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(54) **FURNITURE LEG GUARD**

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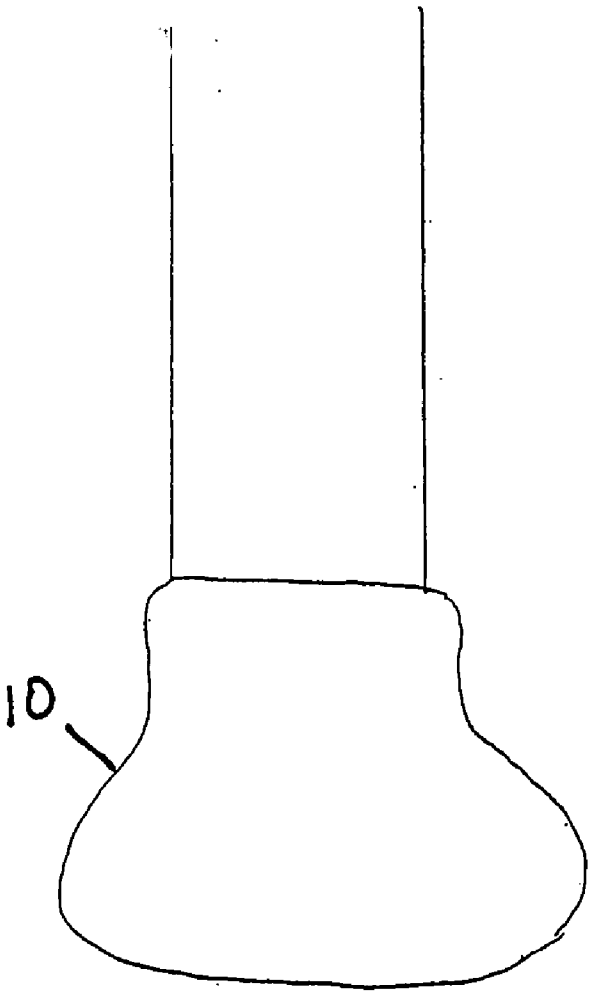
(57) **ABSTRACT**

A floor protector for protecting a floor surface from marring by a future leg is described. The protector has a base portion and a top portion. The base portion has an inner surface and an outer surface. The outer surface includes a floor contact surface that will not mar a floor surface. The outer surface may be con form to the floor surface or to the leg bottom surface. One or more sidewalls extend from the base and there is an opening for receiving a furniture leg. Either the opening or the sidewalls are slightly smaller in cross section than the furniture leg so that the furniture leg is retained in the protector when the leg is lifted.



