A hockey puck comprising a resilient material having each of a first predetermined configuration and a first predetermined thickness and having a centrally disposed opening therein. The centrally disposed opening has a predetermined diameter. A first disk has a second predetermined configuration, a second predetermined thickness and a predetermined coefficient of friction. A portion of the first disk is engageable with a first side of the resilient material. A second disk has a third predetermined configuration, a third predetermined thickness and a predetermined coefficient of friction. A portion of the second disk is engageable with an opposed second side of the resilient material. The resilient material extends beyond a periphery of the first and second disks a predetermined distance. There are a plurality of projections disposed on the portion of at least one of such first disk and second disk where such first disk and such second disk engage the resilient material for securing the resilient material so as to prevent it from moving. There is a means for securing such first disk to such second disk.
SLIDING DEVICE FOR RECREATIONAL PURPOSES

FIELD OF THE INVENTION

[0001] The present invention relates, in general, to a sliding device, and, more particularly, the present invention relates to a sliding device for recreational purposes that can be used on carpeted surfaces.

BACKGROUND OF THE INVENTION

[0002] There have been a wide variety of sliding devices that have been developed for use on a variety of surfaces. Such sliding device should travel on whatever surface it is on without tumbling, bouncing, or being slowed because of uneven contact with that surface. The most common sliding device is a hockey puck and the most common surface for hockey pucks, obviously is an ice surface. Ice surfaces tend to be free of snags so the bouncing is minimal. Snags if any occur from the skates digging up a portion as the skater stops or veers suddenly. However, most of the snags that occur on hockey surfaces are smoothed over between periods at least in most professional surfaces. But even at the worst these snags are minimal and the puck tends to slide freely without bouncing.

[0003] Other pucks or sliding devices have been developed that have been used on uneven or unsmooth surfaces such as streets and parking lots. Some of these pucks have bristles on the outer surface of the pucks while others have springs disposed between the outer surfaces of the puck to reduce the problem of bouncing or flipping when the puck strikes an imperfection on the surface. However, none of these devices have been designed for use indoors on a carpeted surface.

[0004] Thus, it would be advantageous if there were a sliding device that could be used on relatively flat indoor surfaces such as carpeted floors without bouncing or flipping.

SUMMARY OF THE INVENTION

[0005] In a first aspect the present invention provides a sliding device for recreational purposes. Such sliding device comprises a resilient material having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness, the resilient material having a centrally disposed opening therein. The centrally disposed opening has a predetermined shape. A first disk has a second predetermined configuration and a second predetermined thickness, a portion of the first disk is engageable with a first side of the resilient material. Such first disk is produced from a preselected material having a predetermined coefficient of friction. A second disk has a third predetermined configuration and a third predetermined thickness. A portion of the second disk is engageable with an opposed second side of the resilient material. Such second disk is produced from the same preselected material having a predetermined coefficient of friction and wherein the resilient material extends beyond a periphery of the first disk and the second disk a predetermined distance and wherein the second predetermined thickness and the third predetermined thickness of such first disk and such second disk, respectively, each have a thickness which is at least as thick as one half of the first predetermined thickness of the resilient material. There is a means for securing such first disk to such second disk. The securing means includes a female socket member having a central opening and is centrally secured to and extends outwardly from an inside surface of one of the first disk and the second disk. A male shaft extends outwardly from an opposite one of such first disk and such second disk for engaging the central opening of the female socket member. At least one slot is disposed on a side of the female socket member, the slot extends inwardly toward a base portion of the female socket member for a predetermined distance. At least one projection is disposed on a side of an outer surface of the male shaft, the at least one projection extends outwardly from a base portion of the male shaft for a predetermined distance for engagement with the at least one slot that is disposed on the female socket member.

