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(54) Title: A PACKAGE FOR SMOKING ARTICLES

(57) Abstract: The application relates to a package for smoking articles. The package comprises a cartridge unit in which articles are receivable, and a hinge unit attachable to the cartridge unit. The hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit. Therefore, articles received in the cartridge are accessible. The application also relates to a hinge unit for mounting to a cartridge unit containing smoking articles, a cartridge unit for containing smoking articles configured to be attached to a hinge unit, a smoking article holder for a package for smoking articles, a holder configured to hold a plurality of cartridge units, and a method of mounting smoking articles in a package for smoking articles.

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A package for smoking articles

Description
The present application relates to a package for smoking articles. Furthermore, the application also relates to a hinge unit for mounting to a cartridge unit containing smoking articles, a cartridge unit for containing smoking articles configured to be attached to a hinge unit, a smoking article holder for a package for smoking articles, a holder configured to hold a plurality of cartridge units, and a method of mounting smoking articles in a package for smoking articles.

Protective packages or containers for smoking articles are known, and are in widespread use in the tobacco industry to protect smoking articles from damage and/or contamination. Such a protective package generally comprises a rigid housing in which a plurality of smoking articles are received, the rigid housing comprising a main body and a lid which is hinged about an opening to the main body to expose the opening and allow access to smoking articles received in the main body. However, it can be difficult to grasp smoking articles received in the main body and exposed only at the opening.

In view of the foregoing, the present invention seeks to provide a package for smoking articles that overcomes or substantially alleviates the problems referred to above, among others.

According to an aspect of the present invention, there is provided a package for smoking articles comprising a cartridge unit in which articles are receivable, and a hinge unit attachable to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

The cartridge unit may comprise a first housing section and a second housing section. The first section may be configured to move relative to the second housing
section between a closed and an open condition when the hinge unit is attached to the cartridge unit.

The hinge unit may be configured to guide movement of the first housing section and the second housing section about the hinge unit when the hinge unit is attached to the cartridge unit.

The hinge unit may comprise a first hinge element and a second hinge element which are movable relative to each other. The first housing section may be attachable to the first hinge element and the second housing section may be attachable to the second hinge element.

The second hinge element may be rotatable about a rotational axis of the hinge unit, such that the second housing section is rotatable about the rotational axis of the hinge unit when the hinge unit is attached to the cartridge unit.

The hinge unit may further comprise a central shaft, the first and second hinge elements extending around the central shaft.

The first hinge element may be rotatable around the central shaft.

The first hinge element may have a shoulder, and the central shaft may have a recess in which the shoulder is received with two end stops. The shoulder may be slidable in the recess between the two end stops so that, when the first hinge element is rotated about the shaft, the shoulder abuts the end stops to limit the rotation of the first hinge element about the central shaft.

The shoulder and one of the end stops may have facing retaining elements which are configured to locate against each other when the shoulder abuts said side surface to resist rotation of the first hinge element about the central shaft.

The cartridge unit may further comprise an article holder which is configured to retain one or more articles received in the cartridge unit.
The first housing section may be configured to move relative to the article holder.

The second housing section may be configured to move relative to the article holder.

The article holder may be attachable to the hinge unit.

The hinge unit may further comprise a third hinge element relative to which the first and second hinge elements are movable. The article holder may be attachable to the third hinge element.

The article holder may comprise a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles. The second portion may be movable about the first portion when the cartridge unit is moved between a closed condition and an open condition so that one or more articles retained by the second portion splay away from the one or more articles retained by the first portion.

The first housing section may comprise a guide element configured to act on the second portion of the article holder to urge the second portion to move about the first portion when the first housing section is moved relative to the article holder.

In an embodiment, the article holder may comprise a base mount and a plurality of pins upstanding from the base mount which are configured to retain an end of one or more articles received in the cartridge unit. In another embodiment, the article holder may comprise a base mount and a sub-holder configured to retain an end of one or more articles received in the cartridge unit, wherein the sub-holder is mountable to the base mount.

The package may further comprise an attachment means configured to releasably attach the hinge unit to the cartridge unit.
The attachment means may comprise an attachment leg extending from the cartridge unit or hinge unit which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit.

5 The attachment means may further comprise a retaining means configured to releasably retain the hinge unit to the cartridge unit when the hinge unit is attached to the cartridge unit.

10 The package may further comprise an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit.

The engagement means may be configured to engage the hinge unit with the cartridge unit when the cartridge unit is in its open condition to prevent detachment of the hinge unit from the cartridge unit, and to disengage the cartridge unit from the hinge unit when the cartridge unit is in its closed condition to allow the hinge unit to be detached from the cartridge unit when the cartridge unit is in its closed condition.

15 The engagement means may comprise an engagement leg extending from the cartridge unit or hinge unit which is receivable in an engagement leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit and an engagement element movable to extend into the cavity when the cartridge is in its open position to engage with the engagement leg.

20 The package may further comprise a locking means configured to prevent the cartridge unit from moving between the closed condition and the open condition when the hinge unit is detached from the cartridge unit.

25 The hinge unit may form a key which is configured to act on the locking means when the hinge unit is attached to the cartridge unit to release the locking means so
that the cartridge unit is able to move between the closed condition and the open condition.

The locking means may comprise a locking member configured to locate against a locking face when the hinge unit is detached from the cartridge unit. The key may be configured to act on the locking member to move the locking member away from the locking face when the hinge unit is attached to the cartridge unit to release the locking means.

According to another aspect of the present invention, there is provided a package for smoking articles comprising a cartridge unit in which articles are receivable, a hinge unit attachable to the cartridge unit, and an attachment means for attaching the hinge unit to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

The attachment means may comprise an attachment leg extending from the cartridge unit or hinge unit which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit.

The hinge unit may have an attachment leg receiving cavity and the attachment leg may extend from the cartridge unit so that the attachment leg is receivable in the attachment leg receiving cavity.

The attachment means may comprise a retaining means configured to releasably retain the attachment leg in the attachment leg receiving cavity.

The retaining means may comprise a retaining element in the leg receiving cavity configured to act on the attachment leg to resist removal of the attachment leg from the cavity.
The retaining element may be a magnet.

The retaining element may be configured to urge against the attachment leg when the attachment leg is received in the cavity.

The retaining element may be a resilient element which extends into the attachment leg receiving cavity.

The attachment leg may further comprise a retaining face against which the resilient element is locatable when the attachment leg is received in the cavity.

The retaining face may extend at an oblique angle to the direction of removal of the attachment leg from the cavity.

The cartridge unit may further comprise an article holder which is configured to retain one or more articles received in the cartridge unit and a housing section which is configured to move relative to the article holder.

The attachment means may be on the article holder.

According to another aspect of the present invention, there is provided a package for smoking articles comprising a cartridge unit in which articles are receivable, and a hinge unit attachable to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition, and an engagement means configured to engage the cartridge unit with the hinge unit when the hinge unit is attached to the cartridge unit to prevent detachment of the hinge unit from the cartridge unit.

The engagement means may be configured to engage the hinge unit with the cartridge unit when the cartridge unit is in its open condition to prevent detachment of the hinge unit from the cartridge unit, and to disengage the cartridge unit from
the hinge unit when the cartridge unit is in its closed condition to allow the hinge unit to be detached from the cartridge unit when the cartridge unit is in its closed condition.

5 The engagement means may comprise an engagement leg extending from the cartridge unit or hinge unit, an engagement leg receiving cavity in the corresponding cartridge unit or hinge unit in which the engagement leg is receivable to attach the hinge unit to the cartridge unit, and an engagement element movable to extend in the cavity when the cartridge is in its open position to engage with the engagement leg.

The engagement leg may comprise an engagement face against which the resilient element is locatable when the engagement leg is received in the cavity.

10 The engagement face may extend at an oblique angle to the direction of removal of the engagement leg from the cavity.

The engagement face may be formed by an engagement protrusion on the engagement leg or an engagement groove formed in the engagement leg.

15 The engagement leg receiving cavity may be in the hinge unit and the engagement leg may extend from the cartridge unit so that the engagement leg is receivable in the engagement leg receiving cavity.

20 The cartridge unit may comprise a first housing section and a second housing section. The first section may be configured to move relative to the second housing section between a closed and an open condition when the hinge unit is attached to the cartridge unit, and the engagement leg may extend from the first housing section.

25 The hinge unit may comprise a first hinge element and a second hinge element which are movable relative to each other. The first housing section may be
attachable to the first hinge element and the second housing section may be attachable to the second hinge element.

The engagement element may be configured to slide into the engagement leg receiving recess when the cartridge unit moves between a closed condition and an open condition.

The hinge unit may further comprise a central shaft. The first hinge element may be rotatable around the central shaft.

The engagement element may be formed by the central shaft.

The engagement element may be a rail extending from the central shaft which is configured to slide along a groove formed in the engagement leg receiving cavity to protrude in the engagement leg receiving cavity when the first hinge element rotates around the central shaft.

According to another aspect of the present invention, there is provided a package for smoking articles comprising a cartridge unit in which articles are receivable, the cartridge unit being movable between a closed condition and an open condition so that articles received in the cartridge unit are accessible, the cartridge unit further comprising a locking means configured to prevent the cartridge unit from moving between the closed condition and the open condition and the package further comprising a key which is attachable to the housing, wherein the key is configured to act on the locking means to allow the cartridge unit to move between the closed condition and the open condition when the key is attached to the housing.

The key may be a hinge unit configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.
The hinge unit may be configured to act on the locking means when the hinge unit is attached to the cartridge unit to release the locking means so that the cartridge unit is able to move between the closed condition and the open condition.

The locking means may comprise a locking member configured to locate against a locking face when the hinge unit is detached from the cartridge unit. The key may be configured to act on the locking member to move the locking member away from the locking face when the hinge unit is attached to the cartridge unit to release the locking means.

The cartridge unit may further comprise an article holder which is configured to retain one or more articles received in the cartridge unit and a housing section which is configured to move relative to the article holder between the closed condition and the open condition.

The locking face may be formed on one of the article holder or housing section, and the locking member may extend from the corresponding article holder or housing section to locate against the locking face when the hinge unit is detached from the cartridge unit.

The locking member may be biased towards the locking face.

The package may further comprise an attachment leg extending from the article holder or housing section which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit. The locking member extends from the attachment leg.

The hinge unit may have an attachment leg receiving cavity and the locking member may be configured to abut against the leg receiving cavity when the hinge unit is attached to the cartridge unit so that the locking member is urged to move away from the locking face.
The locking member may extend at an oblique angle to the direction of insertion of
the attachment leg in the attachment leg receiving cavity.

The housing section may be a first housing section, and the cartridge may further
comprise a second housing section configured to move relative to the first housing
section when the cartridge unit moves between a closed condition and an open
condition, and a latch at a distal end of the cartridge unit to the locking means. The
latch may be configured to maintain the first and second housing sections in contact
with each other at the distal end of the cartridge unit when the cartridge unit is in
the closed condition.

According to another aspect of the present invention, there is provided a smoking
article holder for a package for smoking articles comprising a sub-holder configured
to retain an end of one or more smoking articles and a base mount, wherein the
sub-holder is mountable to the base mount.

The sub-holder may comprise first and second holding parts which are brought
together to enclose an end of the one or more smoking articles.

The first and second holding parts may be hingedly mounted to each other at one
end so that the second holding part is rotatable to enclose an end of the one or
more smoking articles.

At least one end of the first holding part may be attachable to the second holding
part so that the first and second holding parts are retained in position against each
other.

The sub-holder may be a first sub-holder, and the holder may further comprise at
least a second sub-holder. The second sub-holder may be mountable to the base
mount.

The second sub-holder may be configured to move relative to the first sub-holder
so that one or more articles retained by the second sub-holder splay away from
one or more articles retained by the first sub-holder when the second sub-holder moves relative to the first sub-holder.

The base mount may comprise a first base portion and a second base portion. The second base portion may be configured to pivot relative to the first base portion. The first base portion may be configured to mount the first sub-holder thereon and the second base portion may be configured to mount the second sub-holder thereon.

The second base portion may be pivotably mounted to the first base portion by a pin hinge or a live hinge.

According to another aspect of the present invention, there is provided a package for smoking articles comprising a smoking article holder according to any of claims 64 to 71.

According to another aspect of the present invention, there is provided a package for smoking articles having a cartridge unit comprising a first housing section, a second housing section and an article holder for holding articles, the first housing section being configured to move relative to the second housing section between a closed and an open condition so that articles received in the cartridge unit are accessible when the cartridge unit is in its open condition, wherein the article holder comprises a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles, the second portion being movable about the first portion when the first housing section is moved relative to the second housing section so that one or more articles retained by the second portion splay away from one or more articles retained by the first portion.

The first housing section may be configured to move relative to the article holder.
The first housing section may comprise a guide element configured to act on the second portion of the article holder to urge the second portion to move about the first portion when the first housing section is moved relative to the article holder.

5 The guide element may be a guide face configured to abut against the second portion and urge the second portion to move about the first portion.

The article holder may further comprise a guide element configured to urge the second portion of the article holder to pivot about the first portion.

10 The guide element may be a magnet.

The second portion may be pivotably mounted to the first portion by a pin hinge or a live hinge.

15 The second housing section may be configured to move relative to the article holder.

The article holder may further comprise a third portion configured to retain an end of one or more articles. The third portion may be movable about the first portion when the second housing section is moved relative to the article holder so that one or more articles retained by the third portion splay away from one or more articles retained by the first portion

20 The second housing section may comprise a guide element configured to act on the third portion of the article holder to urge the third portion to pivot about the first portion when the second housing section is moved relative to the article holder.

25 The guide element may be a guide face configured to abut against the third portion and urge the third portion to pivot about the first portion.

30 The guide face may be formed by a ledge.
The article holder may comprise a base mount. The first portion may comprise a first base portion of the base mount and a first sub-holder configured to retain an end of one or more articles, and the second portion may comprise a second base portion of the base mount and a second sub-holder configured to retain an end of one or more articles.

The article holder may further comprise a resilient member which is configured to urge the second portion to pivot relative to the first portion.

According to another aspect of the present invention, there is provided a hinge unit for mounting to a cartridge unit in which articles are receivable, the hinge unit being configured to attach to a cartridge unit to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

The hinge unit may comprise first and second hinge elements configured to attach to the cartridge unit, where the first hinge element may be rotatable relative to the second hinge element about a central axis of the first and second hinge elements to enable the cartridge unit to move between a closed condition and an open condition.

The first hinge element may comprise an attachment means configured to releasably attach the hinge unit to the cartridge unit.

The second hinge element may comprise an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit when the cartridge is in its open condition.

The hinge may be cylindrical.

The diameter of the hinge may be configured to be equal to the depth of a cartridge unit in a closed condition.
The hinge unit may comprise a first hinge element configured to attach to a first housing section of a cartridge unit and a second hinge element configured to attach to a second housing section of a cartridge unit, wherein the first hinge element may be rotatable relative to the second hinge element about the central axis of the first and second hinge elements such that, when a cartridge unit is mounted to the hinge unit, a first housing section of the cartridge unit is movable relative to a second housing section of the cartridge unit.

According to another aspect of the present invention, there is provided a cartridge unit for receiving smoking articles which is attachable to a hinge unit and is configured to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

The cartridge unit may further comprise a first housing section and a second housing section which are configured to be attached to a hinge unit wherein the first housing section is configured to rotate about a hinge unit relative to the second housing section when the cartridge unit is attached to a hinge unit so that the cartridge unit moves between its closed and an open condition.

The cartridge unit may further comprise a locking means configured to prevent the cartridge unit from moving between the closed condition and the open condition when the hinge unit is detached from the cartridge unit.

The cartridge unit may further comprise an article holder configured to retain one or more articles received in the cartridge unit.

The article holder may comprise a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles, the second portion may be movable about the first portion when the cartridge unit is moved between a closed condition and an open condition so that
one or more articles retained by the second portion splay away from the one or more articles retained by the first portion.

The cartridge unit may further comprise an attachment means configured to releasably attach the hinge unit to the cartridge unit.

The cartridge unit may further comprise an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit when the cartridge is in its open condition.

According to another aspect of the present invention, there is provided a holder configured to hold a plurality of cartridge units which upstand from the holder.

The holder may further comprise a mounting element to receive a hinge unit.

The hinge unit may comprise a bore formed therethrough and the mounting element may be a protruding rod which is received in the bore.

According to another aspect of the present invention, there is provided a kit comprising a hinge unit and a plurality of cartridges for smoking articles, wherein each of the plurality of cartridges is separately attachable to the hinge unit.

The kit may further comprise a holder for holding two or more cartridge units.

According to another aspect of the present invention, there is provided a method of opening a package for smoking articles having a cartridge unit in which articles are receivable, the method comprising attaching a hinge unit to the cartridge unit, and rotating a section of the cartridge unit about the hinge unit to move the cartridge unit between a closed condition and an open condition so that articles received in the cartridge unit are accessible when the cartridge unit is in its open condition.

According to another aspect of the present invention, there is provided a method of mounting smoking articles in a package for smoking articles, comprising mounting
an end of one or more smoking articles in a sub-holder and mounting the sub-holder to a base mount to form a smoking article holder.

The method may further comprise receiving the smoking article holder and one or more smoking articles in a housing.

The sub-holder may comprise first and second holding parts, and the method may further comprise locating an end of one or more smoking articles against the first holding part and enclosing the end of the one or more smoking articles with the second holding part.

According to another aspect of the present invention, there is provided a package for smoking articles comprising a cartridge unit in which articles are receivable having a first housing section and a second housing section, and a hinge unit attachable to the cartridge unit, wherein the first housing section is configured to hinge about the hinge unit relative to the second housing section between a closed and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge are accessible.

Embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a package for smoking articles shown in a closed position with a cartridge unit and a hinge unit in accordance with an embodiment of the present invention;

Figure 2 is a perspective view of the package for smoking articles shown in Figure 1 in an open position with smoking articles received in the cartridge unit;

Figure 3 is a perspective view of the package for smoking articles shown in Figure 1 in an open position with smoking articles removed from the cartridge unit;

Figure 4 is a perspective view of the package for smoking articles shown in Figure 1 with the hinge unit removed from the cartridge unit;

Figure 5 is an exploded view of the package for smoking articles shown in Figure 1:
Figure 6 is a cross-sectional view of the package for smoking articles shown in Figure 1;

Figure 7 is a perspective view of a holder for multiple cartridge units and the hinge unit of the package for smoking articles shown in Figure 1;

Figure 8 is a perspective view of the holder shown in Figure 7, with the hinge unit removed from the holder;

Figure 9 is a perspective view of a package for smoking articles with a cartridge unit and a hinge unit shown in an open position with smoking articles received in the cartridge unit in accordance with another embodiment of the invention;

Figure 10 is a perspective view of the package shown in Figure 9 in a closed position;

Figure 11 is an exploded perspective view of the cartridge unit shown in Figure 9;

Figure 12 is a perspective view from below of the cartridge unit shown in Figure 9;

Figure 13 is an enlarged view of the perspective view shown in Figure 12;

Figure 14 is a plan view from below of the cartridge unit shown in Figure 9;

Figure 15 is an exploded side view of the cartridge unit shown in Figure 9;

Figure 16 is a side view of a smoking article holder of the cartridge unit with smoking articles received therein;

Figure 17 is a perspective of the smoking article holder of the cartridge unit shown in Figure 16 with smoking articles received therein;

Figure 18 is a perspective view of a sub-holder of the cartridge unit shown in Figure 17;

Figure 19 is an unassembled perspective view of the sub-holder of the smoking article holder shown in Figure 18;

Figure 20 is a plan view of the hinge unit shown in Figure 9 with the outer rings in a closed position;

Figure 21 is a perspective view of the hinge unit shown in Figure 20 with the outer rings in a closed position;

Figure 22 is a plan view of the hinge unit shown in Figure 20 with the outer rings in an open position;

Figure 23 is a perspective view of the hinge unit shown in Figure 20 with the outer rings in an open position;

Figure 24 is an exploded perspective view of the hinge unit shown in Figure 20;
Figure 25 is another exploded perspective view of the hinge unit shown in Figure 20;
Figure 26 is another exploded perspective view of the hinge unit shown in Figure 20;
Figure 27 is a perspective view of an outer ring of the hinge unit shown in Figure 20;
Figure 28 is a side view of the outer ring shown in Figure 27;
Figure 29 is a perspective view of an inner ring of the hinge unit shown in Figure 20;
Figure 30 is a side view of the inner ring shown in Figure 29;
Figure 31 is a perspective view from above of a central shaft of the hinge unit shown in Figure 20;
Figure 32 is a plan view from above of the central shaft shown in Figure 31;
Figure 33 is a plan view from below of the central shaft shown in Figure 31;
Figure 34 is a partial cross-sectional side view of the package shown in Figure 9 through one of the outer rings of the hinge unit with the package in a closed position and the sub-holders omitted;
Figure 35 is a partial cross-sectional side view of the package shown in Figure 9 through one of the outer rings of the hinge unit with the package in an open position and the sub-holders omitted;
Figure 36 is a partial cross-sectional side view of the hinge unit shown in Figure 20 through the inner ring of the hinge unit with the package in a closed position; and Figure 37 is a partial cross-sectional side view of the package shown in Figure 9 through the inner ring of the hinge unit with the package in a closed position.

Referring to Figures 1 to 4, a package 1 for smoking articles is shown comprising a cartridge unit 2 and a hinge unit 3. The hinge unit 3 is cylindrical.

As used herein, the term "smoking article" includes any tobacco industry product including smokeable products such as cigarettes, cigars and cigarillos whether based on tobacco, tobacco derivatives, expanded tobacco, reconstituted tobacco or tobacco substitutes and also heat-not-burn products but is not limited thereto. The smoking article may be provided with a filter for the gaseous flow drawn by the smoker.
The cartridge unit 2 is removably attached to the hinge unit 3, as shown in Figure 4. That is, the cartridge unit 2 and the hinge unit 3 are separable from each other. The cartridge unit 2 has an outer shell or housing 4 with opposing first and second housing sections 5, 6. A smoking article receiving space 7 is defined by the housing 4 in which smoking articles 8 are received. The first and second housing sections 5, 6 are separable to provide access to the smoking article receiving space 7.

The first and second housing sections 5, 6 are elongate. Each of the first and second housing sections 5, 6 are mountable to the hinge unit 3 at one end. That is, the first and second housing sections 5, 6 are attachable to the hinge unit 3. The two housing sections are rotatable about the hinge unit 3 between a closed position, as shown in Figure 1, in which the housing sections 5, 6 locate against each other such that smoking articles 8 are enclosed by the outer housing 4, and an open position, as shown in Figure 2, in which the housing sections 5, 6 are hinged away from each other about the hinge unit 3 so that the smoking articles 8 disposed in the smoking article receiving space 7 are accessible.

The first housing section 5 of the cartridge unit 2 has a rear wall 9, two opposing side walls 10 and a top wall 11. The side walls 10 of the first housing section 5 extend from opposing edges of the rear wall 9, and extend parallel to, but spaced from each other. The top wall 11 extends from the upper end of the rear and side walls 9, 10. Referring to Figure 5, a flange extends inwardly from the lower end of the rear wall 9 to form part of a bottom wall 13. The bottom wall 13 has an arcuate bottom face 14. The arcuate bottom face 14 of the first housing section 5 corresponds to the circumference of the outer surface of the hinge unit 3 so that it locates thereagainst, as will become apparent hereinafter.

Similarly, the second housing section 6 has a rear wall 16, two opposing side walls 17 and a top wall 18. The side walls 17 of the second housing section 6 extend from opposing edges of the rear wall 16, and extend parallel to, but spaced from each other. The top wall 18 extends from the upper end of the rear and side walls 16, 17. A flange extends inwardly from the lower end of the rear wall 16. The flange forms
a bottom wall 19 of the second housing section 6. The bottom wall 19 has an arcuate bottom face 20.

When the package 1 is in its closed position, as shown in Figure 1, a free edge 22 of the first housing section side and top walls 10, 11 abuts against a free edge 23 of the second housing section side and top walls 17, 18. Therefore, the smoking article receiving space 7 (refer to Figure 2) defined by the outer housing 4 is enclosed by the housing 4.

The outer housing 4 also has an inner lip 25 which is offset from an inner side of the free edge 22 of the first housing section 5 and extends outwardly therefrom. The free edge 23 of the second housing section 6 overlaps the inner lip 25 of the first housing section 5 when the first and second housing sections 5, 6 are brought together into the pack's closed position. The inner lip 25 restricts the ingress of contaminants into the smoking article receiving space 7 of the cartridge unit 2. In the present embodiment, the inner lip 25 is formed from an elongate sheet 26 (refer to Figure 5) which is formed into a u-shape and is fixedly mounted to the first housing section 5 by known means, such as an adhesive. Alternatively, the inner lip 25 may be integrally formed with the first housing section 5.

Referring to Figure 5, the first housing section 5 has two legs 27, 28 extending downwardly from its lower end. One of the legs 27 extends from the arcuate bottom face 14 of the first housing section 5 and the other leg 28 extends downwardly from an extended portion 29 of the arcuate bottom wall 13 of the first housing section 5. Therefore, the two legs 27, 28 extend parallel to, but spaced from, each other with an arced face defined therebetween. A magnet 30, acting as a retaining element, is fixedly mounted to each leg 27, 28. Each retaining element is mounted to the free end of each leg 27, 28. The retaining elements 30 are each received in corresponding recesses 31 in the end of each leg 27, 28.

The second housing section 6 has two legs 33, 34 extending downwardly from its lower end. One of the legs 33 extends from the arcuate bottom face 20 of the second housing section 6 and the other leg 34 extends downwardly from an
extended portion (not shown) of the arcuate bottom wall 20 of the second housing section 6. Therefore, the two legs 33, 34 extend parallel to, but spaced from, each other with an arced face defined therebetween. A magnet 36, acting as a retaining element, is fixedly mounted to each leg 33, 34. Each retaining element is mounted to the free end of each leg 33, 34. The retaining elements 36 are each received in corresponding recesses 37 in the end of each leg 33, 34.

Although each housing section 5, 6 has two legs, in an alternative embodiment each housing section has a single leg as will become apparent hereinafter. It will be understood that the features of the embodiments described having two legs, for example the retaining elements, may also be used together with the embodiments described below in which each housing section has a single leg.

The two legs 27, 28 of the first housing section 5 are disposed adjacent to, but slightly inset from, one side wall 10. The two legs 33, 34 of the second housing section 6 are disposed adjacent to, but slightly inset from, the opposing side wall 17 of the second housing section 6 when the two housing sections are brought together. Therefore, the legs 27, 28 of the first housing section 5 are disposed on the opposing side of the outer housing 4 to the legs 33, 34 of the second housing section 6. When the cartridge unit 2 is assembled and the housing sections are brought together the legs 27, 28 of the first housing section 5 and the legs 33, 34 of the second housing section 6 extend parallel to each other from the lower end of the cartridge unit 2. In the present embodiment, the first housing section 5 and the second housing section 6 are identical to each other, with the exception of the inner lip 26 which is fixedly mounted to the first housing section 5. An advantage of this arrangement is that a single mold may be used to form each of the housing sections.

Referring to Figures 3 to 5, the cartridge unit 2 further comprises a smoking article holder. The smoking article holder is arranged to hold smoking articles. That is, the smoking article holder is configured to retain the end of a plurality of smoking articles 8.
The smoking article holder has a base mount 38. The base mount 38 has a middle base portion 39 and two outer base portions 40. The two outer base portions 40 are disposed on opposite sides of the middle base portion 39. The base mount 38 further has a base support plate 41 and a base support 42.

The base support 42 has a body 43 with an upper face 44 and a lower face 45. The lower face 45 is arcuate. The upper face 44 has two mounting studs 45 on a rectangular platform 46 upstanding from a central region of the body upper face 44. The mounting studs 45 are arranged to fixedly mount the middle base portion 39 to the base support 42. The upper face 44 further comprises two outer parts 47. Each of the two outer parts 47 has a magnet 48, acting as a guide element, fixedly mounted therein. The two outer parts 47 of the upper face 44 extend at an oblique angle to the central region 46. Two base legs 50, 51, acting as attachment legs, extend downwardly from opposing edges of the arcuate lower face 45 of the base support body 43. Each base leg 50, 51 has a magnet 52, acting as a retaining element. Each retaining element 52 is fixedly mounted to the free end of the corresponding base leg 50, 51. The retaining elements 52 are received in corresponding recesses 53 at the free end of the base legs 50, 51.

Although the base support 42 has two base legs, in an alternative embodiment the smoking article holder has a single leg as will become apparent hereinafter. It will be understood that the features of the embodiments described having two base legs, for example the retaining elements, may also be used together with the embodiments described below in which each housing section has a single base leg.

The base support plate 41 is formed from a deformable resilient material, such as rubber or polypropylene. The base support plate 41 is generally rectangular with a central rectangular aperture 55 and two circular apertures 56 formed therethrough. One circular aperture 56 is formed either side of the rectangular aperture 55. A cut-out 57 is formed at each corner of the base support plate 41. Each cut-out 57 is configured to receive a corresponding tab 58 extending from the outer base portions 40.
The middle base portion 38 is elongate and comprises a lower surface 59 and an upper surface 60. Two stud holes (not shown) are formed in the lower surface 59 of the middle base portion 38 to receive the mounting studs 45 extending from the upper surface 44 of the base support 42. Therefore, the middle base portion 38 is mountable to the base support 42, and the base support plate 41 is disposable therebetween. A plurality of pins 61 upstand from the upper surface 60 of the middle base portion 38. The pins 61 are spaced from each other and arranged to receive smoking articles therebetween. Therefore, the pins 61 act to retain an end of smoking articles, and so support the smoking articles. The smoking articles 8 may then be held in an upright orientation within the smoking article receiving space 7 defined by the outer housing 4.

The two outer base portions 40 each have two tabs 58. The two tabs on each outer base portion are spaced from each other and extend downwardly from a lower surface 62 thereof. A cylindrical magnet 63, acting as a guide element, is received in the lower surface 62 of each outer base portion 40, and protrudes therefrom. A plurality of pins 64 upstand from an upper surface 65 of each of the two outer base portions 40. The pins 64 are spaced from each other and arranged to receive smoking articles therebetween. Therefore, the pins 64 act to an end of smoking articles, and so support the smoking articles. The smoking articles 8 may then be held in an upright orientation within the smoking article receiving space 7 defined by the outer housing 4.

When the cartridge unit 2 is assembled, the support plate 41 is disposed on the upper surface 44 of the base support 42. The rectangular platform 46 extends through the rectangular aperture 55. The middle base portion 38 is mounted to the base support 42, with the mounting studs 45 being received in the corresponding stud holes (not shown). Outer edges 41a of the support plate 41 extend from the middle base portion 38 over the two outer parts 47 of the base support 42. Each of the two outer base portions 40 is mounted to the support plate 41 with an adhesive.

The lower surface 62 of each of the outer base portions 40 is located against a corresponding outer edge 41a of the support plate 41. Therefore, the magnet 63
protruding from the lower surface 62 is received in the respective circular aperture 56 of the support plate 41, and the tabs 58 are received in the corresponding cut-outs 57. It will be appreciated that each of the outer base portions 40 is pivotable relative to the middle base portion 38 and base support 42. The outer base portions 40 are pivotable relative to the middle base portion 38 by means of the resilience of the support plate 41. However, it will be understood that alternative arrangements may be used, for example a pin hinge or live hinge. The magnets 63, acting as guide elements, protruding from the outer base portions 40 align with the magnets 48, acting as guide elements, fixedly mounted in the two outer parts 47 of the base support 42. Therefore, the two outer base portions 40 are drawn towards the two outer parts 47 of the base support 42 to extend at an angle to the middle base portion 38 by the action of the magnets. When the two outer base portions 40 are able to pivot, smoking articles received in the two outer base portions 40 are able to splay outwardly away from smoking articles received in the middle base portion 38 (refer to Figure 2), as will be described in detail hereinafter.

The assembled smoking article holder is received in the outer housing 4, with the two opposing first and second housing sections 5, 6 positioned to locate against each other so that the cartridge unit 2 is in its closed position as shown in Figure 4. The free edge 23 of the second housing section 6 overlaps the inner lip 25 of the first housing section 5 when the first and second housing sections 5, 6 are brought together. This overlap restricts the ingress of contaminants into the smoking article receiving space 7 of the cartridge unit 2.

Outer edges of the lower surface 59 of the middle base portion 38 are received on the upper side of the extended portion 29 of the arcuate bottom wall 13, 20 of the first and second housing sections 5, 6. The outer edges of the lower surface 59 of the middle base portion 38 and the upper side of the extended portion 29 of the arcuate bottom wall 13, 20 of the first and second housing sections 5, 6 act as guide surfaces which slide over each other as the cartridge unit 2 is moved between open and closed conditions.
Smoking articles are receivable between the pins 61, 64 of the middle and outer base portions 38, 40. Such smoking articles upstand from the middle and outer base portions 38, 40 and are received in the outer housing 4. It will be understood that alternative means of retaining the end of smoking articles by the smoking article holder are envisaged. When the first and second housing sections 5, 6 are brought together, upper ends of the smoking articles received in the outer base portions 40 contact the rear walls 9, 16 of the first and second housing sections 5, 6 and so are urged towards smoking articles received in the middle base portion 38. Therefore, the outer base portions 40 are urged away from the magnets 48 fixedly mounted in the outer parts 47 of the base support 42 so that the smoking articles retained by each of the middle and outer base portions 38, 40 extend parallel to each other and do not splay outwardly. In such an arrangement the smoking articles received in the middle and outer base portions 38, 40 extend substantially parallel to each other in the smoking article receiving space when the pack is in its closed condition.

It will be understood that the bottom wall 13 of the first housing section 5, the bottom wall 19 of the second housing section 6 and the smoking article holder together form the lower end of the cartridge unit 2. The bottom walls 13, 19 of the first and second housing sections 5, 6 and the smoking article holder abut each other and combine to enclose the lower end of the cartridge unit 2.

Referring now to Figures 4 to 6, the hinge unit 3 comprises a central shaft 70, an inner ring 71, first and second outer rings 72, 73, and two end caps 74. The inner ring 71 acts as an inner hinge element. The first and second outer rings 72, 73 act as outer ring elements.

The inner ring 71 and two outer rings 72, 73 are received on the central shaft 70, with the outer rings 72, 73 disposed on either side of the inner ring 71. The two end caps 74 fixedly mount to end surfaces 75 of the central shaft 70. The end caps 74 retain the hinge elements 71, 72, 73 in position on the central shaft 70 and prevent the hinge elements 71, 72, 73 from moving in a direction along a longitudinal axis of the shaft 70.
The central shaft 70 is shown in Figure 5. The central shaft 70 is elongate and defines a longitudinal axis about which the outer rings 72, 73 rotate so that the housing sections 5, 6 are able to pivot about the longitudinal axis of the shaft 70, as will be explained hereinafter. A cylindrical bore 76 is formed through the central shaft 70 extending between the end surfaces 75.

In the present embodiment the central shaft 70 is formed from machined aluminium, although it will be appreciated that the material and method of manufacture is not limited thereto and, for example, the central shaft may be molded or cast, and/or be formed from a plastic material. Although the inner ring 71 is a separate component to the central shaft 70 in the present embodiment, it will be understood that the inner ring 71 may be integrally formed with the central shaft 70.

The central shaft 70 has an outer surface 77. Two diametrically opposing recesses 78, 79 are formed in the outer surface 77 of the central shaft 70 extending parallel to the longitudinal axis of the shaft 70 between the end surfaces 75 of the central shaft 70. Each recess 78, 79 has a lower surface 80 and opposing side surfaces 81, 82. The opposing side surfaces 81, 82 act as end stops for the hinge elements 71, 72, 73 as will become apparent hereinafter.