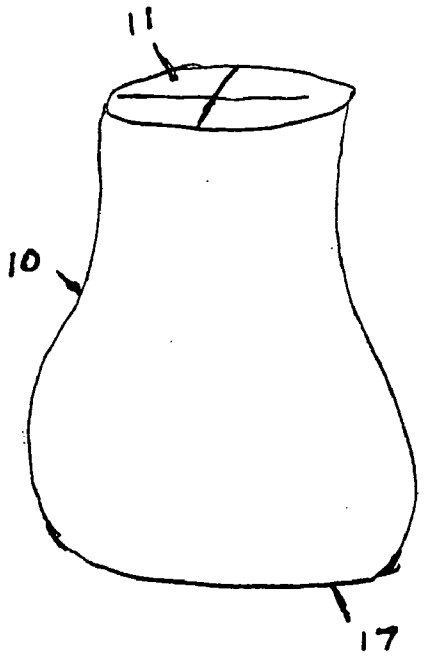


Figure 1

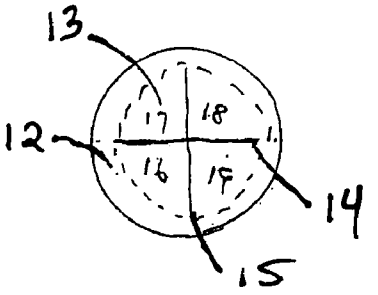


Figure 2

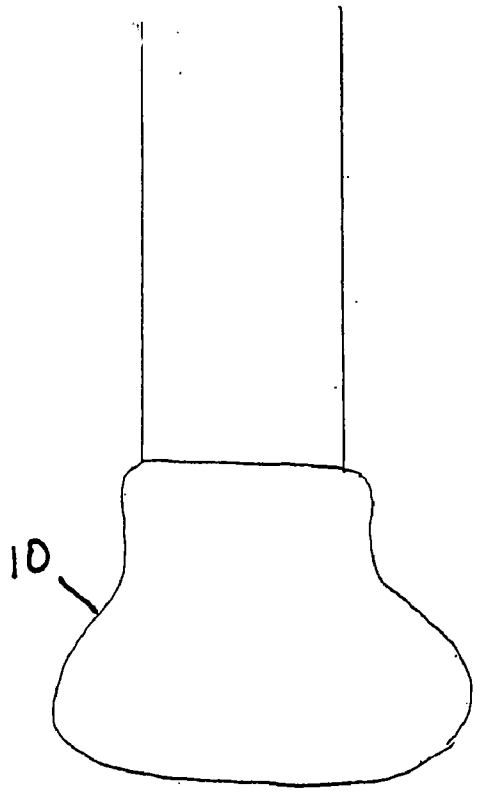


Figure 3

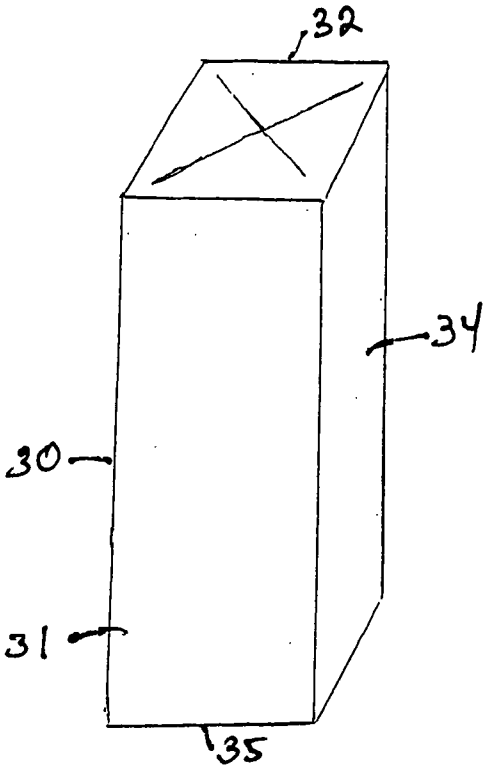


Figure 4

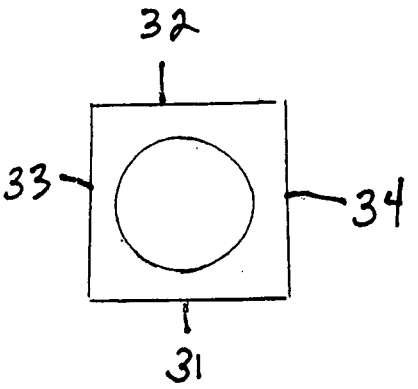


Figure 5

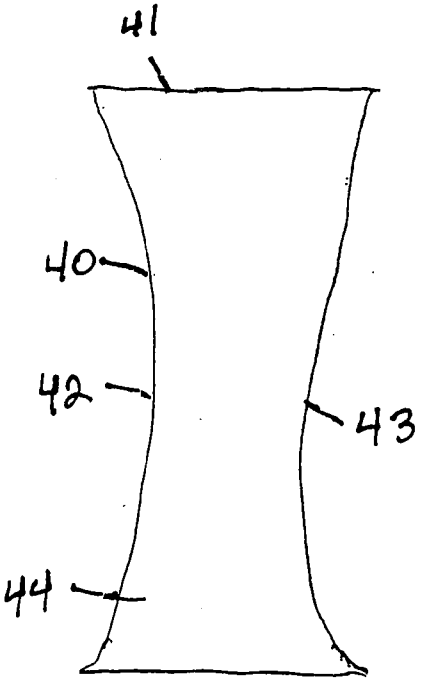


Figure 6

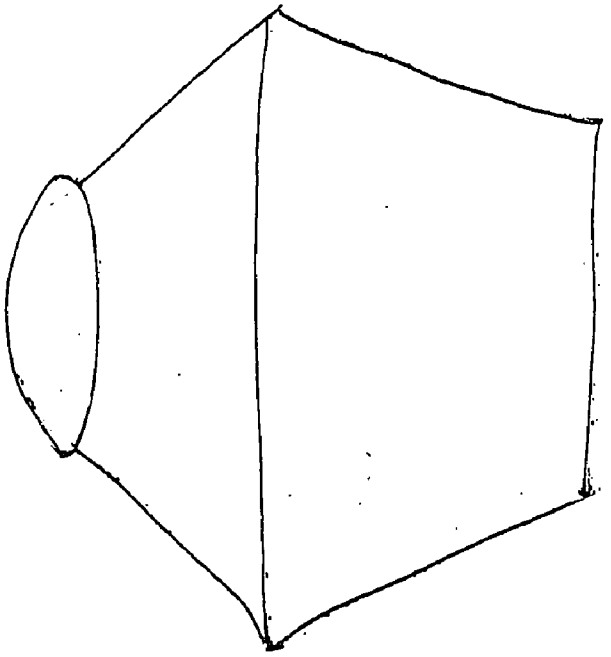


Figure 8

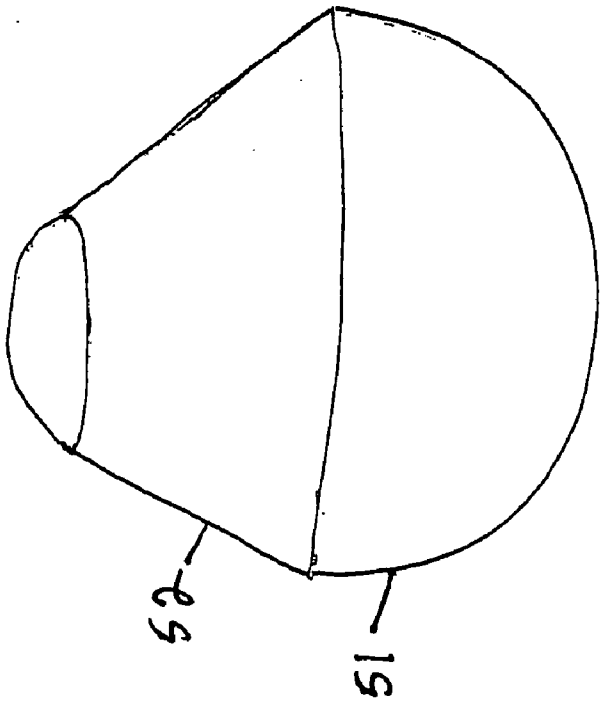


Figure 7

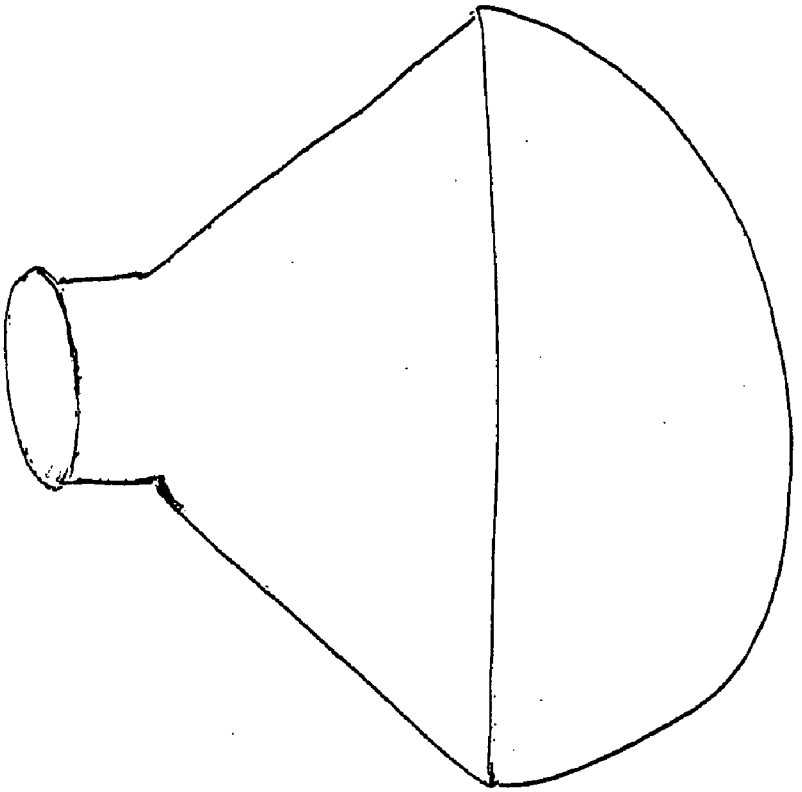


Figure 10

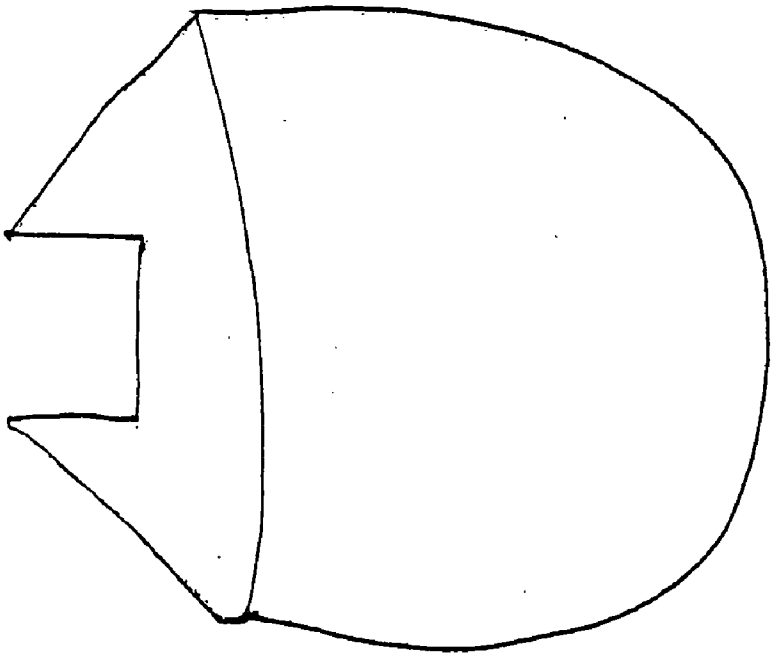


Figure 9

FURNITURE LEG GUARD

[0001] This is a conversion of U.S. Provisional Patent Application Ser. No. 60/602,743 filed Aug. 19, 2004

FIELD OF THE INVENTION

[0002] The present invention relates to protective covers for furniture legs such as table legs, chair legs and the like.

BACKGROUND OF THE INVENTION