OBJECTS OF THE INVENTION

[0006] In a second aspect the present invention provides a sliding device for recreational purposes, the sliding device comprises a resilient material having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness, such resilient material having a centrally disposed opening therein, the centrally disposed opening having a predetermined shape. There is a first disk having a second predetermined configuration and a second predetermined thickness, a portion of the first disk is engageable with a first side of the resilient material, such first disk is produced from a preselected material having a predetermined coefficient of friction. A second disk has a third predetermined configuration and a third predetermined thickness, a portion of such second disk is engageable with an opposed second side of the resilient material, such second disk is produced from the preselected material having such predetermined coefficient of friction and wherein the resilient material extends beyond a periphery of the first disk and the second disk for a predetermined distance and wherein the second predetermined thickness and the third predetermined thickness of such first disk and such second disk, respectively, each have a thickness which is at least as thick as one half of the first predetermined thickness of the resilient material. There is a means for securing such first disk to such second disk. The securing means includes a female socket member having a central opening and is centrally secured to and extends outwardly from an inside surface of one of the first disk and the second disk. A male shaft extends outwardly from an opposite one of such first disk and such second disk for engaging the central opening of the female socket member. At least one slot is disposed on a side of the female socket member, the slot extends inwardly toward a base portion of the female socket member for a predetermined distance. At least one projection is disposed on a side of an outer surface of the male shaft, the at least one projection extends outwardly from a base portion of the male shaft for a predetermined distance for engagement with the at least one slot that is disposed on the female socket member.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a plan view of the sliding device for recreational purposes of the present invention according to an embodiment.
FIG. 2 is a side elevation view of the sliding device shown in FIG. 1.

FIG. 3 is an exploded view in side elevation of the sliding device shown in FIGS. 1 and 2 illustrating the parts of the sliding device.

FIG. 4 is a plan view of one of the disks of the sliding device showing the projections on the inner edge portion.

FIG. 5 is a side elevation of the disk which has the female socket shaft showing the slots disposed on the side of the shaft.

BRIEF DESCRIPTION OF THE PRESENTLY PREFERRED AND ALTERNATE EMBODIMENTS OF THE INVENTION

Prior to proceeding with the more detailed description of the present invention it should be noted that, for the sake of clarity, identical components which have identical functions have been designated by identical reference numerals throughout the several views illustrated in the drawings.

In a first aspect as seen in FIGS. 1-5, the present invention provides a sliding device for recreational purposes, generally designated 10, comprising a resilient material 2 having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness. Such resilient material 2 having a centrally disposed opening 4 formed therein. The centrally disposed opening 4 has a predetermined diameter. A first disk 6 has a second predetermined configuration and a second predetermined thickness, a portion of the first disk is engageable with a first side of the resilient material 2. Such first disk 6 is from a preselected material having a predetermined coefficient of friction. A second disk 8 has a third predetermined configuration and a third predetermined thickness. A portion of the second disk 8 is engageable with an opposed second side of the resilient material 2. Such second disk 8 is from the same preselected material having a same predetermined coefficient of friction and wherein the resilient material 2 extends beyond a periphery of the first disk 6 and the second disk 8 for a predetermined distance and wherein the second predetermined thickness and the third predetermined thickness of such first disk 6 and such second disk 8, respectively, each have a thickness which is at least as thick as one half of the first predetermined thickness of the resilient material 2. There are a plurality of projections 12 that are disposed on the portion of at least one of such first disk 6 and such second disk 8 where the portion of such first disk 6 and such second disk 8 engage the resilient material 2. The position of the projections on the inner edge portion 34 are seen more clearly in FIG. 4. These projections 12 secure the resilient material 2 so as to prevent it from moving relative to such first disk 6 and such second disk 8. Further, there is a means, generally designated 20, for securing such first disk 6 to such second disk 8.

Such means 20 for securing the first disk 6 to the second disk 8 includes a central connecting shaft which includes a female socket member 14 having a central opening 16 and being centrally secured to an inside surface of one of the first disk 6 and the second disk 8 and a male shaft 18 which extends outwardly from an opposite one of the first disk 6 and the second disk 8 for engaging the central opening 16 of the female socket member 14. Such female socket member 14 can be disposed on either such first disk 6 or such second disk 8 with such male shaft 18 being disposed on the other disk.

For the purpose of the drawings such female socket member is disposed on the first disk 6 while the male shaft is disposed on the second disk 8.

