Sept. 19, 1967 H. L. BOUWKAMP 3,342,445

PLASTIC FOOT FOR TUBULAR-TYPE CHAIR LEG

Filed Aug. 23, 1965

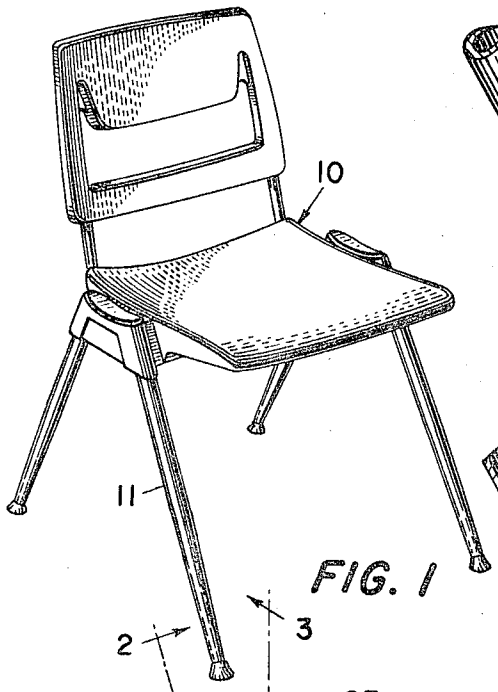


FIG. 1

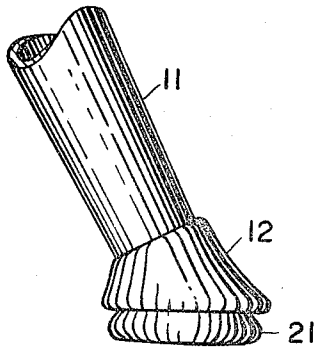


FIG. 2

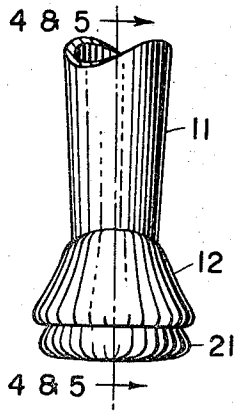


FIG. 3

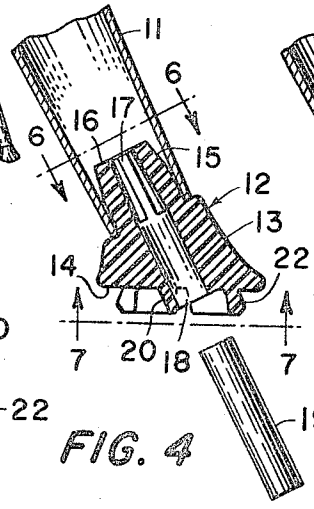


FIG. 4

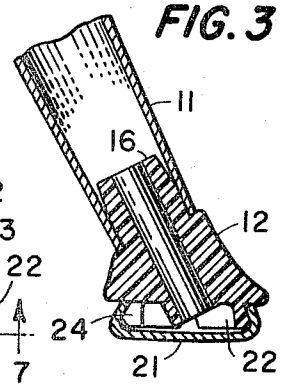


FIG. 5

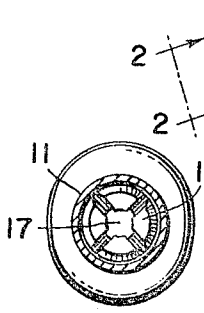


FIG. 6

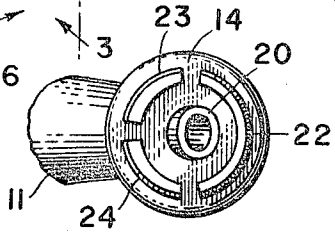


FIG. 7

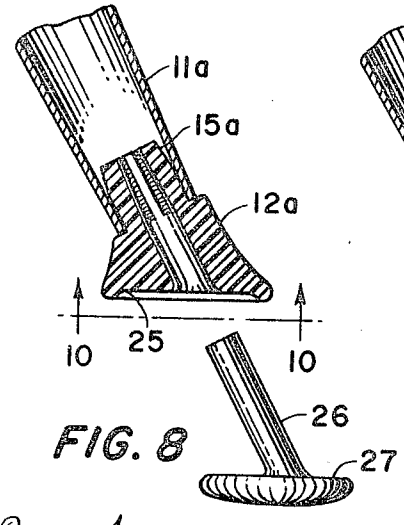


FIG. 8

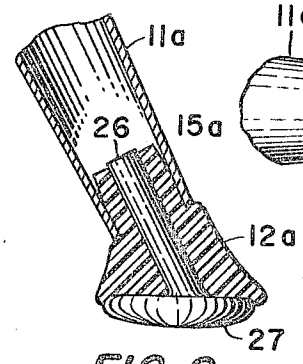


FIG. 9

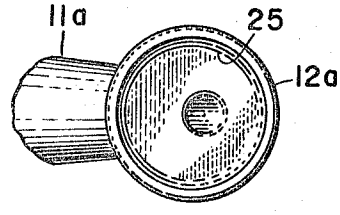


FIG. 10

WITNESS

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PLASTIC FOOT FOR TUBULAR-TYPE CHAIR LEG

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ABSTRACT OF THE DISCLOSURE

An inclined tubular chair leg is provided with a plastic foot having a generally horizontal base and with an upwardly- and rearwardly-inclined attachment neck which is received within the leg tube. The neck is divided to provide expansion segments, the neck having an internal passage which narrows between the segments. The foot has an upwardly- and rearwardly-inclined passage communicating with the narrowed passage between the segments, and an expansion pin of uniform diameter is extended through the passage in the foot and neck segments, expanding the neck segments into gripping contact with the tube. The bottom of the foot is provided with a glider, and the pin has its lower end aligned with the glider or integrally formed with the glider. The pin extends through the body of the foot and the neck portion to reinforce them and the foot is free of vertical compression.

Brief summary of the invention

In combination with a chair having an inclined leg portion, there is provided a plastic foot for receiving the lower end of the leg and supporting it, with the bottom of the foot being generally horizontal for engagement with a glider resting on the floor. A pin of uniform diameter extends through the foot, with the bottom thereof aligned or formed integrally with the glider. The upper portion of the plastic foot is provided with a neck having expansion segments with an internal narrowed passage, and the segments are forced outwardly by the pin