Container for consumer goods

The invention relates to a container for consumer goods.

Containers are particularly well-known in the field of packaging consumer goods, in particular smoking articles. Commonly, such containers have a substantially rectangular parallelepiped shape. Some of these containers known in the art also include longitudinal or transverse edges that are bevelled or rounded.

A container comprising a box having a bottom wall, first and second side walls, a back wall and a front wall, and a hingedly connected lid is known from DE-A-103 14 375. Bridging surfaces are arranged between the front wall and the respective adjacent side walls, as well as between the back wall and the respective adjacent side walls. The bridging surfaces are plane surface which include a fixed angle with the front wall and the respective side walls, or with the back wall and the respective side walls. The plane bridging surfaces are bounded by straight lines extending in the longitudinal direction of the box, so that the box has a polygonal shape.

In the field of packaging, it would be desirable to provide a rigid container which protects the consumer goods housed within the container and at the same time provide an interesting visual and tactile appearance. In this respect, it is a particular object of the invention to provide a container having a bridging surface which is twisted relative to the respective adjacently arranged walls. This is achieved with the container according to the present invention.

According to the present invention a container for consumer goods is provided comprising a box wherein the box further comprises a box bottom wall, a first box side wall, a second box side wall, a box back wall and a box front wall. The container further comprises a lid, wherein the lid is hingedly connected to the box across a hinge line, and wherein the lid further comprises a lid top wall, a first lid side wall, a second lid side wall, a lid back wall and a lid front wall.

The container further comprises at least one wavy surface bounded by two undulating outlines. The at least one wavy surface is arranged between two adjacent walls of the box or between two adjacent walls of the lid, such that the at least one wavy surface at least partially bridges the two adjacent walls.

Still further, the two undulating outlines bounding the wavy surface include a phase difference relative to each other.

The term "undulating outline" is used throughout the specification to refer to a wave like line that continuously changes its direction and has at least one concave section and one convex section. A preferable example for an undulating line is an "S-curve". Preferably, the two undulating outlines are substantially congruent with each other. Preferably, the two undulating outlines bordering the wavy surface are substantially point symmetric to the centroid of the wavy surface in the blank of the container, that is, where the wavy surface is flat and the container is not assembled. A preferred example for the undulating outline is a sinusoidal outline.

The two undulating outlines having the phase difference relative to each other allow for the formation of the desired twisted bridging surface. In this respect, the term "twisted" means that the direction of the normal to the bridging surface changes along the bridging surface. The phase difference generally may vary within the range of about 0 to 90 degrees (0 degrees excluded). Preferably, the phase difference varies within a range of about 30 to 90 degrees. More preferably, the phase difference varies within a range of about 45 to 90 degrees. Whenever the term "about" is used, this term is meant to also disclose and include the exact value, except for the value of 0 degrees.

The afore-described wavy bridging surface avoids the formation of a sharp edge thus making the container convenient to handle, and provides for an appealing visual and tactile appearance of the container. In particular, it allows for the formation of the desired twisted bridging surface.

Preferably, the distance between the two undulating outlines in the direction of the circumference changes continuously.

Preferably, the at least one wavy surface is provided between a front wall and one of the adjacent side walls. Since the wavy surface bounded by the undulating outlines contributes to the more attractive appearance of the container according to the invention, it is provided between the front wall and at least one of the side walls so that it is well visible for the consumer. In one particular embodiment of the container according to the invention, a wavy surface is provided between the front wall and each of the side walls.

Preferably, at least one first wavy surface is provided between two box walls and

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A container comprising a box having a bottom wall, first and second side walls, a back wall and a front wall, and a hingedly connected lid is known from DE-A-103 14 375. Bridging surfaces are arranged between the front wall and the respective adjacent side walls, as well as between the back wall and the respective adjacent side walls. The bridging surfaces are plane surface which include a fixed angle with the front wall and the respective side walls, or with the back wall and the respective side walls. The plane bridging surfaces are bounded by straight lines extending in the longitudinal direction of the box, so that the box has a polygonal shape.

In the field of packaging, it would be desirable to provide a rigid container which protects the consumer goods housed within the container and at the same time provide an interesting visual and tactile appearance. In this respect, it is a particular object of the invention to provide a container having a bridging surface which is twisted relative to the respective adjacently arranged walls. This is achieved with the container according to the present invention.

According to the present invention there is provided a container including a box, wherein the box further includes a box bottom wall, a first box side wall, a second box side wall, a box back wall and a box front wall; and wherein the container further includes a lid, wherein the lid is hingedly connected to the box across a hinge line, and wherein the lid further includes a lid top wall, a first lid side wall, a second lid side wall, a lid back wall and a lid front wall; and wherein the container includes at least one wavy surface bounded by two undulating outlines wherein the at least one wavy surface is arranged between two adjacent walls of the lid or two adjacent walls of the box, such that the at least one wavy surface at least partially bridges the two adjacent walls, and wherein the two undulating outlines bounding the wavy surface include a phase difference relative to each other and wherein the two undulating outlines are substantially congruent with each other.

The term "undulating outline" is used throughout the specification to refer to a wave like line that continuously changes its direction and has at least one concave section and one convex section. A preferable example for an undulating line is an "S-curve". Preferably, the two undulating outlines bordering the wavy surface are substantially point symmetric to the centroid of the wavy surface in the blank of the container, that is, where the wavy surface is flat and the container is not assembled. A preferred example for the undulating outline is a sinusoidal outline.

