

Package for tobacco-related articles

The invention relates to a package for tobacco-related articles, e.g. for cigarettes or for cigarillos.

A conventional package for tobacco-related articles comprises
5 a shell having a front wall, a rear wall, two lateral walls
opposite to each other and a bottom wall connecting the front
wall and the rear wall. The top side of the shell is closed by
a lid, which can be opened by swivelling or rotating it about
a hinge line provided at the rear wall or one of the lateral
10 walls. For opening or closing such package, the user generally
has to apply both of his or her hands.

FR 1 081 649 discloses a cigarette package comprising an outer
shell and an inner shell. The inner shell accommodates the
15 cigarettes and can be moved up and down in the outer shell by
means of an actuating knob guided in a slot in the front wall
of the outer shell. The top side of the outer shell is closed
by two lids. When the inner shell is upwardly moved, the lids
open automatically. This package can be handled by one hand.
20 However, the means for actuating the lids are elaborate and
tend to be expensive.

US 2 929 542 describes a slide box for cigarettes in which an
inner shell can be slid inside an outer shell. A lid is con-
25 nected to a top edge of the inner shell by means of a flexible
connector, which unlocks the lid after it has been moved out
of the outer shell when the inner shell is slid in top direc-
tion. This package can be handled by one hand, but this might
be inconvenient because the lid does not necessarily open
30 automatically and it might be required to tilt the package for
opening the lid.

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US 4 240 548 discloses a push pack comprising an outer shell without bottom and an inner shell. A lid opens automatically when the inner shell is moved in top direction. In order to move the inner shell, however, the user has to push it from
5 the bottom side, which much impedes one-hand operation.

EP 1 590 251 B1 describes a rigid package for tobacco articles including an outer box and an inner box. The inner box is guided by a kind of elevator for up and down movement. This
10 elevator consists of a flexible member surrounding the inner box in longitudinal direction and being fixed to a wall of the outer box, and it is actuated by sliding the flexible member upwards or downwards by shifting it, at the side opposite to the wall it is fixed at, through an aperture in the outer box.
15 A lid is part of the flexible member. This package enables one-hand operation, but its design is somewhat complicated and tends to be expensive.

It is the object of the invention to provide an attractive and
20 moderate-priced package for tobacco-related articles which can be handled in a convenient way by means of one hand.

This problem is solved by a package for tobacco-related articles having the features of claim 1. Advantageous versions of
25 the invention follow from the dependent claims.

The package according to the invention is designed to accommodate tobacco-related articles. The package comprises an outer shell having a front wall, a rear wall, two lateral walls opposite to each other and optionally a bottom wall, which connect the front wall and the rear wall, as well as a top side. A lid is adapted to close the top side of the outer shell when it is in a closed state. The lid is swivelably connected to the rear wall or one of the lateral walls of the outer shell
35 at a hinge line, and it can be swivelled about this hinge line

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for transfer from the closed state to an opened state. Moreover, the package comprises an inner shell which is adapted to accommodate a plurality of tobacco-related articles. The inner shell is shiftably mounted in the outer shell and can be moved
5 from a retracted position to an advanced position, which enables access to the smoking articles.

At least one wall of the outer shell, selected from the front wall, the rear wall or the two lateral walls, is provided with
10 a cutout (aperture) through which part of the inner shell is exposed. By means of the cutout, a user can transmit a force onto the inner shell in order to move the inner shell, i.e. in order to shift the inner shell from its retracted to its advanced position or to move it back from its advanced to its
15 retracted position.

A connector is provided between a portion of the inner shell and the lid. The connector engages the lid at a distance from the hinge line smaller than the dimension of the lid in a direction perpendicular to the hinge line and is adapted to push
20 the lid into its opened state when the inner shell is moved into its advanced position and to pull the lid into its closed state when the inner shell is moved into its retracted position. Thus, the lid is automatically opened and closed, respectively, when the user moves the inner shell.
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The cutout in the outer shell, in being adapted to enable transmitting a force onto the inner shell for moving the inner shell, can be adapted to enable exerting a force onto the inner shell for moving the inner shell. In this way, a user can
30 apply his or her thumb in order to grasp through the cutout and shift the inner shell by slightly pressing onto the inner shell and moving the thumb in a direction towards the lid or away from the lid, respectively. The cutout can extend over
35 more than one wall of the outer shell, e.g. in a corner area

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between the front wall and one of the lateral walls. Moreover, more than one cutout is conceivable as well. It is also possible that the bottom wall of the outer shell includes part of the cutout or an additional cutout. In alternative embodiments, an actuator for moving the inner shell is attached to the inner shell and protrudes through the cutout.

The package according to the invention can be handled in a very convenient way. In contrast to a conventional package, which the user has to hold by one hand while he or she opens the lid by the other hand, the package according to the invention can be handled or operated just by means of one hand. The user can hold it in one hand, e.g. the rear wall of the outer shell facing his or her palm, and he or she can use his or her thumb in order to grasp through the cutout and shift the inner shell by slightly pressing onto the inner shell and moving the thumb in a direction towards the lid or away from the lid, respectively (or alternatively shift the inner shell by means of the actuator mentioned above). Because of the connector, the lid opens and closes automatically. Moreover, the package according to the invention permits an attractive design, and it can be manufactured to a moderate price.

The one-hand use of the package according to the invention is advantageous in many situations, for example while driving, when operating a computer, when talking on the phone, etc., or, generally, when the user has ready one hand only and wants to take a tobacco-related article. The package can rest well in the user's hand, and the one-hand use of the package is fast and convenient.

The connector can be designed as a hinged connector, which includes at least one hinge, e.g. a hinge line at which a generally flat connector is swivelably connected to the lid or the inner shell. A hinged connector can also be formed, e.g., from

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metal (e.g. designed as a wire) or from plastic. However, it is conceivable as well that the connector does not comprise a hinge or hinges, e.g. a connector made from a flexible material and non-swivelably fixed to the lid and the inner shell so that the connector elastically bends when the lid opens or closes.

The inner shell, in its retracted position, can be housed inside the outer shell. However, the outer shell can also be designed as a less comprehensive structure so that the outer shell and the lid, when closed, do not fully enclose the inner shell in its retracted position. In an example of the latter design, part of the inner shell protrudes at the bottom end of the outer shell when the lid is closed.