[0003] In many of the older schools across the country the flooring in many of the classrooms is frequently asbestos floor tiles. These tiles were once very popular because of their fire retardant properties. Many old schools used wood floors that were highly varnished. Earlier linoleum floors used linseed oil and other comestibles in the manufacture of flooring. Because of concerns about the flammable nature of these types of floors many schools and other public buildings went to asbestos floor tiles years ago. While the asbestos floors had far superior fire retardation properties there have been many concerns about the asbestos in schools and other public buildings. As time has gone on and we have learned more about the health effects of asbestos particles, asbestos floor tiles have not been used in newer construction. However, the removal of the tiles from older schools is expensive and the removal process can create harmful asbestos dust. Thus, although asbestos is known to cause health issues in people who breathe in the fibers, many older buildings have not had to remove all of the asbestos in the building if the asbestos is not sufficiently subject to becoming airborne in day to day use. Thus, many buildings that have asbestos shingles or asbestos floor tiles have not had to undergo expensive remediation to remove these types of asbestos products from areas where the users come into contact with them.

[0004] Although many schools have not had to remove asbestos floor tiles, these schools are not without health and other concerns from the tiles. As the students and teachers sit at their desks, the friction from the continual back and forth movement of the students in their chairs can cause the floor tiles to abrade and dust containing the asbestos can be generated. The chairs used in many schools have metal feet or other rough hard material and the friction of the chair along the floor can wear away the surface of the tile generating dust that will become airborn and subject to being breathed in by the students.

