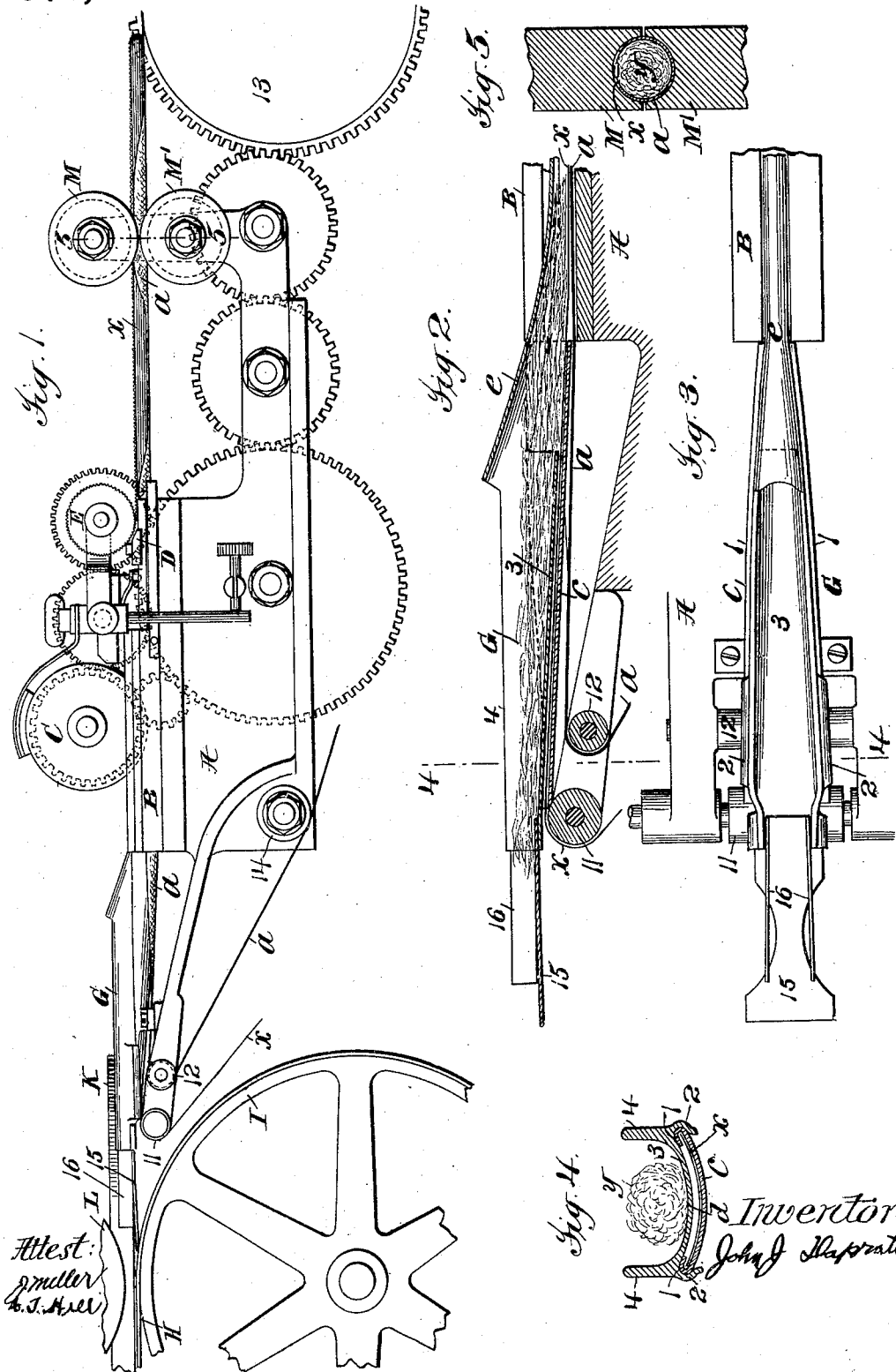


J. J. DAPRATO.
CIGARETTE MACHINE.
APPLICATION FILED AUG. 19, 1898.

976,441.

Patented Nov. 22, 1910.



UNITED STATES PATENT OFFICE.

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CIGARETTE-MACHINE.

976,441.

Specification of Letters Patent.

Patented Nov. 22, 1910.

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To all whom it may concern:

Be it known that I, JOHN J. DAPRATO, a citizen of the United States, residing in Tuckahoe district, county of Henrico, and State of Virginia, have invented certain new and useful Improvements in Cigarette-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to that class of cigarette machines in which the wrapper in the form of a continuous web is wrapped around a continuous filler and its edges united to form a continuous cigarette rod, after which this rod is cut into suitable lengths to form cigarettes.

