May 19, 1970 J. H. SLEDGE 3,512,538

CIGARETTE STRUCTURE, WRAPPER AND METHOD

Filed Sept. 6, 1968

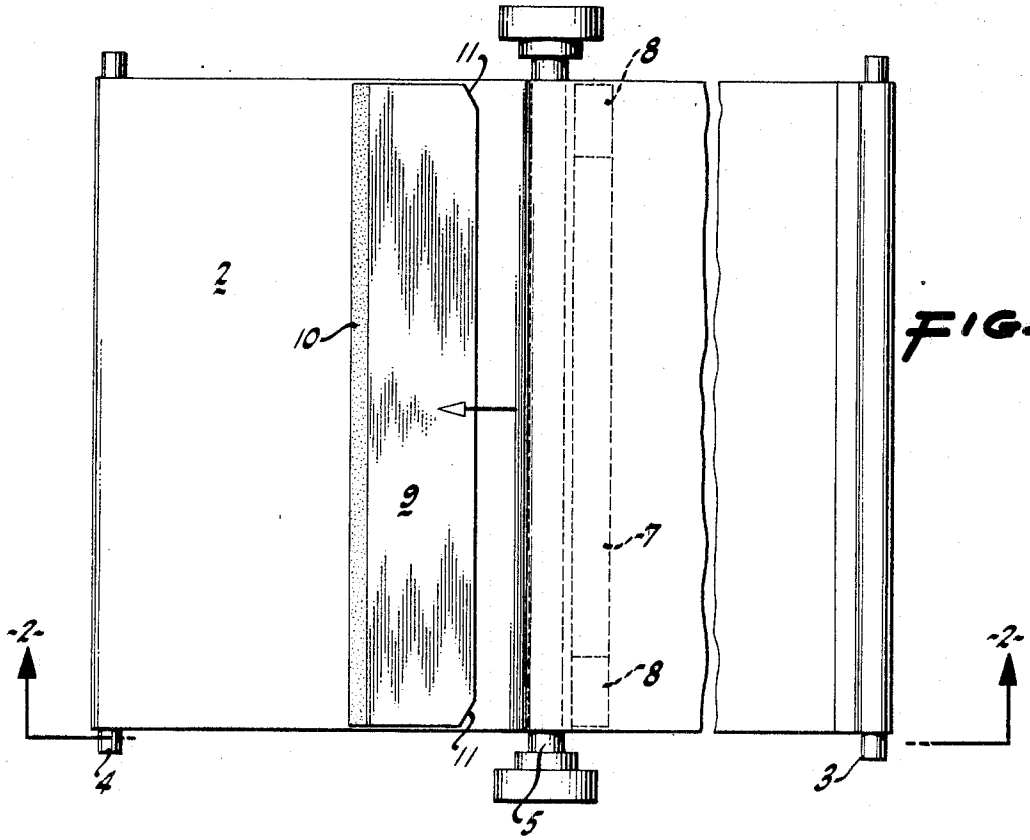


FIG-1

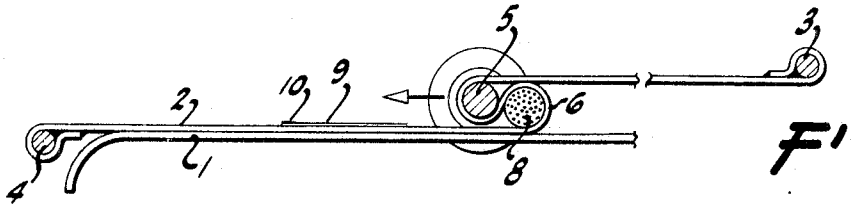


FIG-2

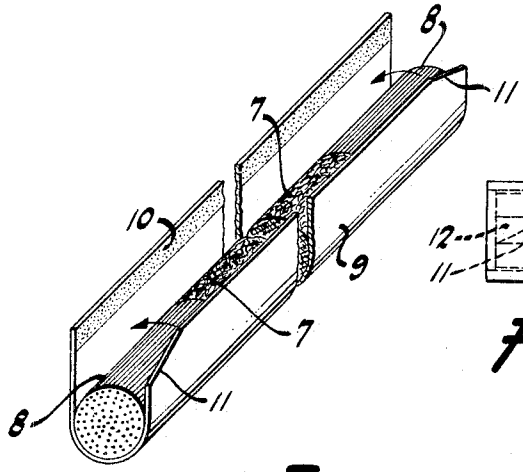


FIG-3

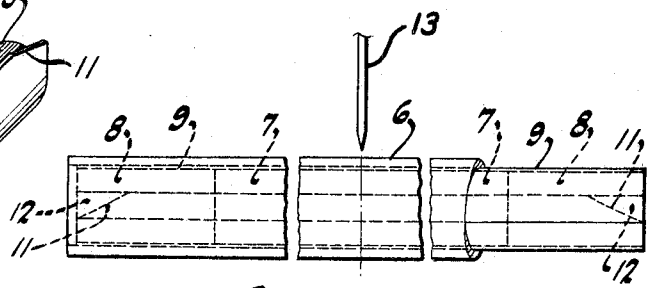


FIG-4

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United States Patent Office 3,512,538
Patented May 19, 1970

3,512,538

CIGARETTE STRUCTURE, WRAPPER AND METHOD

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Filed Sept. 6, 1968, Ser. No. 758,028
Int. Cl. A24d *01/02, 01/04*
U.S. Cl. 131—10 5 Claims

ABSTRACT OF THE DISCLOSURE

A cigarette including a filter at one end and a wrapper that encloses the tobacco and the filter at the time the tobacco is wrapped. The wrapper has longitudinally extending overlapping edges, the inner edge having a portion removed at the filter end of the cigarette. The outer edge has adhesive therealong and is glued to the filter by one end of the strip of glue that secures the outer edge to the inner edge of the wrapper. The outer edge of the wrapper securingly holds the filter in position within the wrapper and at an end of the cylindrical body of tobacco.

SUMMARY OF INVENTION

The cylindrical filter of fibrous material in the cigarette of the present invention, and in conventional cigarettes having a filter at one of their ends, are the same, being of fibrous material enclosed within a thin paper wrapper to which the filter material is glued along one of the sides of the latter. In some instances, other filter material is incorporated in the cylindrical filter. A cylindrical body of tobacco within a separate paper wrapper is positioned in axial alignment with the filter and in abutting relation thereto, and a band of thin paper or other sheet material, such as cork, is then wrapped about and glued onto the filter and around the outer surface of the margin of the tobacco-filled paper, securing them together. Thus, the band functions as a collar-like coupling between the tobacco-filled wrapper and the filter.

The ultimate conventional cigarette that has heretofore been produced embodies the foregoing structure, irrespective of how or when the steps in the production are followed.