The central shaft 70 has an inner region 77a which is disposed between first and second outer regions 77b, 77c defined along the longitudinal axis of the central shaft 70. The width of the inner region 77a corresponds to the width of the inner ring 71, and the width of each outer region 77b, 77c corresponds to the width of each of the outer rings 72, 73. In the present embodiment, each ring 71, 72, 73 has an equal width, however it will be understood that the width of the rings may be varied.

A first indent 83 is formed in one of the opposing side surfaces 81 of each recess 78, 79. The first indent 83 is formed in the first outer region 77b of each recess 78, 79. The width of the first indent 83 in the opposing side surfaces 81 in a longitudinal direction of the shaft 70 corresponds to the width of the first outer
region 77b. The first indents 83 mean that the angle between the opposing side surfaces 81, 82 of the recesses 78, 79 in the first outer region 77a is larger than the angle between the opposing side surfaces 81, 82 in the inner region 77b. A back face 84 of each of the first indents 83 and the corresponding opposing side surfaces 82 act as end stops to limit rotation of the first outer ring 72, as will become apparent hereinafter.

A magnet 85a, acting as a restraining element, is fixedly mounted in a hollow formed in the back face 87 of each of the first indents 83. Another magnet 90, acting as a restraining element, is fixedly mounted in a hollow 90 formed in first outer region 77b of the opposing side surface 82 opposing the magnet 85a in the first indent 83.

A second indent 86 is formed in the opposing side surfaces 82 of each recess 78, 79 to the first indent 83. The second indent 86 is formed in the second outer region 77c of each recess 78, 79. The width of the second indent 86 in the opposing side surfaces 81 in a longitudinal direction of the shaft 70 corresponds to the width of the second outer region 77c. The second indents 83 formed in each recess 78, 79 means that the angle between the opposing side surfaces 81, 82 of the recesses 78, 79 in the second outer region 77c is larger than the angle between the opposing side surfaces 81, 82 in the inner region 77b. A back face 87 of each of the second indents 86 and the corresponding opposing side surfaces 81 act as end stops to limit rotation of the second outer ring 73, as will become apparent hereinafter.

A magnet 88, acting as a restraining element, is fixedly mounted in a hollow in the back face 87 of each of the second indents 86. Another magnet 89, acting as a restraining element, is fixedly mounted in a hollow formed in second outer region 77c of the opposing side surface 81 opposing the magnet 85a in the first indent 83.

The inner ring 71 has an outer face 91 and an inner face 92. Two diametrically opposing shoulders 93 upstand from the inner face 92. Each shoulder 93 has two radially extending end faces 94, 95 and a shoulder upper face 96 extending between the end faces 94, 95. The diameter of the inner face 92 of the inner ring 71
corresponds to the diameter of the outer surface 77 of the central shaft 70 so that the inner ring 71 is receivable around the central shaft 70.

The two shoulders 93 are formed arcuately around the inner face 92 of the inner ring 71. The angle between the end face 94 of one of the shoulders 93 and the end face 94 of the other shoulder 93 corresponds to the angle between the side surfaces 81, 82 of the central shaft recesses. Therefore, when the inner ring 71 is received over the inner region 77a of the central shaft 70, each side surface 81, 82 of each recess 78, 79 abuts against the adjacent end faces 94 of the two shoulders 94,95 so that rotation of the inner ring 71 about the central shaft 70 is prevented. Similarly, shoulder upper faces 96 of the inner ring 71 locate against the lower surfaces 80 of the central shaft recesses 78, 79, and the inner face 92 of the inner ring 71 locates against the outer surface face 77 of the central shaft 70 to locate the inner ring 71.

Two leg receiving cavities 97 are formed in the inner ring 71. Each leg receiving cavity 97 extends into one of the shoulders 93 of the inner ring 71 from the inner ring outer face 91. The two leg receiving cavities 97 extend parallel to each other. Openings to the cavities 97 are formed in the outer face 91 of the inner ring 71. The cavities 97 in the inner ring 71 are configured to receive the two base legs 50, 51 of the smoking article holder. A magnet 98, acting as a retaining element, is fixedly mounted to a base of each leg receiving cavity 97. The depth of each leg receiving cavity 97 corresponds to the length of the base legs 50, 51 so that, when the base legs 50, 51 are received in the cavities 97, the magnet 52 at the end of each base leg 50, 51 is drawn towards and locates against the bar magnet 98 in the respective cavity 97 to retain each base leg 50, 51 therein (refer to Figure 6).

Although the inner ring 71 has two leg receiving cavities 97 formed therein, in an alternative embodiment in which the smoking article holder has one leg extending therefrom, the inner ring 71 will have one corresponding leg receiving cavity 97 as will become apparent hereinafter.

Each outer ring 72, 73 has an outer face 100 and an inner face 101. Two diametrically opposing shoulders 102 distend inwardly from the inner face 101 of
each outer ring 72, 73. Each shoulder 102 has two end faces 103, 104 and a shoulder upper face 105 extending between the end faces 103, 104. The diameter of the inner face 101 of each of the outer rings 72, 73 corresponds to the diameter of the outer surface 77 of the central shaft 70 so that the outer rings 72, 73 are receivable around the central shaft 70, as will become apparent hereinafter.

The angle between the end face 103, 104 of one of the shoulders 102 and the end face 103, 104 of the other shoulder 102 corresponds to the angle between the side surfaces 81, 82 of the central shaft recesses 78, 79. However, it will be appreciated that the angle between the end faces 103, 104 of opposing shoulders is less than the angle between the back face 84 of the first indent 83 in one side surface 81 and the opposing side surface 82 of the recess 78, 79, which act as end stops. Therefore, when the first outer ring 72 is received over the first outer region 77b of the central shaft 70, and the second outer ring 73 is received over the second outer region 77c of the central shaft 70, the shoulders 102 of each of the first and second outer rings 72, 73 are free to rotate about the corresponding first and second outer regions 77b, 77c. However, rotation of each of the first and second outer rings 72, 73 about the central shaft 70 is limited by the shoulders 94, 95 locating against the corresponding end stops.

It will be appreciated that the first outer ring 72 is able to slide and rotate in one direction by sliding into the first indent 83 formed in one side surface 81 of each recess 78, 79, and the second outer ring 73 is able to slide and rotate in an opposing direction by sliding into the second indent 86 formed in the opposing side surface 82 of each recess 78, 79.

Shoulder upper faces 105 of each of the outer rings 72, 73 locate against the lower surfaces 80 of the central shaft recesses 78, 79, and the inner face 101 of each of the outer rings 72, 73 locates against the outer surface face 77 of the central shaft 70 to locate each of the outer rings 72, 73. Each of the outer rings 72, 73 locates against the inner ring 71 and lies parallel thereto (refer to Figure 4). When the inner and outer rings 71, 72, 73 are received on the central shaft 70, the end caps 74 are fixedly mounted to the end surfaces 75 of the central shaft 70 to maintain the rings
71, 72, 73 in position on the shaft 70. Therefore, the inner ring 71 is disposed around the inner region 77a of the shaft; the first outer ring 72 is disposed around the first outer region 77b of the shaft; and the second outer ring 73 is disposed around the second outer region 77c of the shaft. It will be understood that alternative arrangements for retaining the rings 71, 72, 73 on the central shaft are envisaged.

Two leg receiving cavities 107 are formed in the first outer ring 72. Each leg receiving cavity 107 extends into one of the shoulders 102 of the first outer ring 72 from the first outer ring outer face 100. The two leg receiving cavities 107 extend parallel to each other and openings to the cavities 107 are formed in the outer face 100 of the first outer ring 72 to receive the two corresponding legs 27, 28 of the first housing section 5. A magnet 108, acting as a retaining element, is fixedly mounted to a base of each leg receiving cavity 107. The depth of each leg receiving cavity 107 corresponds to the length of the first housing section legs 27, 28. Therefore, when the legs 27, 28 are received in the cavities 107, the magnet 30 at the end of each leg 27, 28 is drawn towards and locates against the magnet 108 in the respective cavity 107 to retain each leg 27, 28 therein (refer to Figure 6).

Two leg receiving cavities 109 are formed in the second outer ring 73. Each leg receiving cavity 109 extends into one of the shoulders 102 of the second outer ring 73 from the second outer ring outer face 100. The two leg receiving cavities 109 extend parallel to each other and openings to the cavities 109 are formed in the outer face 100 of the second outer ring 73 to receive the two corresponding legs 33, 34 of the second housing section 6. A magnet 110, acting as a retaining element, is fixedly mounted to a base of each leg receiving cavity 109. The depth of each leg receiving cavity 109 corresponds to the length of the second housing section legs 33, 34 so that, when the legs 33, 34 are received in the cavities 109, the magnet 36 at the end of each leg 33, 34 is drawn towards and locates against the magnet 110 in the respective cavity 109 to retain each leg 33, 34 therein (refer to Figure 6).

Although each of the first and second outer rings 72, 73 have two leg receiving cavities 107, 109 formed therein, in an alternative embodiment in which the first
and second housing sections 7, 8 of the cartridge unit 2 have one leg extending therefrom, each of the first and second outer rings 72, 73 will have one corresponding leg receiving cavity.

A magnet 111, acting as a restraining element, is received in one of the end faces 103 of one of the shoulders 102 of the first outer ring 72. Another magnet 112, acting as a restraining element, is received in the other end face 104 of the same shoulder 102 of the first outer ring 72. When the first outer ring 72 is received on the first outer region 77b of the shaft 70, the magnet 112 received in the other end face 104 is positioned to face the magnet 85 received in the back face 84 of the first indent 83 of the side surface 81 and the magnet 111 received in the end face 103 of the same shoulder 102 is positioned to face the magnet 90 received in the other side surface 82.

Similarly, a magnet 113, acting as a restraining element, is received in one of the end faces 103 of one of the shoulders 102 of the second outer ring 73. Another magnet 114, acting as a restraining element, is received in the other end face 104 of the same shoulder 102 of the second outer ring 73. When the second outer ring 73 is received on the second outer region 77c of the shaft 70, the magnet 113 received in the end face 103 is positioned to face the magnet 89 received in the other side surface 82 and the other magnet 112 received in the other end face 104 of the same shoulder 102 is positioned to face the magnet 88 received in the back face 84 of the first indent 83 of the side surface 81.

Although facing magnets are used as restraining elements in the above description, it will be appreciated that other restraining arrangements may be used. For example, one of the facing restraining elements may be a steel section which is drawn towards a facing magnet.

Use of the above package for smoking articles will now be described with reference to Figures 1 to 6.
The hinge unit 3 and cartridge unit 2 are initially separated from each other. A user grasps the hinge unit 3 in one hand and the cartridge unit 2 in the other hand and draws the two units toward each other. The user aligns the legs 27, 28, 33, 34 and base legs 50, 51 of the cartridge unit first housing section 5, second housing section 6, and article holder respectively with the leg receiving cavities 107, 97, 109 of the first and second outer rings 72, 73 and the inner ring 71 and inserts the legs into the leg receiving cavities. The legs and the leg receiving cavities together form an attachment means or unit. That is, the legs and leg receiving cavities provide a means of attaching the hinge unit 3 to the cartridge unit 2. The legs 27, 28 of the first housing section 5 are attached to the first outer ring 72, the legs 33, 34 of the second housing section 6 are attached to the second outer ring 73, and the base legs 50, 51 of the smoking article holder are attached to the inner ring 71.

As the legs are slid into the leg receiving cavities, the magnets 30, 36, 52 at the end of each leg and base leg 27, 28, 33, 34, 50, 51 are drawn towards the corresponding magnet 108, 110, 98 mounted at the base of each leg receiving cavity 107, 97, 109. The magnets form a retaining means or retaining unit which acts to retain the legs in the leg receiving cavities and therefore, retain the hinge unit 3 in attachment with the cartridge unit 2. The arcuate bottom face 14, 20 of the first and second housing sections 5, 6 locates against the arcuate outer face 100 of the outer rings 72, 73. Once the hinge unit and cartridge unit are attached, and so are in an assembled state, the package for smoking articles is maintained in a closed condition by the magnets 88 disposed in the side surfaces 81 of the recesses 78, 79 abutting against corresponding magnets 111, 113 disposed in the end faces 103 of one of the shoulders 102 of each of the outer rings 72, 73. The magnets act as restraining elements to restrain the package from moving between a closed condition and an open condition.

The user then grasps the first and second housing sections 5, 6 of the cartridge unit 2 and draws the housing sections 5, 6 away from each other. The first and second housing sections 5, 6 are urged away from each other and the legs 27, 28, 33, 34 of the first and second housing sections 5, 6 act on the outer rings 72, 73 and urge them to rotate about the shaft 70. Therefore, the retaining force of the retaining
elements 88, 111, 113 is overcome and the outer rings 72, 73 rotate about the shaft 70 and the first and second housing sections 5, 6 pivot away from each other. Similarly, the smoking article holder is fixedly mounted to the shaft 72 and is prevented from rotating about the shaft 70, and so the outer rings 72, 73 pivot away from the smoking article holder to expose the smoking article receiving space 7 defined by the outer housing 4.

As the first and second outer rings 72, 73 rotate about the shaft 70 the shoulders 102 slide in the first and second outer regions 77b, 77c of the recesses 78, 79, with the shoulders 102 of the first outer ring 72 slide into the first indents 83 formed in one of the opposing side surfaces 81 of each recess 78, 79. Similarly, the shoulders 102 of the second outer ring 73 slide into the second indents 86 formed in the other opposing side surfaces 81 of each recess 78, 79. As rotation of the first and second outer rings 72, 73 continues the shoulders 102 abut against the back face 82, 87 of the indents 83, 86 which act as end stops. The end stops limit the rotation of the first and second outer rings 72, 73 about the shaft 70. The package is then in its fully open condition, and smoking articles contained in the smoking article receiving space 7 are accessible.

The shoulders 102 are drawn into abutment with the back faces 82, 87 of the indents 83, 86 by magnets 88 disposed in the back face 82, 87 of one of each of the first and second indents 83, 86 drawing magnets 112, 114 in the opposing end face of the shoulder 102 being drawn towards each other. The magnets, acting as restraining elements, also restrain the package from moving between an open condition and a closed condition.

When the first and second housing sections 5, 6 are in a closed position, smoking articles held by the base portions 39, 40 of the smoking article holder are aligned parallel to each other. An upper end of each outer row of smoking articles disposed in the outer base portions 40 abut the rear wall 9, 16 of each of the first and second housing sections 5, 6. As the housing sections pivot away from the smoking article holder and each other, the rear walls 9, 16 of the housing sections 5, 6 pivot away from the smoking articles. Therefore, the smoking article holder outer base portions
40 together with the smoking articles disposed therein are able to pivot about the middle base portion 38 due to the resilience of the support plate 41 to which they are mounted. The magnets 63 on the outer base portions 40 are drawn towards the corresponding magnets 48 on the two outer parts 47 of the base support 42. The magnets act as guide elements. Therefore, the two outer base portions 40 are urged to pivot relative to the middle base portion 38. The two outer base portions 40 then extend at an angle to the middle base portion 38. Therefore, smoking articles received in the two outer base portions 40 splay outwardly away from smoking articles received in the middle base portion 38 (refer to Figure 2).

A user is then able to easily remove a smoking article from the package. To move the package from its open condition to its closed condition the housing sections are urged towards each other and the outer rings 72, 73 slide in opposing directions until the shoulders 102 of the outer rings 72, 73 abut against the side surfaces 81, 82 of the recesses 78, 79.

Once all the smoking articles received in a cartridge unit 2 have been removed, it is possible to discard the cartridge unit 2. To do this, a user draws the hinge unit away from the cartridge mounted thereto in its closed position. The retaining force of the retaining elements at the end of each leg acting on the opposing retaining elements at the base of each corresponding leg receiving cavity is overcome. Therefore, the retaining means are released and each leg is drawn out of the respective cavity. The hinge unit 3 is then retained and the cartridge unit 2 is able to be disposed of in an environmentally friendly manner. An advantage of the above arrangement is that a part of the packaging is retained, and so not all the package has to be disposed. In addition, the hinge is more rigid than that of a conventional pack and so failure of the hinge is minimised.

Although in the above described embodiment the first and second housing sections 5, 6 and the smoking article holder each have two legs extending therefrom, it will be appreciated that in an alternative embodiment each of the first and second housing sections 5, 6 and the smoking article holder has one leg extending therefrom, each of which is received in a single corresponding leg receiving cavity.
formed each of the first and second outer rings 72, 73 and the inner ring 71 accordingly. Furthermore, it will be appreciated that the means of attaching the first and second housing sections 5, 6 and the smoking article holder to the first and second outer rings 72, 73 and the inner ring 71 respectively is not limited to one or more legs received in a corresponding recess and that alternative attachment means may be used.

Referring now to Figures 7 and 8, a holder 120 for holding a plurality of cartridge units 2 as described above is shown. The holder 120 comprises an elongate main body 121 and a mounting element 122 extending from the main body 121. The elongate main body 121 is a beam with an arcuate upper surface 123. The arcuate upper surface 123 corresponds to the arc of the arcuate bottom face 14, 20 of the first and second housing sections 5, 6 so that cartridge units 2 are positionable against the arcuate upper surface 123, as will become apparent hereinafter.

Nine groups of apertures (not shown) are formed in the arcuate upper surface 123 of the holder 120 and are disposed along the elongate main body 121. Each group of apertures comprises six apertures that are spaced from each other. The position of the apertures in each group of apertures corresponds to the arrangement of the legs extending from a cartridge unit 2 so that, when a cartridge unit 2 is aligned with one of the groups of apertures, then each of the legs extending from the cartridge unit 2 is receivable in a corresponding aperture formed in the elongate main body 121 of the holder 120. It will be appreciated that the cartridge is retained in a closed position when attached to the holder 120, because the first and second housing sections 5, 6 of the cartridge unit 2 are prevented from rotating relative to each other due to the respective legs being received in the apertures in the holder.

