

(No Model.)

N. J. EVANS.
MANUFACTURE OF CIGARETTES.

No. 569,184.

Patented Oct. 13, 1896.

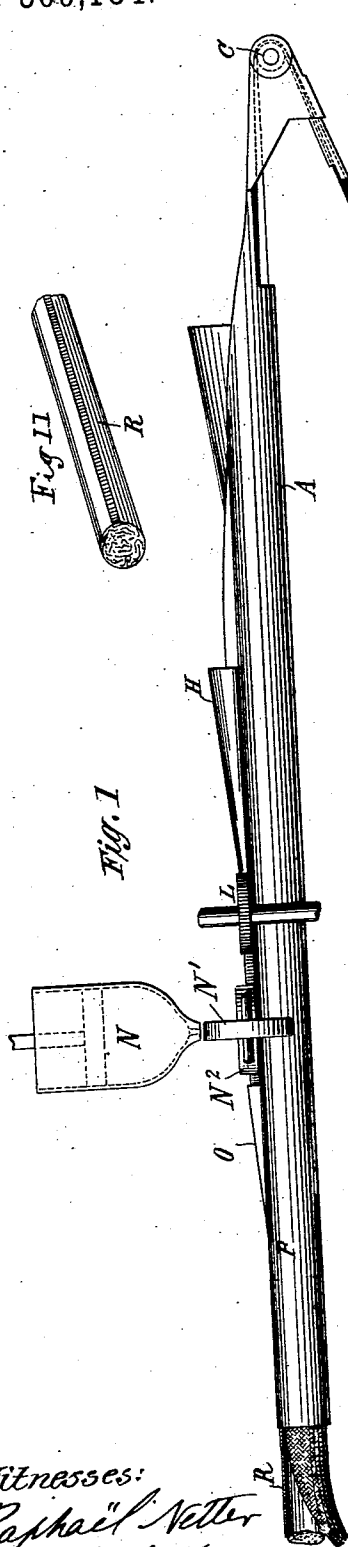


Fig. 1

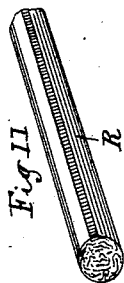


Fig. 11

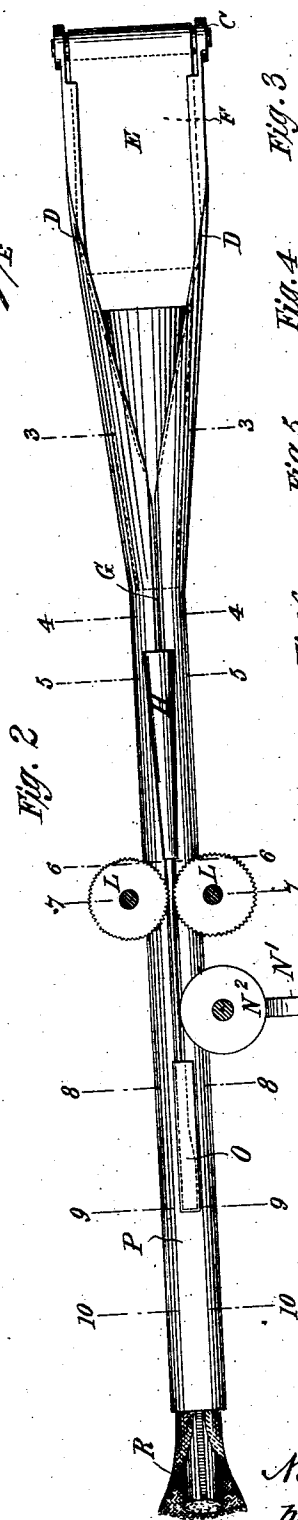


Fig. 2

Fig. 3

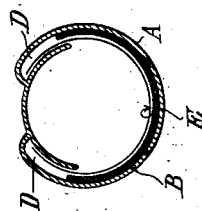


Fig. 4

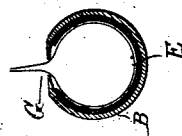


Fig. 5



Fig. 6

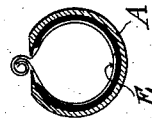


Fig. 7

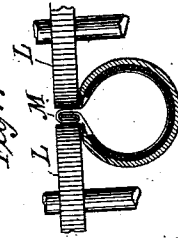


Fig. 8

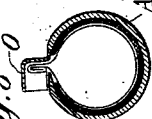


Fig. 9

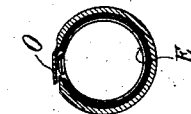
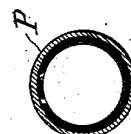


Fig. 10



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MANUFACTURE OF CIGARETTES.

