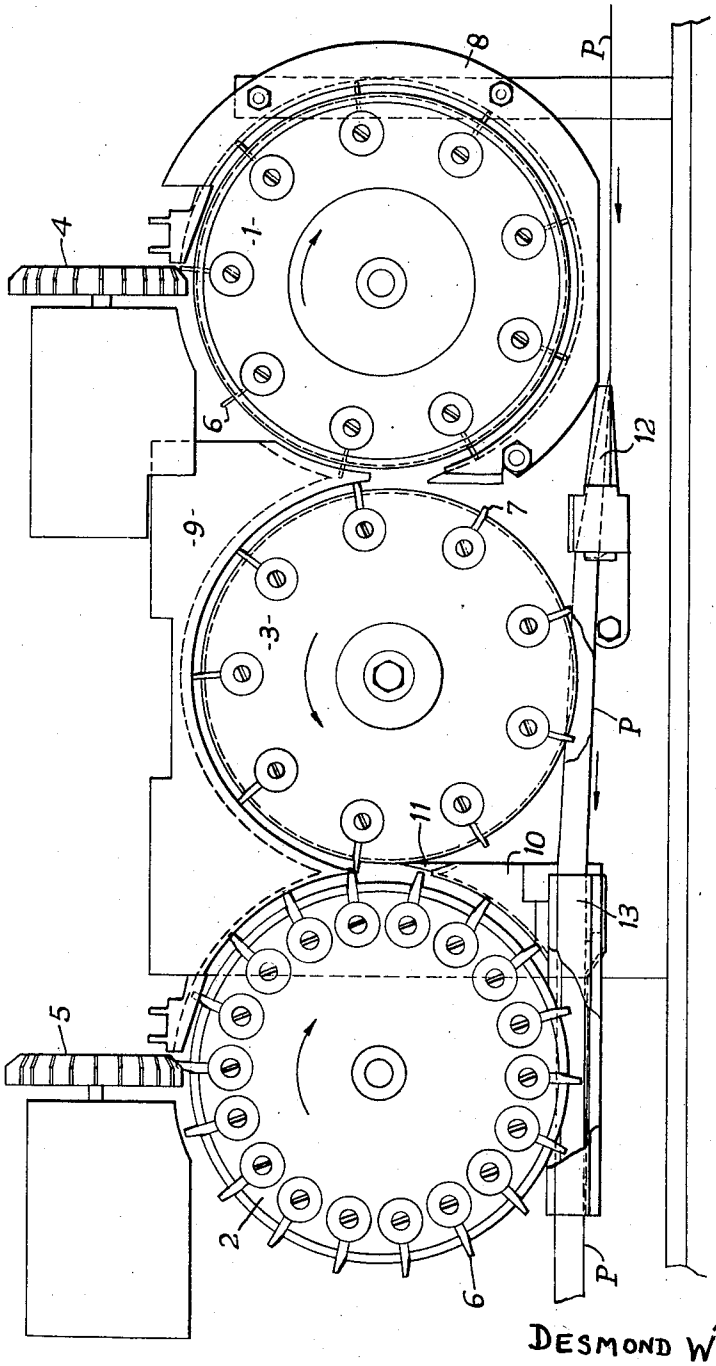
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MANUFACTURE OF COMPOSITE MOUTHPIECES FOR CIGARETTES

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MANUFACTURE OF COMPOSITE MOUTHPIECES FOR CIGARETTES

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1 Claim. (Cl. 53—177)

This invention concerns improvements in or relating to the manufacture of composite mouthpieces for cigarettes. A composite mouthpiece in accordance with this invention consists of a length of hollow tube with a stub of shorter length inside it, so as to leave the tube hollow at one end which will form a hollow end of a mouthpiece cigarette when the mouthpiece is united with a plain cigarette, or enclosed, in endwise abutment with a tobacco section, within a cigarette-paper wrapper.

The manufacture of such composite mouthpieces is described and illustrated in the complete specification and drawings of United States application Serial No. 418,144. In that disclosure the mouthpieces are made by depositing stubs at spaced intervals on a moving web of stiff paper, which is subsequently folded and secured about the stubs to enclose them in a tube, with spaces between the stubs. This tube, or composite mouthpiece rod, is cut into separate sections by cutting midway through the stubs. A double-length mouthpiece portion, suitable for insertion between two tobacco sections in the manufacture of mouthpiece cigarettes, thus consists of two stubs at opposite ends of a tube, with a hollow space between them, so that when the composite cigarette rod so formed is subdivided to form individual mouthpiece cigarettes, the double-length mouthpiece portion will be cut midway along its hollow section, thus leaving an open hollow tube at the end of each cigarette.

