Plastic Made Gasing Top

Field Of Invention

The present invention relates to a plastic or plastic composite made gasing top. Particularly, the derived gasing top is produced by injection molding which facilitates mass production of the gasing top without the need of skilled craftsman.

Background Of The Invention

Gasing are traditional games among Malay community. It has been produced in different size to promote competition in various age groups. Tops of the gasing are conventionally made of wood that quality of the top largely relies on the skill of the craftsman. In turn, the quality of the top affects the outcome of the game significantly. Production of conventional gasing top of good quality requires days to complete even for a skilled craftsman that such slow in production has rendered mass production of gasing top impossible. Low availability of gasing top of good quality in the market can be attributed to oblivion of the gasing game in the younger generation in recent years. To again promote the game and preserve the traditional culture, gasing top of good quality and capable of being manufacture in mass is much welcome.

Summary Of The Invention

The present invention aims to provide gasing top produced mainly from plastic or plastic composite or synthetic polymers.

Another object of the disclosed invention is to offer gasing top capable of being manufactured in great number compared to conventional handmade wood gasing top. Not only excellent quality of the disclosed gasing top can be ensured through a systematic production line, the present invention also provides solution to solve the problem in related to lack of skilled craftsman engaging in gasing top production.

Further, the disclosed invention also offers a gasing top can be produced and sold in much cheaper price in view of the disclosed gasing top capable of being mass produced.

At least one of the preceding objects is met, in whole or in part, by the present invention, in which one of the embodiments of the present invention is a gasing top comprising a plastic or plastic composite body; a metal rod positioned within the body and extending along the central axis of the body towards the bottom forming a sharp tip, which is located outside the body to serve as a spinning tip; and a weight located within the body being arranged in such a way to stabilize spinning of the gasing top.

In one embodiment, the weight is made of metal particularly of ferrous, nickel, copper or lead origin to ensure the produced top attain the weight requirement as set forth in the game.

In one embodiment, the plastic or plastic composite body is made of polyoxymethylene or a fiber reinforced polymer.

In one embodiment, the weight and the metal rod are an integral piece that the weight is located on top of the metal rod and the metal rod is projected out from the metal weight.

Brief Description Of The Drawings

Figure 1 shows a cross-sectional view of one embodiment of the disclosed gasing top;

Figure 2 shows a cross-sectional view of another embodiment of the disclosed gasing top which the composite body is formed of multi-layer polymers; and

Figure 3 is a perspective view of one embodiment of the disclosed gasing top.

Detailed Description Of The Invention

The most preferred embodiment of the invention is now described with reference to the figures, where like reference numbers indicate identical or functionally similar elements. While specific configurations and arrangements are discussed, it should be understood that this is done for illustrative purposes only. A person skilled in the art will recognize that the other configurations and arrangements can be used without departing from the spirit and scope of the invention.

The present invention involves a gasing top (100) essentially comprising a plastic or plastic composite body (110); a metal rod (130) positioned within the body (110) and extending along the central axis (200) of the body (110) towards the bottom forming a sharp tip (132), which is located outside the body (110) to serve as a spinning tip; and a weight (140) located within the body (110) being arranged in such a way to stabilize spinning of the gasing top (100). As illustrated in figure 1 and 3, the plastic or plastic composite body (110) adopts the size and shape of the conventional gasing top (100) to ensure the produced top (100) fulfil the requirements of the game. Particularly, the body (110) is like an inverted saucer with expanded side flange around the spinning axis. Both bottom and top of the plastic or plastic composite are made tapered towards the spinning axis forming a vertex base (112) and an apex (111). Preferably, the apex (111) is fabricated to become rounder in shape rather than having a sharp tip (132). The round apex (111) can only has a diameter within the range of 30mm to 100mm and a thickness not more than 50mm. The plastic or plastic composite body (110) has a diameter of 300 to 460mm measured from circumference to circumference of the expanded flange across the spinning axis. Specifically, gasing tops (100) of a diameter of 300 to 360 mm are used in the game for child, while the gasing tops (100) of the rest of the measurement are used in the games of adolescent and adult. Further, the overall height of the produced gasing top (100) in the present invention ranges from 70mm to 120mm, where 70mm to 100mm are sizes for child's game and 80mm to 120mm are sizes for adults.

