CLAIMS:

1. A mosaic piece having a body contour inscribed within a circle, and being formed with at least one projection having a projection contour, so that:

- said body contour and said projection contour coincide at points P_1 and P_2;
- said inner circle further contains a point P_3 located outside said projection contour so that the angular distance of P_3 from P_1 is equal to the angular distance of P_2 from P_1 with respect to the center of the inner circle;
- said projection contour further contains a point Pa so that the entire projection contour is located on one side of a reference border line B.L. extended between point P_3 and a point Pa;
- said mosaic piece being formed with a locking recess having a locking recess contour defined between points P_3-P_1-Pa;
- said projection contour further comprising a point P' between points Pa and P_1;
- said projection is formed with an engagement portion having an engagement contour defined between points P'-Pa-P_2 and a line L extending between points P' and P_2;

wherein said engagement portion is of corresponding shape and size to be fully contained within said locking recess.

2. A mosaic piece according to Claim 1, wherein the mosaic piece is configured for attachment to other mosaic pieces, so that at least a portion of the projection of the mosaic piece is configured to be received within a locking recess of a second identical mosaic piece.

3. A mosaic piece according to Claim 1 or 2, wherein when a projection of the mosaic piece is received within a locking recess of a second, identical mosaic piece, the body engagement contour of the mosaic piece and the projection engagement contour of the second mosaic piece form together a contour at least partially corresponding to the contour defined between points P_1 and P_2 of the mosaic piece.

4. A mosaic piece according to Claim 3, wherein a third mosaic piece is configured to fit within a remaining space defined by the contour between two neighboring mosaic pieces.

5. A mosaic piece according to any one of Claims 1 to 4, wherein said mosaic piece is formed with a projection unit consisting of two symmetric projections which are mirror images of one another with respect to a line extending between point P_2 and the center of the inner circle.

6. A mosaic piece according to Claim 5, wherein the point P_2 is a mutual point for the projection contours of the two symmetric projections.

7. A mosaic piece according to Claim 5 or 6, wherein said mosaic piece comprises at least two projection units.

8. A mosaic piece according to Claim 7, wherein said projection units are arranged symmetrically along the mosaic piece with respect a line extending between point P_3 and the center of the inner circle.

9. A mosaic piece according to Claim 8 wherein:

- said projection unit has a unit contour defined between the respective points P_1 of two projections of the projection unit and containing therein point P_2; and
- said mosaic piece has a body portion contour defined between the respective points Pa of two neighboring projection units and containing therein point P_3.

10. A mosaic piece according to Claim 9, wherein said body portion contour corresponds in shape and size to said unit contour.

11. A mosaic piece according to any one of Claims 5 to 10, wherein said mosaic piece is formed with three projection units.

12. A mosaic piece according to Claim 11, wherein the projection units are equally spaced about the center of the inner circle, i.e. with a 120° angle therebetween.

13. A mosaic piece according to any one of Claims 1 to 12, wherein at least said projection is made of flexible material allowing to change the distance between points Pa of adjacent protection units thereby providing snap fitting between two identical mosaic pieces.

14. A mosaic piece according to Claim 13, wherein the friction between two identical mosaic pieces, when attached to one another, is sufficient for preventing movement thereof with respect to one another along a central axis of the inner circle.

15. A mosaic piece according to any one of Claims 1 to 14, wherein the ratio between the diameter of the inner circle d and the diameter D of a circle inscribing the entire mosaic piece including the at least one projection is d/D is about 0.9.

16. A mosaic piece according to any one of Claims 1 to 15, wherein said mosaic piece is formed with an inner cavity.

17. A mosaic piece according to Claim 16, wherein said inner cavity is threaded.

18. A mosaic piece according to Claim 16 or 17, wherein said inner cavity is shaped and sized to be used as a bottle cap.

19. A mosaic piece according to Claim 16, wherein inner cavity is configured for receiving therein an article of shape and size corresponding to those of said cavity.