In the disclosure mentioned above, the stubs are deposited on the paper web by a pair of stub wheels, each of which deposits stubs at spaced intervals which are twice as great as required, the arrangement being such that the second in line of the two stub wheels places stubs between the stubs already deposited by the first wheel. The present invention provides an improved means for depositing the stubs.

According to the present invention there is provided means for depositing articles (e.g. stubs) at desired spaced intervals along a moving surface (e.g. a web of paper or the like) comprising a pair of rotatable elements each arranged to receive articles from a supply, and each arranged to carry a succession of said articles at spaced intervals greater than (e.g. twice as great as) the intervals at which it is desired to deposit them on said surface, and means to transfer articles from one of said elements to the other in such manner that each article so transferred is arranged between two spaced articles carried by the said other element, the said other element being arranged to deposit all the articles on to said surface. Preferably the articles are transferred from one element to the other by a rotatable transfer element located between the two first-named elements.

Apparatus in accordance with the invention will now be described by way of example with reference to the accompanying drawing, which shows a pair of stub-wheels 1 and 2, with a transfer wheel 3 arranged between them. The two stub-wheels are arranged to receive stubs from fluted drums 4 and 5 forming part of stub-feeding

apparatus, and are provided with peripheral pushers 6 to engage stubs and remove them from the flutes of the drums 4 and 5 and feed them downwardly. The arrangement so far described in very similar to that disclosed in the prior United States application referred to above. It will be appreciated that as it is desired to arrange the stubs quite close together on the paper web, it is desirable, for high-speed operation, to employ two stub-wheels, as it is very difficult to feed stubs to a stub-wheel, by means of stub-feeding apparatus of the character employed in this and in the earlier construction referred to at high speed and at the short intervals at which they are required on the paper web. In the present construction, however, instead of the two stub-wheels being arranged to deposit their stubs independently on the paper web P, the stub-wheel 1 is arranged to trasfer its stubs (by means of the transfer wheel 3, to the wheel 2, which deposits all the stubs on to the paper web. Each of the stub-wheels (as in the earlier case) has its pushers 6 arranged at such spaced intervals as to carry stubs spaced twice as far apart as required on the paper web, but the wheel 2, for reasons that will be explained shortly, is also provided with an extra set of pushers, which, however, do not take stubs from the fluted drum 5. The transfer wheel 3 has peripheral pushers 7, spaced at the same intervals as the pushers 6 on the wheel 1, and which are slotted so as to be able to pass the pushers 6 on the wheels 1 and 2. An arcuate guide 8 is arranged to guide stubs carried by the wheel 1 towards the transfer wheel 3. A further arcuate guide 9 controls the stubs carried by the transfer wheel 3, one end of this guide being arranged close to the wheel 1 so as to strip the stubs from it. Another arcuate guide 10 is arranged to guide the stubs carried by the wheel 2 down to the paper web, and this guide has an extension 11 which strips stubs from the transfer wheel 3.

The wheel 2 as stated above has twice as many pushers 6 as has the wheel 1, but stubs are taken from the fluted drum 5 by every alternate one of the pushers on the wheel 2, while the intermediate pushers take stubs from the transfer wheel 3.

The paper web P passes through guides 12 and 13 which form it to U cross-section.

It is found that by the arrangement described it is possible to deposit stubs at desired spaced intervals with more certainty and better control than with the earlier arrangement referred to, in which there was the risk that stubs placed on the web by the first wheel might become displaced before reaching the second wheel. It will be seen that the present arrangement makes it possible to employ two stub-wheels each taking stubs from a separate source (which is desirable in order to feed stubs at high speed and in closely spaced succession on to the paper web) while at the same time the placing of the stubs on the paper is effected by only one of these wheels.

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

Apparatus for making a continuous rod of composite mouthpiece material consisting of a hollow tube containing stubs at spaced intervals along its length, with hollow spaces between the stubs, comprising means to carry a web of paper lengthwise, a rotatable wheel mounted above said paper web and having pushers equally spaced about its periphery, means to supply stubs to said wheel so that only alternate pushers engage and push stubs toward the paper web, a further rotatable wheel having pushers on its periphery, means to supply stubs to said further wheel for engagement by pushers on the latter, and means to transfer the stubs from said further wheel to the first said wheel so that the stubs so transferred are engaged and pushed toward the paper web by pushers

located between the said alternate pushers on the first said wheel, whereby all the stubs are carried by the first said wheel at equally spaced intervals about its periphery, the first said wheel being arranged to deposit the stubs on the paper web at equally spaced intervals along the length of the web.

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