The male shaft 18 and the female socket member 14 are connected by means of a snap fit. Both the female socket member 14 and the male shaft 18 extend through the centrally disposed opening 4 in resilient material 2. Such female socket member 14 further includes slots 22 disposed on diametrically opposite sides of the female socket member 14. The slots 22 extend inwardly towards a base portion of the female socket member 14 for a predetermined distance. The male shaft 18 further includes projections 24 that are disposed on an outer surface of the male shaft 18 and extend from a base portion of the male shaft 18 for a predetermined distance for engagement with the slots 22 that are disposed on the female socket member 14. The projections 24 on the male shaft 18 that engage the slots 22 on the female socket member 14 provide for a very secure fit for the first disk 6 and the second disk 8.

Such female socket member 14 further includes small projections 42 disposed horizontally on an inner surface of such central opening 16. Also such male shaft member 18 includes small substantially rectangular apertures 44 for engagement with such small projections 42 on the female socket member 14. When the two disks are pushed together the small projections 42 snap into the small substantially rectangular apertures 44 on the male shaft 18 to further ensure that the two disks are secured to each other.

Such resilient material 2 is made of an elastomeric material and the first predetermined configuration is substantially round. Also such second and such third predetermined configurations are substantially identical, with the only difference being that one of the disks has the female socket member 14 while the other disk has the male shaft 18. Such second and third configurations of first disk 6 and the second disk 8 include a substantially flat outer surface 26 with outer edges of the substantially flat outer surface 26 being arcuate 28. Such second and third configurations further include an inner portion of the first disk 6 and the second disk 8 being substantially concave 32.

It is presently preferred that the plurality of projections 12 are disposed on that portion of each of such first disk 6 and such second disk 8 that engages the resilient material 2. The portion of the first disk 6 and the second disk 8 that engages the resilient material 2 is an inner edge portion 34.

It is also presently preferred that the preselected material that is used to form both the first disk 6 and the second disk 8 is selected from a group including polyethylene, polypropylene and polytetrafluoroethylene.

In a second aspect the present invention provides a sliding device 10 for recreational purposes, the sliding device 10 comprises a resilient material 2 having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness, such resilient material having a centrally disposed opening 4 therein, the centrally disposed opening 4 having a predetermined shape. There is a first disk 6 having a second predetermined configuration and a second predetermined thickness, a portion of the first disk 6 is engageable with a first side of the resilient material 2, such first disk 6 is produced from a preselected material having a predetermined coefficient of friction. A second disk 8 has a third predetermined configuration and a third predetermined thickness, a portion of such second disk 8 is engageable with an opposed second side of the resilient material 2, such sec-
ond disk 8 is produced from the preselected material having such predetermined coefficient of friction and wherein the resilient material 2 extends beyond a periphery of the first disk 6 and the second disk 8 for a predetermined distance and wherein the second predetermined thickness and the third predetermined thickness of such first disk 6 and such second disk 8, respectively, each have a thickness which is at least as thick as one half of the first predetermined thickness of the resilient material 2. There is a means 20 for securing such first disk 6 to such second disk 8. The securing means 20 includes a female socket member 14 having a central opening 16 and is centrally secured to and extending outwardly from an inside surface of one of the first disk 6 and the second disk 8. A male shaft 18 extends outwardly from an inside surface of an opposite one of such first disk 6 and such second disk 8 for engaging the central opening 16 of the female socket member 14. A pair of slots 22 are disposed on sides of the female socket member 14, the slots 22 extend inwardly toward a base portion of the female socket member 14 for a predetermined distance. A pair of projections 24 are disposed on sides of an outer surface of the male shaft 18, the pair of projections 24 extend outwardly from a base portion of the male shaft 18 for a predetermined distance for engagement with the pair of slots 22 disposed on the female socket member 14.

Such female socket member 14 further includes small projections 42 on an inner surface of such central opening 16. Also such male shaft member 18 includes small apertures 44 for engagement with such small projections 42 on the female socket member 14. When the two disks are snapped together the small projections 42 fit into the small apertures 44 on the male shaft 18 to further ensure that the two disks are secured to each other.