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In advantageous embodiments of the invention, the lid comprises a top wall having a front edge, a rear edge, two lateral edges and a bottom side. The top wall of the lid closes the top side of the outer shell when the lid is in its closed state, wherein the hinge line of the lid is located at the rear edge or at one of the lateral edges of the top wall. Since the hinge line of the lid is essentially at the same level as the top wall of the lid (when it is closed), the connector can be designed in a simple and reliable manner. Moreover, this geometrical and technical feature permits attractive design aspects.

In an advantageous design of the connector, the inner shell comprises a rear wall or a lateral wall having an upper edge, wherein the connector extends from this upper edge and includes a first hinge line at or in the area of this upper edge and a second hinge line at the bottom side of the top wall. Preferably, the distance between the first hinge line and the second hinge line of the connector is greater than the distance between the hinge line of the lid and the second hinge

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line of the connector, e.g. greater by an amount in the range of from 0.4 mm to 1.8 mm, or by an amount of about 0.7 mm. It will become evident from the embodiments described in more detail below that this condition permits a space-saving, reliable and smooth coupling between the inner shell and the lid.

Another advantageous geometrical condition for a reliable operation of the lid is that, in the closed state of the lid, the ratio of the distance between the first hinge line of the connector and the hinge line of the lid to the distance between the hinge line of the lid and the second hinge line of the connector is in the range from 0.5 to 1.0, preferably in the range from 0.70 to 0.85, e.g. about 0.78. Again, this condition will become evident from the embodiments described in detail further below.

When the hinge line of the lid is located at the rear edge or at one of the lateral edges of the top wall, a bevelled edge wall can extend from at least the edge of the top wall opposite to the hinge line of the lid. The bevelled edge wall is shaped in a sloped or curved manner such that it does not interfere with the outer shell walls during the closing process of the lid and such that it fits into the outer shell when the lid is in its closed state. Thus, it facilitates the closing process by guiding the lid into the top side space of the outer shell, stabilises the package when it is closed, and provides a better protection for the contents of the package. The bevelled edge wall can also extend from other edges of the top wall different from the edge comprising the hinge line of the lid. A lid designed in this way can look essentially flat when it is closed, which imparts to the package an interesting and attractive appearance.

In advantageous versions, the bevelled edge wall is folded from a blank of the outer shell comprising a blank of the lid.

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The bevelled edge wall can have different kinds of cross-sectional shapes. A triangular shape is preferred because it can be easily folded from a blank and it is stable. Other shapes are conceivable as well, e.g. a quadrangular or a polygonal shape or a shape including at least one curved face.

In other embodiments of the package according to the invention, an edge wall extends from at least the edge of the top wall opposite to the hinge line of the lid. This edge wall extends generally perpendicularly with respect to the top wall of the lid and is visible when the lid is in its closed state. Thus, it is not a bevelled edge wall as described before and provides a more conventional appearance to the package.

It is also conceivable that the lid comprises an edge wall, wherein the hinge line of the lid is not located at a top wall of the lid, but is arranged at that edge wall.

The inner shell of the package can comprise a front wall providing a free access area, which facilitates the access to the contents of the inner shell when the inner shell is in its advanced position. This free access area can be designed, e.g., as a cutoff from the front wall or by means of a portion of the front wall having a lowered upper edge or by means of a front wall having generally a low upper edge. Preferably, when the inner shell is in its retracted position, the free access area of the inner shell does not overlap with the cutout of the outer shell, i.e. the free access area is not visible when the package is closed. This improves the appearance of the package.

Generally, the inner shell can comprise a front wall and a rear wall as well as two lateral walls opposite to each other and a bottom wall, which connect the front wall and the rear wall. It is also conceivable, however, that the inner shell

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has a lighter structure in which not all of the above-mentioned walls are designed as wall panels. In a lighter structure, an inner wrapper or a bundle wrapper can be applied for providing additional support to the contents of the package.
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In advantageous embodiments of the invention, the front wall of the inner shell comprises a reinforced structure in order to improve its counteraction capabilities when the user touches this front wall, through the cutout, in order to move the inner shell. Such structure can be made from double-layer, or triple-layer cardboard, e.g., using cardboard panels folded from a blank of the inner shell. It is also conceivable to apply a separate reinforcement panel which is attached to the rest of the inner shell.
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Alternatively or additionally to this reinforcement structure, a reinforcement insert can be inserted into the inner shell. The reinforcement insert can be formed, e.g., as a plastic container, preferably made by injection-moulding. Such design still uses an inner shell, e.g. made from a cardboard blank, which is coupled to the lid via the connector.
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It is also possible to dispense with such cardboard inner shell and to design the inner shell as a plastic container which provides the desired rigidity. In this case, at least part of the connector can be formed as part of the plastic container, but it is also conceivable to attach a connector completely formed from a blank of the lid (e.g., as part of a blank of the outer shell) to the plastic container when assembling the package.
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Preferably, the cutout of the outer shell is provided in the front wall of the outer shell. This is a location which allows for a convenient use of the package. However, it is possible
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as well to place the cutout at a different wall or in an area which extends over two walls or to provide more than one cutout.

5 The cutout of the outer shell can be located in a side area of the front wall of the outer shell, i.e. not in the centre area. This is particularly advantageous when the inner shell comprises a front wall providing a free access area (see above), because in this case the cutout of the outer shell can
10 be placed at a location where it does not overlap with the free access area of the inner shell when the inner shell is in its retracted position. Moreover, in this design, the front wall of the outer shell exhibits a large continuous area which can be used for, e.g., warning hints.

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The cutout of the outer shell can be formed from a blank of the outer shell in which at least part of the blank material of the cutout area is folded back to the inner face of the outer shell. In this way, the edges of the cutout are not
20 sharp or somewhat irregular, but they are determined by the corresponding folding lines, which tend to be smooth and provide a greater thickness of the wall area surrounding the cutout. It can be advantageous when the blank material is not folded back at the top edge of the cutout, because that edge
25 is not seen in detail when the user holds the package in a usual way, whereas a back-folded flap at the top edge of the cutout could interfere with an unimpeded assemblage of the package.