In the present embodiment nine groups of apertures are shown, and so nine cartridge units 2 are mountable to the holder 120. However, it will be appreciated that the number of groups of apertures is dependent on the desired number of mounted cartridge units 2. Similarly, although six apertures are formed in each group of apertures, it will be appreciated that in an alternative embodiment each
group of apertures has three apertures which are positioned to receive three legs of a cartridge unit 2 having three legs only.

The mounting element 122 is a rod extending from one end of the elongate main body 121. The mounting element 122 is cylindrical and has a diameter corresponding to the diameter of the cylindrical bore 76 formed through the central shaft 70 of the hinge unit 3. Therefore, a hinge unit 3 is slidably received on the mounting element 122.

In use, a holder 120 is provided with an array of cartridge units 2 mounted thereto. A hinge unit 3 is slid onto the mounting element 122 and a user is then able to transfer one of the cartridge units 2 from the holder 120 by exerting a removal force to draw the legs of the cartridge unit 2 from the apertures in the main body 121 of the holder 120. The user then aligns and inserts the legs of the cartridge unit 2 into the corresponding leg receiving cavities 97, 107, 109 to attach the cartridge unit 2 to the hinge 3. Following that, the assembled package is slid from the holder 120, and the user is able to use the package as described above.

Referring now to Figures 9 to 37, another embodiment of the package for smoking articles is shown. The following embodiments of the package for smoking articles are generally the same as the embodiments of the package for smoking articles described above.

It will be understood that aspects, features and elements of the embodiments of the package for smoking articles described hereinafter may be used in combination with aspects, features and elements of the embodiments of the package for smoking articles described above.

A package 201 for smoking articles is shown in Figures 9 and 10 comprising a cartridge unit 202 and a hinge unit 203. In Figure 9 the package 201 is shown in an open condition so that smoking articles 208 received in the cartridge unit 202 are accessible. Therefore, the smoking articles 208 may be removed from the package 201. In Figure 10 the package 201 is shown in a closed condition so that smoking
articles 208 received in the cartridge unit 202 are enclosed by the cartridge unit 202. Therefore, the smoking articles 208 are protected by the cartridge unit 202. The hinge unit 203 is cylindrical. The cartridge unit 202 is mounted to the hinge unit 203. The diameter of the hinge unit corresponds to the depth of the cartridge unit. That is, the diameter of the hinge unit is equal to the depth of the cartridge unit when the cartridge unit is in its closed condition.

The cartridge unit 202 is removably attached to the hinge unit 203. That is, the cartridge unit 202 and the hinge unit 203 are separable from each other. The cartridge unit 202 is configured to contain smoking articles. The hinge unit 203 is configured to allow the cartridge unit 202 to open when the cartridge unit 202 is mounted to the hinge unit 203. The hinge unit 203 acts as a key to allow the cartridge unit 202 to open when the hinge unit 203 is attached to the cartridge unit 202.

The cartridge unit 202 has an outer shell or housing 204. The housing 204 is formed by first and second housing sections 205, 206 which are brought together to form the housing 204. The housing 204 defines a smoking article receiving space 207. Smoking articles 208 are received in the smoking article receiving space 207 and are enveloped by the housing 204 when the package is in its closed position. The first and second housing sections 205, 206 are separable to provide access to the smoking article receiving space 207. That is, the cartridge unit 202 is movable between a closed condition and an open condition.

The cartridge unit 202 is elongate, and extends between upper and lower ends. The lower end of the cartridge unit 202 is mountable to the hinge unit 203. Each of the first and second housing sections 205, 206 are mountable to the hinge unit 203 at their lower end. The two housing sections 205, 206 are individually rotatable about a longitudinal axis of the hinge unit 203. Therefore, the cartridge unit 202 is movable between the closed position, as shown in Figure 10 and the open position, as shown in Figure 9. In the closed condition, the housing sections 205, 206 abut against each other such that smoking articles 208 received in the cartridge unit 202 are enclosed by the housing 204. In the open condition, the housing sections 205,
206 are hinged away from each other about the hinge unit 203. Therefore, the
smoking articles 8 disposed in the smoking article receiving space 207 are accessible.

Referring in particular to Figures 11 to 14, the first housing section 205 of the
cartridge unit 202 has a rear wall 209, two opposing side walls 210 and a top wall
211. The two side walls 210 of the first housing section 205 extend from opposing
edges of the rear wall 209, and extend parallel to, but spaced from each other. The
top wall 211 extends from the upper end of the rear and side walls 209, 210.

The first housing section 205 also has a bottom wall 213. The bottom wall 213
extends from the lower end of the rear and side walls 209, 210. An extended portion
213a of the bottom wall extends further from the rear wall 209 than the side and
top walls 210, 211. The bottom wall 213 defines an arcuate bottom face 214. The
arcuate bottom face 214 is defined by the free end of ribs 213b forming part of the
bottom wall 213. However, it will be understood that the arcuate bottom face 214
may be formed by an arcuate surface. The bottom face 214 of the first housing
section 205 corresponds to the circumference of the outer surface 212 of the hinge
unit 203. Therefore, part of the hinge unit 203 is receivable in the channel defined
by the bottom wall 213 so that it abuts and locates against the bottom face 214, as
will become apparent hereinafter.

A free edge 222 of the first housing section 205 is defined by the outer edge of the
side and top walls 210, 211 of the first housing section 205. The first housing
section 205 has first and second arms 221a, 221b (second arm 221b extends behind
first arm 221a in Figure 15) which protrude beyond the free edge 222. The first and
second arms 221a, 221b extend parallel to the opposing side walls 210. The arms
221a, 221b have arcuate upper and lower edges. The arc of the upper and lower
edges corresponds to the arc of the bottom face 214. The arms 221a, 221b are
spaced from each other and disposed adjacent to the side walls 210. The first arm
221a abuts the adjacent side wall 210. The first arm 221a may be integrally formed
with its adjacent side wall 210. The second arm 221b is spaced from the adjacent
side wall 210 so that a first arm of the second housing section 206 is able to slide
into the gap provided between the second arm 221b and its adjacent side wall 210.
Similarly, the second housing section 206 of the cartridge unit 202 has a rear wall 216, two opposing side walls 217 and a top wall 218. The two side walls 217 of the second housing section 206 extend from opposing edges of the rear wall 216, and extend parallel to, but spaced from each other. The top wall 218 extends from the upper end of the rear and side walls 216, 217.

The second housing section 206 also has a bottom wall 219. The bottom wall 219 of the second housing section 206 extends from the lower end of the rear and side walls 216, 217. An extended portion 219a of the bottom wall extends further from the rear wall 216 than the side and top walls 217, 218. The bottom wall 219 defines an arcuate bottom face 220. The arcuate bottom face 220 is defined by the free end of ribs 219b forming part of the bottom wall 219. However, it will be understood that the arcuate bottom face 220 may be formed by an arcuate surface. The bottom face 220 of the second housing section 206 corresponds to the circumference of the outer surface 212 of the hinge unit 203. Therefore, part of the hinge unit 203 is receivable in the channel defined by the bottom wall 213 so that it abuts and locates against the bottom face 214, as will become apparent hereinafter.

A free edge 223 of the second housing section 206 is defined by the outer edge of the side and top walls 217, 218 of the second housing section 206. The second housing section 206 has first and second arms 221a, 221b which protrude beyond the free edge 222. The first and second arms 221a, 221b extend parallel to the opposing side walls 210. The arms 221a, 221b have arcuate upper and lower edges. The arc of the upper and lower edges corresponds to the arc of the bottom face 214. The arms 224a, 224b are spaced from each other and disposed adjacent to the side walls 217. The first arm 2214a abuts the adjacent side wall 217. The first arm 224a may be integrally formed with its adjacent side wall 217. The second arm 224b is spaced from the adjacent side wall 217 so that a first arm 221a of the first housing section 205 is able to slide into the gap provided between the second arm 224b and its adjacent side wall 217 of the second housing section 206.
When the first and second housing sections 205, 206 are brought together they form the housing 204 of the cartridge unit 202. The first arms 221a, 224a of the first and second housing sections 205, 206 overlap the second arms 221b, 224b of the corresponding first and second housing sections 205, 206. The first arms 221a, 224a of the first and second housing sections 205, 206 slide along the second arms 221b, 224b of the corresponding first and second housing sections 205, 206, in the gap defined between the respective second arms 221b, 224b and its adjacent side wall 210, 217 when the housing sections 205, 206 are pivoted relative to each other about the longitudinal axis of the hinge unit 203.

The extended portion 213a of the first housing section bottom wall 213 overlaps part of the bottom wall 219 of the opposing second housing section 206 when the cartridge unit 202 is assembled. Similarly, the extended portion 219a of the second housing section bottom wall 219 overlaps part of the bottom wall 213 of the opposing first housing section 205. The bottom wall 213 of the first housing section 205 and the bottom wall 219 of the second housing section 206 together form the bottom end of the cartridge unit 202. The bottom end of the cartridge unit 202 defines an elongate channel 230 with a substantially arcuate cross-section. The channel 230 is configured to partially receive the hinge unit 203 therein.

When the package 201 is in its closed position, the first and second housing sections 205, 206 are brought together to enclose the smoking article receiving space 207. The free edge 222 of the first housing section 205 abuts against the free edge 223 of the second housing section 206. The first housing section 205 has an inner lip 225 extending along the free edge 222. The inner lip 225 is offset from the outer surface of the first housing section 205. The inner lip 225 is configured to be partially received by the second housing section 206. That is, the inner lip 225 is arranged to overlap the free edge 223 of the second housing section 206 when the package is in its closed position. The free edge 223 of the second housing section 206 has a recessed section 226 extending along the inner side of the free edge 223. When the first and second housing sections 205, 206 are brought together, the inner lip 225 of the first housing section 205 is arranged to locate against the recessed section 226 of the free edge 223 of the second housing section 206.
A latch is formed at the upper end of the second housing section 206. The latch comprises a locking protrusion 227 and a locking notch (not shown). The locking protrusion 227 is formed on a flange 228 extending from the free edge 223 of the second housing section 206. The flange 228 extends from the inner lip 225. The locking notch (not shown) is formed in the inner side of the inner lip 225 of the first housing section 225. The locking protrusion 227 and locking notch are configured to engage with each other when the first and second housing sections 205, 206 are brought together.

The latch is configured to maintain the upper end of the cartridge unit 202 in a closed position. That is, the latch forms part of a cartridge unit locking arrangement. The cartridge unit locking arrangement is configured to lock the cartridge unit in a closed position when the cartridge unit 202 is separated from the hinge unit 203, as will become apparent hereinafter. Therefore, articles retained in the cartridge unit 202 are not accessible when the hinge unit 203 is detached from the cartridge unit 202. The latch at the upper end of the cartridge unit 202 acts to maintain the upper ends of the first and second housing sections 205, 206 in engagement with each other.

Although in the above described embodiment the locking protrusion is formed on the second housing section and the locking recess is formed on the first housing section, it will be understood that the locking protrusion may be formed on the first housing section and the locking recess on the second housing section. Alternatively, another latching arrangement may be used to retain the upper ends of the first and second housing sections 205, 206 in contact with each other. For example, the latch may comprise a second locking protrusion over which a first locking protrusion locates when the cartridge unit 202 is in its closed position with the first and second housing sections 205, 206 abutting each other.

Referring now to Figures 12 and 15, the first housing section 205 has a leg 229 extending from its lower end. The leg 229 forms a first engagement leg. The first engagement leg 205 protrudes into the channel 230 at the lower end of the cartridge
unit 202. The first engagement leg 229 extends from the first housing section bottom wall 213. The first engagement leg 229 extends from the extended portion 213a of the first housing section bottom wall 213.

Similarly, the second housing section 206 has a leg 232 extending from its lower end. The leg 229 forms a second engagement leg. The second housing section leg 206, or second leg 206, protrudes into the channel 230 at the lower end of the cartridge unit 202. The second engagement leg 232 extends from the second housing section bottom wall 219. The second engagement leg 232 extends from the extended portion 219a of the second housing section bottom wall 219.

When the cartridge unit 202 is assembled, the first and second engagement legs 229, 232 extend into the channel 230 at the lower end of the cartridge unit 202, but are recessed from the lower edge of the rear walls 209, 216 of the first and second housing sections 205, 206. The first and second engagement legs 229, 232 are spaced from each other. The engagement legs 229, 232 extend parallel to each other when the cartridge unit 202 is in its closed position. The engagement legs 229, 232 extend on a radial line from the arcuate bottom end of the cartridge unit 202.

The first engagement leg 229 has two grooves 233 formed in opposing side faces. Each groove 233 forms an engagement face 234. The engagement face 234 is formed by a lower surface of the groove 233. Similarly, the second engagement leg 232 has two grooves 235 formed in opposing side faces. Each groove 235 forms an engagement face 236. The engagement face 236 is formed by a lower surface of the groove 235. Each groove 233, 235 is configured to receive an engagement element 240 (refer to Figures 22 and 23) on the hinge unit 202, as will become apparent hereinafter. Therefore, each engagement element 240 is locatable against a corresponding engagement face 234, 236 when the first and second engagement legs 229, 232 are received in the hinge unit 203. The engagement faces 234, 236 are configured to extend at an oblique angle to the direction of removal of the engagement leg from the hinge unit 203.
In the present arrangement, the grooves 233, 235 extend between front and rear faces of the first and second engagement legs 229, 232. The engagement faces 234, 236 form part of an engagement means or unit. The engagement means is configured to engage the hinge unit 203 with the cartridge unit 202. That is, the engagement means is arranged to prevent the removal of the hinge unit 203 from the cartridge unit 202 when the cartridge unit is in an open condition so that smoking articles received therein are accessible.

Although the engagement faces 234, 236 are formed by grooves in the engagement legs 229, 232 in the present embodiment, it will be understood that alternative arrangements are envisaged. For example, the engagement faces 234, 236 may be formed by protrusions on the engagement legs 229, 232. Furthermore, although in the present arrangement each leg 229, 232 has two grooves formed therein to form the respective retaining elements 233, 234; in an alternative arrangement each leg has only a single groove formed therein. The engagement means may relate to a single leg only.

The first engagement leg 229 is disposed adjacent to, but slightly inset from, one side wall 210 of the first housing section 205. The second engagement leg 232 is disposed adjacent to, but slightly inset from, the opposing side wall 217 of the second housing section 206.

Referring in particular to Figures 12 to 19, the cartridge unit 2 further comprises a smoking article holder 250. The smoking article holder 250 is arranged to hold smoking articles. That is, the smoking article holder 250 is configured to retain the end of a plurality of smoking articles 208.

The article holder 250 comprises a base mount 251 and sub-holders 252, 253, 254, 255. The article holder 250 in the present embodiment has four sub-holders —two middle sub-holders 252, 253 and two outer sub-holders 254, 255. The sub-holders 252, 253, 254, 255 are mountable to the base mount 251.
The base mount 251 comprises a middle base portion 256 and two outer base portions 257. The two outer base portions 257 are disposed on opposite sides of the middle base portion 256. The base mount 251 also has a base support 258.

The middle base portion 256 is elongate and comprises a lower surface and an upper surface. Mounting apertures 262 are formed in the middle base portion. The mounting apertures 262 extend from the upper surface. Two rows of mounting apertures 262 are formed in the middle base portion 256, arranged longitudinally. The mounting apertures 262 in the middle base portion 256 are arranged to mount the two middle sub-holders 252, 253 to the base mount 251. That is, each row of mounting apertures 262 is configured to mount one of the middle sub-holders.

The outer base portions 257 are elongate. Each outer base portion 257 comprises a lower surface and an upper surface. Mounting apertures 263 are formed in each of the outer base portions 257. The mounting apertures 263 extend from the upper surface. One row of mounting apertures 263 is formed in each of the outer base portions 257, arranged longitudinally. The mounting apertures 263 in each outer base portion 257 are arranged to mount one of the outer sub-holders 254, 255 to the base mount 251. That is, each row of mounting apertures 263 is configured to mount one of the outer sub-holders 254, 255.

The outer base portions 257 are pivotably mounted to the middle base portion 256. The outer base portions 257 are pivotably mounted to opposing edges of the middle base portion 256. Each outer base portion 257 is mounted to the middle base portion 256 by a hinge. In the present arrangement, the outer base portions 257 and middle base portion 256 are integrally formed, and they are pivotably mounted by a live hinge. That is a section of reduced thickness is formed between each outer base portion 257 and the middle base portion 256 to form the hinge. An advantage of this arrangement is that the base mount is easily formed, and the number of separate components required are minimised. However, it will be understood that the middle and outer base portions 256, 257 may be pivotally connected by other means, for example a pin hinge.
Each of the outer base portions 257 has a nub 260 protruding from one of its ends. The nub 260 of one of the outer base portions 257 protrudes from an opposite side of the base mount 251 to the nub 260 of the other outer base portion 257. The nub 260 of each outer base portion 257 protrudes beyond the end of the middle base portion 256 and the other outer base portion 257. Each nub 260 acts as a deflection element. That is, each nub 260 forms part of a pivoting arrangement which urges the respective outer base portion 257 to pivot relative to the middle base portion 256 when the package is moved between its closed and open condition, as will be explained hereinafter.

Each sub-holder 252, 253, 254, 255 is configured to retain the end of a plurality of smoking articles. One sub-holder is shown in Figures 18 and 19. The sub-holders in the present embodiment are identical. This maximises ease of manufacture. However, it will be understood that the sub-holders may differ. The sub-holders 252, 253, 254, 255 define a number of smoking article retaining holes 265. Each hole is sized to provide a slide fit for a smoking article. Therefore, the sub-holder acts to retain and support the smoking articles, which may then be held in an upright orientation within the smoking article receiving space 207 defined by the housing 204.