It is important that the filter be secured against separation from the remainder of the cigarette, so that the latter, when being smoked and handled, will constitute a firm unit.

In the present invention, the preformed cylindrical filter is secured to, and substantially enclosed by, the outer wrapper of the cigarette and by an axial extension of the strip or band of adhesive that secures the lapped longitudinal margins of the wrapper together around the cylindrical body of the cigarette, thereby, in the single operation of enclosing the tobacco in the wrapper, the filter is also enclosed and is secured to the tobacco-filled portion by the glue or adhesive of the strip thereof that has been applied to one surface of one of the longitudinally-extending margins of the wrapper.

In my copending application for U.S. Letters Patent, Ser. No. 739,840, filed June 25, 1968, a machine for home use is disclosed for making cigarettes of the present type, in which the outer wrapper is of sufficient length for making a cigarette of double the length of a conventional cigarette. A filter is at each end of the elongated cigarette, after which the cigarette is severed centrally between its ends for producing a pair of cigarettes. This machine is adapted for making the cigarettes by use of the wrapper of the present invention.

One of the objects of this invention is the provision of a cigarette in which the outer wrapper for the tobacco firmly secures a filter to one end of a cigarette of conventional length, or to opposite ends of a cigarette to be bisected transversely thereof to produce a pair of cigarettes, each with a filter at one end of each, and which wrapper is secured to the filter by the same adhesive or glue that heretofore has secured an end of the wrapper about a filterless cigarette.

Another object of the invention is the provision of a single wrapper adapted to enclose and to hold together the filter and tobacco of a cigarette, and an added object of the invention is the provision of a method for forming a cigarette having a filter at one end, by a single outer wrapper.

