Claims

1. A combined toy top that can be freely assembled, comprising an upper top and a bottom top that are assembled together, characterized in that the upper top and the bottom top both include a central axis body, and an upper top ring associated with the upper top and a bottom top ring associated with the bottom top, the upper top ring and bottom top ring fitted over a corresponding central axis body, wherein the upper and bottom top rings each comprise an attack ring and a screw ring received within a center through hole of the corresponding attack ring, each screw ring comprising an upper cap ring and a lower cap ring, each screw ring providing a connection between a corresponding attack ring and central axis body, the direction in which the top ring of at least one of the upper top and the bottom top is installed on a corresponding central axis body can be turned over between a top face and a bottom face, and therefore, a combined toy top with a variety of assembly structures having different configurations of centers of gravity may be achieved by turning the direction of at least one of the upper and bottom top rings on a corresponding central axis body.

2. The combined toy top that can be freely assembled according to claim 1, characterized in that the directions in which the top rings of the upper top and the bottom top are installed on the central axis bodies can be both turned over between a top face and a bottom face, and therefore, a combined toy top with four assembly ways may be achieved by turning the direction of each top ring on one of the respective central axis bodies.

3. The combined toy top that can be freely assembled according to claim 1, characterized in that the upper top and the bottom top are reliably connected together by means of a rotation snap structure provided on the upper and bottom top rings; alternatively, the upper top and the bottom top may be reliably connected together by means of an insertion connection structure or a rotation snap structure provided on the central axis bodies of the upper top and bottom top.

4. The combined toy top that can be freely assembled according to claim 3, characterized in that the rotation snap structure when provided on the central axis

bodies comprises a snap member that is rotatably disposed at the bottom of the central axis body of the upper top, and a cavity is correspondingly formed on the upper part of the central axis body of the bottom top for the snap member to be inserted in, and a snap position is provided within the cavity for rotation engagement with the snap member , and the reliable snap connection of the two central axis bodies can be realized by inserting the snap member at the bottom of the central axis body of the upper top into the cavity of the bottom top and then rotating the snap member, and the cavity of the bottom top may also engage with a bottom of a top cap removably installed thereon.

5. The combined toy top that can be freely assembled according to claim 4, characterized in that a clutch transmission mechanism is provided in the central axis body of the upper top for driving the snap member to rotate and is capable of engagement with the bottom of the top cap on the central axis body of the upper top, the upper part of the clutch transmission mechanism may be clipped to an upper part of the central axis body of the upper top, and moves downwardly when being pressed down by the top cap, thereby releasing the clipping with the central axis body of the upper top and meshing with the snap member, wherein at this moment, the top cap rotates the clutch transmission mechanism to drive the snap member to rotate, and when the downward pressing force by the top cap disappears, the clutch transmission mechanism automatically moves upwardly and is reset.

6. The combined toy top that can be freely assembled according to claim 1, characterized in that a snap protrusion locking structure is provided on the top rings for connecting with a corresponding central axis body, and the top rings are reliably connected to a corresponding central axis body through the snap protrusion locking structure; alternatively, a retaining structure is provided on each central axis body for reliable rotating connection with a corresponding one of the top rings.

7. The combined toy top that can be freely assembled according to claim 5, characterized in that a snap protrusion locking structure is provided on each of the screw rings, and the upper and bottom top rings are reliably connected to a corresponding central axis body by means of the engagement between the snap

protrusion locking structure on the corresponding screw ring and a retaining structure disposed on a corresponding central axis body.

8. The combined toy top that can be freely assembled according to claim 7, characterized in that the upper cap rings and the lower cap rings have different shapes or configurations of center of gravity, the snap protrusion locking structures each comprise an upper snap protrusion and a lower snap protrusion that are provided correspondingly on the inner walls of the upper cap ring and the lower cap ring, when a corresponding central axis body is fitted into the ring hole of the corresponding upper cap ring and lower cap ring, the upper cap ring and the lower cap ring are engaged with the retaining structure provided on the corresponding central axis body, thereby achieving a reliable connection with the central axis body.

9. The combined toy top that can be freely assembled according to claim 8, characterized in that a snap edge is integrally formed on an inner wall of the through hole of each attack ring, a notch is correspondingly formed at a position of the upper cap rings and the lower cap rings that correspond to the snap edge, and the upper cap rings and the lower cap rings are reliably positioned on a corresponding attack ring by means of the engagement between the notch thereof and the snap edge.

10. The combined toy top that can be freely assembled according to claim 7, characterized in that both central axis bodies comprise axis jackets and snap rings rotatably disposed on the axis jackets, the retaining structure comprises a snap groove formed axially on an external wall of a corresponding axis jacket for the snap protrusion locking structure to slide in, and a snap pin integrally formed on the snap rings and extending out of the axis jacket, a guide groove is correspondingly formed on the external wall of each of the axis jackets for a corresponding snap pin to extend out and rotate horizontally, when the snap protrusion locking structure of one screw ring slides into a corresponding snap groove, a corresponding snap ring may be rotated such that the snap pin rotates to under or above the snap protrusion locking structure, making the snap protrusion locking structure reliably locked between the snap pin and one end edge of the snap groove so as to realize the reliable connection between a corresponding top ring and a corresponding central axis body.