The sub-holder shown in Figure 18 has a first holding part 266 and a second holding part 267. The first and second holding parts 266, 267 are connected at one end by a hinge. In the present arrangement, the first and second holding parts 266, 267 are integrally formed with each other and the hinge is a live hinge. The first and second holding parts 266, 267 can then be brought together to assemble the sub holder. That is the first and second holding parts 266, 267 are pivoted about the hinge so that they face each other. Connection pins 268 protrude from the second holding part 267 at an opposing end to the hinge. The connection pins 268 are receivable in connection holes 269 formed in the first holding part 266. The connection pins 268 are push fitted into the connection holes 269 so that the sub-holder is maintained in an assembled state. However, it will be understood that the first and second holding parts 266, 267 may have an alternative arrangement, and
may be assembled in an alternative manner. For example, the hinge may be omitted and separable holding parts may be fitted together to form a sub-holder.

Each of the first and second holding parts 266, 267 have arcuate channels formed in them which face opposing arcuate channels on the opposing holding part to form the smoking article retaining holes 265 when the first and second holding parts 266, 267 are brought together. The smoking article retaining holes 265 are open at an upper end so that smoking articles received therein are able to extend therefrom. Clips 270 protrude from the lower end of the sub-holder. Opposing clips 270 protrude from each of the first and second holding parts 266, 267. The clips 270 are configured to engage with the respective mounting apertures 262, 263 formed in the middle and outer base portions 256, 257. Therefore, the sub-holders 252, 253, 254, 255 are easily mounted to the middle and outer base portions 256, 257.

Assembly of smoking articles with the smoking article holder will now be described. One of the sub holders 252, 253, 254, 255 is arranged with the ends of smoking articles. The ends of smoking articles to be retained by the smoking article holder are arranged to lie in the arcuate channels of one of the first and second holding parts 266, 267. The first and second holding parts 266, 267 are then brought together. In the present arrangement, the first and second holding parts 266, 267 are brought together by rotating one of the holding parts relative to the other part so that they enclose the ends of the smoking articles. The connection pins 268 are received in the connection holes 269 to fixedly mount the first and second holding parts 266, 267 relative to each other. Therefore, the smoking articles are then held by the smoking article holder due to the ends being retained in the smoking article retaining holes 265.

The sub-holder 252 with the smoking articles held therein is then mounted to the middle base portion 256. When the sub holder 252 is brought together with the middle base portion 256, the clips 270 engage with the mounting apertures 266 in the middle base portion 256 to mount the sub-holder 252 to the base mount 251.
This process is then repeated for the remaining sub-holders 252, 253, 254, 255 until the smoking article holder is fully assembled with each of the sub-holders 252, 253, 254, 255 mounted to the middle and outer base portions 256, 257. The smoking articles are then retained by the assembled smoking article holder. It will be understood that multiple or all of the sub-holders 252, 253, 254, 255 may be mounted to the middle and/or outer base portions 256, 257 simultaneously. The sub-holders 252, 253, 254, 255 each have alignment elements 272 to maintain adjacent sub-holders 252, 253, 254, 255 in alignment with each other.

It will be understood that although two sub-holders are received on the middle base portion 256, and single sub-holders are received on each of the outer base portions 257, that the arrangement and number of sub-holders may vary. Although one means of mounting the sub-holders to the base mount is described above, it will be understood that alternative mounting arrangements are envisaged.

The base support 258 of the base mount 251 protrudes from a lower side of the middle base portion 256. The base support 258 and the middle base portion 256 are integrally formed in the present arrangement. The base support 258 comprises a leg 280, a first guide 281 and a second guide 282.

The leg 280 extends from the lower side of the middle base portion 256. The leg 280 forms a first attachment leg. The first attachment leg 280 protrudes into the channel 230 at the lower end of the cartridge unit 202. The first attachment leg 280 extends radially.

The attachment leg 280 has two retaining recesses 283 formed in opposing side faces. Each retaining recess 283 forms a retaining face 284. The retaining face 284 is formed by a lower surface of the retaining recess 283. Each retaining recess 283 is configured to receive a retaining element 285 (refer to Figures 20 and 21) on the hinge unit 202, as will become apparent hereinafter. Therefore, each retaining element 285 is locatable against a corresponding retaining face 284 when the attachment leg 280 is received in the hinge unit 203. The retaining faces 284 extend
at an oblique angle to the direction of removal of the attachment leg 280 from the hinge unit 203.

In the present arrangement, the retaining recesses 283 extend across front and rear faces of the attachment leg 280. The retaining faces 284 form part of a retaining means or unit. The retaining means is configured to retain the attachment leg 280 in the hinge unit 203. That is, the retaining means is arranged to resist the removal of leg 280 from the hinge unit 203, and therefore resist the removal of the hinge unit 203 from the cartridge unit 202.

Although the retaining faces 284 are formed by retaining recesses 283 in the attachment leg 280 in the present embodiment, it will be understood that alternative arrangements are envisaged. For example, the retaining faces 284 may be formed by protrusions on the attachment leg 280. Furthermore, although in the present arrangement the leg 280 has two retaining recesses formed therein to receive the respective retaining elements 285; in an alternative arrangement each leg has only a single retaining recess formed therein.

The base mount 251 of the smoking article holder 250 has first and second locking members 286, 287. The first and second locking members 286, 287 are arranged to abut against the first and second housing sections 205, 206 respectively to lock the first and second housing sections 205, 206 in a closed condition. That is, the first and second locking members 286, 287 are arranged to releasably engage the first and second housing sections 205, 206 with the smoking article holder 250 to prevent movement of the first and second housing sections 205, 206 relative to the smoking article holder 250 when the cartridge unit 202 is in its closed condition.

The first and second locking members 286, 287 are hingedly mounted to the attachment leg 280 of the smoking article holder 250. One end of each locking member 286, 287 is mounted to the attachment leg 280. In the present embodiment, each locking member 286, 287 is integrally formed with the attachment leg 280. The locking members 286, 297 extend from the free end of the attachment leg 280 towards the lower side of the middle base portion 256. The locking members extend
from opposing side faces of the attachment leg 280. That is, the locking members are disposed on faces extending between the front and rear faces of the attachment leg 280.

In the present embodiment, locking member apertures are formed in the middle base portion 256 on each side of the attachment leg 280 to receive a free end of each locking member 286, 287. The locking member apertures may be used to guide and/or limit movement of the locking members 286, 287.

The locking members 286, 287 are biased away from the attachment leg 280. That is, the locking members 286, 287 diverge away from the attachment leg 280 from the lower end of the attachment leg 280. Therefore, the locking members 286, 287 diverge away from each other. The locking members 286, 287 are resilient. That is, the resilience of the locking members 286, 287 urges the free end of each locking member in a direction away from the attachment leg. The locking members are also able to deform in a direction towards the attachment leg in response to an urging force acting on them. The locking members 286, 287 are elongate and extend at an oblique angle to the attachment leg 280. An outer face of each locking member 286, 287 extend at an oblique angle to the attachment leg 280. Therefore, when the attachment leg 280 is inserted in an attachment leg receiving cavity (as will be explained hereinafter), the outer face of each locking member 286, 287 is arranged to extend at an oblique angle to the direction of insertion.

Although in the above embodiment each locking member has a face extending at an oblique angle to the direction of insertion of the attachment leg into the attachment leg receiving cavity which locates against an edge of the attachment leg receiving cavity, as will be explained hereinafter, in another embodiment the attachment leg receiving cavity has faces which extend at an oblique angle to the direction of insertion of the attachment leg into the attachment leg receiving cavity which locate against the locking members and urge the locking members to move.

Although in the above arrangement, each locking member is mounted to the attachment leg 280 at a lower end and diverges away from the attachment leg 280
towards the upper end, it will be understood that in an alternative arrangement the locking members may extend from the upper end of the attachment leg 280 or the lower side of the middle base portion 256.

The first guide 281 and the second guide 282 extend from the upper end of the attachment leg 280. The guides 281, 282 extend from opposing front and rear sides of the attachment leg 280. The first and second guides 281, 282 are arcuate members which are away from the lower side of the base portions 256, 257. The first and second guides 281, 282 are arranged to locate in respective corresponding guide channels in the bottom wall 213, 219 of the first and second housing sections 281, 282 when the cartridge unit 202 is assembled. Therefore, the guides 281, 282 of the smoking article holder 250 slide in the corresponding guide channels of the first and second housing sections 205, 206 to guide movement of the first and second housing sections 205, 206 relative to the smoking article holder 250 and each other.

A first locking recess 288 is formed in the first housing section 205. The first locking recess 288 is formed in the bottom wall 213 of the first housing section 205. The first locking recess 288 extends from a side edge of the extended portion 213a of the bottom wall 213. The first locking recess 288 is configured to receive the first locking member 286 when the first housing section 205 is in its closed condition.

The first locking recess 288 defines a first locking face 289. The first locking face 289 is configured such that the first locking member 286 abuts against the first locking face 289 when the first locking member 286 is received in the first locking recess 288. The first locking face 289 extends parallel to the longitudinal axis of the channel for receiving the hinge unit 203, and therefore parallel to, but offset from, the rotational axis of the hinge unit 203 when the hinge unit is attached to the cartridge unit 202.

A second locking recess 290 is formed in the second housing section 206. The second locking recess 290 is formed in the bottom wall 219 of the second housing section 206. The second locking recess 290 extends from a side edge of the extended portion 219a of the bottom wall 219. The second locking recess 290 is configured to receive the second locking member 287 when the second housing...
section 206 is in its closed condition. The second locking recess 290 defines a second locking face 291. The second locking face 291 is configured such that the second locking member 287 abuts against the second locking face 291 when the second locking member 287 is received in the second locking recess 290. The second locking face 291 extends parallel to the longitudinal axis of the channel for receiving the hinge unit 203, and therefore parallel to, but offset from, the rotational axis of the hinge unit 203 when the hinge unit is attached to the cartridge unit 202.

When the cartridge unit 202 is assembled, the first housing section 205, second housing section 206 and the assembled smoking article holder are brought together. The first and second housing sections 205, 206 are brought together with the smoking article holder 250 received therebetween. The attachment leg 280 of the smoking article holder 250 protrudes through the bottom wall of the housing 204. The attachment leg 280 extends into the channel 230 at the lower end of the cartridge unit 202, but is recessed from the lower edge of the rear walls 209, 216 of the first and second housing sections 205, 206. The first and second engagement legs 229, 232 are spaced from the attachment leg 280. The attachment leg 280 and engagement legs 229, 232 extend parallel to each other when the cartridge unit 202 is in its closed condition. The attachment leg 280 extends on a radial line from the arcuate bottom end of the cartridge unit 202.

The smoking article holder 250 is received in the housing 204, as shown in Figure 12. Therefore, the ingress of contaminants into the smoking article receiving space 207 of the cartridge unit 202 is restricted.

Smoking articles received by the sub-holders 252, 253 on the middle base portion 256 and smoking articles received by the sub-holders 254, 255 on the outer base portions 257 upstand in the housing 204. When the first and second housing sections 205, 206 are brought together, upper ends of the smoking articles received by the outer portions contact the rear walls 209, 216 of the first and second housing sections 205, 206 and so are urged to pivot about the middle portion. Therefore, the smoking articles extend parallel to each other and do not splay outwardly. In such
an arrangement the smoking articles received in the middle and outer base portions 256, 257 extend substantially parallel to each other in the smoking article receiving space 207 when the cartridge unit 202 is in its closed condition.

5 When the cartridge unit 202 is in its closed condition, the first and second locking members 286, 287 are biased into the first and second recesses 288, 290 of the first and second housing sections 205, 206. Therefore, the first and second locking members 286, 287 locate proximate to, or are in abutment with, the first and second locking faces 290, 292. It will be understood that the locking members 286, 287 are biased to move in the direction of the rotational axis of the hinge unit 203, when the hinge unit 203 is mounted to the cartridge unit 202. The locking faces 289, 291 extend in parallel to, but offset from, the rotational axis of the hinge unit 203 when the hinge unit is attached to the cartridge unit 202. Therefore, a side face of the locking members 286, 287 slides along the corresponding locking faces 289, 291 of the housing sections 205, 206 as the locking members 286, 287 are received in the locking recesses 288, 290. That is, the locking members 286, 287 overlap the locking faces 289, 291 when the locking members 286, 287 are received in the locking recesses 288, 290.

20 When the cartridge unit 202 is in its closed condition, the latch comprising the locking protrusion 227 and the locking notch (not shown) is engaged. That is, the latch acts to maintain the upper ends of the first and second housing sections 205, 206 in engagement with each other.

25 If the first and/ or second housing section 205, 206 is urged to move away from the smoking article holder 250 and/ or each other when the cartridge unit 202 is in its closed condition and the hinge unit 203 is detached, the upper ends of the first and second housing sections 205, 206 are drawn away from each other. The latch acts to initially retain the upper ends of the sections 205, 206 in contact with each other, however it will be appreciated that the locking protrusion 227 is configured to be able to move out of the locking notch to allow the cartridge 202 to move into its open condition when the hinge unit is attached without the latch preventing the cartridge unit 202 from opening.
If the first housing section 205 is urged to move relative to the smoking article holder 250 when the cartridge unit 202 is in its closed condition and the hinge unit 203 is detached, the first locking member 286 is urged to move in the first locking recess 288. The first locking face 289 and the first locking member 286 are urged against each other. Therefore, the first housing section 205 is prevented from moving relative to the smoking article holder 250, and in particular from pivoting relative to the smoking article holder 250, by the first locking member 286 engaging in the first locking recess 288. The first housing section 205 is further restricted from moving relative to the smoking article holder 250 by the first guide 281 being received in the first guide channel in the bottom wall 213 of the first housing section 205. Therefore, the bottom wall 213 of the first housing section 205 is received between the middle base portion 256 and the first guide 281. It will be understood that the bottom wall 213 of the first housing section 205 slides between the middle base portion 256 and the first guide 281 when the hinge unit 203 is attached and the first locking member 286 is disengaged from the first locking recess 288.

Similarly, if the second housing section 206 is urged to move relative to the smoking article holder 250 when the cartridge unit 202 is in its closed condition and the hinge unit 203 is detached, the second locking member 287 is urged to move in the second locking recess 290. The second locking face 291 and the second locking member 287 are urged against each other. Therefore, the second housing section 206 is prevented from moving relative to the smoking article holder 250, and in particular from pivoting relative to the smoking article holder 250, by the second locking member 287 engaging in the second locking recess 290. The second housing section 206 is further restricted from moving relative to the smoking article holder 250 by the second guide 282 being received in the second guide channel in the bottom wall 219 of the second housing section 206. Therefore, the bottom wall 219 of the second housing section 206 is received between the middle base portion 256 and the second guide 282. It will be understood that the bottom wall 219 of the second housing section 206 slides between the middle base portion 256 and the
second guide 282 when the hinge unit 203 is attached and the second locking member 287 is disengaged from the second locking recess 290.

Referring to Figures 34 and 35, a first guide ridge 293 extends on the inner side of the first housing section 205. The first guide ridge 293 acts as a guide element. The first guide ridge 293 may, for example, be a ledge or a shoulder. The first guide ridge is formed on the second arm 221b of the first housing section 205. The first guide ridge 293 is configured to act on one of the outer base portions 257 of the article holder 250 to urge the outer base portion 257 to pivot about the middle base portion 256 when the first housing section 205 is moved relative to the article holder 250. That is, when the first housing section 205 is moved relative to the smoking article holder 250, a guide face 294 of the first guide ridge 293 abuts the nub 260 protruding from one of the ends of the respective outer base portion 257. The nub 260, acting as a deflection element, and therefore the respective outer base portion 257 is urged to pivot relative to the middle base portion 256 when the cartridge unit 202 is moved between its closed and open condition.

When the cartridge unit 202 is moved from its open condition to its closed condition, the first guide ridge 293 moves in a direction away from the nub 260, and so the outer base portion 257 is free to pivot about the inner base portion 256.

Similarly, a second guide ridge (not shown) extends on the inner side of the second housing section 206. The second guide ridge acts as a guide element. The second guide ridge is formed on the second arm 221b of the first housing section 205. The second guide ridge is configured to act on the other of the outer base portions 257 of the article holder 250 to urge the second base portion 257 to pivot about the inner base portion 256 when the second housing section 206 is moved relative to the article holder 250. That is, a guide face of the second guide ridge abuts the nub protruding from the respective outer base portion 257. The nub, acting as a deflection element, and therefore the respective outer base portion 257 is urged to pivot relative to the middle base portion 256 when the cartridge unit 202 is moved between its closed and open condition.
Referring now to Figures 20 to 33, the hinge unit 203 comprises a central shaft 301, an inner ring 302, first and second outer rings 303, 304, and two end caps 305. The inner ring 302 acts as an inner hinge element. The first and second outer rings 303, 304 act as outer ring elements.

The inner ring 302 and two outer rings 303, 304 are received on the central shaft 301, with the outer rings 303, 304 disposed on either side of the inner ring 302. The two end caps 305 fixedly mount to opposing ends of the central shaft 301. The end caps 305 aid retention of the hinge elements 302, 303, 304 in position on the central shaft 301 and prevent the hinge elements 302, 303, 304 from moving in a direction along a longitudinal axis of the shaft 301. A passage 312 is formed through the central shaft 301.

The hinge unit has two c-clips 306, 307 (refer to Figures 24 to 26) which mount around the central shaft 301. The c-clips 306, 307 act as retention elements to retain the outer rings 303, 304 in position on the central shaft 301. The inner ring 302 is received between the two outer rings 303, 304 on the shaft 301.

The hinge unit 203 also has an inner cylinder 308. The inner cylinder has first and second cylinder portions 309, 310. The first cylinder portion 309 is received in the second cylinder portion 310. When the hinge unit 203 is assembled, the inner cylinder 308 is received in the passage 312 formed by the central shaft 301. The inner cylinder 308 is held in position by the end caps 305. The inner cylinder 308 defines a cylindrical bore extending through the hinge unit 203. The cylindrical bore extends along the rotational axis of the hinge unit 203.