30 In advantageous embodiments of the invention, the inner shell comprises, opposite to the cutout of the outer shell, a grip-enhancing surface. Such grip-enhancing surface can be presented, e.g., by means of a relief structure incorporated in the wall material of the inner shell or provided by a sticker
35 glued to the inner shell in the area in question. Another op-

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tion is a cutout structure, e.g. in a double-layer wall structure of the inner shell in which the outer layer comprises a series of cutouts whereas the inner layer folded to the outer layer is smooth. Other embodiments include a high-friction
5 coating or rubber-like coating, either applied to a wall or wall area of the inner shell or to a sticker glued to the inner shell in the area in question. The grip-enhancing surface facilitates the operation of the package because it increases the frictional forces to, e.g., the user's thumb.

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In advantageous embodiments of a package comprising an actuator for moving the inner shell, which is attached to the inner shell and protrudes through the cutout, as mentioned above, the inner shell is lockable in its retracted position, the
15 locking being releasable by means of the actuator, wherein optionally the inner shell is biased by a spring device towards its advanced position. In this case, the cutout can comprise a slot extending in parallel to the moving direction of the inner shell as well as a widened area at the lower end of the
20 slot, wherein part of the actuator is lockable in the widened area of the cutout and releasable by pressing the actuator. Such kind of actuator is easily accessible to the user. When the spring device is provided, the package can be opened in a simple way, e.g., just by pressing the actuator.

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The outer shell can be box-shaped. It can also comprise rounded edges, wherein preferably the longitudinal edges between the front wall and both lateral walls are rounded. Another option for the shape of the outer shell is a form with a
30 hexagonal or octagonal cross-sectional shape, wherein the lateral walls or the front wall comprise side panels folded from the rest of the respective lateral wall or from the rest of the front wall (or rear wall) along fold lines running in parallel to a longitudinal axis of the package. Such shapes provide an attractive appearance of the package, whereas addi-
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tional manufacturing expenses are moderate. The shape of the inner shell can be adjusted accordingly.

In advantageous embodiments of the invention, the outer shell
5 and/or the inner shell of the package are folded from a respective blank. The respective blank can be made from cardboard (which term includes laminated cardboard or coated cardboard) in the weight range from 180 g/m² to 290 g/m². This involves well-established techniques. Cardboard blanks can be
10 designed in a large number of varieties. Other materials for the components of the package are conceivable as well, however, for example cardboard having a weight outside of the range indicated above or laminated materials or plastic materials.

15 More generally, the package can comprise, e.g., cardboard, laminated cardboard, coated cardboard, plastics materials, metals, aluminium, and/or flat materials (in general) in the thickness range from 50 µm to 2000 µm. Cardboard can be specified by its weight (mass) per unit area, which may be in the
20 range from 180 g/m² to 290 g/m². Cardboard can also be specified by its thickness, which may range from 250 µm to 500 µm (measured according to ISO 534).

25 Another way to specify cardboard is by means of its stiffness, which may be in the range from 5 mN to 25 mN when measured according to ISO 2493:1992(E). In short, ISO 2493 describes the determination of resistance to bending of paper and board. The results are expressed as a force acting perpendicular to a
30 cantilever-mounted test piece of 38 mm width close to its free end at a bending length of 50 mm, when the piece bends by 15°.

There are many design options for the connector. For example, it can be folded by part of a blank of the outer shell and by
35 part of a blank of the inner shell, wherein both parts are

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glued together upon assemblage of the package. Or it can be folded by part of a blank of the outer shell and glued directly to the inner shell. Or it can be folded by part of a blank of the inner shell and glued to the lid, which preferably is made from part of a blank of the outer shell. Regarding the shape of the connector, it can be relatively narrow measured in a direction along the hinge line of the lid. But it can also have the greatest or the almost greatest possible width measured in this direction. Generally, a larger width increases the rigidity of the structure. A trapezoidal shape of the connector, e.g., provides for a large extension where it is required for improving strength but also provides sloped edges which may facilitate the assemblage of the package.

15 In other embodiments, the connector is provided as a metal part connected to the inner shell and to the lid, or it is provided as a wire connected to the inner shell and to the lid, or it is provided as a plastic part connected to the inner shell and to the lid. For example, a connector designed as a flat flexible metal part or a flat flexible plastic part can be useful when the connector does not comprise a hinge or hinges, e.g. when the connector is non-swivelably fixed to the lid and the inner shell of the package so that the connector elastically bends when the lid opens or closes.

25 Moreover, the package can comprise a noise-producing mechanisms adapted to be operated when the lid is swivelled from the closed state to the opened state and/or from the opened state to the closed state. For example, the noise-producing mechanism may comprise a tab arranged at the lid interacting with a counterpart arranged at the outer shell and/or a tab arranged at the outer shell interacting with a counterpart arranged at the lid. When the tab scratches along its counterpart during the actuation of the lid, a noise is produced, which may have an appealing effect.

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The package according to the invention is not restricted to a design comprising one inner shell containing one charge or bundle of tobacco-related products only. The invention is also
5 directed to packages including one inner shell containing more than one bundle, and it is further directed to packages including more than one inner shell. For example, the package can comprise at least two inner shells which are arranged side by side. In this case, preferably, the lid is swivelably connected to the rear wall of the outer shell. The lid can be
10 formed from at least two separate parts, which are arranged side by side and are swivelably connected to the rear wall of the outer shell, wherein each of the separate parts of the lid is associated to one of the inner shells. The front wall of
15 the outer shell can be provided with at least one cutout adapted to expose part of each of the inner shells and to enable transmitting or exerting a force onto each of the inner shells for moving the respective inner shell and actuating the respective part of the lid via a connector or a hinged connector. This at least one cutout can be a single cutout in an area having access to all of the inner shells, or it can include at least two cutouts, one for each inner shell.

The package according to the invention can be filled with all
25 kinds of tobacco-related articles, for example with cigarettes, cigarillos, cigars, tobacco-containing rods, smokeless tobacco, simulated smoking devices (e.g., electronic cigarettes), inhalors without combustion of tobacco, or aroma reservoirs.

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When filled with tobacco-related articles, the package can be enclosed by, e.g., a cellophane or transparent plastic (e.g., polypropylene) wrapper, which is removed or partially removed by the user before opening the package for the first time.
35 Such kind of wrappers aid in maintaining the aroma and fresh-

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ness of the tobacco-related articles and serve as a temper-evident closure.

In a different embodiment of a package for tobacco-related articles, the outer shell does not have a cutout in its front wall, rear wall or lateral walls. In this embodiment, the outer shell rather comprises a cutout in its bottom wall (including a missing bottom). Otherwise, this embodiment can be constructed as outlined above. For advancing the inner shell, the user has to press upon its bottom (through the bottom aperture of the outer shell), while for retracting the inner shell, the user has to manually close the lid.

