RIDABLE BOUNCING BALL RECREATIONAL DEVICES

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3 Claims

ABSTRACT OF THE DISCLOSURE

The recreational device is a resilient ball surrounded by a handle. The device is intended to be used by a person rolling on the ball with the handle projecting upwardly between his/her legs and with the handle being gripped by both hands, whereupon the person can bounce along on the ball. The preferred embodiment of the device is inflatable. The device may be moulded on a rotating moulding machine wherein there are several stations for the complete operation. Multiple moulds are used so that several devices may be moulded at each operation.

This invention relates to a recreation device.

The present invention consists in a recreational device which includes a body which either is inherently resilient or can be rendered resilient and a flexible handle, said body being on the ball with the handle projecting upwardly between his/her legs and with the handle being gripped by both hands, whereupon the person can bounce along on the ball. The preferred embodiment of the device is inflatable. The device may be moulded on a rotating moulding machine wherein there are several stations for the complete operation. Multiple moulds are used so that several devices may be moulded at each operation.

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relevant mould parts and awaits the end of the moulding cycle.

When the cycle-timing equipment indicates that the newly charged spherical moulds can be repositioned to initiate the curing part of the cycle, the operator actuates the appropriate machine controls to cause the three-armed members to rotate about the first-mentioned axis of rotation. Such rotation causes, simultaneously, (a) the set of six newly charged moulds to move into the "oven" where the plastics material is cured, (b) the set of six moulds which were in the "oven" to move to a location in which the moulds can cool to a temperature which will enable the operator to handle the movable or removable parts of said moulds, and (c) the set of six moulds which were at said cooling location to move to the location which was previously occupied by said newly charged moulds.

When the cycle-timing equipment indicates that the curing of the plastics material in the so-called newly charged set of moulds is completed, the said machine controls are again operated to move said moulds to the cooling location and, subsequently, after a short interval of time said moulds are again moved to the location at which the moulded recreational devices can be removed from the cooled moulds which are then recharged. It will be appreciated, therefore, that each of the three sets of six moulds is emptied and recharged, moved into the "oven," moved to the cooling location and finally emptied and recharged again in an endless series of sequential steps throughout the operator's shift.

In one cycle of operation, which is given purely by way of example, the curing time is ten minutes, at 470 degrees Fahrenheit (243% degrees centigrade) with as great an accuracy as is possible because variation by as little as 5 degrees Fahrenheit above or below the optimum temperature may result in the moulded recreational device being rejected or failing during use by the ultimate purchaser. The design of the handle of the recreational device in the form of the long-prong-like or antennae-like elements 3, 4 has enabled us to overcome a serious problem which was encountered with earlier designs of said recreational device. Said earlier designs included handles of a closed figure (for example, handles which were circular in a side elevation comparable with the side elevation illustrated in FIG. 5 of the accompanying drawings, or which were substantially an inverted triangle with a vertical piece connecting the base and the vertex of the triangle and so on) which made a handle which was easy to grip and which could not slip out of the grasp of gripping hands since the two grippable parts of the handle were connected to one another by another part which was formed simultaneously with the said two grippable parts. In order to make such a recreational device the spherical mould had to be in four parts of which two concerned the body of the device and two concerned the handle. The effect of the heat applied in the "oven" was particularly severe in the handle region because, since the joint of the two parts of the mould which concerned the handle became worn in time even if perfect when the mould was new, the heat scorched the handle along a part of the joint, this scorched area being much more severe at the handle than at the body of the ball because of the dimensions of the grippable parts of the handle were such as enabled that scorched to affect substantially the whole of the handle. With the handle illustrated in FIG. 1, the two prong-like or antennae-like elements 3, 4 and the conjointly approximately hemispherical portion of the recreational device are formed in one and against that mould part which is mounted on the circular frame and the remaining approximately hemispherical portion of said device is formed in or against the movable or removable mould part. Thus, any scorching to which the device, as a whole may be subjected is limited to the equatorial zone at which said scorching and the consequent thereof are not so serious as they were when said scorching affected the handle which is obviously subjected to considerable and repeated flexion.

It will be appreciated that the method of manufacture using a rotational moulding machine is one in which the radially inner surface of the spherical mould becomes evenly coated with the polyvinyl chloride material mentioned above during the simultaneous rotation of the beam concerned about the second-mentioned axis of rotation and the rotation of each circular frame about its axis of rotation which is normal to said second-mentioned axis of rotation. The wall-thickness of the finished product is such that each recreational device weighs between 2/5 to 4 pounds (approximately 1 to 1.8 kilograms) or somewhat of that order, one preferred weight being about 2 1/2 pounds, the circumference of the recreational device, when inflated, at the equatorial zone thereof, being 61 inches (155 centimetres).

It is preferred to apply the bar 5 or a bar 10 (FIG. 4) or some equivalent means to the free ends of the elements 3, 4 as soon as possible after extraction of the moulded recreational device from the spherical mould if the device is to be used with the handle illustrated in FIG. 5. It might be desirable, however, to market the device in the form illustrated in FIG. 1, the box or other packaging containing the ancillary bar 5 or 10 or the other equivalent means, the user being free to choose whether to use said device either without the applied bar or with it.

The rotational moulding machine described above is only one embodiment of which, of certain features may be varied; for example, the moulds may be of aluminum or stainless steel, the number of moulds can be different from six and so on.

Similarly, the curing time of ten minutes and the critical curing temperature of 470 degrees Fahrenheit which is associated with that curing time may be varied to give different rates of production of recreational devices; if the curing time is reduced, the curing temperature must be appropriately increased.

What we claim as our invention and desire to secure by Letters Patent of the United States is:

1. A recreational device adapted to be used by a person sitting astride the device and causing the device to bounce along a surface through the action of their legs and feet comprising a resilient body having a substantially spherical shape, means about the equatorial portion of the body to provide a gripping surface for the legs of the user, a handle integral with the body and extending outwardly therefrom on a vertical axis thereof, the handle comprising two prong-like members extending outwardly from the body and means extending across the outer ends of the prong-like members and being substantially near the outer ends thereof to form an enclosed area between the prong-like members for reception of the hands of the user of the device to grasp the handle and the means preventing the hands from slipping off of the prong-like members.

2. A device as set forth in claim 1 wherein the means extending across the outer ends of the prong-like members is a bar engaging the ends of the prong-like members and is held thereon and fitted thereto.

3. A device as set forth in claim 1, wherein the device is hollow and is inflatable, and valve means mounted
in the connection between the handle and the body and within the base of the prong-like members.

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