[0005] In addition to the problems with asbestos tiles in schools, there are issues even in schools without these tiles. Even in the schools without the asbestos tiles parents do not want their children breathing in dust generated by rubbing the chairs along the floors. Also, when there is a class of twenty to thirty students the periodic movement of the chairs along the floor can create considerable noise that can distract and annoy the teacher and the other students. The friction of the chair along the floor also increases maintenance costs by requiring more frequent polishing and refinishing of a floor. For many wood floors scratches and gouges have to be sanded out then refinished. Most wood floors have a limited number of sanding before they have to be replaced. Thus, there is a need for protectors that may be applied to chair legs and table legs to prevent abrasion of the floor by the legs of chairs and the like as well as protectors that will prevent unnecessary noise. Most school chairs have metal glides. These glides have a tendency to rust when they get wet from floor cleaning. The rust tends to become impregnated in the floor unless it is periodically removed from the glides.

[0006] In addition to schools, there are many other locations where protectors are needed for furniture on floors. For example, it is not uncommon for many homeowners to have hardwood floors in one or more rooms of the house. These floors are subject to scratches and dents and it is time consuming and pricey to repair and/or refinish these floors. Scratches and dents in the finish of a hardwood floor may require that the floors be spot sanded to remove the scratches and then the area must be refinished with a stain and or a protective covering. Many such floors also have to be completely refinished if more than a few scratches are put into the floor and there is extensive sanding required.

[0007] There are several products that are available to protect floors from damage due to chairs, tables, etc. One common type is a round or square member usually made of plastic or hard rubber that has a top surface and a bottom surface. The bottom surface is relatively flat while the top surface has a recess with a perimeter wall for receiving and retaining a leg of a chair or table. The recess is intended to prevent the leg from sliding off of the protector as the chair or table is moved. These types of protectors are used primarily for tables and other pieces of furniture that do not move except for rare occasions. These types of protectors can protect the floor from vertical stresses caused by for example, the weight of the table or chair. However, their use under a chair is usually problematic as they are not connected to the chair leg in any way, and if the chair is moved, particularly rapidly, they do not usually accompany the chair as it is moved.

[0008] The problem with these types of floor protectors can be alleviated somewhat by another type or protector. These protectors are usually round or square disk shaped members that have a felt or other cloth on one side and an adhesive material on the other side. These protectors can be secured to the underside of the tip a leg and the adhesive is intended to prevent the protector from being removed from the leg during movement of the table or chair. The felt or fabric on the underside of the protector provides a protective surface to prevent scratches to the floor. While these protectors are an improvement over the prior protectors, the problems of the prior protectors are still present. First, the adhesive is usually not strong and the adhesive tends to wear out or lose its potency over time particularly if it is removed from the leg, for example, for repositioning. As a result, the protectors do not remain on the underside of the legs for extended periods of time. In addition, as force is placed on the chair as it is moving, this force tends to cause the pads to slide and become removed from the underside of the chair leg.

[0009] One of the problems with many of the prior art protectors is that their absence from a chair or table leg is frequently not noticed until long after the protector has fallen from the leg, and there can be serious damage to a floor in this period prior to its discovery. Also, the absence of one or more of the prior art protectors can cause the chair or desk to wobble when used. Thus, unless the protectors are promptly replaced, there can be a great deal of annoyance to the user. As a result, there is a need for an improved protector for floors that can be used on table and chair legs and the like. There is a particular need for a protector that will remain on the leg when it is moved by the user.

OBJECTS OF THE INVENTION

[0010] It is an object of the invention to provide an improved protector for chair and table legs and the like.

[0011] It is also an object of the present invention to provide an improved protector that does not become removed from a leg when the leg is moved.

[0012] It is a further object of the invention to provide an improved protector that will prevent abrading of a floor surface.

[0013] It is a further object of the invention to provide an improved protector that will be retained by the leg of a table, chair or the like.

[0014] It is still a further object of the invention to provide an improved protector that will remain on a leg when the leg is lifted.