into gripping contact with the chair leg. The foot is free of compression except for the area of the neck which is forced outwardly against the tubular wall of the leg. Reinforcement of the plastic body throughout its length is accomplished by the pin which extends outwardly into alignment with the glider and preferably is formed integrally with the glider.

This invention relates to a plastic foot for a tubular-type chair leg, and is particularly useful in providing a sound-dampening base for tubular chairs and the like.

An object of the invention is to provide in combination with the tubular leg of a chair or the like, a plastic foot or base equipped with a glider. A further object is to provide a glider support for the tubular legs of chairs, etc. having new and important properties. A still further object is to provide a tapered or inclined foot member received within the tubular leg of a chair and providing a horizontal mount for a glider wherein the inclined attachment portion under substantial pressure minimizes the noise created by the glidesliding on the floor from being transmitted to the leg and thus magnified in intensity by the metal leg tube. Other specific objects and advantages will appear as the specification proceeds.

The invention is shown, in an illustrative embodiment, by the accompanying drawing, in which—

FIGURE 1 is a perspective view of a chair having its tubular legs equipped with glider supports embodying my invention; FIG. 2, a broken side view in elevation on on enlarged scale of a chair leg equipped with a glider; FIG. 3, a front view in elevation; FIG. 4, a broken vertical sectional view of the chair leg with a pin about to be inserted, the section being taken as indicated at line

4—4 of FIG. 3; FIG. 5, a view similar to FIG. 4 but showing the expansion pin in position; FIG. 6, a top view the view being taken as indicated at line 6—6 of FIG. 4; FIG. 7, a bottom plan view of the plastic foot with the glide shell or button removed; FIG. 8, a view similar to FIG. 4 but showing a modified form of the invention; FIG. 9, a view similar to FIG. 8 but showing the integral glider shell and expansion pin in expanding position; and FIG. 10, a bottom plan view of the foot structure shown in FIG. 8.