In the following, the invention is further explained by means of embodiments. The drawings show in

Figure 1 in parts (a) to (e) several views of a first embodiment of a package for tobacco-related articles according to the invention, i.e. in part (a) an isometric view of the package, the lid being partially opened, in part (b) an isometric view of the package, the lid being fully opened and an inner shell of the package having been moved to an advanced position, in part (c) a side view of the package, the lid being closed, in part (d) a side view of the package in the state according to part (b), and in part (e) a longitudinal section through the package in a plane containing the centre longitudinal axis,

Figure 2 in part (a) a plane view of a blank for the outer shell of the package according to Figure 1 and in part (b) a plane view of a blank for the inner shell of the package according to Figure 1,

Figure 3 in parts (a) to (d) several views of a second embodiment of a package for tobacco-related articles according to the invention, i.e. in part (a) an isometric view of the package, the lid being partially opened, in part (b) an isometric view of the package, the lid being fully opened and an inner shell of the package having been moved to an advanced position, in part (c) a bottom view of the package, and in part (d) a side view of the package in the state according to part (b),

Figure 4 in part (a) a plane view of a blank for the outer shell of the package according to Figure 3 and in part (b) a plane view of a blank for the inner shell of the package according to Figure 3,

Figure 5 in parts (a) and (b) isometric views of a third embodiment of a package according to the invention, which contains two bundles, i.e. in part (a) with the lid partially opened and in part (b) with an inner shell of the package in an advanced position and the lid being fully opened,

Figure 6 in parts (a) and (b) isometric views of a fourth embodiment of a package according to the invention, i.e. in part (a) with a two-part lid partially opened and in part (b) with two inner shells of the package in an advanced position, the two-part lid being fully opened, and

Figure 7 in parts (a) to (c) several views of a fifth embodiment of a package according to the invention, i.e. in part (a) an isometric view of the package, the lid being partially opened, in part (b) an isometric view of the package, the lid being fully opened and the

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inner shell of the package having been moved to an advanced position, and in part (c) a schematic longitudinal section through parts of the outer shell and the inner shell of the package, illustrating the function of an actuator.

Figure 1 illustrates a first embodiment of a package 1 for tobacco-related articles.

10 The package 1 comprises an outer shell 2, a lid 4 adapted to close the outer shell 2, and an inner shell 6, which is movable within the outer shell 2 from a retracted position, see Figure 1(a), to an advanced position, see Figure 1(b).

15 The inner shell 6 accommodates a bundle 8 of tobacco-related articles, e.g. a bundle of cigarettes. The bundle 8 is provided in a conventional manner, e.g. by wrapping a plurality of cigarettes with, e.g., an aluminium foil or aluminium-laminated paper. In the state of the package 1 shown in Figure 1(b), the bundle 8 can be easily opened in order to take out a cigarette.

The outer shell 2 comprises front wall 10, a rear wall 12, two lateral walls 14 and a bottom wall 16. In the embodiment, the top side 18 provides a free cross-sectional area.

The front wall 10 includes a cutout 20, i.e. an aperture fully penetrating the front wall 10. In the embodiment, the cutout 20 is located approximately in the centre area of the front wall 10.

The lid 4 is connected to the upper edge of the rear wall 12 via a hinge line 22 so that it can be swivelled from a closed state, see Figure 1(c), to a fully opened state, see Figure 1(b), Figure 1(d), and Figure 1(e). In the embodiment, the lid

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4 comprises a top wall 24 having a front edge 26 and a rear edge 28, see Figure 1(d), as well as two lateral edges 30, see Figure 1(a). Its bottom side is designated by reference numeral 32, see Figure 1(e). The hinge line 22 runs along the rear edge 28 of lid 4 and is designed from a fold line of the blank the outer shell is formed from.

Moreover, the lid 4 comprises a front edge wall 34 extending from front edge 26 and two lateral edge walls 36 extending from the two lateral edges 30 of the top wall 24 of lid 4. As can be seen in Figures 1(a), (b), (d) and (e), the edge walls 34 and 36 have a "bevelled" shape. That means, they extend from the front edge 26 and the lateral edges 30, respectively, in a somewhat inwardly inclined manner such that the edge walls 34 and 36 can enter the interior space of the outer shell 2 when the lid 4 is closed. Consequently, the edge walls 34 and 36 are not visible when the lid 4 is closed, see Figure 1(c). In other words, when the lid 4 is closed, only its top wall 24 can be seen, which imparts to the package 1 a striking design.

When the lid 4 is closed, the edge walls 34 and 36 are located inside the outer shell 2 and stabilise the package 1. In the embodiment, the edge walls 34 and 36 have a triangular cross-sectional shape, see Figure 1(e), which provides for a generally large strength of the edge walls 34 and 36. Moreover, the bevelled or inclined shape of the edge walls 34, 36 facilitates the closing process of the lid 4. In variants of the embodiment according to Figure 1, the cross-sectional shape of the edge walls is not triangular, but different, e.g. more or less rounded.

The inner shell 6 comprises a front wall 40 and a rear wall 42, see Figure 1(e), two lateral walls 44, see Figure 1(d), as well as a bottom wall 46, see Figure 1(e). The upper edge of

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the front wall 40 and part of the upper edges of the lateral walls 44 are arranged below the upper edge of the rear wall 42, see Figure 1(b) and Figure 1(d), which provides a free access area 48 for facilitating the removal of the tobacco-related articles of bundle 8.

In the area of the cutout 20 of the outer shell 2, the front wall 40 of the inner shell 6 is coated with a grip-enhancing, high-frictional material, e.g. a rubber-like material.

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The inner shell 6 is coupled to the lid 4 by means of a hinged connector 50. As shown in Figure 1(b), the connector 50 extends over most of the width of package 1. Figure 1(e) illustrates the details of the connector 50 and explains how it works.

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In the embodiment, the connector 50 extends from the upper edge of the rear wall 42 of the inner shell 6 at a first hinge line 52. The connector 50 is attached to the bottom side 32 of the top wall 24 of lid 4 at a second hinge line 54. The connector 50 can swivel about the hinge lines 52 and 54.