SUMMARY OF THE INVENTION

[0015] The present invention is directed to an improved floor protector for use on chair legs, table legs and the like. The protector preferably has a body that has a base portion that rests on a flooring surface. The base portion is preferably made from a material that will not scuff or mar the floor surface as the protector is moved across the surface of the floor. Extending from the base portion are one or more sidewalls that extend from the base to an opening which receives the leg. The chair or table leg is inserted into the opening in the protector. The chair or table leg rests on the interior portion or surface of the base. The exterior portion of the base contacts the floor and protects the floor. The protector of the present invention is preferably made from a resilient material so that when the protector is placed over the leg the material is expanded from a resting position and once it is placed on the leg it attempts to retract or revert to its original size thereby providing a snug fit to the leg and preventing the leg from falling off when the leg is raised from the floor or other surface.

[0016] The outside of the protector is preferably provided on an outer surface of the base section with a surface that permits the leg having the protector thereon to readily move across the floor without undue friction. The outside surface of at least the base may be provided with a soft, non-marring material such as felt fabric or cloth surface to prevent scratching of the floor surface. The protector may have any suitable cross section such as round, square, rectangular or other as the case may be for the protector to receive the leg.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. **1** is a side view of a representative embodiment of the protector or leg cover of the present invention.

[0018] FIG. **2** is a top view of the opening of the protector or leg cover of FIG. **1**.

[0019] FIG. **3** is a side view of the protector or leg cover of the present invention positioned on a leg of a chair or table.

[0020] FIG. **4** is a side view of another representative embodiment of the protector or leg cover of the present invention.

[0021] FIG. **5** is a top view of the opening of the protector or leg cover of FIG. **4**.

[0022] FIG. **6** is an alternative embodiment of the protector or leg cover of the present invention.

[0023] FIG. **7** is an alternative embodiment of the protector or leg cover of the present invention having a conical upper surface for receiving a leg.

[0024] FIG. **8** is an alternative embodiment of the protector or leg cover of the present invention having a conical upper surface for receiving a leg and a truncated cone shaped base.

[0025] FIG. **9** is a cross section of an alternative embodiment of the protector or leg cover of the present invention having a recessed upper surface for receiving a leg.

[0026] FIG. **10** is an alternative embodiment of the protector or leg cover of the present invention having a conical upper surface with an extended member for receiving a leg.

DETAILED DESCRIPTION OF THE INVENTION

[0027] As seen in FIG. **1**, there is a protector or leg cover **10** for the leg of a table or a chair. The cover **10** has a base **11** that covers at least the bottom surface of the leg of a table or chair. In a preferred embodiment, there is at least one sidewall **12** extending upwardly from the base and covering at least a portion of the side surface of a leg. The side wall may be generally at a 90° angle to the base or it may have any suitable shape. The protector shown in FIG. **1** has a bulbous shape with a waist portion **13** on the base that is wider than the opening **11** in the protector. The protector cover has an opening **14** for receiving a leg of a chair. The opening may be round or square or other shape as desired. It is preferred that the opening **13** or at least a portion of the side wall be slightly smaller than the largest cross section of the portion of the table leg that will be in the protector. That is, it is preferred that the portion of the table leg that is received by the cover have at least one portion that is larger in cross section than either the opening or a portion of the cover. This will permit a good friction fit for the cover on the leg and will prevent the cover from falling off when the chair or table is moved. The opening **14** may be merely an orifice extending from one side of the cover to the other side of the opening. It may have a lip **15** to facilitate a friction fit with the leg of the table or chair. The lip **15** may be about the inside perimeter of the opening **14**. FIG. **2** shows a continuous lip. It will be appreciated that the lip can be discontinuous, i.e. having a plurality of individual lip members that extend inwardly from the top edge of the opening. Although the figures show the lip **15** at the site of the opening **14**, the lip can be anywhere on the interior surface of the side wall **12**. In another embodiment the opening may be in the form of a sheet of material **16** that extends generally from one side of the cover to the other. The sheet **16** may have an open area or orifice that receives a leg. In one embodiment there may also be one or more slits in a cover thereon that form an opening for receiving the leg of a chair or a table. In FIG. **2** the sheet **16** is shown with two slits, **17** and **18** that generally form an X or a cross in the opening **14**. These slits are pushed inwardly when the leg of a chair or table is inserted into the cover. The tabs **19**, **20**, **21** and **22** are generally triangular portions that are formed by the slits **17** and **18** and they provide an additional surface area. This additional surface area provides a further friction fit so that the cover is not removed or falls off when the chair or table is lifted by the user.

