and would return to the mouth tainted with nicotine through the suction excited in drawing out smoke.

My invention distinguishes itself from the mentioned known methods in that I not merely render the wrapper or outside covering at the mouth end of the cigarette saliva-proof, but in addition thereto I transform the loose filling lying within said saliva-proof covering, or a material part thereof, into a solidified mass, impervious to moisture by hardening same through permeation with binding substances, so that the solidified filling will back the covering from the inside thereof for a substantial depth sufficient to provide a proper hold upon the cigarette for the mouth of the smoker and sustain it against the transverse pressure exerted upon same, and while I form one or more apertures in the said solidified mass for the passage of smoke, said apertures being of greater length

than diameter, will practically prevent access of the saliva to the tobacco forward of the solidified mass, the latter forming a barrier which is of such a depth as to allow the formation of holes through same of sufficient diameter to permit free passage of smoke, yet greater in length than width, thereby preventing the entrance of the saliva, as before mentioned. The said barrier also serves to prevent particles of the loose tobacco forward of the solidified part from reaching the mouth of the smoker.

While the aperture is shown tapering, yet it may be straight or any other shape so long as the diameter of its inner end is less than the depth of the mass forming the walls of the said aperture.

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

1. As a new article of manufacture, a cigarette having at one end an integral mouthpiece, the outer surface of which consists of a saliva-proof cover, and the interior of which mouthpiece is formed of a portion of the tobacco filling within said cover, permeated and solidified into a homogeneous mass by a binding substance, the solidified filling extending forward from the extreme end of the cigarette and forming a substantial backing for the saliva-proof cover for a material distance therein, to sustain such cover against transverse pressure, said solidified part having a smoke-passage, substantially as described.

2. As a new article of manufacture, a cigarette having at one end thereof an integral mouthpiece, the surface of which consists of a saliva-proof cover, and the interior of which is formed of a portion of the tobacco within said cover, permeated and solidified into a homogeneous mass by paraffine or other wax, the solidified filling extending forward from the extreme end of the cigarette and forming a substantial backing for the saliva-proof cover for a material distance therein, to sustain such cover against transverse pressure, said solidified part having a smoke-passage, substantially as described.

3. As a new article of manufacture, a cigarette having a mouthpiece, consisting of a covering on the outside of the wrapper at the mouth end of the cigarette, and of a material portion of the tobacco lying within said covered part of the wrapper, permeated and bound into a solidified, homogeneous mass by a binding substance, the said interior mass forming a substantial backing for the wrapper and the outside covering against the transverse pressure exerted upon the same in smoking, said mass having a smoke-passage, substantially as described.

4. As a new article of manufacture, a cigarette having its filling at one end solidified into a homogeneous mass by a binding substance

to form a mouthpiece, the solidified mass being provided with an aperture for the passage of smoke, and said mass which forms the walls of the aperture being of a greater depth than the diameter of the aperture at its inner end, whereby the tobacco will be prevented from falling out, and the saliva prevented from entering the cigarette, substantially as described.

5. As a new article of manufacture, a cigarette having a material portion of its filling at one end combined with a binding substance to solidify same and form a well-defined barrier, said barrier having a smoke-orifice, substantially as described.

6. The herein-described method of forming mouthpieces on cigarettes, consisting in applying a binding substance to the filling at one end in such manner that said substance will permeate the filling and combine with same into a solidified mass to a material distance inward from said end to form a firm backing for the wrapper against the transverse pressure exerted, when the cigarette is held between the teeth, and piercing said mass longitudinally for the passage of smoke, substantially as described.

7. The herein-described method of forming mouthpieces on cigarettes, consisting in applying to the filling at one end paraffine or other wax heated to a degree that it will readily permeate the filling and thereby effect a solidification of the filling for a material distance and thus form a firm backing for the wrapper against transverse pressure, and piercing same for the passage of smoke, substantially as described.

8. The herein-described method of forming mouthpieces on cigarettes, consisting in applying a binding substance to the filling at one end to form a substantial solidified barrier in the cigarette at said end, providing a saliva-proof covering around such solidified end, and piercing said solidified end longitudinally for the passage of the smoke, substantially as described.

9. The herein-described method of forming mouthpieces on cigarettes, consisting in applying a binding substance to a material portion of the filling at one end to solidify same, shaping and smoothing said solidified end by pressure and forming a smoke-passage in the said end, substantially as described.

10. The herein-described method of forming mouthpieces on cigarettes, consisting in applying a binding substance to the filling at one end to solidify the same and form a well-defined barrier for the purpose set forth, and piercing said solidified end in the presence of heat, substantially as described.

11. The herein-described method of forming mouthpieces on cigarettes, consisting in applying a binding substance to the filling, at one end, to permeate and solidify same, and form a well-defined barrier for the purpose set

forth, subjecting said solidified end to pressure in the presence of heat, and piercing said end, substantially as described.

12. The herein-described method of forming
5 mouthpieces on cigarettes, consisting in applying a binding substance to the filling at one end and drawing the same into the cigar-

ette by suction, whereby a well-defined barrier for the purpose set forth will be formed, and piercing said barrier, as described.

LEWIS H. SONDIHEIM.

Witnesses:

A. A. HOPKINS,

J. L. MCAULIFFE.