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Moreover, in the embodiment, the distance between the first hinge line 52 and the second hinge line 54 is greater than the distance between the second hinge line 54 and the hinge line 22 of lid 4, e.g. by an amount of about 0.7 mm.

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When the lid 4 is in its closed state, see Figure 1(c), a user can place the package 1 in the palm of one of his or her hands, touch the front wall 40 of the inner shell 6 through the cutout 20 in the outer shell 2 with his or her thumb and move the thumb upwards. In this way, the user shifts the inner shell 6 from its retracted position upwards until it achieves its fully advanced position. During the movement of the inner shell 6, the connector 50 opens the lid 4 by swivelling it

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about the hinge line 22. Since during all times of this movement, the hinge lines 22, 52 and 54 form a triangle in the plane of Figure 1(e), the swivel movement of the lid 4 is well-defined.

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Initially, when lid 4 is closed, the ratio of the distance between the first hinge line 52 of the connector 50 and the hinge line 22 of the lid 4 to the distance between the hinge line 22 of the lid 4 and the second hinge line 54 of the connector 50 is about 0.78, in the embodiment. This implies that, on the one hand, the lid 4 experiences a sufficient torque during the initial moments of the opening movement, whereas, on the other hand, the upper edge of the inner shell 6, i.e. the first hinge line 52, is not located too much below the hinge line 22, i.e. the connector mechanism does not waste much space in top of the inner shell 6 when the inner shell 6 assumes its retracted position.

When the user moves his or her thumb downwards, the inner shell 6 is shifted back to its retracted position, and the connector 50 pulls the lid 4 down to its closed state.

Other numerical values of the numbers presented above can be chosen as well. A person skilled in the art can optimise the geometry of the connector 50 depending on the actual dimensions of the outer shell 2 and the inner shell 6.

Figure 2 illustrates a blank 60 of the outer shell 2, see Figure 2(a), as well as a blank 70 of the inner shell 6, see Figure 2(b). In the embodiment, both blanks are made from cardboard of a usual thickness, e.g. in the weight range from 180 g/m² to 290 g/m². Other blank materials are conceivable as well, e.g. laminated cardboard or plastic materials.

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In Figure 2(a), the front wall 10, the rear wall 12, the lateral walls 14, and the bottom wall 16 of the outer shell 2 are indicated by their reference numerals. Moreover, any gluing tabs are designated by reference numeral 62 and any cut-through lines by reference numeral 63. The lines not indicated by reference numerals are usual fold lines. The hatched areas are completely cut away.

The area of the cutout 20, three tabs 64 are provided which are folded back during the assemblage of the package and are glued to the inner side of the front wall 10 in order to form smooth and well-appearing edges of the cutout 20.

Reference numeral 65 indicates an area for a warning hint. The size of this area is prescribed by national regulations. In blank 60, the area 65 is located below the cutout 20.

Similar to the tabs 64, a reinforcement panel 66 is folded back during assemblage of the outer shell 2 in order to strengthen the outer shell 2 and form a well-appearing upper edge of the front wall 10.

Figure 2(a) also illustrates how the lid 4 including its top wall 24 and the edge walls 34 and 36 is formed from the blank 60. The edge walls 34 and 36 are folded about their respective fold lines and are fixed to the lower side of top wall 24 by means of respective gluing tabs 62. A first part 68 of the hinged connector 50 is incorporated in the gluing tab 62 of the front edge wall 34.

The individual steps for assembling the outer shell 2 from blank 60 are evident to a person skilled in the art.

In a similar way, the blank 70 of the inner shell 6 shown in Figure 2(b) comprises the front wall 40, the rear wall 42,

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both lateral walls 44 and the bottom wall 46 of the inner shell 6 and additionally some gluing tabs 72. Cut-through lines are indicated by reference numeral 73. Part 74 is a reinforcement part which, after having been folded and glued to the rear wall 42, stabilises the rear wall 42 and provides for a well-appearing upper edge of the rear wall 42.

A reinforcement panel 76 is folded back (and preferably glued) to the inner side of the front wall 40 in order to stabilise the front wall 40 of the inner shell 6. When the user puts his or her thumb through the cutout 20, he or she exerts some force onto the front wall 40 of the inner shell 6. As long as the bundle 8 in the inner shell 6 is still complete or almost complete, the front wall 40 of the inner shell 6 does not much yield under this pressure. During use of the package 1, however, the residual bundle 8 gets smaller and does not stabilise the inner shell 6 anymore. For this reason, the rigid front wall 40 is advantageous. In addition to reinforcement panel 76, another reinforcement panel can be used. This additional reinforcement panel can be part of the blank of the inner shell 6. A separate reinforcement panel, e.g. made from a stronger material, which is attached during the assembly process of the inner shell 6, is conceivable as well. As an alternative, the inner shell could be made completely from a sufficiently strong plastic material, e.g. as an injection-moulded part.

Figure 2(b) also shows a second part 78 of the connector 50 which is cut out from the reinforcement part 74 along three cut-through lines 73.

Again, it is evident to a person skilled in the art how the inner shell 6 is assembled from blank 70.

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After assemblage of the outer shell 2 and the inner shell 6 from the blanks 60 and 70, respectively, is complete, the inner shell 6 is inserted in the outer shell 2 via top side 18, and the first part 68 and the second part 78 of the connector 50 are glued together, e.g. in a position of the lid 4 as in Figure 1(a).

Different designs of the connector are conceivable as well, e.g. a connector fully integrated in the blank of the outer shell or a connector fully integrated in the blank of the inner shell. Moreover, the shape of the connector can be different from that shown in Figure 2, e.g. an even wider connector which would stabilise the package even more than the connector 50 of package 1.

Figure 3 illustrates another embodiment of a package for tobacco-related articles, which is designated by reference numeral 80.

The package 80 is similar to the package 1 described so far. For this reason, for most parts of package 80, the same reference numerals are used as for package 1. These parts, which include the opening mechanism of the lid 4, are not explained again.

The main difference between the packages 80 and 1 is the outer shape. In package 80, the outer shell 2 has an octagonal cross-sectional shape, see in particular the bottom view according to Figure 3(c). This octagonal shape is achieved by means of side panels 82 which are folded by fold lines 83 from the front wall 10 and the rear wall 12, respectively. By definition, the side panels 82 are considered as parts of the front wall 10 and the rear wall 12, respectively, but they could be considered as parts of the lateral walls 14 as well.