Thus, the male shaft 18 and the female socket member 14 are connected by means of a snap fit. The female socket member 14 and the male shaft member 18 both have substantially cylindrical shapes. The pair of slots 22 are disposed on diametrically opposed sides of the female socket member 14. The pair of projections 24 are disposed on diametrically opposed sides of the male shaft 18.

All of the discussion has been for the slots 22 on the female socket member 14 and the projections 24 on the male shaft 18 being pairs of each because that is the preferred embodiment. However, it is within the concept of the invention that such slots 22 and such projections 24 be a single slot 22 and a single projection 24 or even four opposed slots 22 and projections 24.

The sliding device further includes a plurality of projections 12 disposed on the portion of at least one of the first disk 6 and the second disk 8 where said portion of the first disk 6 and the second disk 8 engage the resilient material 2 for securing the resilient material 2 so as to prevent it from moving relative to such first disk 6 and such second disk 8.

The second and third configurations of the first disk 6 and the second disk 8 include a substantially flat outer surface 26 with outer edges of the substantially flat outer surface 26 being arcuate 28. Also the predetermined shape of the centrally disposed opening 4 in the resilient material 2 is substantially round.

Such sliding device 10 can be used to play indoor hockey or it can be used in a wide variety of indoor games without having any fear of damaging furniture or other objects since the resilient material is soft enough that the device will not break objects and will also reduce the possibility of injury to any of the participants. Further, such games are designed to be played on carpeted floors.

While a presently preferred embodiment and alternate embodiments of the present invention has been described in detail above, it should be understood that various other adaptations and/or modifications of the invention can be made by those persons who are particularly skilled in the art without departing from either the spirit of the invention or the scope of the appended claims.

1 claim:
1. A sliding device for recreational purposes, said sliding device comprising:
   (a) a resilient material having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness, said resilient material having a centrally disposed opening therein, said centrally disposed opening having a predetermined shape;
   (b) a first disk having a second predetermined configuration and a second predetermined thickness, a portion of said first disk engageable with a first side of said resilient material, said first disk produced from a preselected material having a predetermined coefficient of friction;
   (c) a second disk having a third predetermined configuration and a third predetermined thickness, a portion of said second disk engageable with an opposed second side of said resilient material, said second disk produced from said preselected material having said predetermined coefficient of friction and wherein said resilient material extends beyond a periphery of said first disk and said second disk a predetermined distance and wherein said second predetermined thickness and said third predetermined thickness of said first disk and said second disk, respectively, each have a thickness which is at least as thick as one half of said first predetermined thickness of said resilient material;
   (d) a plurality of projections disposed on said portion of at least one of said first disk and said second disk where said portion of said first disk and said second disk engage said resilient material for securing said resilient material so as to prevent it from moving relative to said first disk and said second disk; and
   (e) a means of securing said first disk to said second disc.
2. The sliding device, according to claim 1, wherein said means for securing said first disk to said second disk includes a central connecting shaft.
3. The sliding device, according to claim 2, wherein said central connecting shaft includes a female socket member having a central opening and centrally secured to an inside surface of one of said first disk and said second disk and a male shaft which extends outwardly from an inside surface of an opposite one of said first disk and said second disk for engaging said central opening of said female socket member.
4. The sliding device, according to claim 3, wherein said male shaft and said female socket member are connected by means of a snap fit.
5. The sliding device, according to claim 3, wherein said female socket member and said male shaft extend through said centrally disposed opening in said resilient material.
6. The sliding device, according to claim 3, wherein said female socket member further includes at least one slot disposed on a side of said female socket member, said at least one slot extends inwardly towards a base portion of said female socket member for a predetermined distance.
7. The sliding device, according to claim 6, wherein said female socket member further includes a pair of slots disposed on diametrically opposite sides of said female socket member, said pair of slots extending inwardly towards a base portion of said female socket member for a predetermined distance.

8. The sliding device, according to claim 6, wherein said male shaft further includes at least one projection disposed on an outer surface of said male shaft, said at least one projection extending inwardly towards a base portion of said male shaft for a predetermined distance for engagement with said at least one slot disposed on said female socket member.