[0028] The sheet **16** may be over the opening **14** as shown in FIG. **2** or it may be extending inwardly from the interior surface of the sidewall **12** and not at the opening **14**.

[0029] As seen in FIGS. **1**, **4** and **6** the article of the present invention can have a variety of different shapes. FIG. **1** shows an article that has a bulbous cross section **13** that typically provides more surface area in its base **11** to contact the floor surface. FIG. **3** shows the article of FIG. **1** with a leg **23** positioned therein.

[0030] The cover of the present invention is preferably made of an elastic material so that the cover can expand slightly as the cover is positioned over a leg and yet provide a snug fit when positioned over the leg **22**. As the leg is positioned in the cover the elastic material expands due to the force of the leg being inserted. As the force of entry is released, the elastic material contracts to its resting position where it snugly holds the cover in position.

[0031] FIG. **4** is an alternative embodiment of a cover **30** of the present invention. In this embodiment there is a front side wall **31**, an opposing rear side wall **32** and two connecting side walls **33** and **34**. Extending from each of the side walls and the connecting walls at the base of the device is a base **35**. The side walls **31-34** are generally at about 90° to each other. Each sidewall has a first end **37** and a second end **38**. The first end **37** has a sheet over the end to form a cover **29**. The second end **38** is connected to the base **35**. The base forms a closed surface and is the area which contacts the floor. The base may be made of the same material as the sidewalls or may be a different material. At least a portion of the base should cover the entire floor contact surface of the leg when the leg of a chair or table is inserted into the cover. If desired, the floor contact surface may be an additional layer of material over the base **35**. When the floor contact layer is another material, it may be desirable to use a material that permits the chair or table to slide easily along the floor. Such materials include a fabric or felt, a teflon or other material that has a low coefficient of friction on typical floors.

[0032] On the end of the cover opposite the base there may be a suitable opening such as is seen in FIGS. **2** and **5**. The opening as seen in FIG. **2** may be merely an orifice extending from one side of the cover to the other side of the opening. It may have a lip to facilitate a friction fit with the leg of the table or chair. In another embodiment the opening may be in the form of a sheet of material that extends generally from one side of the cover to the other. In one embodiment, the base may be generally parallel to the sheet of material. The sheet may have one or more slits **39** and **40** therein that form an opening for receiving the leg of a chair or a table. The slits may be generally form an X or a cross. These slits are pushed inwardly when the leg of a chair or table is inserted into the cover. The tabs formed by the slits provide additional surface area to provide a further friction fit so that the cover is not unnecessarily removed when the chair or table is lifted by the user.

[0033] FIG. **6** shows an alternate embodiment of the leg protector of the present invention. In the leg protector **40** of FIG. **6** there is an opening **41** for receiving a leg. The leg is placed in the protector and the outside surface of the leg contacts the inner portion of side walls **42** and **43** or the sidewalls may be straight or parallel to each other. When the interior portion of the sidewalls contact the chair legs the contact helps prevent the protector from being removed from the leg.

[0034] FIG. **7** shows an alternative embodiment of the present invention. In this embodiment there is a body **51**. In one portion of the body there is a conical portion **52** that extends upwardly from the body. The conical portion is preferably a flexible material. At the end of the conical or pyramidal portion opposite the body there is an orifice **53** for receiving a leg. The orifice is preferably round. In another embodiment, the orifice can have a lip or a sheet material over the opening as shown in FIGS. **2** and **4**.

[0035] FIG. **7** shows a representative example of an alternative embodiment of the present invention. There is a base **51** and a conical upper surface **52** for receiving a leg. The base **51** may be a hemisphere as shown in FIG. **7** or may be other suitable shape. The conical upper surface **52** has an orifice **53** for receiving a leg. The conical upper surface is preferably made from a material that is flexible so that when a leg is inserted into the orifice the conical portion inverts. Once the leg is inserted a slight pull on the leg will return the leg to its generally at rest position. Similar functions are present in FIGS. **8-10** as well.