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Figure 4(a) shows a blank 84 for the outer shell of package 80. In this case, a warning-hint area 85 is located above the cutout of the front wall. Generally, the cutout in the front wall of the outer shell should not overlap with the free access area of the inner shell when the inner shell is in its retracted position.

A blank 86 of the inner shell of package 80 is shown in Figure 4(b). The shape of the inner shell is adapted to that of the outer shell, i.e. the inner shell has an octagonal cross-sectional shape as well. In Figure 4(b), the corresponding side panels and fold lines are indicated by reference numerals 88 and 89, respectively.

Otherwise, the explanation given for the assemblage of package 1 by means of the blanks 60 and 70 holds for the assemblage of the package 80 by means of the blanks 84 and 86 in an analogous manner.

Figure 5 illustrates a third embodiment of the package for tobacco-related articles, which is designated by reference numeral 90. In this embodiment, an outer shell 92 with a cutout 93 at its front wall can be closed at its top side by means of a swivelable lid 94. An inner shell 96 is shiftably mounted in the outer shell 92 and can be moved from a retracted position to an advanced position. The lid 94 is coupled to the inner shell 96 by means of a connector.

As before, a user can move the inner shell 96 and automatically open the lid 94 by gripping with, e.g., the thumb through the cutout 93 and sliding the inner shell 96 upwards. So far, the package 1 and the package 90 are very similar.

In contrast to package 1, however, package 90 is wider such that its inner shell 96 can accommodate two bundles 98 and 99

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of tobacco-related articles, e.g. cigarettes. In practice, one bundle is consumed first, while the other one stays closed at the beginning to keep its freshness. Afterwards, the other bundle is consumed.

5

A fourth embodiment of the package for tobacco-related articles is shown in Figure 6. This package is designated by reference numeral 100.

10 The package 100 comprises an outer shell 102 with two cutouts 103 in its front wall. The lid, which is swivelably connected to the upper edge of the rear wall of the outer shell 102, consists of two parts, a first part 104 and a second part 105. Both parts 104 and 105 of the lid are independent from each
15 other.

The outer shell 102 houses two inner shells, a first inner shell 106 and a second inner shell 107. The first inner shell 106 accommodates one bundle 108 of tobacco-related articles,
20 the second inner shell 107 one bundle 109.

The first part 104 of the lid is coupled to the first inner shell 106 by means of a connector designed as connector 50 of the embodiment according to Figure 1. Similarly, the second
25 part 105 of the lid is coupled to the second inner shell 107 by means of a corresponding connector. Consequently, both inner shells 106 and 107 including the parts of the lid coupled thereto, i.e. the first part 104 and the second part 105, respectively, can be moved independently from each other. In
30 other words, the package 100 can be considered as two packages 1 arranged side by side with a common outer shell 102.

Figure 7 illustrates a fifth embodiment of a package for tobacco-related articles, which is designated by reference numeral 110.
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The design of the package 110 is very similar to that of the package 1 according to Figure 1. However, the package 110 does not include as large a cutout as the cutout 20 of package 1.

5

The package 110 comprises an outer shell 112, a lid 114, which is automatically operated via a connector 115, and an inner shell 116, which can be moved from a retracted position to an advanced position. When the lid 114 is closed, the inner shell
10 116 is in its retracted position. Figure 7(a) shows an intermediate state, when the lid 114 is partially opened. In Figure 7(b), the inner shell 116 has been moved to its advanced position, and the lid 114 has been fully opened. The inner shell 116 holds a bundle 118 of cigarettes, which is still closed in
15 the views according to Figure 7(a) and Figure 7(b).

The outer shell 112 has a front wall 120, which comprises a cutout 122 shaped as a slot 124 extending in parallel to the moving direction of the inner shell 116 plus an essentially
20 circular widened area 126 at the lower end of the slot 124.

Figure 7(c) shows a schematic longitudinal section through parts of the outer shell 112 and the inner shell 116. The inner shell 116 comprises a front wall 128, at which an actuator
25 130 is attached. In the embodiment, the actuator 130 has a cylindrical symmetry, includes a base 132 having a large diameter and a protrusion 134 having a small diameter, and is made from plastic material. The base 132 just fits into the widened area 126, whereas the protrusion 134 emerging from the base
30 132 can slide along the slot 124.

When the inner shell 116 is in its retracted position and the lid 114 is closed, the base 132 of the actuator 130 rests in the widened area 126 because the actuator 130 is biased by the
35 essentially elastic action of the inner shell 116 towards the

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left side, in the view of Figure 7(c). In this state, the base 132 locks the actuator 130, the inner shell 116 connected to the actuator 130, and the lid 114 connected to the inner shell 116. Now, when the user presses onto the protrusion 134, i.e.
5 exerts a force directed to the right side in the view of Figure 7(c), the base 132 is released from the widened area 126, and the protrusion 134 enters the slot 124. Thereafter, the user can easily move the protrusion 134 in the upward direction, thus advancing the inner shell 116 and opening the lid
10 114. Figure 7(a) shows an intermediate position and Figure 7(b) the fully advanced position of the inner shell 116.

In order to close the package 110, the user moves the protrusion 134 in the downward direction, until the base 132 locks
15 in the widened area 126 of the cutout 122.

In a modification of the package 110, the cutout 122 additionally comprises a widened area at the upper end of the slot 124 so that the actuator 130 also locks the inner shell 116 in its
20 advanced position.

In another modification of the package 110, the inner shell 116 is biased to its advanced position by means of a spring provided between a bottom of the outer shell 112 and a bottom
25 of the inner shell 116. To open this package, the user presses the protrusion 134 in order to release the base 132 from the widened area 126, and immediately afterwards the spring moves the inner shell 116 to its advanced position. To close the package, the user shifts the actuator 130 in the downward di-
30 rection, against the spring force, until the base 132 locks in the widened area 126.

