

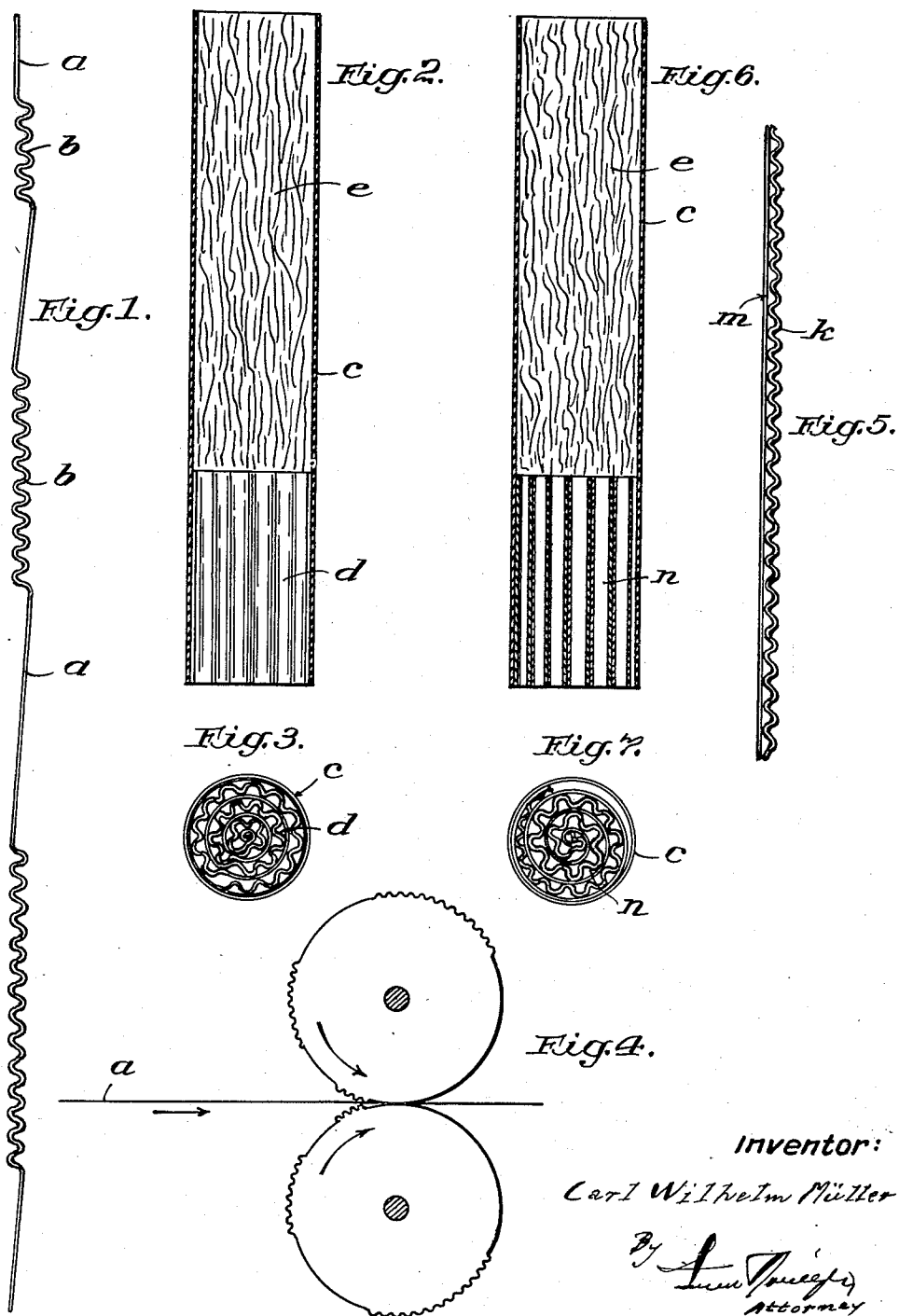
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FILTER MOUTHPIECE CIGARETTE

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FILTER MOUTHPIECE CIGARETTE

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In cigarettes which do not possess a hollow mouthpiece, there exists the disadvantage that a part of the cigarette and consequently part of the valuable tobacco is lost, because, of course, the cigarette can only be smoked down to a certain minimum length. In order to prevent this loss, it has already been proposed to fill the part of the cigarette situated near the smoker's mouth, that is to say, the part which is thrown away after smoking, with a less valuable material. This material, however, deprives the cigarette of its pleasant taste. It has also been proposed to provide a short hollow mouthpiece on the cigarette but such mouthpieces are not popular because they are too soft and are uncomfortable to hold in the mouth.

The latter disadvantage, it is true may be eliminated by rolling the mouthpiece out of a long strip of pasteboard which fills the entire cross-section of the tube, but manufacture is then tedious and expensive.

It has already been proposed to make cigarette mouthpieces or smoke filtering plugs of strip-shaped material formed by cementing together several layers of crepe paper with cellulose or wadding insertions. Plaited or woven articles intended for mouthpiece insertions have also been made of paper or textile materials or mixtures thereof. In the manufacture by coiling it has already been endeavoured to coil up spirally about a core strips of crepe paper and intermediate layers of ordinary paper. None of these attempts has however led to a product which is really satisfactory in practice, partly because the material became pasty and soft between the lips, and did not let the smoke through easily enough, and partly because the manufacture of the material itself and the making of the mouthpiece from the material were difficult and costly and also required special methods of manufacture.

The present invention eliminates this disadvantage by the fact that the cigarette is provided with a mouthpiece which, by feel, does not seem to the smoker to be hollow. This is due to the fact that the entire cross-section of the mouthpiece is filled, but nevertheless, acts just like a hollow mouthpiece, that is to say it ensures a perfectly free passage for the smoke, and thus does not in any way effect the taste of the cigarette.