The two undulating outlines having the phase difference relative to each other allow for the formation of the desired twisted bridging surface. In this respect, the term "twisted" means that the direction of the normal to the bridging surface changes along the bridging surface. The phase difference generally may vary within the range of about 0 to 90 degrees (0 degrees excluded). Preferably, the phase difference varies within a range of about 30 to 90 degrees. More preferably, the phase difference varies within a range of about 45 to 90 degrees. Whenever the term "about" is used, this term is meant to also disclose and include the exact value, except for the value of 0 degrees.

The afore-described wavy bridging surface avoids the formation of a sharp edge thus making the container convenient to handle, and provides for an appealing visual and tactile appearance of the container. In particular, it allows for the formation of the desired twisted bridging surface.

Preferably, the distance between the two undulating outlines in the direction of the circumference changes continuously.

Preferably, the at least one wavy surface is provided between a front wall and one of the adjacent side walls. Since the wavy surface bounded by the undulating outlines contributes to the more attractive appearance of the container according to the invention, it is provided between the front wall and at least one of the side walls so that it is well visible for the consumer. In one particular embodiment of the container according to the invention, a wavy surface is provided between the front wall and each of the side walls.

Preferably, at least one first wavy surface is provided between two box walls and

Claims

1. Container comprising a box,

wherein the box further comprises a box bottom wall, a first box side wall, a second box side wall, a box back wall and a box front wall; and

wherein the container further comprises a lid, wherein the lid is hingedly connected to the box across a hinge line, and wherein the lid further comprises a lid top wall, a first lid side wall, a second lid side wall, a lid back wall and a lid front wall; and

wherein the container comprises at least one wavy surface bounded by two undulating outlines wherein the at least one wavy surface is arranged between two adjacent walls of the lid or two adjacent walls of the box, such that the at least one wavy surface at least partially bridges the two adjacent walls, and

wherein the two undulating outlines bounding the wavy surface include a phase difference relative to each other.

2. Container according to claim 1, wherein the distance between the two undulating outlines in the direction of the circumference of the box changes continuously.

3. Container according to any one of the preceding claims, wherein the at least one wavy surface is provided between the box front wall and one of the box side walls.

4. Container according to any one of the preceding claims, wherein at least one first wavy surface bounded by two undulating outlines is provided between two box walls and at least one second wavy surface is provided between two lid walls.

5. Container according to claim 4, wherein the at least one first wavy surface bounded by two undulating outlines provided between two box walls and the at least one second wavy surface bounded by two undulating outlines provided between two lid walls are aligned with each other.

6. Container according to any one of the preceding claims, further comprising a separate inner frame attached to the box front wall said inner frame having an ear-like protrusion extending outwardly from the said inner frame for providing a locking engagement for the lid as the lid is closed.

7. Container according to claim 6, wherein the inner frame comprises at least one wavy surface bounded by two undulating outlines which is arranged between the box front wall and an adjacent box side wall of the inner frame and bridges the box front wall and the adjacent box side wall of the inner frame.

8. Container according to claim 7, wherein the inner frame comprises at least one wavy surface bounded by two undulating outlines arranged between the front wall and a box side wall whenever there is a corresponding wavy surface arranged between the box front wall and a box side wall.

9. Container according to any one of the preceding claims, wherein the container comprises two to five wavy surfaces arranged between the same two adjacent walls.

10. Container according to any one of the preceding claims, wherein the container comprises smoking articles.

Claims

1. Container including a box,

wherein the box further includes a box bottom wall, a first box side wall, a second box side wall, a box back wall and a box front wall; and

wherein the container further includes a lid, wherein the lid is hingedly connected to the box across a hinge line, and wherein the lid further includes a lid top wall, a first lid side wall, a second lid side wall, a lid back wall and a lid front wall; and

wherein the container includes at least one wavy surface bounded by two undulating outlines wherein the at least one wavy surface is arranged between two adjacent walls of the lid or two adjacent walls of the box, such that the at least one wavy surface at least partially bridges the two adjacent walls, and

wherein the two undulating outlines bounding the wavy surface include a phase difference relative to each other and wherein the two undulating outlines are substantially congruent with each other.

2. Container according to claim 1, wherein the distance between the two undulating outlines in the direction of the circumference of the box changes continuously.

3. Container according to any one of the preceding claims, wherein the at least one wavy surface is provided between the box front wall and one of the box side walls.

4. Container according to any one of the preceding claims, wherein at least one first wavy surface bounded by two undulating outlines is provided between two box walls and at least one second wavy surface is provided between two lid walls.

5. Container according to claim 4, wherein the at least one first wavy surface bounded by two undulating outlines provided between two box walls and the at least

one second wavy surface bounded by two undulating outlines provided between two lid walls are aligned with each other.

6. Container according to any one of the preceding claims, further including a separate inner frame attached t0 the box front wall said inner frame having an ear-like protrusion extending outwardly from the said inner frame for providing a locking engagement for the lid as the lid is closed.

7. Container according to claim 6, wherein the inner frame includes at least one wavy surface bounded by two undulating outlines which is arranged between the box front wall and an adjacent box side wall of the inner frame and bridges the box front wall and the adjacent box side wall of the inner frame.

8. Container according to claim 7, wherein the inner frame includes at least one wavy surface bounded by two undulating outlines arranged between the front wall and a box side wall whenever there is a corresponding wavy surface arranged between the box front wall and a box side wall.

9. Container according to any one of the preceding claims, wherein the container includes two to five wavy surfaces arranged between the same two adjacent walls.

10. Container according to any one of the preceding claims, wherein the least one wavy surface includes between one and five undulations.

11. Container according to any one of the preceding claims, wherein the container includes smoking articles.