20. A mosaic piece according to Claim 19, wherein said article is of cylindrical shape.

21. A mosaic piece according to Claim 20, wherein said article is a bottle.

22. A bottle cap having a body contour inscribed within a circle, and being formed with at least one projection having a projection contour, so that:

- said body contour and said projection contour coincide at points P_1 and P_2;
- said inner circle further contains a point P_3 located outside said projection contour so that the angular distance of P_3 from P_1 is equal to the angular distance of P_2 from P_1 with respect to the center of the inner circle;
- said projection contour further contains a point Pa so that the entire projection contour is located on one side of a reference border line B.L. extended between point P_3 and a point Pa;
- said mosaic piece being formed with a locking recess having a locking recess contour defined between points P_3-P_1-Pa;
- said projection contour further comprising a point P' between points Pa and P_1;
- said projection is formed with an engagement portion having an engagement contour defined between points P'-Pa-P_2 and a line L extending between points P' and P_2;

wherein said engagement portion is of corresponding shape and size to be fully contained within said locking recess.

23. A mosaic piece the 2D shape of which is obtainable by the following steps:

providing three major shapes, each shape being symmetric about at least three axes, equally spaced at 120º and coinciding at O;

each two neighboring major shapes having a contact point at P_2;

Providing one median line for each two neighboring major shapes passing through the respective point P_2 and point O of the remaining major shape, intersecting its contour at a point P_1, three such tangency lines intersecting each other at a point P_0 located at an area A between the major shapes and not occupied thereby;

Providing three minor shapes within area A which are equally spaced at 120º about point P_0, each minor shape having at least a contact point with one of the major shapes at its respective point P_1, and another point P located in area A;

wherein for each major shape, a projection can be defined having a contour extending through points P_2, P_1 of the neighboring major shape, P and P_1 of the same major shape.

24. A mosaic piece according to Claim 23, wherein each of the major shapes has a hexagonal symmetry, about six axes, equally spaced at 120º and coinciding at O.

25. A mosaic piece according to Claim 23 or 24, wherein the contour of said minor shapes is defined only by curved lines.

26. A mosaic piece according to Claim 23 or 24, wherein the contour of said minor shapes is defined only by straight lines.

27. A mosaic piece according to Claim 23 or 24, wherein the contour of said minor shapes is defined by a combination of straight and curved lines.

28. A mosaic piece according to any one of Claims 23 to 27, wherein said minor shapes have a point of coincidence at P_0.

29. A mosaic piece according to any one of Claims 23 to 28, wherein said minor shapes do not intersect each other.

30. A mosaic piece according to any one of Claims 23 to 29, wherein said minor shapes are opened-contour shapes.

31. A mosaic piece according to any one of Claims 23 to 29, wherein said minor shapes are closed-contour shapes.

~~**32.** A mosaic piece according to any one of Claims 23 to 30, wherein said 2D shape constitutes the base for a 3D construction of a mosaic piece.~~

~~**33.** A mosaic piece according to Claim 32, wherein each of said major shapes is of a 3D tetrahedral configuration.~~

~~**34.** A mosaic piece according to Claim 33, wherein each face of the 3D mosaic piece is of a hexagonal symmetry.~~

1. A mosaic piece having a body contour inscribable within a circle, and being formed with at least one projection having a projection contour, so that:

said body contour and said projection contour coincide at points P_1 and P_2;

said circle further contains a point P_3 located along said circle outside said projection contour so that the angular distance of P_3 from P_1 is equal to the angular distance of P_2 from P_1 with respect to the center of said circle;

said projection contour further contains a point Pa so that an entire said projection contour is located on one side of a reference border line B.L. extended between point P_3 and a point Pa;

said mosaic piece being formed with a locking recess having a locking recess contour defined between points P_3-P_1-Pa, at least a portion of said locking recess contour between P_3 and P_1 extending along said circle;

said projection contour further comprising a point P' between points Pa and P_1;

said projection is formed with an engagement portion having an engagement contour defined between points P'-Pa-P_2 and a line L extending between points P' and P_2;

wherein said engagement portion is of corresponding shape and size to be fully contained within said locking recess.

2. The mosaic piece according to claim 1, wherein the mosaic piece is configured for attachment to other mosaic pieces, so that at least a portion of the projection of the mosaic piece is configured to be received within a locking recess of a second identical mosaic piece.

3. The mosaic piece according to claim 1, wherein when a projection of the mosaic piece is received within a locking recess of a second, identical mosaic piece, the body engagement contour

of the mosaic piece and the projection engagement contour of the second mosaic piece form together a contour at least partially corresponding to the contour defined between points P_1 and P_2 of the mosaic piece.

