SECTIONAL CREATIVE TOY

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ABSTRACT
The specification discloses a creative toy of light-weight, durable material, such as a low-density polyethylene and plastic composition, which is made up of a plurality of interlocking arcuate sections capable of assembly in a variety of different ways to provide different life-size toys for juveniles, such as a hoop, slide or chair. Each section of the toy comprises a body portion of hollow, thin-walled and substantially rectangular cross-section having a protruding V-shaped tongue at one end and at the opposite end a recess of complementary and interlocking configuration to the tongue. The outer and inner walls of the body portion are curved inwardly and the side walls have shallow cups recessively molded therein for decoration and reinforcement purposes.

6 Claims, 12 Drawing Figures
SECTIONAL CREATIVE TOY

This invention relates to a sectionalized toy having a plurality of interlocking elements capable of assembly in a plurality of ways to provide different toy configurations, such as a hoop, a children's slide, or a lounging chair.

Sectional toys, such as building blocks, having interlocking elements for assembly into various constructional configurations are well known. Typical of such toys is that disclosed in U.S. Pat. No. 2,031,194, issued Feb. 18, 1936, in which interlocking blocks may be assembled alternatively to form a straight or a curved track section for a toy train.

It has also been proposed to provide an amusement device, especially for children, comprising a sectionalized sphere or ball of two ventilated hemi-spherical sections sufficiently large when assembled to hold a child in a quasi-embryonic position. Such an amusement device is disclosed in U.S. Pat. No. 3,083,979, issued Apr. 2, 1963.

In contrast to the sectionalized toys typified by the aforesaid patents, I propose to provide a sectionalized toy having interlocking sections capable of assembly into a plurality of different configurations, each of which may be utilized by children as an amusement device.

More particularly, I propose to provide a sectionalized toy of light-weight durable material, such as a low-density polyethylene and plastic composition, molded into a plurality of identical arcuate sections of hollow substantially rectangular cross-section, the opposite ends of each section terminating in complementary tongue and recess contour whereby a plurality of sections may be interlocking arranged into different constructional configurations utilizable individually as a child's amusement device. Moreover, due to mechanical stresses imposed on the interlocking tongue and recess portions under use while assembled in the various configurations, the tongue and complementary recess provided on each section are specifically designed so as to tend to tighten the connection therebetween under stress and thus prevent separation of the sections and, at the same time, insure adequate mechanical strength to prevent splitting or fracture of the material in the section under conditions of normal juvenile use.

The invention is more fully described hereinafter in connection with the accompanying drawings, wherein:

FIG. 1 is a perspective view, showing a sectionalized toy in the form of a hoop and embodying the invention,

FIG. 2 is an exploded view, showing the several sections making up the hoop in FIG. 1,

FIG. 3 is a profile view, showing further details of the hoop of FIG. 1,

FIG. 4 is a plan view, showing one side of an individual section,

FIG. 5 is a plan view, showing the side of the individual section opposite to that in FIG. 4,

FIG. 6 is a sectional view of the hoop, taken on line VI—VI of FIG. 3,

FIG. 7 is a sectional view through an individual section taken on the line VII—VII of FIG. 6,

FIG. 8 is a sectional view through an individual section, taken on the line VIII—VIII of FIG. 6,

FIG. 9 is a perspective view, showing an assembly of sections, utilizable as a juvenile see-saw,

FIG. 10 is a perspective view, showing an assembly of sections, utilizable as a juvenile slide,

FIG. 11 is a perspective view, showing a different assembly of sections, also utilizable as a juvenile slide, and

FIG. 12 is a perspective view, showing a further assembly of sections, utilizable as a juvenile lounging chair.

Referring to FIGS. 1 through 8 of the drawings, the embodiment of the invention shown, comprises a plurality of individual and identical arcuate sections 10, illustratively shown as three in number though the number may vary as desired. The sections are preferably molded of light-weight durable material, such as low-density polyethylene and plastic composition which is characterized by non-brittleness and plastic memory. The term "plastic memory" refers to the ability to return to original contour when stressed out of that contour. As will be seen in FIGS. 7 and 8, each individual section 10 is of hollow substantially rectangular cross-section, the walls being relatively thin and of the order of one-eighth to one-fourth inch thick. The inside and outside cylindrical walls, identified in FIGS. 7 and 8 by reference numerals 11 and 12 respectively are transversely arcuate in contour, being of greater or lesser diameter at the midpoint than at the outside edges thereof. This curvature in the cylindrical walls of the sections 10 provides the necessary trough to assist a child in centering his body on the sections in the various configurations of the toy hereinafter more fully described. In the hoop form shown in FIG. 1, the inside diameter of the hoop is sufficiently large to enable a child to sit comfortably inside the hoop.

As may be seen in the drawings, the side walls of the sections 10 are provided with a series of arcuately spaced recesses 13, some of which are illustrated as circular in form and some as rectangular or rounder form. The walls of the recesses are in the form of shallow cups 14 and serve to provide additional strength and rigidity to the side walls of the sections without increasing the thickness of the material in the side walls.

As will be noted in FIG. 2, each section 10 comprises a body portion formed at one end with a protruding tongue 15 and at the opposite end with a complementary recess 16. The specific contour of the tongue and recess is such as to positively lock two sections together when the tongue of one section is transversely inserted into the recess of another section. The tongue fits the recess with a snug fit which enables connection and separation of the sections with minimal physical effort and yet frictionally prevents accidental lateral separation while in use.