SPECIFICATION forming part of Letters Patent No. 569,184, dated October 13, 1896.

Application filed September 5, 1895. Serial No. 561,479. (No model.) Patented in England December 9, 1892, No. 22,647.

To all whom it may concern:

Be it known that I, NASH J. EVANS, a citizen of the United States, residing at Salem, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in the Manufacture of Cigarettes, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same, for which Letters Patent No. 22,647, dated December 9, 1892, have been granted in Great Britain.

This invention relates to improvements in the manufacture of cigarettes, and involves a novel method or process of associating a tobacco filler, preferably consisting of fibrous tobacco compressed or condensed into rod-like form, and a paper wrapper to form a complete cigarette, and a new combination of devices for performing the several steps of the same.

In order to define more precisely the nature of the improvements which are embraced in my invention, I will state generally what may be regarded, for purposes of this case, as the prior state of the art.

Cigarettes have been made by a continuous process of forming a tobacco filler, encircling the same with a continuous wrapper, applying paste to the edge or edges of the wrapper, overlapping the edges and securing them together by pressure, as by passing the cigarette through a die or tube, or by other means. A continuous tobacco filler and paper wrapping-strip have also been associated in substantially the same way, and the opposite edges of the strip brought together into a seam projecting outward from the cigarette by being crimped between two serrated disks operated exteriorly to the paper tube or wrapper. Paper tubes have been formed in continuous lengths by folding or rolling together the edges of a paper strip, crimping the interlocking edges between an exterior wheel and interior roller, cutting the tube into individual cigarette-wrappers, and then filling such wrappers with tobacco fillers.

I have found that I can produce cigarettes that possess certain advantages over those previously manufactured by the following series of steps: I first form a tobacco filler in any of the ways heretofore employed, and

this I associate with a continuous paper strip by wrapping the strip around the filler and bringing its edges into engagement with each other by any of the well-known devices for this purpose. I then fold or roll the projecting edges of the paper together and press or crimp them by means of an exterior pressure device, or a crimping-wheel and anvil, or two crimping-wheels, to form a projecting seam. Next I supply to one side of this seam a small quantity of paste, and then bend the seam over and cause it to adhere to the body of the cigarette. By these steps I am enabled to produce a cigarette having a stronger and narrower seam or joint than is generally secured by the use of paste alone or by the simple operation of crimping. I employ in carrying out this process devices that are well known and commonly used in the art, and I do not describe each device that constitutes an element in my new combination with any greater particularity than is required for an understanding of the combination as a whole.

Referring now to the drawings, Figure 1 is a side elevation of the parts of a cigarette-machine more directly concerned in the association of the filler and wrapper, being that portion of the machine as a whole to which my invention relates. Fig. 2 is a top plan view of the same. Figs. 3, 4, 5, 6, 7, 8, 9, and 10 are cross-sections of Fig. 2 on the lines designated, respectively, by corresponding numerals; and Fig. 11 is a view in perspective of a section of a finished cigarette.