Claims

1. A package for tobacco-related articles, comprising
 - an outer shell (2; 92; 102; 112) having a front wall (10; 120), a rear wall (12), two lateral walls (14) opposite to each other connecting the front wall (10; 120) and the rear wall (12), as well as a top side (18),
 - a lid (4; 94; 104, 105; 114) adapted to close the top side (18) of the outer shell (2; 92; 102; 112) when in a closed state, the lid (4; 94; 104, 105; 114) being swivelably connected to the rear wall (12) or one of the lateral walls (14) of the outer shell (2; 92; 102; 112) at a hinge line (22) and being swivelable about the hinge line (22) for transfer from the closed state to an opened state,
 - an inner shell (6; 96; 106, 107; 116) adapted to accommodate a plurality of tobacco-related articles and shiftably mounted in the outer shell (2; 92; 102; 112), wherein the inner shell (6; 96; 106, 107; 116) is moveable from a retracted position to an advanced position, which enables access to the smoking articles,
 - a cutout (20; 93; 103; 122) in at least one wall of the outer shell (2; 92; 102; 112), selected out of the front wall (10; 120), the rear wall (12) or the two lateral walls (14), which cutout (20; 93; 103; 122) is adapted to expose part of the inner shell (6; 96; 106, 107; 116) and to enable transmitting a force onto the inner shell (6; 96; 106, 107; 116) for moving the inner shell (6; 96; 106, 107; 116),
 - a connector (50; 115) between a portion of the inner shell (6; 96; 106, 107; 116) and the lid (4; 94; 104, 105; 114), which engages the lid (4; 94; 104, 105; 114) at a distance from the hinge line (22) smaller than the dimension of the lid (4; 94; 104, 105; 114) in a direction perpendicular to the hinge line (22) and is adapted to push the lid (4; 94; 104, 105; 114) into its opened state when

the inner shell (6; 96; 106, 107; 116) is moved into its advanced position and to pull the lid (4; 94; 104, 105; 114) into its closed state when the inner shell (6; 96; 106, 107; 116) is moved into its retracted position,

5 - wherein the lid (4; 94; 104, 105; 114) comprises a top wall (24) having a front edge (26), a rear edge (28), two lateral edges (30) and a bottom side (32) and adapted to close the top side (18) of the outer shell (2; 92; 102; 112) when the lid (4; 94; 104, 105; 114) is in its closed state, the hinge (22) line being located at the rear edge (28) or at one of the lateral edges (30) of the top wall (24), and

10 - wherein the inner shell (6; 96; 106, 107; 116) comprises a rear wall (42) or a lateral wall (44) having an upper edge, wherein the connector (50; 115) extends from said upper edge, having a first hinge line (52) at or in the area of said upper edge, and wherein the connector (50; 115) has a second hinge line (54) at the bottom side (32) of the top wall (24).

20

2. Package according to claim 1, characterised in that the outer shell (2; 92; 102; 112) comprises a bottom wall, wherein the two lateral walls (14) and the bottom wall (16) connect the front wall (10; 120) and the rear wall (12).

25

3. Package according to claim 1 or 2, characterised in that the inner shell (6; 96; 106, 107; 116), in its retracted position, is housed inside the outer shell (2; 92; 102; 112).

30

4. Package according to anyone of claims 1 to 3, characterised in that the connector (50; 115) is a hinged connector.

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5. Package according to anyone of claims 1 to 4, characterised in that the distance between the first hinge line (52) and the second hinge line (54) of the connector (50; 115) is greater than the distance between the hinge line (22) of the lid (4; 94; 104, 105; 114) and the second hinge line (54) of the connector (50; 115), preferably greater by an amount in the range of from 0.4 mm to 1.8 mm, most preferred by an amount of about 0.7 mm.
- 10 6. Package according to anyone of claims 1 to 5, characterised in that, in the closed state of the lid (4; 94; 104, 105; 114), the ratio of the distance between the first hinge line (52) of the connector (50; 115) and the hinge line (22) of the lid (4; 94; 104, 105; 114) to the distance between the hinge line (22) of the lid (4; 94; 104, 105; 114) and the second hinge line (54) of the connector (50; 115) is in the range from 0.5 to 1.0, preferably in the range from 0.70 to 0.85, most preferred about 0.78.
- 20 7. Package according to anyone of claims 1 to 6, characterised in that a bevelled edge wall (34) extends from at least the edge (26) of the top wall (24) opposite to the hinge line (22) of the lid (4; 94; 104, 105; 114), which bevelled edge wall (34) fits into the outer shell (2; 92; 102; 112) when the lid (4; 94; 104, 105; 114) is in its closed state.
- 30 8. Package according to claim 7, characterised in that the bevelled edge wall (34, 36) also extends from other edges (30) of the top wall (24) different from the edge (28) comprising the hinge line (22) of the lid (4; 94; 104, 105; 114).
- 35 9. Package according to claim 7 or 8, characterised in that the bevelled edge wall (34, 36) is folded from a blank

(60; 84) of the outer shell (2; 92; 102; 112) comprising a blank of the lid (4; 94; 104, 105; 114), wherein the bevelled edge wall (34, 36) preferably has a cross-sectional shape selected from the following list: triangular, quadrangular, polygonal, shape including at least one curved face.

10. Package according to anyone of claims 1 to 6, characterised in that an edge wall extends from at least the edge of the top wall (24) opposite to the hinge line (22) of the lid (4; 94; 104, 105; 114), which edge wall extends generally perpendicularly with respect to the top wall (24) of the lid (4; 94; 104, 105; 114) and is visible when the lid (4; 94; 104, 105; 114) is in its closed state.

11. Package according to anyone of claims 1 to 10, characterised in that the inner shell (6; 96; 106, 107; 116) comprises a front wall (40; 128) providing a free access area (48), which is adapted to facilitate access to the contents of the inner shell (6; 96; 106, 107; 116) when the inner shell (6; 96; 106, 107; 116) is in its advanced position.

12. Package according to claim 11, characterised in that, when the inner shell (6; 96; 106, 107; 116) is in its retracted position, the free access area (48) of the inner shell (6; 96; 106, 107; 116) does not overlap with the cutout (20; 93; 103; 122) of the outer shell (2; 92; 102; 112).

13. Package according to anyone of claims 1 to 12, characterised in that the inner shell (6; 96; 106, 107; 116) comprises a front wall (40; 128), a rear wall (42), and two lateral walls (44) opposite to each other and a bottom wall (46) connecting the front wall (40; 128) and the rear wall (42).