The central shaft 301 is shown in Figure 30 to 32. The central shaft 301 is elongate and defines a longitudinal axis about which the outer rings 303, 304 rotate so that the housing sections 205, 206 are able to pivot about the longitudinal axis of the shaft 301 when the hinge unit 203 is attached to the cartridge unit 202, as will be explained hereinafter.
In the present embodiment, the central shaft 301 is formed from molded plastic, although it will be appreciated that the material and method of manufacture is not limited thereto and, for example, the central shaft may be machined or cast. Although the inner ring 302 is a separate component to the central shaft 301 in the present embodiment, it will be understood that the inner ring 302 may be integrally formed with the central shaft 301.

The central shaft 301 has a first receiving channel 314 formed in it. The first receiving channel 314 extends from a first end 315 of the shaft 301. The first receiving channel 314 extends parallel to the longitudinal axis of the shaft 301. The first receiving channel 314 extends through the shaft 301 between outer and inner surfaces. The first receiving channel 314 has opposing side surfaces 316, 317. The opposing side surfaces 316, 317 act as a stop for the inner ring 302.

The central shaft 301 has an inner region 318a which is disposed between first and second outer regions 318b, 318c defined along the longitudinal axis of the central shaft 301. The width of the inner region 318a corresponds to the width of the inner ring 302, and the width of each outer region 318b, 318c corresponds to the width of each of the outer rings 303, 304. In the present embodiment, each ring 302, 303, 303 has an equal width, however it will be understood that the width of the rings may vary. The first receiving channel 314 extends in the first outer region 318b and the inner region 318a.

A first indent 319 is formed in one of the opposing side surfaces 316 of the first receiving channel 314. That is, the first indent 319 extends from the first receiving channel 314. The first indent 319 extends through the shaft 301 between outer and inner surfaces. The first indent 319 is formed in the first outer region 318b. The first indent 319 has a back face 320. The back face 320 of the first indent 319 acts as an end stop to limit rotation of the first outer ring 303, as will become apparent hereinafter. Similarly, the opposing side surface 317 of the first receiving channel 314, without the first indent 319 formed therein, acts as an end stop to limit rotation of the first outer ring 303.
The first indent 319 also has two side walls 321. The two side walls 321 extend in a circumferential direction. A portion of the central shaft extending from each side wall 321 forms a rail. Each rail has opposing upper and lower faces. Each rail acts as one of the engagement elements 240, as will become apparent hereinafter. The width of the first indent 319 between the two side walls 321 is smaller than the width of the first engagement leg 229 between its opposing side faces. The width of the first indent 319 between the two side walls 321 is greater than or equal to the distance between the base of the grooves in the first engagement leg 229. Therefore, the rails, acting as the engagement elements 240 are receivable in the grooves in the first engagement leg 229 when the first engagement leg 229 is received therebetween.

The central shaft 301 has a second receiving channel 322 formed in it. The second receiving channel 322 extends from a second end 323 of the shaft 301. The second receiving channel 322 extends parallel to the longitudinal axis of the shaft 301. The second receiving channel 322 extends through the shaft 301 between outer and inner surfaces. The second receiving channel 322 has opposing side surfaces 324, 325. The second receiving channel 322 is formed in the second outer region 318c of the shaft 301.

A second indent 326 is formed in one of the opposing side surfaces 325 of the second receiving channel 322. That is, the second indent 326 extends from the second receiving channel 322. The second indent 326 extends from the second receiving channel 322 in the opposite direction to the first indent 319 extending from the first receiving channel 314. The second indent 326 extends through the shaft 301 between outer and inner surfaces. The second indent 326 is formed in the second outer region 318c. The second indent 326 has a back face 327. The back face 327 of the second indent 326 acts as an end stop to limit rotation of the second outer ring 304, as will become apparent hereinafter. Similarly, the opposing side surface 324 of the second receiving channel 322, without the second indent 326 formed therein, acts as an end stop to limit rotation of the second outer ring 304.
The second indent 326 also has two side walls 328. The two side walls 328 extend in a circumferential direction. A portion of the central shaft extending from each side wall 328 forms a rail. Each rail has opposing upper and lower faces. Each rail acts as one of the engagement elements 240, as will become apparent hereinafter. The width of the second indent 326 between the two side walls 328 is smaller than the width of the second engagement leg 232 between its opposing side faces. The width of the second indent 326 between the two side walls 328 is greater than or equal to the distance between the base of the grooves in the second engagement leg 232. Therefore, the rails, acting as the engagement elements 240 are receivable in the grooves in the second engagement leg 232 when the second engagement leg 232 is received therebetween.

The hinge unit 203 also includes the retaining elements 285. In the present embodiment there are two retaining elements 285, although it will be understood that a single retaining element may be used. Each retaining element 285 is a resilient member formed from a wire which is formed in a generally U-shape, with a retaining part 340 at its mid-section. Each retaining element 285 is received in the central shaft 301. That is, each retaining element 285 is mounted in the central shaft 301 with the retaining part 340 disposed to protrude into the second receiving channel 322. The retaining elements 285 oppose each other and the retaining parts 340 protrude into the second receiving channel 322 from opposing side surfaces 324, 325 of the second receiving channel 322. The retaining elements 285 protrude into the second receiving channel 322 in the inner region 318a of the central shaft 301.

The hinge unit 203 also has first and second restraining members 342, 343. The two restraining members are mounted to the central shaft 301. The restraining members 342, 343 each have two restraining arms 344 which protrude from the central shaft 301. A restraining protuberance 345 extends at the free end of each restraining arm 344. The restraining members 342, 343 are resilient. Therefore, the restraining arms 344 are biased in a direction away from the central shaft 301. The first restraining member 342 protrudes from the first outer region 318b of the central shaft 301. The second restraining member 343 protrudes from the second outer region 318c of
the central shaft 301. When the restraining members 342, 343 are mounted to the central shaft 301, the restraining protuberances 345 on each restraining arm 344 protrude from diametrically opposite sides of the central shaft 301. The retreating protuberances 345 are configured to act on the outer rings 303, 304 when the outer rings are assembled on the shaft 301. The restraining members 342, 343 form part of a restraining means to restrain rotation of the outer rings 303, 304 about the shaft.

The inner ring 302 (refer in particular to Figures 29 and 30) has an outer face 350 and an inner face 350. A shoulder 352 protrudes from the inner face 350. The shoulder protrudes in a generally radial direction. The shoulder 352 has two end walls 253, 254 and two side walls 355 extending between the end walls 353, 354. The diameter of the inner face 350 of the inner ring 302 corresponds to the inner region 318a of the central shaft 301 so that the inner ring 302 is receivable around the central shaft 301.

An attachment leg receiving cavity 356 is formed in the shoulder 352 of the inner ring 302. The leg receiving cavity 356 opens to the outer face 352. The attachment leg receiving cavity 356 is configured to receive the attachment leg 280 of the cartridge unit 202. That is the attachment leg receiving cavity 356 is dimensioned to slide fittingly receive the attachment leg 280.

Retaining element holes 357 are formed through the end walls 353, 354 of the inner ring shoulder 352. The retaining element holes 357 are arranged so that the retaining parts 340 of the retaining elements 285 protrude through the retaining element holes 357 into the attachment leg receiving cavity 356 when the hinge unit 203 is assembled.

The first and second outer rings 303, 304 (refer in particular to Figures 27 and 28) each have an outer face 360 and an inner face 361. A shoulder 362 protrudes from the inner face 361 of each outer ring 303, 304. The shoulder 362 protrudes in a generally radial direction. The shoulder 362 has two end walls 363, 364 and two side walls 365 extending between the end walls 363, 364. The diameter of the inner face 361 of each outer ring 303, 304 corresponds to the first and second outer regions
318b, 318c of the central shaft 301 so that the outer rings 303, 304 are receivable around the central shaft 301.

A first engagement leg receiving cavity 366 is formed in the shoulder 362 of the first outer ring 303. A second engagement leg receiving cavity 367 is formed in the shoulder 362 of the second outer ring 304. The first engagement leg receiving cavity 366 is configured to receive the first engagement leg 229 of the first housing section 205. The second engagement leg receiving cavity 367 is configured to receive the second engagement leg 232 of the second housing section 206. That is each engagement leg receiving cavity 366, 367 is dimensioned to slide fittingly receive the corresponding engagement leg 229, 232.

Engagement element holes 368 are formed through the side walls 365 of each outer ring shoulder 362. The engagement element holes 368 extend partially into the end walls 363, 364. The engagement element holes 368 are arranged so that each rail acting as a engagement element 240 is able to slide along and protrude through a respective engagement element hole 368 into the respective engagement leg receiving cavity 366, 367 when the hinge unit 203 is assembled and the first and second outer rings 303, 304 are rotated about the shaft 301.

Raised sections 370 are formed on the inner face 361 of the first and second outer rings 303, 304. The raised sections 370 protrude from the surface of the inner face 361 of the first and second outer rings 303, 304. The raised sections 370 are configured to engage with the restraining elements 342, 343 to form part of the restraining means to limit rotation of the outer rings 303, 304 about the central shaft.

When the hinge unit is assembled, the inner cylinder 308 is received in the passage 312 formed through the central shaft 301. The retaining elements 285 are received in the central shaft 301 and are movable mounted thereto such that the retaining parts 340 of the retaining elements 285 are movable in response to a force acting on them. The retaining parts 340 of the retaining elements 285 are urged inwardly; that is towards each other.
Similarly, the first and second restraining members 342, 343 are mounted to the central shaft 301. Each restraining member 342, 343 is received by the central shaft 301 so that one end of each restraining arm 344 is fixedly mounted and the other free end, with the restraining protuberance 345 protruding therefrom, is able to be moved in response to a force acting on them. The opposing restraining arm 344 of each restraining member 342, 343 are urged outwardly; that is away from each other.

The first outer ring 303 is received on the central shaft 301. The first outer ring shoulder 362 is received in the first receiving channel 314 of the shaft 301. The first outer ring 303 abuts against a ridge 371 extending circumferentially around the shaft 301. To mount the first outer ring 303 to the shaft 301 the shoulder 362 is slid along the first receiving channel 314 and the first outer ring 303 locates against the shaft 301. One of the side walls 365 of the first outer ring shoulder 362 abuts against the end of the first receiving channel 314. The c-clip 306 is received in a circumferentially extending gully formed in the outer surface of the central shaft 301. The c-clip 306 protrudes from the outer surface of the central shaft 301 and locates against the sides of one or more of the raised sections 370 and/or the shoulder 362 formed on the inner face 361 of the first outer ring 303. The c-clip mounts the first outer ring 303 on the central shaft 301. Therefore, the first outer ring 303 is prevented from moving longitudinally along the shaft 301 by the c-clip 306 and the ridge 371.

The shoulder 362 of the first outer ring 303 is aligned with the first indent 319 extending from the first receiving channel 314. Therefore, the shoulder 362 of the first outer ring 303 is able to slide along the first indent 319. The first outer ring 303 is free to rotate about the shaft 301. However, the range of rotation of the first outer ring 303 about the shaft 301 is limited by the back face 320 of the first indent 319 and the opposing side surface 316 of the first receiving channel 314. That is, the angle of rotation is restricted by the angle between the back face 320 of the first indent 319 and the opposing side surface 316 of the first receiving channel 314.
When the first outer ring 303 is received on the central shaft 301, the rails, acting as engagement elements 240, are aligned with the engagement element holes 368 formed through the side walls 365 of the first outer ring shoulder 362. That is, the rails are aligned to slide along and protrude through respective engagement element holes 368 into the first engagement leg receiving cavity 366 when the first outer ring 303 is rotated about the shaft 301.

Furthermore, when the first outer ring 303 is received on the central shaft 301, the first restraining member 342 is received in the first outer ring 303. That is, the restraining protuberances 345 of the restraining member 342 are urged against the inner face 361 of the first outer ring 303.

The inner ring 302 is received on the central shaft 301. The inner ring shoulder 352 is received in the second receiving channel 322 of the shaft 301. The inner ring 302 abuts against a ridge 371 extending circumferentially around the shaft 301. To mount the inner ring 302 to the shaft 301, the shoulder 352 is slid along the second receiving channel 322 and the inner face 350 of the inner ring 302 locates against the shaft 301. One of the side walls 355 of the inner ring shoulder 352 abuts against the end of the second receiving channel 322. The end walls 353, 354 of the inner ring shoulder 352 abut against the opposing side surfaces 324, 325 of the second receiving channel 322. Therefore, the inner ring 302 is prevented from rotating relative to the shaft 301 about the longitudinal axis of the shaft 301. The inner ring 302 is received around the inner region 318a of the shaft 301.

When the inner ring 302 is received on the central shaft 301, the retaining elements 285 protrude through the retaining element holes 357 formed through the end walls 353, 354 of the inner ring shoulder 352. That is, the retaining parts 340 of the retaining elements 285 protrude through the retaining element holes 357 into the attachment leg receiving cavity 356.

The second outer ring 304 is also received on the central shaft 301. The second outer ring shoulder 362 is also received in the second receiving channel 322 of the shaft 301. The second outer ring 304 abuts against the inner ring 302 received on
the shaft 301 and extending circumferentially around the shaft 301. To mount the second outer ring 304 to the shaft 301 the shoulder 362 is slid along the second receiving channel 322 and the second outer ring 304 locates around the shaft 301. The c-clip 307 is received in a circumferentially extending gully formed in the outer surface of the central shaft 301. The c-clip 307 protrudes from the outer surface of the central shaft 301 and locates against the sides of one or more of the raised sections 370 and/or the shoulder 362 formed on the inner face 361 of the second outer ring 304. The c-clip mounts the second outer ring 304 on the central shaft 301. The inner ring 302 is therefore also mounted on the shaft and prevented form sliding from the shaft 301 by the second outer ring 304 abutting thereagainst. The inner ring 301 is therefore mounted between the first and second outer rings 303, 304. Therefore, the inner ring 302 and second outer ring 304 are prevented from moving longitudinally along the shaft 301 by the c-clip 307 and the ridge 371.

The shoulder 362 of the second outer ring 304 is aligned with the second indent 326 extending from the second receiving channel 322. Therefore, the shoulder 362 of the second outer ring 304 is able to slide along the second indent 322. The second outer ring 304 is free to rotate about the shaft 301. However, the range of rotation of the second outer ring 304 about the shaft 301 is limited by the back face 327 of the second indent 322 and the opposing side surface 325 of the second receiving channel 322. That is, the angle of rotation is restricted by the angle between the back face 327 of the second indent 322 and the opposing side surface 325 of the second receiving channel 322.

When the second outer ring 304 is received on the central shaft 301, the rails, acting as engagement elements 240, are aligned with the engagement element holes 368 formed through the side walls 365 of the first outer ring shoulder 362. That is, the rails are aligned to slide along and protrude through respective engagement element holes 368 into the first engagement leg receiving cavity 366 when the first outer ring 303 is rotated about the shaft 301.

Furthermore, when the second outer ring 304 is received on the central shaft 301, the second restraining member 343 is received in the second outer ring 304. That is,
the restraining protuberances 345 of the second restraining member 343 are urged against the inner face 361 of the second outer ring 304.

The end caps 305 are mounted to the first and second ends of the hinge unit 203. The hinge unit 203 is then in an assembled state. When the hinge unit 203 is in a neutral position, the first and second outer rings 303, 304 are aligned with the inner ring 302. The first and second engagement leg receiving cavities 366, 367 are aligned with the attachment leg receiving cavity 356. That is, the first and second engagement leg receiving cavities 366, 367 and the attachment leg receiving cavity 356 extend in a longitudinal line in the direction of the longitudinal axis of the hinge unit, and are not rotated about the longitudinal axis of the hinge unit 203 with respect to each other.

When the first and second outer rings 303, 304 are in their neutral position, the rails, acting as engagement elements 240, are retracted from the first and second engagement leg receiving cavities 366, 367 and do not extend therein.

Similarly, when the first and second outer rings 303, 304 are in their neutral position, the restraining protuberances 345 of the first and second restraining members 342, 343 locate proximate to, or abut against, but do not locate on the raised sections 370 of the inner face 361 of the first and second outer rings 303, 304.

It will be appreciated that the first outer ring 303 is able to slide and rotate in one direction about the shaft 301 by sliding into the first indent 319 formed in the side surface 316 of the first receiving channel 314. The second outer ring 304 is able to slide and rotate in an opposing direction about the shaft 301 by sliding into the second indent 326 formed in the opposing side surface 325 of the second receiving channel 322.

Use of the above package for smoking articles will now be described with reference to Figures 9 to 37.
The hinge unit 203 and cartridge unit 202 are initially separated from each other. The hinge unit 203 and the cartridge unit 2 are brought towards each other. As the hinge unit 203 is brought towards the cartridge unit 202, the attachment leg 280 is aligned with the attachment leg receiving cavity 356. Similarly, the first and second engagement legs 229, 232 are aligned with the first and second engagement leg receiving cavities 366, 367. The first and second outer rings 303, 304 are initially in their neutral position. The hinge unit 203 and the cartridge unit 2 are then brought into contact with each other. The attachment leg 280 is received in the attachment leg receiving cavity 356 and the engagement legs 229, 232 are received in the first and second engagement leg receiving cavities 366, 367 respectively. As the attachment leg 280 is slid into the attachment leg receiving cavity 356, the free end of the leg 280 contacts the retaining elements 285. As an urging force is applied to urge the hinge unit 203 and cartridge unit 202 together, the end of the attachment leg 280 acts on the retaining part 340 of each retaining element 285 and urges the retaining part 340 to displace out of the attachment leg receiving cavity 356. The end of the attachment leg 280 has a chamfered edge to aid displacement of the retaining part 340. As the leg is further inserted into the cavity 356, the resilience of each retaining element 285 biases the retaining part 340 against the leg 280. Therefore, when the attachment leg 280 is fully received in the attachment leg receiving cavity 356, each retaining part 340 locates in the respective retaining recess 283 on the attachment leg 280. In this position, the bottom end of the cartridge unit 202 locates against the outer face of the hinge unit 203.

