RING ACCESSORY FOR AN EDUCATIONAL DEVICE

Inventor: Andrew M. Abrams, Scarborough, N.Y.

Assignee: Union Camp Corporation, Wayne, N.J.

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ABSTRACT

An accessory for an educational device in the form of logs which can be stacked and formed into various configurations allowing students to learn to interpret and solve mechanical problems as well as improve muscle control and coordination. The accessory is in the form of a ring and is adapted to interconnect with or support the logs to permit movement of the stacked logs and also to serve as an ornament for certain configurations of logs, all of which expands the scope of activity of the device. Such accessory can also serve as a support to permit movement of other structures.

1 Claim, 4 Drawing Figures
RING ACCESSORY FOR AN EDUCATIONAL DEVICE

BACKGROUND OF THE INVENTION

Various prior art patents (U.S. Pat. Nos. 2,710,488; 2,712,199; and 2,693,663 as examples) disclose toy building blocks in the form of logs, but none show the particular shapes of the logs of the present invention which permit stacking into various configurations, the ring accessory, or the means to affix to such logs or other structure the ring type accessory hereinafter described. Such logs afford a versatility not found in the prior art blocks.

SUMMARY OF THE INVENTION

It is an object of the invention to provide an educational device in the form of a hub and ring accessory for logs to allow students to learn to interpret and solve mechanical problems and to improve muscle control and coordination.

It is a further object to provide logs which are so shaped and designed that the logs can be combined with a ring type accessory to form additional structures not possible with the logs alone and to permit movement of such structures.

It is a further object to provide a ring accessory which can be slipped onto the hub of a log or beam to serve as a moveable support for a structure.

It is a further object to provide an educational device of the form described which is sturdy, practical, attractive and versatile.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages will become apparent from the following description which is to be taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a side elevation of one of the logs of the present invention showing its construction and one way it can be interfitted with a second log;

FIG. 2 is a top plan view of the log of FIG. 1 showing a second log stacked on top of the first in another way and a cylindrical connector fitted over the ball on the end of the second log;

FIG. 3 is a sectional view of a cylindrical connector fitted over the balls on the ends of two logs to form swivel type joints;

FIG. 4 is a cross sectional view along the line 4—4 of FIG. 2 showing a ring accessory engaging the ball on the end of a log:

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring more particularly to the drawings there is shown in FIG. 1 the log 10 of the present invention. Such logs may be made of any suitable material such as wood, metal, plastic or the like, but it has been found preferable to make them of one of the strong durable plastics which can be formed into a hollow structure which is light weight and strong. By using a structure of that type the logs can be made in large sizes without making them too heavy for children to handle and stack.

The log 10 is in the form of a beam substantially square in cross-section and having substantially four faces 11, 12, 13 and 14. Each face has one or more symmetrical primary depressions 15 equally spaced from each other, the spacing between two primary depressions being substantially equal to the length of a primary depression. The primary depressions on two opposite faces of the beam are positioned directly opposite each other. The depth of each primary depression below the face is substantially one-fourth the distance between opposite faces. Stated in another manner the distance from the base of the primary depression to the center of the beam is substantially equal to one-half the distance from the face of the beam to the center of the beam. When the logs are put together at right angles to each other, such primary depressions mate each other at a common square interface (FIG. 2).

Interposed between the primary depressions on each face are matching secondary depressions 16 in the central area of the face, such secondary depressions having a depth below the face less than the depth of the primary depressions. Such secondary depressions mate with each other at a common square interface (FIG. 1).

The ends of the beam are formed into balls 17 which serve as swivel joints for a cylindrical connector 18 (FIG. 3) or as hubs for rings 19 (FIGS. 2 and 4). A shoulder 20 at the connection of the ball to the beam provides a rigid joint for the cylindrical connector 18 (FIG. 2). The ball 17 at the end of the beam has a pair of slots 21 running around the ball and equally spaced from each other throughout their circumferences. The ring 19 has a pair of ridges 22 running around the inside of the ring and equally spaced from each other throughout their circumferences. The ridges 22 mate with the slots 21 so that the ridges will track in the slots.

However, the circumferences of the ridges are slightly larger than the circumferences of the slots so that the wheel can be easily slipped over the ball 17 until the ridges 22 slip into the slots 21. If the ring is to provide movement to the stacked structure of logs, the slots 21 will make contact with and press against the ridges 22 at the bottom of the ball, as shown in FIG. 4. However, if the ring is serving some ornamental purpose, the ridges 22 will make contact with and press against the ridges 23 at the top of the ball. It will be understood that the balls at the ends of the beam can be in the form of cylinders or other types of hubs with the same type of slots to receive the ridges of the wheels. Although a single slot in the hub and mating single ridge in the ring will operate, it has been found that two or more slots and ridges will give better tracking and stability.

Although the ring accessory was designed for use with the logs heretofore described, it will be understood that such ring and hub can be used at the ends of a beam to serve as a wheel support for various types of structures.

Thus among others, the several aforesaid objects and advantages are most effectively attained. Although a somewhat preferred embodiment of the invention has been disclosed and described in detail herein, it should be understood that this invention is in no sense limited thereby and its scope is to be determined by that of the appended claims.

Having thus described the invention, what is claimed is:

1. An educational device comprising:
a beam which serves as an axle and is adapted to support a structure;
a round hub at each end of said beam having a slot running around the circumference of the hub;
a ring serving as a wheel which has an inner aperture larger than said hub and fits freely over said hub;
said ring having a first ridge on its inside diameter which is larger than the outside diameter of the hub so that said first ridge engages said slot whereby the ring will be retained and be rotatable on the hub;
said hub having a second slot spaced from and parallel to said first slot; and
a second ridge spaced from said first ridge on its inside diameter so that said second ridge engages said second slot which aids in aligning the retained ring about said hub and permitting the removal of said ring from said hub.

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