

DEVICE FOR A SMOKING ARTICLE

The present invention relates to a device for holding a smoking article that has a liquid delivery member disposed therein.

Smoking articles, particularly cigarettes, generally comprise a filter aligned in end-to-end relationship with a shredded tobacco rod or another aerosol forming substrate. Typically, the filter includes a plug of cellulose acetate tow attached to the tobacco rod by tipping paper. A cigarette is employed by a consumer by lighting one end thereof and burning the shredded tobacco rod. The consumer receives mainstream smoke by drawing on the opposite end (mouth end or filter end) of the cigarette. Ventilation of the mainstream smoke can be achieved with a row or rows of perforations in the tipping paper about a location along the filter. Other known smoking articles include smoking articles in which tobacco material is heated, rather than combusted, to form an aerosol, and smoking articles in which a nicotine-containing aerosol is generated from tobacco material, tobacco extract, or other nicotine source, without combustion or heating.

Smoking articles including flavourants that are released into the mainstream smoke of the smoking article during combustion, in order to modify the smoking characteristics thereof, are known in the art. Flavourants may be used to enhance the tobacco flavours produced upon heating or combusting the tobacco material, or to provide additional non-tobacco flavours such as mint or menthol. The flavourants may be provided in a liquid delivery member, for example a capsule, comprising structural material enclosing the flavourant. The encapsulated flavourant may be released prior to or during smoking of the smoking article by deforming or destroying the encapsulating structure, for example by crushing.

It would be desirable to provide an improved device for holding smoking articles which include a liquid delivery member.

According to a first aspect of the invention, there is provided a device for holding a smoking article that has a liquid delivery member disposed therein, the device comprising: a support portion for supporting the smoking article during smoking of the smoking article; and a crusher configured to apply external force to a liquid delivery member in the smoking article, wherein the crusher comprises at least one lever for amplifying a force applied by a consumer, to provide the external force on the liquid delivery member in the smoking article.

The device provides for straightforward, consistent and reliable crushing of the liquid delivery member in the smoking article. In this specification, the term "crush" is used to mean to press or squeeze with an external force. The crushing results in deformation or destruction of the liquid delivery member. The liquid delivery member may be reduced in

size after crushing. The deformation of the liquid delivery member may occur steadily over a range of external force. Alternatively, the liquid delivery member may be suddenly deformed

apply an external force to the liquid delivery member of between about 8 N and about 20 N. Even more preferably, the crusher is arranged to apply an external force to the liquid delivery member of between about 12 N and about 16 N. Such a force may correspond to a peak in the force versus compression curve of the liquid delivery member.

The external force may be applied when desired by a consumer, either prior to or during smoking of the smoking article. The external force may be exerted in any direction, but is preferably exerted in a direction perpendicular to the longitudinal direction of the smoking article.

As mentioned in the above first aspect Preferably, the crusher comprises at least one lever for amplifying a force applied by a consumer, to provide the external force on the liquid delivery member in the smoking article. Such an arrangement, which uses leverage to apply the external force, reduces the force which needs to be applied by a consumer. This allows the liquid delivery member to be crushed more easily than would otherwise be possible.

The lever may have any suitable structure in which a lever arm pivots around a hinge or fulcrum so as to amplify the force applied by a consumer. For example, in order to provide maximum mechanical advantage, the liquid delivery member may be aligned generally with the middle of the lever, the consumer's force may be applied on one side of the liquid delivery member and the hinge of the lever may be located on the other side of the liquid delivery member. The structure of the lever should be appropriate to apply the necessary external force to the liquid delivery member using a reasonable force from a consumer.

In a preferred embodiment, the crusher comprises two opposed portions for applying force on respective opposite sides of the liquid delivery member. Providing force on two opposite sides of the liquid delivery member may result in more straightforward, consistent and reliable crushing of the liquid delivery member. This may also provide for release of the liquid in a homogeneous manner throughout the smoking article's cross section.

Preferably, the two opposed portions are biased to a non-crushing position until a force is applied by the consumer. The two opposed portions may comprise two opposite members for transferring a linear compressive force applied by a consumer to the liquid delivery member. Thus, the consumer does not need to touch the smoking article in order to crush the liquid delivery member. More preferably, however, the crusher comprises two opposed levers for applying force on respective opposite sides of the liquid delivery member. The levers amplify torque applied by a consumer. Preferably, the levers are arranged to pivot around a common hinge. Preferably the two levers are arranged to amplify two inwardly directed forces applied by a consumer on the respective levers.

Alternatively, however, the crusher may comprise only a single portion for applying the external force to the liquid delivery member. For example, the crusher may comprise a single lever arm, which may allow straightforward crushing by the consumer using only one hand or

CLAIMS

1. A device for holding a smoking article that has a liquid delivery member disposed therein, the device comprising:

a support portion for supporting the smoking article during smoking of the smoking article; and

a crusher configured to apply external force to the liquid delivery member in the smoking article, wherein the crusher comprises at least one lever for amplifying a force applied by a consumer, to provide the external force on the liquid delivery member in the smoking article.

2. A device according to claim 1, wherein the support portion comprises a mouthpiece.

3. A device according to claim 2, wherein the device comprises a removable cover for the mouthpiece.

4. A device according to any preceding claim, further comprising means for attaching the device to another object.

5. A device according to claim 4, when dependent on claim 3, wherein the means for attaching the device to another object comprises the removable cover for the mouthpiece.

6. A device according to any preceding claim, further comprising means for ejecting the smoking article from the support portion after smoking of the smoking article.

7. A device according to claim 6, wherein the support portion comprises a tubular portion for receiving the smoking article during smoking of the smoking article, and an insert for extending into the tubular portion, wherein the insert is configured to be inserted into the tubular portion after smoking of the smoking article, so as to displace the smoking article from the tubular portion to eject the smoking article from the support portion.

8. A device according to any preceding claim, wherein the support portion is arranged to support smoking articles of at least two different sizes.

9. A device according to claim 8, wherein the support portion is arranged to receive the furthest downstream end of the smoking article, and the support portion comprises a first

upstream tubular portion having a first internal dimension and a second downstream tubular portion having a second internal dimension, the first internal dimension being larger than the second internal dimension.

10. A device according to any preceding claim, wherein the crusher is arranged to apply an external force to the liquid delivery member of between about 5 N and about 24 N.

~~11. A device according to any preceding claim, wherein the crusher comprises at least one lever for amplifying a force applied by a consumer, to provide the external force on the liquid delivery member in the smoking article.~~

~~12~~11. A device according to any preceding claim, wherein the crusher comprises two opposed portions for applying force on respective opposite sides of the liquid delivery member.

~~13~~12. A device according to any preceding claim, wherein the crusher comprises at least one protrusion for applying the external force to the liquid delivery member.

~~14~~13. A device according to any preceding claim, wherein the device is arranged such that, when a smoking article is supported by the support portion for smoking of the smoking article, the crusher is positioned to apply the external force to the liquid delivery member.

~~15~~14. Use of a device for holding a smoking article that has a liquid delivery member disposed therein, the device comprising a support portion for supporting the smoking article during smoking of the smoking article, and a crusher configured to apply external force to a liquid delivery member in the smoking article.