11. The combined toy top that can be freely assembled according to claim 10, characterized in that the axis jacket of the upper top comprises upper and lower axis jackets in a fitting engagement, the snap member comprises a connection seat rotatably disposed on a lower part of the lower axis jacket and a fitting pole disposed below the connection seat and having snap protrusions on two external walls, the snap ring and the clutch transmission mechanism are disposed inside the upper axis jacket above the snap member, when the clutch transmission mechanism moves upwardly, it can be snapped to the upper axis jacket, and when moving downwardly to release the snap with the upper axis jacket, it can mesh with the snap member on the lower axis jacket.

12. The combined toy top that can be freely assembled according to claim 11, characterized in that the clutch transmission mechanism comprises a ring disposed above the snap member and a clutch ring disposed above the ring in a vertically movable manner, the snap ring is disposed between the upper axis jacket and the clutch ring, an upper part of the clutch ring may be snapped with the upper axis jacket, and when being pressed down to move downwardly, it can release the snap with the upper axis jacket and mesh with the snap member, when the downward pressing force disappears, the clutch ring automatically moves upwardly and is reset under the action of the ring, and moreover, a retaining structure is correspondingly provided inside the clutch ring for engagement and snap lock with protrusions formed on two sides of a lower part of the top cap, when the top cap engages with the retaining structure for locking with its bottom inserted into the clutch ring, a lower cap edge of the top cap is disposed on the upper part of the clutch ring.

13. The combined toy top that can be freely assembled according to claim 12, characterized in that a protrusion and a snap groove capable of engagement are correspondingly formed on an inner wall of the upper axis jacket and an upper external wall of the clutch ring , and meshable upper and lower raised tooth structures are provided on the bottom of the retaining structure and the upper end of the snap member, respectively.

14. The combined toy top that can be freely assembled according to claim 10, characterized in that the axis jacket of the bottom top comprises upper and lower axis jackets in a fitting engagement, wherein an upper part of the lower axis jacket is inserted into the upper axis jacket to form a cavity for engagement and fitting of the snap member of the central axis body of the upper top, the snap position is disposed on the inner wall of the cavity, and the snap pin is rotatably disposed between the upper and lower axis jackets.

15. The combined toy top that can be freely assembled according to claim 14, characterized in that the bottom of the lower axis jacket of the bottom top is connected to an elastic top tip, upper and lower limiting shoulders are correspondingly formed on the inner wall of the lower axis jacket for engagement with the elastic top tip, and alternatively, an uplift member and a lower limiting shoulder are provided inside the lower axis jacket for engagement with the elastic top tip.

16. The combined toy top that can be freely assembled according to claim 4, characterized in that the snap member of the upper top is provided with a top tip on the bottom thereof.

17. The combined toy top that can be freely assembled according to claim 4, characterized in that at least one of the top rings has different structural shapes or configurations of center of gravity for the top face and bottom face thereof.

18. The combined toy top that can be freely assembled according to claim 2, characterized in that the upper top and the bottom top are reliably connected together by means of a rotation snap structure provided on the upper and bottom top rings; alternatively, the upper top and the bottom top may be reliably connected together by means of an insertion connection structure or a rotation snap structure provided on the central axis body of the upper top and bottom top.

19. The combined toy top that can be freely assembled according to claim 2, characterized in that a snap protrusion locking structure is provided on the top rings

for connecting with a corresponding central axis body, and the top rings are reliably connected to a corresponding central axis body through the snap protrusion locking structure; alternatively, a retaining structure is provided on each central axis body for reliable rotating connection with a corresponding top ring.

20. A combined toy top that can be freely assembled, comprising an upper top and a bottom top that are assembled together, characterized in that the upper top and the bottom top each comprise a central axis body and a top ring fitting over the central axis body, the direction in which the top ring of at least one top of the upper top and the bottom top is installed on the central axis body can be turned over between a top face and a bottom face, and therefore, a combined toy top with a variety of assembly structures may be achieved by turning the direction of the top rings on the central axis body;

wherein the upper top and the bottom top are reliably connected together by means of a rotation snap structure provided on the central axis bodies of the upper top and bottom top; and

wherein the rotation snap structure on the central axis bodies comprises a snap member that is rotatably disposed at the bottom of the central axis body of the upper top, and a cavity is correspondingly formed on the upper part of the central axis body of the bottom top for the snap member to be inserted in, and a snap position is provided within the cavity for rotation engagement with the snap member, and the reliable snap connection of the two central axis bodies can be realized by inserting the snap member at the bottom of the central axis body of the upper top into the cavity of the bottom top and then rotating the snap member, and the cavity of the bottom top may also engage with a bottom of a top cap removably installed thereon.