[0036] FIG. **8** shows a base **60** that has at least one sidewall **61** that is at an obtuse angle to the flat portion **63** of the base. Over the side wall there is an upper member **64** that may be a mirror image of the base or an alternative shape. As shown in FIG. **8**, there is an orifice **65** that is present on the upper member **64**. The upper member has one or more sidewalls **66** that extend from the upper surface **67** of the sidewall **61** to the orifice **65**. The sidewall **66** may be at an obtuse angle to the orifice **65**. The orifice **65** may be just an opening or it may include a lip portion as described above. There may also be a cover section that extends across the orifice as seen in FIGS. **2** and **4**. Slits may be present as well.

[0037] The cover of FIG. **9** has a generally U-shaped base portion **70** with a bottom surface **71** that may be curved or flat. Opposite the bottom surface, the base has an end **72** that contacts the upper member **73**. Upper member **73** may be generally conical and have a bottom edge **74** and a sidewall **75**. There is an orifice **76**. The orifice may extend across the sidewalls. There may be a sheet over the orifice and slits if desired. FIG. **9** shows a neck portion **77** that has a top edge **78**, an inner sidewall **79**. FIG. **9** shows a cross-section of a protector of the present invention. The protector of FIG. **9** can be generally circular when viewed from above.

[0038] FIG. **10** shows another embodiment of the protector of the present invention. This protector **80** has a base portion **81** which is preferably in the form of a hemisphere. There is a conical portion **82** that is positioned on the upper edge of the base portion **81**. The conical portion **82** in the region of its apex has a tubular neck **83** ending in an opening **84**. The opening may have a lip like the lip **15** shown in FIG. **2**. The base portion **81** may have a curved bottom as shown in FIG. **10** or may have a portion that is flat.

What is claimed is:

1. A floor protector for protecting a floor surface from marring by a furniture leg comprising a base portion, said base portion having an inner surface and an outer surface, said outer surface including a floor contact surface that will not mar a floor surface, one or more sidewalls extending from said base and an opening for receiving a furniture leg, either said opening or said sidewalls being slightly smaller in cross section than the furniture leg so that said furniture leg is retained in said protector when said leg is lifted.

2. The floor protector according to claim 1 wherein said opening has a lip, said lip providing a friction fit with said leg.

3. The floor protector according to claim 1 wherein said opening has a sheet material thereon, said sheet material having one or more slits therein.

4. The floor protector according to claim 3 wherein there are two slits that from a cross and a leg that is received by said protector is held in said protector by a friction fit with triangular members by said slits.

5. The protector according to claim 1 wherein said base portion is a hemisphere and said sidewall is a conical member with an opening at the apex of said conical member.

6. The protector according to claim 1 wherein said base portion is a hemisphere and said sidewall is a conical member, said conical member having a tubular portion extending from an end of said conical member opposite said base portion, said tubular member having an opening for receiving a furniture leg.

7. The protector according to claim 6, wherein said opening has a lip extending inwardly from a sidewall of said tubular member, said lip providing a friction fit with said leg.

8. The protector according to claim 6 where said tubular member has a sheet over said opening in said tubular member, said sheet having one or more slits therein.

9. The protector according to claim 1 wherein said base portion is generally U-shaped and circular in cross section, said base portion having a bottom surface and a top edge, said top edge having a conical member thereon, said conical member having an opening for receiving a leg.

10. The protector according to claim 9, wherein said opening has an interior sidewall extending toward said base portion, said interior sidewall providing a friction fit with a leg.

11. The protector according to claim 1 wherein said base is generally rectangular in shape and has four sidewalls extending therefrom, one end of said sidewalls opposite said base having a top member, said member having an opening for receiving a leg.

12. The protector according to claim 11 wherein at least one of said sidewalls has an interior surface and an exterior surface and the exterior surface thereof is generally concave so that a portion of the interior surface of said sidewall contacts a portion of a leg when said leg is inserted in said protector.

* * * * *