In the illustration given in FIGS. 1 to 7, inclusive, **10** designates a chair equipped with tubular legs **11**.

A plastic foot **12** is provided with a tapered skirt **13** terminating in a horizontal base portion **14**. Integrally connected with the skirt portion **13** is a tapered attachment neck portion **15** which is divided to form segments **16**, as shown best in FIG. 6. The tapered neck **15** is received within the lower portion of the tube **11** which normally is tapered downwardly and inwardly, as shown best in FIG. 4. The neck portion **15** has a central passage **17** which is somewhat constricted and which merges at its bottom into an enlarged expansion pin passage **18** within the skirt portion **13** of the plastic foot **12**.

An expansion pin **19** of plastic, metal or other suitable material may be driven into the passageways **18** and **17** to expand the segments **16** into gripping contact with the lower end portion of the chair leg **11**, as shown best in FIG. 5.

The base portion **14** of the plastic foot **12** is provided with a tubular extension **20** on one side of the base, as seen best in FIGS. 4 and 7, to provide a guide for the insertion of the expansion pin **19**. Integrally formed with the base of the foot **12** are depending shell portions which are utilized for securing a metal glide or button **21** upon the foot. In the illustration given, there is a plastic rim **22** extending about halfway around the base **14** of the foot which is relatively thin. On the other side of the base, there are two ring segments **23** and **24** which are somewhat thicker than the segment **22**. The segments yield to permit the metal glide **21** to be snapped over them for securing the glide in position.

The plastic foot **12** may be formed of any suitable plastic material, such as, for example, polyethylene, polypropylene, etc., and the pin **19** may be formed of the same material or any suitable plastic or metal material.

In the modification set out in FIGS. 8–10 inclusive, the metal foot **12*a*** is provided at its bottom with a recess **25**. In other respects, the foot **12*a*** is similar to the foot **12** heretofore described. To expand the neck portion **15*a*** into engagement with the chair tube **11*a***, a metal expansion pin **26** is provided, and formed integrally with the base of the pin **26** is a metal glide **27**. When the pin **26** is driven into position, as shown in FIG. 9, the pin not only serves to expand the neck portion **15*a*** into gripping engagement with the leg **11*a***, but also the friction is sufficient to retain on the base of the foot **12*a*** the integral glide or button **27**. While the integral members **26** and **27** may be formed of plastic, composition material, or any other suitable material, I prefer to form these parts of metal.

In all of the structure shown, the tapered arrangement of the neck in expanded position and in gripping arrangement with the tubular chair glide is effective in dampening noise which is generated by the sliding of the glide on the floor and which ordinarily would be magnified by the tubular leg portions of the chair. Such angular arrangement has also other advantages in providing a sturdy, slightly-yielding support for the chair legs while at the same time promoting easy gliding action.

While in the foregoing specification I have set forth specific structures in considerable detail for the purpose of illustrating embodiments of the invention, it will be

understood that such details may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. In combination with an inclined tubular chair leg, a plastic foot having a generally horizontal base and an upwardly- and rearwardly-inclined attachment neck portion received within the leg tube, said neck being divided to provide expansion segments, said foot having an upwardly- and rearwardly-inclined passage therethrough and having a portion thereof extending through said neck narrowed between said expansion segments, a glider anchored to the bottom portion of said foot, and an expansion pin of generally uniform diameter extending through said passage and expanding said neck segments into gripping contact with said tube, said pin extending also downwardly into horizontal alignment with said glider.

2. The structure of claim 1 in which said pin is integral with said glider.

3. The structure of claim 1 in which said plastic foot is provided with a tubular expansion on one side of the base providing a guide for the insertion of the expansion pin.

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