Other objects and advantages will appear in the description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary top plan view of the cigarette forming portion of a conventional cigarette forming machine.

FIG. 2 is a view taken along line 2—2 of FIG. 1.

FIG. 3 is an enlarged isometric view, broken in length, showing the final rolling step of a wrapper about a cigarette that is to be cut in two, to produce a pair of cigarettes.

FIG. 4 is an elevational view of the finished cigarette of FIG. 3, including a bisecting means.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIGS. 1, 2 are illustrative of the cigarette or cigar rolling principle and the structure employed, in the aforementioned application, and which has been shown even prior to U.S. Pat. 411,919 of Oct. 1, 1889 to F. J. Hagen.

In such machines, a stationary platform or table **1** is provided, over which a flexible tobacco rolling apron **2** is positioned, one end of the apron being secured at **3** and the other end at **4** with a slack portion of the apron between its ends extending over a bar or roller **5** adapted to be rotated or rolled from right to left, as viewed in FIG. 1, ahead of a bight **6** on the apron adjacent to said roller. The bight **6** contains the tobacco, and as the roller **5** is rolled to the left, the tobacco **7** is compressed in the bight to the desired tightness in a cylindrical form.

In the present invention, and as fully disclosed in the aforementioned application, a conventional, cylindrical filter **8** is positioned at each end of the body of tobacco **7** for rolling in the bight **6** with the tobacco.

The wrapper for the tobacco, shown at **9**, (FIGS. 1, 2) is preferably of a length to extend the overall length of the tobacco **7** and the filters **8**. Said wrapper **9** is oblong and of a width to fully wrap around the cigarette and filters to a position with the longitudinally-extending marginal portions of the wrapper in lapping relation to each other.

One longitudinally-extending marginal portion has a band or strip **10** of adhesive applied to one side and which band may be of uniform width and extend from end-to-end of the wrapper. The wrapper is substantially oblong in outline, except that two of the corners at the ends of the longitudinally-extending marginal portion that is opposite the adhesive **10**, are cut off along diagonally-extending lines **11**.

In wrapping the tobacco and filters in the wrapper, the wrapper **9** may be positioned on the apron **2** ahead of the roller **5** and bight **6** with the glue strip **10** facing away from the apron **2**, or upwardly as seen in FIGS. 1, 2 and parallel with the roller **5**. The glue strip **10** is also on the

longitudinally-extending marginal portion of the paper **9** that is farthest from the approaching roller.

As the roller **5**, as seen in FIGS. 1, 2, is moved to the left, and is in a position spacing the portion of the apron that extends around it above the paper **9**, the tobacco **7** will be rotated counterclockwise so the longitudinally-extending edge of the paper that extends between the removed corners will be drawn below the cylindrical compacted body **7** of tobacco.

While the glue strip **10** is still exposed ahead of roller **5**, it may be moistened by drawing a moistened pad over it longitudinally of the strip, and further movement of the roller **5** to the left will wrap the wrapper **9** tightly about both the filters **8** and the body of tobacco **7**, and the leading marginal portion of the wrapper as it moves about the body of tobacco will move to overlapping relation to and in firm engagement with the moistened glue strip **10**.

As seen in FIGS. 3, 5, the corners of the wrapper **9** that are removed therefrom along the diagonal lines **11** leave open an area **12** (FIG. 4) to expose a portion of the outer surface of each filter **8** to engagement with the ends of the glue strip **10**, and this exposed section **12** is firmly secured to the outer surface of the filter at the outer end of each filter, whereby the filter is firmly held against the ends of the body **7** of tobacco, while the wrapper **2** covers the entire outer surface of the cigarette and from its outer appearance, except for the exposed outer ends of the cigarette, there is no indication of the filters.

The cigarette that is produced in the above manner is bisected by a cutter **13** (FIG. 4) whereby two complete cigarettes of the desired length are produced. Obviously, single cigarettes may be produced by use of one filter only at one end of a body of tobacco, of shorter length. The method and manner of operation is the same, except that only one corner of the portion of the wrapper that extends over the filter need be removed.