While certain features of the invention are applicable also to cigarette machines in which the edges of the wrapper are secured by pasting, the invention relates especially to that class of cigarette machines in which the wrapper seam is formed by bringing the opposite edges of the wrapper into suitable engagement with each other and incorporating them together by indenting or perforating to form what is known as a "crimped" seam, and all the features of the invention, therefore, will be illustrated and described in connection with such a machine.

One feature of the invention relates to means for securing the delivery of the cigarettes in firm condition and in their proper form.

In making the crimped seam, a support is used about which the wrapper is lapped and which coacts with a part outside the wrapper to form the seam. This support compresses the tobacco or filler in the wrapper and produces irregularities in the form thereof so that, as it passes the support, it does not completely fill the wrapper. Whenever the natural expansion of the tobacco has been depended on to fill the wrapper, it has been found in practice that cigarettes of exact form with the tobacco evenly and completely filling the wrapper are not secured. To avoid this difficulty, a compressing tube has been used through which the carrier belt runs with the cigarette rod before the latter is cut into cigarette lengths and which by pressing down the cigarette rod after it leaves the seam closing device corrects the irregularities in the form or disposition of the filler and causes the cigarette rod to assume its final form.

This part of my invention consists in a compressing device for this purpose moving with the cigarette rod and preferably consisting of one or more grooved rollers under or between which the carrier belt runs with the cigarette rod, the cigarette rod thus being compressed and the irregularities in the form or disposition of its filler corrected so that the cigarettes delivered are of exact form and with the tobacco properly filling the wrapper.

Another feature of the invention relates to the mouth piece through which the tobacco is fed in to the former, which is provided with a bottom above the wrapper so that the tobacco is fed in through the mouth piece out of contact with the wrapper, and the mouth piece is preferably open at the top so that the operator can handle the tobacco roll for securing the proper feed without danger of tearing the wrapper, as there is danger of doing when the tobacco rests upon the wrapper. This open topped mouth piece and the separation of the tobacco from the wrapper as it passes through the mouth piece, also, prevent the fine particles of tobacco from working their way into the wrapper groove of the mouth piece or former. The mouth piece is preferably made in two parts, a bottom part over which the wrapper runs and provided with wrapper side guides and a top part readily detachable from the bottom part and provided with a bottom over which the tobacco is fed in, this top part of the mouth piece also preferably carrying the top filler molding tongue which extends over the forward part of the top of the mouth piece and into the former and is inclined downward so as to compress and hold the filler.

For a full understanding of the invention, a detailed description of a construction embodying all the features of the same in their preferred form as applied to a crimped seam continuous rod cigarette machine will now be given in connection with the machine shown in the drawings, forming a part of this specification, and the features forming the invention then specifically pointed out in the claims.

In the drawings:—Figure 1 is a side elevation of so much of a cigarette machine as is necessary to illustrate the invention. Fig. 2 is a central longitudinal vertical section of the mouth piece and rear end of the

former. Fig. 3 is a plan view of the same. Fig. 4 is a cross section of the mouth piece on the line 4 of Figs. 2 and 3. Fig. 5 is a cross section on the line 5 of Fig. 1.

5 Referring to the drawings, A is the frame on which the various parts of the machine are mounted, which frame may be of any suitable form. On the top of this frame is the former B providing the channel through
10 which the wrapper strip x and filler y are carried by the belt a beneath the presser roller C and past the interior support and wrapper folding guides D, by which the edges of the wrapper are folded together, to
15 the external crimping wheel E coacting with a roller carried by the interior support to indent or perforate the edges of the wrapper together to form what is known as a
20 "crimped" seam. The wrapper x passes to the belt over a wrapper support or roll 11 from any suitable source, and the belt a passes over the rear belt support or roll 12 through the former and the wrapper folding and seam closing devices, running around
25 the belt driving roll 13 and guide roll 14.

The tobacco for the filler is fed to the former through a mouth piece G through which the wrapper x and belt a run, and the tobacco may be fed by any suitable tobacco
30 feeding means, that shown consisting of a bottom belt H running on a large belt roll I, and side wheels K and a top wheel L, as in the now well-known Bonsack machine, the mouth piece G being provided with a
35 scraper 15 which takes the tobacco from the belt H, and the tobacco passing between the side guides 16 to the body of the mouth piece, as in constructions now in use.

All the parts above referred to, with the exception of the mouth piece G, which will be described hereafter, may be of any suitable form and are shown as of a form now well-known and operating in the usual manner, so that no further description thereof
45 need be given.

One of my improvements consists in a compressing device for acting upon the cigarette rod after it has left the seam closing devices, so as to correct the irregularities in the form or disposition of the filler produced by the seam closing devices and secure proper filling of the wrapper. In the construction shown, this device consists of a pair of rollers M, M' between which the belt runs with the cigarette rod, so that the belt which is flattened out after leaving the crimping device is wrapped around the cigarette rod and the latter pressed to correct the irregularities in the filler. As shown, these rollers are
50 mounted above and below the cigarette rod and belt, but it will be understood that they may be applied horizontally, if desired, although the arrangement shown is preferred. It is possible, also, to use more than two rollers or a single grooved roller coacting with
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the belt so as to compress the cigarette rod against the latter, and it will be understood that the compressing device need not be formed by rollers, although this is preferable, but may be of any other form suitable
70 to embody my invention.