14. Package according to anyone of claims 11 to 13, characterised in that the front wall (40; 128) of the inner shell (6; 96; 106, 107; 116) comprises a reinforced structure, preferably made from double-layer or triple-layer card-board (40, 76).
15. Package according to anyone of claims 1 to 14, characterised by a reinforcement insert inserted into the inner shell (6; 96; 106, 107; 116).
16. Package according to claim 15, characterised in that the reinforcement insert is formed as a plastic container, preferably made by injection-moulding.
17. Package according to anyone of claims 1 to 16, characterised in that the cutout (20; 93; 103; 122) of the outer shell (2; 92; 102; 112) is provided in the front wall (10; 120) of the outer shell (2; 92; 102; 112).
18. Package according to claim 17, characterised in that the cutout of the outer shell is located in a side area of the front wall of the outer shell (2; 92; 102; 112), wherein preferably the inner shell (6; 96; 106, 107; 116) comprises a front wall (40; 128) providing a free access (48) area which does not overlap with the cutout (20; 93; 103; 122) of the outer shell (2; 92; 102; 112) when the inner shell (6; 96; 106, 107; 116) is in its retracted position.
19. Package according to anyone of claims 1 to 18, characterised in that the cutout (20; 93; 103), in being adapted to enable transmitting a force onto the inner shell (6; 96; 106, 107) for moving the inner shell (6; 96; 106, 107), is adapted to enable exerting a force onto the inner shell

(6; 96; 106, 107) for moving the inner shell (6; 96; 106, 107).

5 20. Package according to claim 19, characterised in that the cutout (20; 93; 103) is formed from a blank (60; 84) of the outer shell (2; 92; 102) in which at least part (64) of the blank material of the cutout area (20; 93; 103) is folded back to the inner face of the outer shell (2; 92; 102).

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21. Package according to claim 19 or 20, characterised in that, opposite to the cutout (20; 93; 103) of the outer shell (2; 92; 102), the inner shell (6; 96; 106, 107) comprises a grip-enhancing surface, which preferably includes
15 at least one of the following features: relief structure, cutout structure, high-friction coating, rubber-like coating.

22. Package according to anyone of claims 1 to 18, characterised by an actuator (130) for moving the inner shell (116), which is attached to the inner shell (116) and protrudes through the cutout (122).
20

23. Package according to claim 22, characterised in that the
25 inner shell (116) is lockable in its retracted position, the locking being releasable by means of the actuator (130), wherein optionally the inner shell (116) is biased by a spring device towards its advanced position.

30 24. Package according to claim 23, characterised in that the cutout (122) comprises a slot (124) extending in parallel to the moving direction of the inner shell (116) as well as a widened area (126) at the lower end of the slot (124), wherein part (132) of the actuator (130) is lock-

able in the widened area (126) of the cutout (122) and releasable by pressing the actuator (130).

25. Package according to anyone of claims 1 to 24, character-
5 ised in that the outer shell comprises rounded edges,
 wherein preferably the longitudinal edges between the
 front wall and both lateral walls are rounded.
26. Package according to anyone of claims 1 to 24, character-
10 ised in that the outer shell (2) comprises a hexagonal or
 octagonal cross-sectional shape, wherein the lateral walls
 or the front wall (10) comprise side panels (82) folded
 from the rest of the respective lateral wall or from the
 rest of the front wall (10) along fold lines (83) running
15 in parallel to a longitudinal axis of the package (80).
27. Package according to anyone of claims 1 to 26, character-
 ised in that the outer shell (2; 92; 102; 112) and/or the
 inner shell (6; 96; 106, 107; 116) are folded from a re-
20 spective blank (60, 70; 84, 86).
28. Package according to claim 27, characterised in that the
 outer shell (2; 92; 102; 112) and/or the inner shell (6;
 96; 106, 107; 116) are folded from a respective blank (60,
25 70; 84, 86) made from cardboard in the weight range from
 180 g/m² to 290 g/m².
29. Package according to anyone of claims 1 to 27, character-
30 ised in that the package comprises at least one of the ma-
 terials included in the following list: cardboard, lami-
 nated cardboard, coated cardboard, cardboard in the weight
 range from 180 g/m² to 290 g/m², cardboard in the thick-
 ness range from 250 µm to 500 µm, cardboard in the stiff-
 ness range from 5 mN to 25 mN, flat material in the thick-

ness range from 50 μm to 2000 μm , plastics materials, metals, aluminium.

- 5 30. Package according to anyone of claims 1 to 29, characterised in that the connector (50; 115) is formed in one of the following ways: folded by part (68) of a blank (60; 84) of the outer shell (2; 92; 102; 112) and by part (78) of a blank (70; 86) of the inner shell (6; 96; 106, 107; 116) and both parts being glued together, folded by part 10 of a blank of the outer shell and glued to the inner shell, folded by part of a blank of the inner shell and glued to the lid, provided as a metal part connected to the inner shell and to the lid, provided as a wire connected to the inner shell and to the lid, provided as a 15 plastic part connected to the inner shell and to the lid.
31. Package according to anyone of claims 1 to 30, characterised by a noise-producing mechanisms adapted to be operated when the lid (4) is swivelled from the closed state 20 to the opened state and/or from the opened state to the closed state, wherein preferably the noise-producing mechanism comprises a tab arranged at the lid (4) interacting with a counterpart arranged at the outer shell (2) and/or a tab arranged at the outer shell (2) interacting 25 with a counterpart arranged at the lid (4).
32. Package according to anyone of claims 1 to 31, characterised by at least two inner shells (106, 107) which are arranged side by side. 30
33. Package according to claim 32, characterised in that the lid (104, 105) is swivelably connected to the rear wall of the outer shell (102).

34. Package according to claim 33, characterised in that the lid (104, 105) is formed from at least two separate parts (104, 105), which are arranged side by side and are swivelably connected to the rear wall of the outer shell (102), wherein each of the separate parts (104, 105) of the lid is associated to one of the inner shells (106, 107).
35. Package according to claim 34, characterised in that the front wall of the outer shell (102) is provided with at least one cutout (103) adapted to expose part of each of the inner shells (106, 107) and to enable transmitting or exerting a force onto each of the inner shells (106, 107) for moving the respective inner shell (106, 107) and actuating the respective part of the lid (104, 105) via a connector or hinged connector.
36. Package according to anyone of claims 1 to 35, characterised in that the package (1; 80; 90; 100; 110) contains tobacco-related articles, wherein the tobacco-related articles are selected from the following group: cigarettes, cigarillos, cigars, tobacco-containing rods, smokeless tobacco, simulated smoking devices, inhalors without combustion of tobacco, aroma reservoirs.