As a method of forming a cigarette of the construction hereinabove described, such method is one in which an assembly of elongated cylindrical body of loose tobacco and a cylindrical filter at one end of said body in coaxial end-to-end engagement with said body is formed. The sides of said body and filter are then enclosed within a single thin wrapper with the longitudinally-extending marginal portions of the wrapper in lapping relation to each other over one side of said body of tobacco and the filter providing an outer layer and an inner layer of said marginal portions relative to said assembly. The marginal portion of the outer layer is then secured to the marginal portion of the inner layer along the full length of said body of tobacco and along the portion only of said inner layer that is adjacent to said body of tobacco leaving the remainder of the marginal portion of said outer layer extending to the outer end of said filter and said remainder is secured directly to said filter for holding the filter within said wrapper and against the body of tobacco within said wrapper.

The exposing of the adhesive on the outer marginal portion of the wrapper so the adhesive on said remainder will engage the filter is preferable by cutting off the corner of the inner marginal portion, which is readily accomplished, although the corner may be folded over to expose the adhesive for contacting the filter.

I claim:

1. The method of forming a cigarette having a filter at one end thereof that comprises the steps of:

(a) forming the assembly of an elongated cylindrical body of loose tobacco and a cylindrical filter at one end of said body in coaxial end-to-end engagement with said body,

(b) enclosing the sides of said filter and body within a single thin wrapper with the longitudinally-extending marginal portions of said wrapper in lapping relation to each other, over one side of said body and filter providing an outer layer and an inner layer of said marginal portions relative to said assembly,

(c) securing said outer layer to said inner layer along the full length of said body of tobacco and along the portion only of the filter that is adjacent to said body leaving the remainder of said outer layer extending to the outer end of said filter, and securing said remainder of said outer layer directly to said filter for holding said filter within said wrapper and against said body of tobacco.

2. In the method as defined in claim **1**, including the steps of:

(d) positioning a second cylindrical filter at the other end of said cylindrical body in coaxial end-to-end engagement with said body,

(e) enclosing the sides of said second filter within said single wrapper with the longitudinally-extending marginal portions of said wrapper in lapping relation relative to each other over one side of said second filter providing continuations of said inner layer and said outer layer of said marginal portions over one side of said second filter,

(f) securing the marginal portion of said outer layer to said inner layer along a portion only thereof that extends over one side of said second filter leaving a remainder of said outer layer extending to the outer end of said second filter, and securing said remainder directly to one side of said second filter,

(g) bisecting said body centrally between said filters whereby a pair of cigarettes will be formed, each provided with a filter connected to the body by end marginal portions of a single wrapper.

3. A cigarette comprising:

(a) the assembly of a cylindrical, elongated body of loose tobacco and a cylindrical filter at one end of said body in end-to-end engaging relation with one end of said body and coaxial with the latter,

(b) an elongated, generally rectangular, wrapper extending the full length of said assembly, wrapped around the latter, and having marginal portions along the longitudinally extending edges of said wrapper in lapping relation providing an outer layer and an inner layer of said marginal portions relative to said body and filter,

(c) a strip of adhesive on said outer layer extending the full length of said assembly securing it to said inner layer along the full length of said body of tobacco, and along the portion only of said inner layer that is adjacent to said body leaving a remainder of said outer layer and said strip of adhesive extending to the outer end of said filter,

(d) a portion of said inner marginal portion of said wrapper being removed from between said remainder of said outer layer of said body and said filter, and the adhesive on said remainder directly securing the remainder of said outer layer to said filter, whereby the sides of said assembly of said body of tobacco and said filter will be fully enclosed from end-to-end of said assembly by said wrapper and said adhesive on said remainder of said outer layer will secure said filter to said wrapper and to said body.

4. In a cigarette as defined in claim **3**;

(e) the corners of said rectangular wrapper being removed at the ends of said inner layer to expose the adhesive on said remainder of said outer layer for direct engagement with one side of said filter.

5. In a cigarette as defined in claim **4**;

(f) said assembly including a second cylindrical filter at the end of said body of tobacco opposite to the first-mentioned filter in end-to-end engagement with said body and coaxial with said body,

(g) said wrapper enclosing the sides of said second filter and said adhesive on said outer layer securing said inner and outer layers together along the portion only of said second filter that is adjacent to said

body leaving a remainder of said outer layer and the strip of adhesive thereon extending to the outer end of said second filter, and the adhesive on said remainder directly securing said outer layer to said second filter.

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U.S. Cl. X.R.

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