Referring now to the mouth piece G, this mouth piece is preferably formed in two parts, as shown, a bottom part c fixed to the frame of the machine and having side wrapper guides 1, these wrapper guides being preferably formed by curving over the edges of the plate c , and a top plate d , which is preferably made readily detachable from the machine and may conveniently be secured
80 to the bottom plate c by the spring lips or flanges 2 clasp ing the curved edges of the bottom part c . This upper part d of the mouth piece G has a bottom plate 3 upon which the tobacco to form the filler y is fed
85 in out of contact with the wrapper x , and side walls 4, forming a trough within which the tobacco lies, this trough being open at the top so that the tobacco may readily be reached by the operator up to the point
90 where it passes beneath the tongue e and, by removing the top part d of the mouth piece, the tobacco may, when necessary, readily be reached between the mouth piece and the presser roller C. It will be seen
95 that the plate 3 forming the bottom of the top part d of the mouth piece G and over which the tobacco is fed to the former B extends over the wrapper in advance of the belt support 12 and preferably, as shown,
100 nearly to the point where the wrapper comes in contact with the belt, so that the tobacco does not come in contact with the wrapper until necessary for the feeding action of the wrapper upon the tobacco and after the tobacco has been brought into such condition that the fine fibers of tobacco are not liable to get into the grooves in which the wrapper runs. By the open top of the mouth piece, the tobacco may conveniently be examined
110 and its proper condition assured before it is allowed to pass onto the wrapper, thus avoiding the danger of tearing the latter in pinching off or otherwise handling the tobacco while upon the wrapper and the latter unsupported by the belt.
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It will be understood that the form of my mouth piece may be changed and will be modified according to the former with which it is used. In the construction shown, the short former common in such machines is shown, so that the mouth piece is quite long, but it will be understood that, if the former be extended rearward, the mouth piece will be correspondingly shortened. It will be understood that the seam may be secured by other suitable means than that shown, many of which are now well-known, and that the term "crimped" seam used in some of the claims is intended to cover all forms
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of such seams, whether the machine acts by pressing, crimping, indenting, corrugating or perforating the edges together.

What I claim is:—

5 1. In a crimped seam continuous rod cigarette machine, the combination with
filler forming and wrapping devices, and
seam closing devices comprising a support
within the wrapper and means co-acting
10 with the support to crimp the seam, and
with a belt passing through the filler forming
and wrapping devices and carrying the
filler and wrapper and which is permitted
to open out beyond the wrapping devices, of
15 one or more grooved pressing rollers beyond
the seam closing devices for refolding and
pressing the belt about the cigarette rod to
press the cigarette rod and thereby correct
irregular formation of the filler due to the
20 use of the interior support and bring the
cigarette rod into the form with the filler
evenly disposed and filling the wrapper
which it would have had except for the use
of the interior support, substantially as de-
25 scribed.

2. In a crimped seam continuous rod
cigarette machine, the combination with
filler forming and wrapping devices, and
seam closing devices comprising a support
30 within the wrapper and means co-acting
with the support to crimp the seam, and
with a belt passing through the filler forming
and wrapping devices and carrying the
filler and wrapper and which is permitted
35 to open out beyond the wrapping devices, of
a pair of oppositely disposed grooved pressing
rollers beyond the seam closing devices
for refolding and pressing the belt about
the cigarette rod to press the cigarette rod
40 and thereby correct irregular formation of

the filler due to the use of the interior support and bring the cigarette rod into the form with the filler evenly disposed and filling the wrapper which it would have had except for the use of the interior support, 45 substantially as described.

3. A two part mouth piece for cigarette machines having a bottom part *c* provided with wrapper guides 1, and a top part *d* 50 having a bottom plate, substantially as described.

4. A two part mouth piece for cigarette machines having a bottom part *c* provided with wrapper guides 1, and a top part *d* 55 having the bottom plate 3 and carrying the inclined tongue *e*, substantially as described.

5. A two-part mouth piece for cigarette machines having a bottom part *c* provided with wrapper guides 1, and a removable top 60 part *d* having a bottom plate, substantially as described.

6. In a continuous rod cigarette machine, a tapering mouth piece adapted to receive the tobacco which is to be formed into the 65 filler rod, said mouth piece leading to the filler forming and wrapping devices and having an open top, an inclined tongue, and a bottom extending below the open top over which the tobacco is fed and beneath 70 which the wrapper is fed below but out of contact with the tobacco, substantially as described.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOHN J. DAPRATO.

Witnesses:

JACKSON MILLER,
C. T. HILL.