According to the invention, paper, pasteboard or the like is rolled in the mouthpiece part of the tube, for example in the known manner.

This pasteboard, however, has been machined beforehand so that, while the rolled pasteboard completely fills the tube, continuous channels are formed, which extend in the longitudinal direction of the cigarette. The mouthpiece strip to be rolled up preferably comprises alternately straight and corrugated or zig-zag parts which, starting from one end of the strip, increase in length towards the other end.

According to a further form of execution of my invention a corrugated or creped or zigzag-shaped stout paper strip is cemented (pasted) on a thin and flat strip so that there is produced a strip that is firm, not flexible in the longitudinal direction and yet strong, which can be well and readily coiled, and with which a few convolutions are sufficient to fill the mouthpiece tube completely.

The accompanying drawing shows by way of example two constructional forms of the invention on an enlarged scale.

Figure 1 shows on an enlarged scale the cross-section of a leaf of pasteboard or paper before being rolled in the tube.

Figure 2 is a section through the cigarette with the leaf in position.

Figure 3 is a view from the lower end of Fig. 2.

Figure 4 illustrates the manner in which the corrugated strips are manufactured.

Figure 5 is a cross section through the mouthpiece strip to be rolled up in the second form of execution.

Figure 6 is a section through the finished cigarettes of the second form of execution and

Figure 7 is a view from the lower end of Fig. 6.

The leaf of paper or pasteboard according to Figure 1 comprises successive and alternately-disposed straight and corrugated or zigzag parts *a* and *b*. The parts *a* and *b*, starting from one end, increase in length towards the other end. On rolling such a strip together in the known manner by means of a coiling needle commencing from the upper end in Fig. 1, a small cylindrical part is first coiled in the inside, and around this lies a corrugated part. This latter is then surrounded by a cylinder formed by the next straight part *a*, which is again followed by an annular part formed of corrugations, and so forth, as shown clearly in Figure 3. The constructional example shows three corrugated parts separated from each other by cylindrical walls. The manufacture of the cigarette according to Figure 2 is effected by inserting into the tube *c*, in the manner customary for cigarettes having a hollow mouthpiece, the coil *d* formed by rolling the insert according to Figure 1, where-

upon the remaining part of the tube is filled with tobacco *e*, likewise in known manner, and, for example, by the filling machine.

Manufacture may also take place in other ways. For example, it is also possible to form a rod consisting alternately of tobacco portions *e* and intermediate mouthpiece leaves *d* coiled in the paper tube. Tobacco and mouthpieces are then preferably made of double length, and on cutting up the rod, the cuts are always made in the middle through the tobacco or through the mouthpiece.

Channels are formed in the mouthpiece, which extend axially throughout the entire length and through which the aspirated smoke can pass unimpeded, so that the taste of the cigarette is not impaired thereby. On the other hand, the mouthpiece is completely filled by the rolled strip, so that the smoker does not feel that he is smoking cigarettes with a hollow mouthpiece.

Of course, the details of construction may also be varied. For example, and as previously mentioned, it is possible to employ a zig-zag strip instead of a corrugated strip, it being merely necessary that continuous longitudinal channels are formed in the strip when rolled. It is also possible to combine corrugations with zig-zag constructions, or a smaller or larger number of alternately corrugated and plane strip parts may be employed.

The manufacture of the strips may be effected in any desired manner, for example by embossing or by passing the strip through pressing rollers *o*, *o*¹. In the construction according to Figure 1, the pressing rollers will be so arranged that the total length of a completely pressed or embossed strip corresponds to the circumference of the pressing roller.

According to the form of execution illustrated in Figures 5-7 the mouthpiece strip to be rolled up consists of two parts connected together—namely, the corrugated or zigzag-shaped or creped part *k* and the straight flat part *m*. The part *k* may be made of stout paper whilst for the part *m* there is preferably chosen thin paper. The two parts are best joined by gluing.

The working-up of this strip is effected in the

manner described with respect to Fig. 1 to 3, i. e., the strip is cut to the necessary length and is then rolled together in the tube machine by means of a coiling needle in a known way and inserted into the tube. A coil *n* is thus produced the cross-section of which is shown in Figure 7, and this coil is inserted into the tube *c*, resulting in a finished tube according to Figure 6, which is then filled with tobacco in any desired and known manner. However, a rod may be formed consisting alternately of tobacco and mouthpieces *n* placed therebetween, and the cigarettes formed from this rod.

The form in which the passages are formed in the part *k* of the strip may be as desired, but it might, for example, be corrugated in such a manner that above the flat layer *m* triangular, quadrilateral, or polygonal projections are formed, all that is essential being that from the combination of the flat strip and the corrugated strip there results a firm compound strip which can be easily rolled up and which forms passages extending in the longitudinal direction of the cigarette.

I claim:—

1. A mouthpiece for cigarettes comprising a strip of material rolled up to form an insert and having plain portions alternated by wavy portions, the lengths of the plain and wavy portions increasing from one end towards the other end so that the lengths of the plain and wavy portions will each constitute at least one complete turn in the rolled up position.

2. A mouthpiece according to claim 1, in which the strip has a plain portion at the end of the strip where the rolling commences.

3. A filter mouthpiece cigarette comprising a rolled up mouthpiece strip filling the entire cross section of the cigarette and being provided with corrugations forming channels for the passage of the smoke extending in the longitudinal direction of the cigarette and plain portions between the circular rows of corrugations, the mouthpiece strip comprising alternately straight and corrugated parts which starting from one end of the strip, increase in length towards the other end.

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