4. The mosaic piece according to claim 3, wherein a third mosaic piece is configured to fit within a remaining space defined by the contour between two neighboring mosaic pieces.

5. The mosaic piece according to claim 1, wherein said mosaic piece is formed with a projection unit consisting of two symmetric projections which are mirror images of one another with respect to a line extending between point P_2 and the center of the circle.

6. The mosaic piece according to claim 5, wherein the point P_2 is a mutual point for the projection contours of the two symmetric projections.

7. The mosaic piece according to claim 5, wherein said mosaic piece comprises at least two projection units.

8. The mosaic piece according to claim 7, wherein said projection units are arranged symmetrically along the mosaic piece with respect a line extending between point P_3 and the center of the circle.

9. The mosaic piece according to claim 8, wherein:

said projection unit has a unit contour defined between the respective points P_1 of two projections of the projection unit and containing therein point P_2; and

said mosaic piece has a body portion contour defined between the respective points Pa of two neighboring projection units and containing therein point P_3.

10. The mosaic piece according to claim 9, wherein said body portion contour corresponds in shape and size to said unit contour.

11. The mosaic piece according to claim 1, wherein at least said projection is made of flexible material allowing to change the distance between points Pa of adjacent protection units thereby providing snap fitting between two identical mosaic pieces.

12. The mosaic piece according to claim 11, wherein the friction between two identical mosaic pieces, when attached to one another, is sufficient for preventing movement thereof with respect to one another along a central axis of the circle.

13. The mosaic piece according to claim 1, wherein the ratio between the diameter of the circle d and the diameter D of a circle inscribing the entire mosaic piece including the at least one projection is d/D is about 0.9.

14. The mosaic piece according to claim 1, wherein said mosaic piece is formed with an inner cavity having a thread and shaped and sized to be used as a bottle cap.

15. The mosaic piece according to claim 14, wherein said cavity is configured for accommodating therein a portion of a bottle.

16. A mosaic piece according to claim 1, the 2D shape of which is obtainable by the following steps:

providing three identical major shapes, each shape being symmetric about at least three axes, equally spaced at 120^{o} and coinciding at O;

arranging said three identical major shapes such that each two neighboring major shapes having a contact point at P_2;

providing one median line for each two neighboring major shapes passing through the respective point P_2 and point O of the other of said three major shapes, intersecting its contour at a point P_1, three such medium lines intersecting each other at a point P_0 located at an area A delimited between the three identical major shapes and not occupied thereby; and

providing three identical minor shapes within area A which are equally spaced at 120º about point P_0, and arranging said three identical minor shapes so that each minor shape has at least a contact point with one of said three identical major shapes at its respective point P_1, and another point P located in area A;

wherein for each major shape, a projection can be defined having a contour extending through points P_2, P_1 of the neighboring major shape, P and P_1 of the same major shape.

17. The mosaic piece according to claim 16, wherein said minor shapes have a point of coincidence at P_0.

18. The mosaic piece according to claim 16, wherein said minor shapes do not intersect each other.

19. The mosaic piece according to claim 16, wherein said 2D shape constitutes the base for a 3D construction of a mosaic piece.

20. A bottle cap having a body contour inscribable within a circle, and being formed with at least one projection having a projection contour, so that:

said body contour and said projection contour coincide at points P_1 and P_2;

said circle further contains a point P_3 located along said circle outside said projection contour so that an angular distance of P_3 from P_1 is equal to an angular distance of P_2 from P_1 with respect to a center of the circle;

said projection contour further contains a point Pa so that an entire said projection contour is located on one side of a reference border line B.L. extended between point P_3 and a point Pa;

said mosaic piece being formed with a locking recess having a locking recess contour defined between points P_3-P_1-Pa, at least a portion of said locking recess contour between P_3 and P_1 extending along said circle;

said projection contour further comprising a point P' between points Pa and P_1;

said projection is formed with an engagement portion having an engagement contour defined between points P'-Pa-P_2 and a line L extending between points P' and P_2;

wherein said engagement portion is of corresponding shape and size to be fully contained within said locking recess.