Aug. 28, 1934. D. W. MOLINS 1,971,870

CIGARETTE MAKING MACHINE

Filed June 30, 1933

Fig. 1.

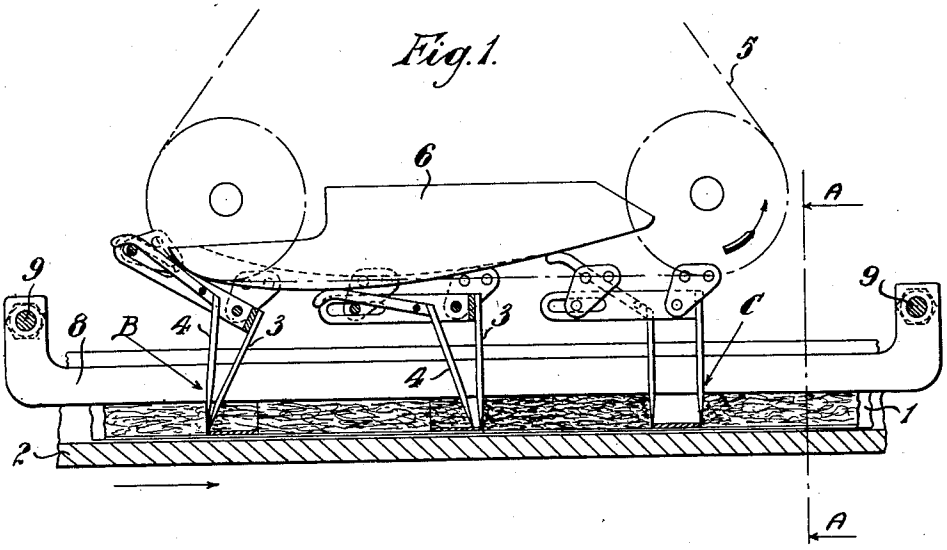
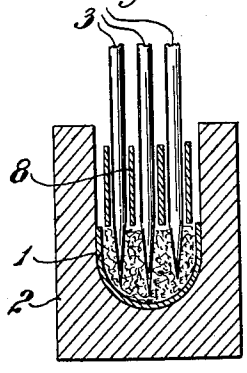


Fig. 3.



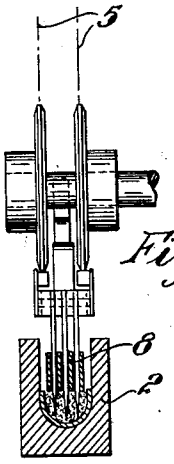


Fig. 2.

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CIGARETTE MAKING MACHINE

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Application June 30, 1933, Serial No. 678,491
In Great Britain July 26, 1932

4 Claims. (Cl. 131—43)

This invention is for improvements in or modifications of the cigarette making machine described and claimed in copending United States application Serial No. 604,829, and has for its object to provide improved means whereby the tobacco filler may be manipulated to produce a rod having unfilled portions at intervals, the improvement consisting in the addition of means for restraining or controlling the tobacco, while the gaps are being made in the filler.

Copending United States application Serial No. 604,829 describes and claims a cigarette making machine by which a continuous cigarette rod is obtained having unfilled portions at intervals in which tubes of fairly stiff paper may be placed so that a cigarette having a tubular mouthpiece is obtained when the rod is cut, or if desired, the cutting point may be so chosen that the portion of the cigarette which is placed in the mouth contains a small amount of tobacco, after which comes the hollow portion which is then followed by the bulk of the cigarette which is filled with tobacco in the usual manner.

In the particular way of carrying the invention into effect described in the said specification, the continuous filler of tobacco formed on the paper web is divided into separate portions by combs which enter the filler and travel therewith, and it is found in practice with the machine referred to above that when the combs operate to form the spaces in the tobacco filler, the tobacco removed from the said spaces is apt to form into small piles at the points where the combs are farthest apart.

According to the present invention, means are provided for restraining or controlling the tobacco to preserve its level, while it is being subjected to the operation of the means for dividing the filler into separate portions.

Preferably, the controlling means consists of a number of fixed guide members, resting on the tobacco and through which the points of the separating combs may pass.

The invention will be more particularly described with reference to the accompanying drawing, in which:—

Figure 1 is a section of a portion of a cigarette making machine, showing the modification to the parent invention.

Figure 2 is a section of Figure 1 on the line A—A.