When the attachment leg 280 is received in the attachment leg receiving cavity 356 in the inner ring 302, it will be understood that the engagement legs 229, 232 are also received in the corresponding engagement leg receiving cavities 366, 367 in the outer rings 303, 304. The hinge unit 203 is then attached to the cartridge unit 202. Furthermore, the retaining means or unit retains the hinge unit 203 on the cartridge unit 202 and restricts the removal of the hinge unit 203 from the cartridge unit 202.

In the present arrangement, the hinge unit may be mounted in an opposite orientation, i.e. with the first engagement leg 229 aligned with the second
engagement leg receiving cavity 367 and the second engagement leg 332 aligned with the first engagement leg receiving cavity 366.

Referring to Figures 36 and 37, when the hinge unit 203 is brought into contact with the cartridge unit 202, the attachment leg 280 is received in the attachment leg receiving cavity 356 as described above. As the attachment leg 280 is received in the attachment leg receiving cavity 356, the first and second locking members 286, 287 are brought into contact with the hinge unit 202. That is, the first and second locking members 286, 287 of the smoking article holder 250, which act to lock the first and second housing sections 205, 206 in a closed condition, are brought into contact with the outer edge of the attachment leg receiving cavity 356.

The locking members 286, 287 are biased away from the attachment leg 280. That is, the first and second locking members 286, 287 diverge away from the attachment leg 280 from the lower end of the attachment leg 280 and are received in the first and second locking recesses 288, 290. Therefore, when the attachment leg 280 is inserted in the cavity 356, the edge of the cavity 356 acts on the locking members 286, 287 and urges them to deform in a direction towards the attachment leg 280. Each locking member 286, 287 is urged to move out of the respective locking recess 288, 290 as the hinge unit 203 is mounted to the cartridge unit 202. Therefore, as the locking members 286, 287 are urged by the edge of the attachment leg receiving cavity 356, acting as a key element, the locking members 286, 287 move away from the locking faces 289, 291. When the locking members 286, 287 are withdrawn from the locking recesses 288, 290, the first and second housing sections 205, 206 are able to move relative to the smoking article holder 250.

Once the hinge unit 203 has been attached to the cartridge unit 202, the cartridge unit 202 is able to be opened. That is, the hinge unit 203, acting as a key, acts on the locking members 286, 287 so that they do not lock the cartridge unit 202 in a closed condition. However, the cartridge unit 202 is initially restricted from moving into an open condition by the action of the latch and the restraining means or unit. The restraining means comprises the restraining members 342, 343 and the raised sections 370. The first and second restraining members 342, 343 are biased
outwardly and act on the first and second outer rings 303, 304 respectively. The restraining protuberances 345 locate against the base of the raised sections 370 of the inner face of the outer rings 303, 304 to restrict the rings from rotating about the shaft and so retain the cartridge unit in a closed condition.

When a separating action is imparted on first and second housing sections 5, 6 of the cartridge unit 2, the first and second housing sections 205, 206 are urged to pivot relative to each other about the rotational axis of the hinge unit 203. The resilient closing force of the latch at the upper end of the cartridge unit is initially overcome. The first and second housing sections 205, 206 are urged away from each other and the engagement legs 229, 232 of the first and second housing sections 205, 206 act on the first and second outer rings 304, 305 respectively and urge them to rotate about the shaft 301 relative to the smoking article holder 250.

When the first housing section 205 and the first outer ring 303 are urged to rotate about the rotational axis of the hinge unit 203, the protuberances on the restraining legs 344 of the first restraining member 342 are urged against the raised sections 370. The abutment of the restraining member 342 against the raised sections 370 initially prevents the first outer ring 303 from rotating. However, as the rotational force imparted increases, the resilient restraining legs 344 deform, and the restraining member are able to slide over the raised sections 370. Therefore, the first outer ring 303 is able to rotate about the central shaft 301. Similarly, when the second housing section 206 and the second outer ring 304 are urged to rotate about the rotational axis of the hinge unit 203, the protuberances on the restraining legs 344 of the second restraining member 343 are urged against the raised sections 370. The abutment of the restraining member 343 against the raised sections 370 initially prevents the second outer ring 304 from rotating. However, as the rotational force imparted increases, the resilient restraining legs 344 deform, and the restraining member are able to slide over the raised sections 370. Therefore, the second outer ring 304 is able to rotate about the hinge unit 203.

The first and second outer rings 303, 304 are then able to rotate in opposite directions about the hinge unit 203. Therefore, the first and second housing
sections 205, 206 pivot about the rotational axis of the hinge unit 203 between an open condition and a closed condition. As the first and second sections 205, 206 pivot about the rotational axis of the hinge unit 203, they pivot relative to the smoking article holder 250. The smoking article holder 250 is fixedly held in position by the attachment leg 280 being received by the inner ring 302, and the inner ring being prevented from rotating about the central shaft 301.

As the first and second outer rings 303, 304 rotate about the shaft 301, the shoulders 362 of the first and second outer rings 303, 304 slide into the first and second indents 319, 326 respectively. That is, the shoulder 362 of the first outer ring 303 slides into the first indent 319 from the first receiving channel 314. It will be understood that the first engagement leg 229 received in the first engagement leg receiving cavity 366 in the shoulder 362 rotates with the first outer ring 303. As the first outer ring shoulder 362 moves into the first indent 319, the rails, acting as engagement elements 240, protrude into the first engagement leg receiving cavity 366. That is, the rails slide along the engagement element holes 368 formed through the side walls 365 of the outer ring shoulder 362 and extend therethrough.

When the first engagement leg 229 is received in the first engagement leg receiving cavity 366, the grooves 233 in the first engagement leg 229 align with the engagement element holes 368. Therefore, when each rail 240 slides into the first engagement leg receiving cavity 366 it is received in the corresponding groove 233 in the first engagement leg 229. That is, the rail 240 engages with the first engagement leg 229. This means that the first engagement leg 229 is engaged in the first engagement leg receiving cavity 366 when the first housing section 205 is rotated and the cartridge unit 202 moved into an open condition. Therefore, the first housing section 205 is engaged with the hinge unit 203 in an open condition.

Similarly, the shoulder 362 of the second outer ring 304 slides into the second indent 326 from the second receiving channel 322. It will be understood that the second engagement leg 232 received in the second engagement leg receiving cavity 367 in the shoulder 362 rotates with the second outer ring 304. As the second outer ring shoulder 362 moves into the second indent 326, the rails, acting as engagement
elements 240, protrude into the second engagement leg receiving cavity 237. That is, the rails slide along the engagement element holes 368 formed through the side walls 365 of the second outer ring shoulder 362 and extend therethrough.

When the second engagement leg 232 is received in the second engagement leg receiving cavity 367, the grooves 235 in the second engagement leg 232 align with the engagement element holes 368. Therefore, when each rail 240 slides into the second engagement leg receiving cavity 367 it is received in the corresponding groove 235 in the second engagement leg 232. That is, the rail 240 engages with the second engagement leg 232. This means that the second engagement leg 232 is engaged in the second engagement leg receiving cavity 367 when the second housing section 206 is rotated and the cartridge unit 202 moved into an open condition. Therefore, the second housing section 206 is engaged with the hinge unit 203 in an open condition.

Due to the engagement means or unit, the hinge unit 203 cannot be removed from the cartridge unit when the cartridge unit is in its open condition. As rotation of the first and second outer rings 303, 304 continues each shoulder 362 abuts against the respective back face 320, 327 of the first and second indents 319, 326 which act as end stops and limit the rotation of the first and second outer rings 303, 304 about the shaft 301. The package is then in its fully open condition, and smoking articles contained in the smoking article receiving space 207 are accessible.

When the fully open condition is reached, the restraining protuberances 345 of the first and second restraining members 342, 343 slide from the raised sections on the inner face 361 of the first and second outer rings 303, 304. Therefore, the restraining members 342, 343 acting as restraining means or units, act to restrict the first and second outer rings 304, 305 from rotating in the opposite direction. This means that the abutment of the restraining members 342, 343 against the raised sections 370 initially prevents the first and second outer rings 303, 304 from rotating when in an open condition and so restricts the cartridge unit from moving from its open condition. However, as the rotational force imparted increases, the resilient restraining legs 344 deform, and the restraining member are able to slide
over the raised sections 370. Therefore, the outer rings 303, 304 are able to rotate about the central shaft 301.

As the first and second housing sections 203, 204 are rotated relative to each other from the closed condition to the open condition, smoking articles received by the smoking article holder 250 are urged to splay apart from each other. Initially, smoking articles received by the sub-holders 252, 253, 254, 255 are aligned generally parallel to each other, and an upper end of each outer row of smoking articles disposed in sub-holders mounted to the outer base portions 254, 255 abut the rear wall 209, 216 of each of the first and second housing sections 205, 206. As the housing sections 205, 206 pivot away from the smoking article holder 250, and each other, the rear walls 209, 216 of the housing sections 205, 206 pivot away from the smoking articles. The outer portions of the smoking article holder 250 formed by the outer base portions 257 and the sub-holders 254, 255 mounted thereto are able to pivot about the middle base portion 256. Therefore, the smoking articles held on each outer base portion 257 are able to splay away from the smoking articles held on the middle base portion 256.

As the first housing section is urged to pivot about the smoking article holder 250, the first guide ridge formed on the second arm 221b of the first housing section 205 acts on the corresponding outer base portion 257 of the article holder 250. The outer base portion 257 is urged to pivot about the middle base portion 256. That is, the guide face 294 of the first guide ridge 293 abuts the nub 260 protruding from the end of the respective outer base portion 257 when the first housing section 205 is moved relative to the smoking article holder 250. Therefore, the nub 260, acting as a deflection element, and therefore the respective outer base portion 257 is urged to pivot relative to the middle base portion 256 when the cartridge unit 202 is moved between its closed and open condition.

Similarly, the second guide ridge (not shown) formed on the second arm 221b of the first housing section 205 acts on the other of the outer base portions 257 of the article holder 250 to urge the second base portion 257 to pivot about the inner base portion 256 when the second housing section 206 is moved relative to the article
holder 250. That is, the guide face of the second guide ridge abuts the nub protruding from the respective outer base portion 257. Therefore, the nub, acting as a deflection element, and therefore the respective outer base portion 257 is urged to pivot relative to the middle base portion 256 when the cartridge unit 202 is moved between its closed and open condition.

Smoking articles are then spaced from each other and a user is able to easily retrieve a smoking article.

To move the package from its open condition to its closed condition the first and second housing sections are urged towards each other. The engagement legs 229, 232 act on the outer rings 303, 304 and urge them to slide in opposing directions until the cartridge unit 202 is in its closed condition. When the cartridge unit 202 is moved from its open condition to its closed condition, the guide ridges 293 moves in a direction away from the nub 260, and so the outer base portions 257 are free to pivot about the inner base portion 256. As the housing sections are urged together, they act on the free ends of the smoking articles and urge them to pivot to their initial position.

When the outer rings 203, 204 rotate about the central shaft 301 towards their neutral position, the shoulders 362 of the first and second outer rings 303, 304 slide from the first and second indents 319, 326 respectively. That is, the shoulders 362 of the first and second outer ring 303, 304 slide from the first and second indents 319, 326 and into the first and second receiving channels 314, 322 respectively. As the outer ring shoulders 362 slide from the first and second indents 319, 326, the rails, acting as engagement elements 240 slide from the first and second engagement leg receiving cavities 366. Therefore, the rails disengage from the corresponding grooves 233, 235 in the first and second engagement legs 229, 232. This means that the engagement legs 229, 232 are free to be withdrawn from their respective leg receiving cavity 366, 367 when the first housing section 205 is rotated and the cartridge unit 202 moved into its closed condition.
The hinge unit 203 can then be detached from the cartridge unit 202. When the hinge unit 203 is drawn away from the cartridge unit 202 the retaining force of the retaining elements 285 are overcome. If a separating force is applied to draw the hinge unit 203 away from the cartridge unit 202, the attachment leg 280 is urged to be drawn from the attachment leg receiving cavity 356. However, each retaining element 285 is biased against the attachment leg 280 and is received in the retaining recess 283. Each retaining element 285 abuts the corresponding retaining face 284 on the leg 280. This restricts withdrawal of the attachment leg 280 from the attachment leg receiving cavity 356. Therefore, the hinge unit 203 is retained on the cartridge unit and is restricted from being drawn away from cartridge unit 202. As the separating force is further applied, the resilience of the retaining elements 285 is overcome and the attachment leg 280 is able to be drawn from the attachment leg receiving cavity 356.

Then the attachment and engagement legs are drawn from the inner and outer rings respectively. As the attachment leg 280 is drawn from the attachment leg receiving cavity 357 the locking members 286, 287 are drawn from the cavity 357. The locking members 286, 287 are biased toward the respective locking recess 288, 290. Therefore, as the locking members 286, 287 are moved from the hinge unit they are able to spring into their respective locking recess 288, 290. Therefore, the first and second housing sections 205, 206 are prevented from moving to an open condition.

It will be understood that the cartridge unit 202 is only able to be separated from the hinge unit 203 when the cartridge unit 202 is in its closed condition due to the action of the engagement means. Therefore, the cartridge unit 202 will always be in a closed condition, with the locking means or unit locking the first and second housing sections 205, 206 prior to removal of the hinge unit 203.

An advantage of the above arrangements is that the hinge unit may be retained and the cartridge unit disposed of once the smoking articles received in the cartridge unit have been removed. Another cartridge unit may be used together with the hinge unit. Therefore, it will be understood that the cartridge unit may be a disposable unit.
Although in the above arrangements separate locking members extend from the smoking article holder and abuts with each of the first and second housing sections to lock the first and second housing sections relative to each other in a closed condition, it will be understood that in an alternative arrangement a single locking member is used to abut against locking faces of both the first and second housing sections to lock the first and second housing sections in a closed condition.

Although in the above arrangements the locking members extend from the smoking article holder and engage with the first and second housing sections, it will be understood that in an alternative arrangement the locking member extends from one of the first or second housing sections and locates against a locking face on the opposing first or second housing section to form a locking mechanism to lock the first and second housing sections in a closed position.

Although in the above described embodiment the first and second housing sections and the smoking article holder each have one leg extending therefrom, it will be appreciated that in an alternative embodiment each of the first and second housing sections and/or the smoking article holder may have a single leg extending therefrom, each of which is received in a corresponding leg receiving cavity formed in each of the first and second outer rings and the accordingly. Furthermore, it will be appreciated that the means of attaching the first and second housing sections and the smoking article holder to the first and second outer rings and the inner ring respectively is not limited to one or more legs received in a corresponding recess and that alternative attachment means may be used.

Although in the above described embodiment the engagement legs extend from the cartridge unit and are received in the hinge unit, it will be understood that in an alternative arrangement the engagement legs may extend from the hinge unit and be received in the cartridge unit. Similarly, although in the above described embodiment the attachment leg extends from the cartridge unit and is received in the hinge unit, it will be understood that in an alternative arrangement the attachment leg may extend from the hinge unit and be received in the cartridge unit.
In the above embodiments, the sub-holders are removably mountable to the base mount, however it will be understood that in an alternative arrangement the sub-holders may be fixedly mountable to the base mount or integrally formed therewith.

Although in the above embodiments aspects of the attachment means or unit, retaining means or unit and engagement means or unit are separate to each other, it will be understood that in an alternative arrangement they may be integrally formed. For example, in an alternative arrangement one or more of the engagement legs may also form part of the attachment means. In such an arrangement, the engagement leg may have some of the features of the attachment legs to enable the hinge unit to be retained on the cartridge unit.

Although the above embodiments recite and illustrate packages in which smoking articles are received, it will be appreciated that the invention is not limited thereto and that packages may be used to receive other articles, products and items therein.

Although embodiments of the invention have been shown and described, it will be appreciated by those skilled in the art that variations may be made to the above exemplary embodiment that lie within the scope of the invention, as defined in the following claims.

In order to address various issues and advance the art, the entirety of this disclosure shows by way of illustration various embodiments in which the claimed invention(s) may be practiced and provide for a superior package for smoking articles, hinge unit for a package for smoking articles, cartridge unit for a package for smoking articles, and/or holder for two or more cartridge units for a package for smoking articles. The advantages and features of the disclosure are of a representative sample of embodiments only, and are not exhaustive and/or exclusive. They are presented only to assist in understanding and teach the claimed features. It is to be understood that advantages, embodiments, examples, functions, features, structures, and/or other aspects of the disclosure are not to be considered limitations on the disclosure as defined by the claims or limitations on equivalents to the claims, and that other embodiments may be utilised and modifications may be made without departing
from the scope and/or spirit of the disclosure. Various embodiments may suitably comprise, consist of, or consist essentially of, various combinations of the disclosed elements, components, features, parts, steps, means, etc. In addition, the disclosure includes other inventions not presently claimed, but which may be claimed in future.
Claims

1. A package for smoking articles comprising a cartridge unit in which articles are receivable, and a hinge unit attachable to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

2. A package according to claim 1, wherein the cartridge unit comprises a first housing section and a second housing section, the first section being configured to move relative to the second housing section between a closed and an open condition when the hinge unit is attached to the cartridge unit.

3. A package according to claim 2, wherein the hinge unit is configured to guide movement of the first housing section and the second housing section about the hinge unit when the hinge unit is attached to the cartridge unit.

4. A package according to claim 3, wherein the hinge unit comprises a first hinge element and a second hinge element which are movable relative to each other, the first housing section being attachable to the first hinge element and the second housing section being attachable to the second hinge element.

5. A package according to claim 4, wherein the second hinge element is rotatable about a rotational axis of the hinge unit, such that the second housing section is rotatable about the rotational axis of the hinge unit when the hinge unit is attached to the cartridge unit.

6. A package according to claim 4 or claim 5, wherein the hinge unit further comprises a central shaft, the first and second hinge elements extending around the central shaft.
7. A package according to claim 6, wherein the first hinge element is rotatable around the central shaft.