Preferably, in one embodiment, the body (110) of the present invention is made of thermoplastic material or derivatives derived thereof. The thermoplastic material can be polymer or co-polymer of polyoxymethylene, polyethylene, polyethylene terephthalate, vinylpolymer, polystyrenes, polylactic acid, polyhydroxyl adipate or polyvinyl alcohol, polyacrylonitriles, polyvinylcarbazols, poly(alkylene oxides), poly(hydroxy butyrate), polyimides, polyarylethers, poly(alkylene terephthalates), polycarbonates, polyester, polypropylene, polyethylene, and polyisobutylenes. Polyoxymethylene is the material used in the more preferred embodiment. In another embodiment, the material fabricating the body (110) can be plastic composite is made of fiber reinforced polymer. Likewise, the fiber reinforced polymer employs thermoplastic material as the continuous phase having the fibers evenly dispersed within its matrix. Presence of the fiber enhances mechanical properties of the produced composite body (110). Preferably, the fibers are plant fibrous fiber, carbon fiber, glass fiber or even steel fiber. The weight ratio of polymer to fiber is around 75-99: 1-25. As shown in figure 1 and 2, the plastic or plastic composite body (110) of the present invention can be prepared in at least two different forms. Referring to figure 1, the plastic or plastic composite body (110) is produced in a single piece through a single mold under injection molding process. In contrast, the embodiment illustrated in figure 2 is a plastic or plastic composite body (110) composed of, but not limited to, two different layers. Particularly, such embodiment of multi-layer construct can be acquired through multiple injection molding processes. For example, the process initially arranges the weight (140) and the rod (130) within a first mold followed by injecting the plastic polymeric material into the first mold and ejecting the hardened first piece or first layer (120). The first piece (120) is then transferred to a relatively larger mold and subjected to similar injection as well as ejection process to finally produce the plastic or plastic composite body (110) shown in figure 2.

To impart aesthetic effect to the produced gasing top (100), the external surface of the plastic or plastic composite body (110) maybe coated with a layer of paint. Preferably, the paint mimics the pattern and color of the wood surface. Apart from paint, similar object can be attained by adhering printed material onto the external surface as well.

It is important to be noted that the weight of the gasing top (100) of the present invention is 600g to 800g in total weight in order to meet the requirement set forth for the game. Depending on the plastic or plastic composite material used for fabrication of the plastic or plastic composite body (110), the additional weight may have to be added into the plastic or plastic composite body (110) to attain the above mentioned weight range considering that the plastic polymer material used is likely to weight lighter than actual wood. As illustrated in figure 1 and 2, the weight (140) can be positioned at the center of gravity of the gasing top (100) produced. Placing the weight (140) at the center of gravity of the gasing top (100) ensures the desired weight (140) can be achieved while performance of the gasing top (100) is not affected. There is other ways to position the weight (140) in the plastic or plastic composite body (110) as long the spinning of the gasing top (100) is stabilized and not negatively impacted. For example, the weight (140) may be prepared into equally similar small pieces and distributed at the flange of the plastic or plastic composite body (110) evenly around the center of gravity therefore providing the needed weight to the gasing top (100) without affecting the spinning quality of the gasing top (100) much. In the embodiment shown in figure 1 and 2, the weight (140) is a circular piece and preferably made of metal. According to the preferred embodiment, the metal is ferrous, nickel, copper or lead which is relatively cheaper and heavier than other metals.

Referring to figure 1 and 2, the spinning tip of the gasing top (100) derives from the metal rod (130) projecting out from the plastic or plastic composite body (110) through the vertex base. Essentially, the rod (130) is positioned to align with spinning axis of the gasing top (100). The rod (130) can be prod (130)uced from metal types similar to the weight (140). Shown in figure 1 and 2, the weight (140) is located on top (100) of the metal rod (130) and the metal rod (130) is projected out from the metal weight (140). Preferably, the rod (130) and weight (140) are single integral piece in these embodiments. Nonetheless, the weight (140) and rod (130) can be entrapped within the plastic or plastic composite body (110) as separated pieces in other embodiments.

It is to be understood that the present invention may be embodied in other specific forms and is not limited to the sole embodiment described above. However modification and equivalents of the disclosed concepts such as those which readily occur to one skilled in the art are intended to be included within the scope of the claims which are appended thereto.

Claims

1. A gasing top (100) comprising
a plastic or plastic composite body (110);
a metal rod (130) positioned within the body (110) and extending along the central axis (200) of the body (110) towards the bottom forming a sharp tip (132), which is located outside the body (110) to serve as a spinning tip; and
a weight (140) located within the body (110) being arranged in such a way to stabilize spinning of the gasing top (100).

2. A gasing top (100) of claim 1, wherein the weight (140) is made of metal.

3. A gasing top (100) of claim 1 or 2 is 600g to 800g in total weight.

4. A gasing top (100) of claim 2, wherein the metal is ferrous, nickel, copper or lead.

5. A gasing top (100) of claim 1, wherein the plastic is polyoxymethylene.

6. A gasing top (100) of claim 1, wherein the plastic composite body (110) is made of fiber reinforced polymer.

7. A gasing top (100) of claim 6, wherein the polymer is thermoplastic polymer.

8. A gasing top (100) of claim 6, wherein the fiber is plant fibers.

9. A gasing top (100) of claim 1, wherein the weight (140) is located on top of the metal rod (130) and the metal rod (130) is projected out from the metal weight (140).

10. A gasing top (100) of claim 1, wherein the plastic or plastic composite body (110) is produced by injection molding.