Essentially, the tongue 15 has an enlarged end portion which is transversely tubular and substantially V-shaped in cross-section and which is joined to the end wall of the body portion of the section 10 by a neck 17 which is tubular and rectangular in cross-section. Neck 17 tapers toward the longitudinal axis of the tongue in the direction of the enlarged end portion. It should be particularly noted that the wall connection between the neck and the enlarged end portion of tongue 15 has an outer surface that extends outwardly from the axis of the tongue and at the same time reversely toward the body portion of the section, thus forming a pair of transversely extending lobes 18 at the juncture with the inner extremities of the V-shaped outer surface of the tongue. The lobes 18 are especially important in pro-
viding the interlocking with the complementary recess 16 as will presently become more apparent.

Being complementary to the contour of tongue 15, the recess 16 is necessarily a V-shaped tubular recess with inwardly projecting transverse lobes 19 on each side of a slot 20 opening to the end face of the section. Thus it will be seen that the lobes 18 on the tongue 15 contact the inner face of the lobes 19 to positively lock the tongued end of a section 10 against separation from the recessed end of a section 10. It should be noted that the pressure of the lobes 18 against the lobes 19 under stress actually tends to tighten the connection between coupled sections 10.

Referring to the embodiment of the invention shown in FIG. 1, it should now be apparent that when the several sections 10 are assembled, the resulting hoop provides one form of amusement device for a child who can curl up inside the interior of the hoop and rock back and forth or even roll linearly in somersaulting fashion. The transversely curved cylindrical inner wall of the sections 10 enables the child to remain within the hoop without sliding out laterally.

The versatility of the invention is manifested by the illustrative variations of configurations shown in FIGS. 9, 10, 11 and 12. In the configuration of FIG. 9, the central section 10 rests on the ground while the end sections are elevated above the ground. Thus two children may sit on opposite ends and the device becomes an excellent see-saw.

In the configuration of FIG. 10, the outer ends of the end sections 10 rest on the ground while the central section is elevated. The device thus is utilizable as a child's slide in opposite directions from the center. In this instance, the transversely curved cylindrical contour of the sections serves as a slide trough.

In FIGS. 11 and 12 the same configuration of sections 10 is shown but the assemblies are oriented oppositely. Thus in FIG. 11, the ends of opposite end sections 10 rest on the ground and the assembly becomes a child's slide. In FIG. 12, however, the end of one end section 10 and the central area of the middle section 10 rest on the ground and the assembly becomes a child's lounging chair. It will accordingly be apparent that I have provided a versatile toy which enables a child to exercise creative instincts in assembling the individual sections in a variety of different ways to obtain correspondingly different instruments of enjoyment. Moreover, the construction of the sections and particularly the interlocking tongue and recess design is such as to provide a serviceable and durable product capable of withstanding all reasonable normal use to which a child would put it with some considerable factor of safety. In the event of temporary overstressing of the section, and particularly the interlocking tongue and recess portions, the composition of the polyethylene and plastic combination is such that the lobes 18 and 19 will yield slightly and the plastic memory of the material causes a return of the lobes to original contour.

While I have disclosed specific embodiments of the invention and the manner in which they may be employed, it will be apparent that variations in construction and use made be had within the scope of the appended claims.

What I claim is:
1. A sectional member for a multi-member sectional toy apparatus, comprising a body portion having top and bottom walls, side walls and end walls, the body portion being curved on a substantially uniform radius of curvature along its longitudinal axis extending between the end walls with the top wall having a greater radius of curvature than the bottom wall and with the end walls being substantially perpendicular to the top, bottom and side walls, a transverse cross-section of said body portion having substantially parallel side walls and curved top and bottom walls, a tongue extending transversely across the center of one end wall from side wall to side wall, said tongue having a head and neck portion, the head portion being formed by a substantially flat top and bottom head wall converging outwardly to join at their forward edges to form the forward edge of the tongue head portion, the neck portion being formed by a substantially flat top and bottom neck wall outwardly converging from said end wall, and reversely curved walls each respectively joining the rear edge of a head wall to the forward edge of a neck wall, the opposite end wall of said body portion terminating in an open recess in said body portion conforming in contour to the outer contour of said tongue, whereby two sectional members may be interlockingly joined in end-to-end relation by inserting the tongue of one member laterally into the recess of another member.
2. A sectional member for a multi-member sectional toy apparatus according to claim 1, wherein the said body portion is of hollow construction, the walls of said body portion being of relatively thin construction in the range of one-eighth to one-fourth inch thickness.
3. A sectional member for a multi-member sectional toy apparatus according to claim 2, wherein the side walls of the body portion have integrally formed therein a plurality of arcately spaced inwardly extending shallow cups that furnish reinforcement and substantial rigidity to said side walls.
4. A sectional member for a multi-member sectional toy apparatus according to claim 1, wherein the top and bottom walls of the body portion are curved inwardly toward each other.
5. A sectional member for a multi-member sectional toy apparatus according to claim 1, wherein the walls of said body portion are of thin construction molded of light-weight material.
6. A sectional member for a multi-member sectional toy apparatus according to claim 1, wherein the walls of said body portions are of thin construction and molded of a low density polyethylene and plastic material having plastic memory.