8. A package according to claim 7, wherein the first hinge element has a shoulder, and the central shaft has a recess in which the shoulder is received with two end stops, the shoulder being slidable in the recess between the two end stops so that, when the first hinge element is rotated about the shaft, the shoulder abuts the end stops to limit the rotation of the first hinge element about the central shaft.

9. A package according to claim 8, wherein the shoulder and one of the end stops have facing retaining elements which are configured to locate against each other when the shoulder abuts said side surface to resist rotation of the first hinge element about the central shaft.

10. A package according to any of claims 2 to 9, wherein the cartridge unit further comprises an article holder which is configured to retain one or more articles received in the cartridge unit.

11. A package according to claim 10, wherein the first housing section is configured to move relative to the article holder.

12. A package according to claim 11, wherein the second housing section is configured to move relative to the article holder.

13. A package according to any of claims 10 to 12, wherein the article holder is attachable to the hinge unit.

14. A package according to claim 13, when dependent on claim 4, wherein the hinge unit further comprises a third hinge element relative to which the first and second hinge elements are movable, the article holder being attachable to the third hinge element.
15. A package according to any of claims 10 to 14, wherein the article holder comprises a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles, the second portion being movable about the first portion when the cartridge unit is moved between a closed condition and an open condition so that one or more articles retained by the second portion splay away from the one or more articles retained by the first portion.

16. A package according to claim 15, when dependent on claim 11, wherein the first housing section comprises a guide element configured to act on the second portion of the article holder to urge the second portion to move about the first portion when the first housing section is moved relative to the article holder.

17. A package according to any of claims 10 to 16, wherein the article holder comprises a base mount and a plurality of pins upstanding from the base mount which are configured to retain an end of one or more articles received in the cartridge unit.

18. A package according to any of claims 10 to 16, wherein the article holder comprises a base mount and a sub-holder configured to retain an end of one or more articles received in the cartridge unit, wherein the sub-holder is mountable to the base mount.

19. A package according to any preceding claim, further comprising an attachment means configured to releasably attach the hinge unit to the cartridge unit.

20. A package according to claim 19, wherein the attachment means comprises an attachment leg extending from the cartridge unit or hinge unit which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit.
21. A package according to claim 19 or claim 20, wherein the attachment means further comprising a retaining means configured to releasably retain the hinge unit to the cartridge unit when the hinge unit is attached to the cartridge unit.

22. A package according to any preceding claim, further comprising an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit.

23. A package according to claim 22, wherein the engagement means is configured to engage the hinge unit with the cartridge unit when the cartridge unit is in its open condition to prevent detachment of the hinge unit from the cartridge unit, and to disengage the cartridge unit from the hinge unit when the cartridge unit is in its closed condition to allow the hinge unit to be detached from the cartridge unit when the cartridge unit is in its closed condition.

24. A package according to claim 22 or claim 23, wherein the engagement means comprises an engagement leg extending from the cartridge unit or hinge unit which is receivable in an engagement leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit and an engagement element movable to extend into the cavity when the cartridge is in its open position to engage with the engagement leg.

25. A package according to any preceding claim, further comprising a locking means configured to prevent the cartridge unit from moving between the closed condition and the open condition when the hinge unit is detached from the cartridge unit.

26. A package according to claim 25, wherein the hinge unit forms a key which is configured to act on the locking means when the hinge unit is attached to the cartridge unit to release the locking means so that the cartridge unit is able to move between the closed condition and the open condition.
27. A package according to claim 26, wherein the locking means comprises a locking member configured to locate against a locking face when the hinge unit is detached from the cartridge unit, the key being configured to act on the locking member to move the locking member away from the locking face when the hinge unit is attached to the cartridge unit to release the locking means.

28. A package for smoking articles comprising a cartridge unit in which articles are receivable, a hinge unit attachable to the cartridge unit, and an attachment means for attaching the hinge unit to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

29. A package according to claim 28, wherein the attachment means comprises an attachment leg extending from the cartridge unit or hinge unit which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit.

30. A package according to claim 29, wherein the hinge unit has an attachment leg receiving cavity and the attachment leg extends from the cartridge unit so that the attachment leg is receivable in the attachment leg receiving cavity.

31. A package according to claim 29 or claim 30, wherein the attachment means comprises a retaining means configured to releasably retain the attachment leg in the attachment leg receiving cavity.

32. A package according to claim 31, wherein the retaining means comprises a retaining element in the leg receiving cavity configured to act on the attachment leg to resist removal of the attachment leg from the cavity.

33. A package according to claim 31 or claim 32, wherein the retaining element is a magnet.
34. A package according to claim 32, wherein the retaining element is configured to urge against the attachment leg when the attachment leg is received in the cavity.

35. A package according to claim 34, wherein the retaining element is a resilient element which extends into the attachment leg receiving cavity.

36. A package according to claim 34 or claim 35, wherein the attachment leg further comprises a retaining face against which the resilient element is locatable when the attachment leg is received in the cavity.

37. A package according to claim 36, wherein the retaining face extends at an oblique angle to the direction of removal of the attachment leg from the cavity.

38. A package according to any of claims 28 to 37, wherein the cartridge unit further comprises an article holder which is configured to retain one or more articles received in the cartridge unit and a housing section which is configured to move relative to the article holder.

39. A package according to claim 38, wherein the attachment means is on the article holder.

40. A package for smoking articles comprising a cartridge unit in which articles are receivable, and a hinge unit attachable to the cartridge unit, wherein the hinge unit is configured to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition, and an engagement means configured to engage the cartridge unit with the hinge unit when the hinge unit is attached to the cartridge unit to prevent detachment of the hinge unit from the cartridge unit.

41. A package according to claim 40, wherein the engagement means is configured to engage the hinge unit with the cartridge unit when the cartridge unit
is in its open condition to prevent detachment of the hinge unit from the cartridge unit, and to disengage the cartridge unit from the hinge unit when the cartridge unit is in its closed condition to allow the hinge unit to be detached from the cartridge unit when the cartridge unit is in its closed condition.

42. A package according to claim 40 or claim 41, wherein the engagement means comprises an engagement leg extending from the cartridge unit or hinge unit, an engagement leg receiving cavity in the corresponding cartridge unit or hinge unit in which the engagement leg is receivable to attach the hinge unit to the cartridge unit, and an engagement element movable to extend in the cavity when the cartridge is in its open position to engage with the engagement leg.

43. A package according to claim 42, wherein the engagement leg comprises an engagement face against which the resilient element is locatable when the engagement leg is received in the cavity.

44. A package according to claim 43, wherein the engagement face extends at an oblique angle to the direction of removal of the engagement leg from the cavity.

45. A package according to claim 43 or claim 44 wherein the engagement face is formed by an engagement protrusion on the engagement leg or an engagement groove formed in the engagement leg.

46. A package according to any of claims 40 to 45, wherein the engagement leg receiving cavity is in the hinge unit and the engagement leg extends from the cartridge unit so that the engagement leg is receivable in the engagement leg receiving cavity.

47. A package according to claim 46, wherein the cartridge unit comprises a first housing section and a second housing section, the first section being configured to move relative to the second housing section between a closed and an open condition when the hinge unit is attached to the cartridge unit, and the engagement leg extends from the first housing section.
48. A package according to claim 47, wherein, the hinge unit comprises a first hinge element and a second hinge element which are movable relative to each other, the first housing section being attachable to the first hinge element and the second housing section being attachable to the second hinge element.

49. A package according to claim 48, wherein the engagement element is configured to slide into the engagement leg receiving recess when the cartridge unit moves between a closed condition and an open condition.

50. A package according to claim 48, wherein the hinge unit further comprises a central shaft, the first hinge element being rotatable around the central shaft.

51. A package according to claim 50, wherein the engagement element is formed by the central shaft.

52. A package according to claim 51, wherein the engagement element is a rail extending from the central shaft which is configured to slide along a groove formed in the engagement leg receiving cavity to protrude in the engagement leg receiving cavity when the first hinge element rotates around the central shaft.

53. A package for smoking articles comprising a cartridge unit in which articles are receivable, the cartridge unit being movable between a closed condition and an open condition so that articles received in the cartridge unit are accessible, the cartridge unit further comprising a locking means configured to prevent the cartridge unit from moving between the closed condition and the open condition and the package further comprising a key which is attachable to the housing, wherein the key is configured to act on the locking means to allow the cartridge unit to move between the closed condition and the open condition when the key is attached to the housing.

54. A package according to claim 53, wherein the key is a hinge unit configured to enable the cartridge unit to move between a closed condition and an open
condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

55. A package according to claim 54, wherein the hinge unit is configured to act on the locking means when the hinge unit is attached to the cartridge unit to release the locking means so that the cartridge unit is able to move between the closed condition and the open condition.

56. A package according to claim 55, wherein the locking means comprises a locking member configured to locate against a locking face when the hinge unit is detached from the cartridge unit, the key being configured to act on the locking member to move the locking member away from the locking face when the hinge unit is attached to the cartridge unit to release the locking means.

57. A package according to claim 54, wherein the cartridge unit further comprises an article holder which is configured to retain one or more articles received in the cartridge unit and a housing section which is configured to move relative to the article holder between the closed condition and the open condition.

58. A package according to claim 55, wherein the locking face is formed on one of the article holder or housing section, and the locking member extends from the corresponding article holder or housing section to locate against the locking face when the hinge unit is detached from the cartridge unit.

59. A package according to claim 58, wherein the locking member is biased towards the locking face.

60. A package according to claim 59, further comprising an attachment leg extending from the article holder or housing section which is receivable in an attachment leg receiving cavity in the corresponding cartridge unit or hinge unit to attach the hinge unit to the cartridge unit, wherein the locking member extends from the attachment leg.
61. A package according to claim 60, wherein the hinge unit has an attachment leg receiving cavity and the locking member is configured to abut against the leg receiving cavity when the hinge unit is attached to the cartridge unit so that the locking member is urged to move away from the locking face.

62. A package according to claim 61, wherein the locking member extends at an oblique angle to the direction of insertion of the attachment leg in the attachment leg receiving cavity.

63. A package according to any of claims 57 to 62, wherein the housing section is a first housing section, and the cartridge further comprises a second housing section configured to move relative to the first housing section when the cartridge unit moves between a closed condition and an open condition, and a latch at a distal end of the cartridge unit to the locking means, the latch being configured to maintain the first and second housing sections in contact with each other at the distal end of the cartridge unit when the cartridge unit is in the closed condition.

64. A smoking article holder for a package for smoking articles comprising a sub-holder configured to retain an end of one or more smoking articles and a base mount, wherein the sub-holder is mountable to the base mount.

65. A smoking article holder according to claim 64, wherein the sub-holder comprises first and second holding parts which are brought together to enclose an end of the one or more smoking articles.

66. A smoking article holder according to claim 65, wherein the first and second holding parts are hingedly mounted to each other at one end so that the second holding part is rotatable to enclose an end of the one or more smoking articles.

67. A smoking article holder according to claim 66, wherein at least one end of the first holding part is attachable to the second holding part so that the first and second holding parts are retained in position against each other.
68. A smoking article holder according to any of claims 64 to 67, wherein the sub-holder is a first sub-holder, and the holder further comprises at least a second sub-holder, the second sub-holder being mountable to the base mount.

69. A smoking article holder according to claim 68, wherein the second sub-holder is configured to move relative to the first sub-holder so that that one or more articles retained by the second sub-holder splay away from one or more articles retained by the first sub-holder when the second sub-holder moves relative to the first sub-holder.

70. A smoking article holder according to claim 69, wherein the base mount comprises a first base portion and a second base portion, the second base portion being configured to move relative to the first base portion, the first base portion being configured to mount the first sub-holder thereon and the second base portion being configured to mount the second sub-holder thereon.

71. A smoking article holder according to claim 70, wherein the second base portion is moveably mounted to the first base portion by a pin hinge or a live hinge.

72. A package for smoking articles comprising a smoking article holder according to any of claims 64 to 71.

73. A package for smoking articles having a cartridge unit comprising a first housing section, a second housing section and an article holder for holding articles, the first housing section being configured to move relative to the second housing section between a closed and an open condition so that articles received in the cartridge unit are accessible when the cartridge unit is in its open condition, wherein the article holder comprises a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles, the second portion being movable relative to the first portion when the first housing section is moved relative to the second housing section so that one or more
articles retained by the second portion splay away from one or more articles retained by the first portion.

74. A package according to claim 73, wherein the first housing section is configured to move relative to the article holder.

75. A package according to claim 74, wherein the first housing section comprises a guide element configured to act on the second portion of the article holder to urge the second portion to move about the first portion when the first housing section is moved relative to the article holder.

76. A package according to claim 75, wherein the guide element is a guide face configured to abut against the second portion and urge the second portion to move about the first portion.

77. A package according to claim 74, wherein the article holder further comprises a guide element configured to urge the second portion of the article holder to move about the first portion.

78. A package according to claim 77, wherein the guide element is a magnet.

79. A package according to any of claims 74 to 78, wherein the second portion is pivotably mounted to the first portion by a pin hinge or a live hinge.

80. A package according to any of claims 74 to 79, wherein the second housing section is configured to move relative to the article holder.

81. A package according to claim 80, wherein the article holder further comprises a third portion configured to retain an end of one or more articles, the third portion being pivotable about the first portion when the second housing section is moved relative to the article holder so that one or more articles retained by the third portion splay away from one or more articles retained by the first portion.
82. A package according to claim 81, wherein the second housing section comprises a guide element configured to act on the third portion of the article holder to urge the third portion to pivot about the first portion when the second housing section is moved relative to the article holder.

83. A package according to claim 82, wherein the guide element is a guide face configured to abut against the third portion and urge the third portion to pivot about the first portion.

84. A package according to claim 76, wherein the guide face is formed by a ledge.

85. A package according to any of claims 73 to 84, wherein the article holder comprises a base mount, the first portion comprising a first base portion of the base mount and a first sub-holder configured to retain an end of one or more articles, and the second portion comprising a second base portion of the base mount and a second sub-holder configured to retain an end of one or more articles.

86. A package according to any of claims 73 to 85, wherein the article holder further comprises a resilient member which is configured to urge the second portion to pivot relative to the first portion.

87. A hinge unit for mounting to a cartridge unit in which articles are receivable, the hinge unit being configured to attach to a cartridge unit to enable the cartridge unit to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

88. A hinge unit according to claim 87, comprising first and second hinge elements configured to attach to the cartridge unit, wherein the first hinge element is rotatable relative to the second hinge element about a central axis of the first and
second hinge elements to enable the cartridge unit to move between a closed condition and an open condition.

89. A hinge unit according to claim 88, wherein the first hinge element comprises an attachment means configured to releasably attach the hinge unit to the cartridge unit.

90. A hinge unit according to claim 88 or claim 89, wherein the second hinge element comprises an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit when the cartridge is in its open condition.

91. A hinge unit according to any of claims 87 to 90, wherein the hinge is cylindrical.

92. A hinge unit according to any of claims 87 to 91, wherein the diameter of the hinge is configured to be equal to the depth of a cartridge unit in a closed condition.

93. A cartridge unit for receiving smoking articles which is attachable to a hinge unit and is configured to move between a closed condition and an open condition when the hinge unit is attached to the cartridge unit so that articles received in the cartridge unit are accessible when the cartridge is in its open condition.

94. A cartridge unit according to claim 93, comprising a first housing section and a second housing section which are configured to be attached to a hinge unit wherein the first housing section is configured to rotate about a hinge unit relative to the second housing section when the cartridge unit is attached to a hinge unit so that the cartridge unit moves between its closed and an open condition.

95. A cartridge unit according to claim 93 or claim 94, further comprising a locking means configured to prevent the cartridge unit from moving between the
closed condition and the open condition when the hinge unit is detached from the cartridge unit.

96. A cartridge unit according to any of claims 93 to 95, further comprising an article holder configured to retain one or more articles received in the cartridge unit.

97. A cartridge unit according to claim 96, wherein the article holder comprises a first portion configured to retain an end of one or more articles and a second portion configured to retain an end of one or more articles, the second portion being movable about the first portion when the cartridge unit is moved between a closed condition and an open condition so that one or more articles retained by the second portion splay away from the one or more articles retained by the first portion.

98. A cartridge unit according to any of claims 93 to 97, further comprising an attachment means configured to releasably attach the hinge unit to the cartridge unit.

99. A cartridge unit according to any of claims 93 to 98, further comprising an engagement means configured to engage the cartridge unit with the hinge unit to prevent detachment of the hinge unit from the cartridge unit when the cartridge is in its open condition.

100. A holder configured to hold a plurality of cartridge units according to any of claims 93 to 99 which upstand from the holder.

101. A holder according to claim 100, further comprising a mounting element to receive a hinge unit according to any of claims 87 to 92.

102. A holder according to claim 101, wherein the hinge unit comprises a bore formed therethrough and the mounting element is a protruding rod which is received in the bore.
103. A kit comprising a hinge unit and a plurality of cartridges for smoking articles, wherein each of the plurality of cartridges is separately attachable to the hinge unit.

104. A kit according to claim 103, further comprising a holder for holding two or more cartridge units.

105. A method of opening a package for smoking articles having a cartridge unit in which articles are receivable, the method comprising attaching a hinge unit to the cartridge unit, and rotating a section of the cartridge unit about the hinge unit to move the cartridge unit between a closed condition and an open condition so that articles received in the cartridge unit are accessible when the cartridge unit is in its open condition.

106. A method of mounting smoking articles in a package for smoking articles, comprising mounting an end of one or more smoking articles in a sub-holder and mounting the sub-holder to a base mount to form a smoking article holder.

107. A method according to claim 106, further comprising receiving the smoking article holder and one or more smoking articles in a housing.

108. A method according to claim 106 or 107, wherein the sub-holder comprises first and second holding parts, the method further comprising locating an end of one or more smoking articles against the first holding part and enclosing the end of the one or more smoking articles with the second holding part.
FIG. 6