Figure 3 is an enlarged view of a portion of Figure 2.

Referring to the drawing, the paper 1 is carried beneath the tobacco feeding mechanism (not shown), and receives the tobacco shower in the usual way.

The trough 2 which guides the paper web beneath the tobacco feeding mechanism is of curved section, for example, semi-circular, so that the web leaves the filling trough beneath the tobacco feed in the form of a trough of paper carrying a quantity of tobacco which is uniformly distributed along the length of the same.

The loaded web then passes to the mechanism shown in Figure 1 in which the long filler of tobacco is divided into a number of portions of, say, 2" in length with a gap of, for example, 5/8" between the portions.

The mechanism for forming the gaps in the filler consists of a number of comb devices 3 and 4 arranged in pairs and carried on a chain conveyor 5.

The combs are of a width approximately equal to the width of the guide trough as shown in Figures 2 and 3, and are so moved that a pair of combs in contact with one another are caused to enter the trough from above at the point B and pass into the tobacco nearly as far as the bottom of the trough.

As the combs move along in the same direction as the loaded web is travelling they are caused to separate from one another by any suitable device so that when the combs are approaching the point C at the end of the lower path of the conveyor, they are separated from one another by the distance of 5/8" mentioned above.

Under these circumstances, a gap of 5/8" is formed between each section of the filler, and the combs then move vertically upwards out of contact with the tobacco filler so that they do not disturb the same.

The raising and lowering of the combs into the guide troughs is effected by causing the combs to travel along a guide 6, the separation of the rear comb from the front comb being effected in the manner described in the parent specification.

In order to prevent the tobacco from rising above its normal level whilst it is being subjected to the action of the combs, restraining means are provided in the form of guide members 8 through which the combs may pass as shown in Figure 3. The guides 8 are fixed at their ends to pins 9 which are in turn fixed to a bracket on the machine bed.

It will be seen that by the use of these guide members the tobacco filler is kept under control during the period in which the spaces beforementioned are being formed, thus keeping the

height of the filler uniform, and ensuring that the tobacco on either side of the spaces is slightly more compact than at the other points of the filler. In this way, a clean space is obtained when the paper is finally wrapped about the filler to form the cigarette rod, or in the event of the rod being cut in such a manner that the tubular portion of the finished cigarette has tobacco on either side of it, a firm portion of the cigarette rod is presented to the knife of the machine.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a cigarette making machine, the combination with means for guiding a web of cigarette paper loaded with tobacco filler in a predetermined path, of means for engaging and separating the filler at spaced points to provide gaps interrupting the continuity of the filler, and means disposed above the tobacco filler to restrain the filler during the separation of the same.

2. In a cigarette making machine, the combination with means for guiding a web of cigarette paper loaded with tobacco filler in a predetermined path, of means for engaging and separating the filler at spaced points to provide gaps interrupting the continuity of the filler, said means comprising two members supported for movement into and with the filler and means for displacing said members relatively lengthwise of the filler during the movement of said members with the filler to effect separation of the latter, and means disposed above the tobacco filler to restrain the filler during the separation of the same.

3. In a cigarette making machine, the combination with means for guiding a web of cigarette paper loaded with tobacco filler in a predetermined path, of means for engaging and separating the filler at spaced points to provide gaps interrupting the continuity of the filler, said means comprising two members supported for movement into and with the filler, means for displacing said members relatively lengthwise of the filler during the movement of said members with the filler to effect separation of the latter, a continuous conveyor for supporting said members, and means disposed above this latter filler to restrain the filler during the separation of the same.

4. In a cigarette making machine, the combination with means for guiding a web of cigarette paper loaded with tobacco filler in a predetermined path, of means for engaging and separating the filler at spaced points to provide gaps interrupting the continuity of the filler, said means comprising two members supported for movement into and with the filler, means for displacing said members relatively lengthwise of the filler during the movement of said members with the filler to effect separation of the latter, said means comprising a conveyor so supported that a run thereof lies above and extends substantially parallel to the path of movement of the web, a pair of members supported by said conveyor and having filler-piercing portions movable into and with said filler in closely adjacent relation, and means for supporting the filler-piercing portion of said members during movement thereof with the filler to effect separation of the latter, and means disposed above the tobacco filler to restrain the filler during the separation of the same, said means comprising a plurality of guides spaced apart to allow a free passage for the filler-piercing portions.

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