In the drawings, A is a former, generally tubular in section, but which is flattened out at one end. A belt B, which in machines of this class is generally an endless belt drawn by suitable power, runs through the former, entering it after passing over the roller C. A strip of paper E is brought upon the belt B as, or soon after, it enters the former A and is carried along by it through the former. Tobacco in regulated quantity and in condition to form a filler is deposited upon the paper as it passes over the flattened portion F of the former. The tobacco as it is fed to the paper strip in the former may be compressed into a rod of about the diameter of the filler in the completed cigarette, or it may be only partially compressed, the rest of the compressed

sion being effected by drawing the partially-formed filler through the tapered portion of the former A. By the shape of the former A and the guides D along its edges the paper drawn onward by the belt is caused to enfold or encircle the compacted tobacco filler until at the point indicated by section-line 4 4 it has been brought into the condition of a tubular envelop with its edges projecting out through a slot G along the top of the former A, as indicated in Fig. 4. Further on in their course the projecting edges enter a folder or snail H, by means of which they are folded or rolled together, as indicated in Fig. 6. After leaving the small end of the folder H the folded, rolled, or interlocked edges pass between a pair of crimping wheels or disks L, mounted on spindles and driven at the same peripheral speed as that at which the paper is moving. By means of these disks or any other similar devices the edges of the paper are pressed, indented, or crimped together, forming a rib or seam, as shown at M in Fig. 7. After leaving the pressing or crimping mechanism the projecting and crimped seam of the wrapper passes in contact with a pasting mechanism of any suitable character that applies to one side of the seam a line of paste. I have shown in illustration of this device a paste-reservoir N, a disk N¹ upon the edge of which paste is constantly delivered, and a second disk or paste-roller N² revolving in contact with the first and also with the crimped-wrapper seam. After receiving the paste the standing seam is turned or folded over by an inclined guide or finger O into contact with the body of the cigarette, and being then drawn through the tubular die P the said seam is firmly united to the body of the cigarette, making a smooth and ornamental seam, which coincides with the cylindrical contour of the cigarette.

As it issues from the die P the continuous cigarette R may be cut up into suitable lengths, as is usual in such cases.

The desirable features in cigarettes thus made result largely from the fact that the edges of the paper are folded, rolled, or interlocked together by the folder or snail and crimping devices, and the seam thus formed is made very strong and durable by the operation of pasting it down on the body of the cigarette to form a flat seam, as seen in Fig. 11 of the drawings.

It is to be implied from the above description that the several elements of the device used in carrying out my improvements may be very much modified, and their many well-known equivalents which are now in use in machines organized for the manufacture of cigarettes may be substituted for them without departure from the invention.

What is claimed as new is—

1. The method or process herein described for manufacturing cigarettes, which consists in associating a tobacco filler and a paper strip by wrapping the strip around the filler, bringing its edges into engagement with each other, folding or rolling such engaged edges together while the strip encircles the filler, uniting the folded or rolled-together edges into a projecting seam by pressing, indenting or crimping them together, applying paste to one side of the seam and then folding the seam down upon the body of the cigarette and securing it thereto.

2. In a cigarette-machine, the combination with a former or device by which a paper strip is wrapped around a tobacco filler and means for advancing the paper strip and filler through such former, of the following elements arranged for operation substantially in the manner set forth, to wit: a folder or device for folding or rolling the opposite edges of the strip together while it encircles the tobacco filler, mechanism for pressing, crimping or incorporating the edges of the encircling strip together and securing them into a seam, pasting mechanism adapted to apply paste to one side of the seam and devices for folding the seam down upon the body of the cigarette and securing it thereto.

3. In a cigarette-machine, the combination substantially as set forth, with a tubular former and a carrier-belt passing through the same, of the following elements arranged for operation in the manner set forth, to wit: a folder or device for folding, rolling or interlocking the opposite edges of a wrapper-strip together while it incloses a tobacco filler, mechanism for crimping the folded, rolled or interlocked wrapper edges and securing them into a seam, and pasting mechanism adapted to apply a line of paste to one side of the crimped seam, a guide for turning the seam down upon the body of the cigarette and a die or former for securing it thereto.

4. The combination, substantially as set forth, with devices for inclosing the tobacco filler in a wrapper-strip with the edges of the strip projecting, of a former or spiral guide for folding, rolling or interlocking the projecting edges together, crimping-disks between which the edges of the wrapper-strip pass after leaving the former, a pasting mechanism for applying paste to one side of the seam and a guide for turning the seam down upon the body of the cigarette and securing it thereto.

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Witnesses:

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