9. The sliding device, according to claim 8, wherein said male shaft further includes a pair of projections disposed on said outer surface of said male shaft extending from a base portion of said male shaft for a predetermined distance for engagement with said pair of slots disposed on said female socket member.

10. The sliding device, according to claim 1, wherein said resilient material is an elastomer.

11. The sliding device, according to claim 1, wherein said first predetermined configuration is substantially round.

12. The sliding device, according to claim 11, wherein said second and said third predetermined configurations are substantially identical.

13. The sliding device, according to claim 12, wherein said second and said third configurations of said first disk and said second disk include a substantially flat outer surface with outer edges of said substantially flat outer surface being arcuate.

14. The sliding device, according to claim 12, wherein said second and said third configurations further include an inner portion of said first disk and said second disk being concave.

15. The sliding device, according to claim 1, wherein said plurality of projections are disposed on said portion of each said first disk and said second disk that engages said resilient material.

16. The sliding device, according to claim 15, wherein said portion of said at least one of said first disk and said second disk that engages said resilient material is an inner edge portion.

17. The sliding device, according to claim 1, wherein said preselected material used to form said first disk and said second disk is selected from a group including polyethylene, polypropylene and polytetrafluoroethylene.

18. The sliding device, according to claim 1, wherein said predetermined shape of said centrally disposed opening in said resilient material is substantially round.

19. A sliding device for recreational purposes, said sliding device comprising:

(a) a resilient material having each of a first predetermined configuration, a first predetermined thickness and a predetermined hardness, said resilient material having a centrally disposed opening therein, said centrally disposed opening having a predetermined shape;

(b) a first disk having a second predetermined configuration and a second predetermined thickness, a portion of said first disk engageable with a first side of said resilient material, said first disk produced from said preselected material having a predetermined coefficient of friction;

(c) a second disk having a third predetermined configuration and a third predetermined thickness, a portion of said second disk engageable with an opposed second side of said resilient material, said second disk produced from said preselected material having said predetermined coefficient of friction and wherein said resilient material extends beyond a periphery of said first disk and said second disk a predetermined distance and wherein said second predetermined thickness and said third predetermined thickness of said first disk and said second disk, respectively, each have a thickness which is at least as thick as one half of said first predetermined thickness of said resilient material; and

(d) a means for securing said first disc to said second disc, said securing means includes:

(i) a female socket member having a central opening and centrally secured to and extending outwardly from an inside surface of one of said first disk and said second disk;

(ii) a male shaft extending outwardly from an inside surface of an opposite one of said first disk and said second disk for engaging said central opening of said female socket member;

(iii) at least one slot disposed on a base of said female socket member, said at least one slot extending inwardly toward a base portion of said female socket member for a predetermined distance; and

(iv) at least one projection disposed on a side of an outer surface of said male shaft, said at least one projection extending outwardly from a base portion of said male shaft for a predetermined distance for engagement with said at least one slot disposed on said female socket member.

21. The sliding device, according to claim 19, wherein said at least one slot is a pair of slots disposed on diametrically opposite sides of said female socket member, said pair of slots extending inwardly towards a base portion of said female socket member for a predetermined distance.

22. The sliding device, according to claim 19, wherein said at least one projection is a pair of projections disposed on said outer surface of said male shaft extending outwardly from a base portion of said male shaft for a predetermined distance for engagement with said pair of slots disposed on said female socket member.

23. The sliding device, according to claim 19, wherein said female shaft member is substantially cylindrical.

24. The sliding device, according to claim 19, wherein said male shaft is substantially cylindrical.

25. The sliding device, according to claim 19, wherein said sliding device further includes a plurality of projections disposed on said portion of at least one of said first disk and said second disk where said portion of said first disk and said second disk engage said resilient material for securing said resilient material so as to prevent it from moving relative to said first disk and said second disk.

26. The sliding device, according to claim 19, wherein said male shaft and said female socket shaft are connected by means of a snap fit.

27. The sliding device, according to claim 19, wherein said second and said third configurations of said first disk and said second disk include a substantially flat outer surface with outer edges of said substantially flat outer surface being arcuate.

28. The sliding device, according to claim 19, wherein said predetermined shape of said centrally disposed opening in said resilient material is substantially round.

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