

TITLE OF THE INVENTION

NON-SLIP MEANS FOR CYLINDRICAL GRIP SHELL

BACKGROUND OF THE INVENTION

The present invention relates to an improvement of a non-slip means to be attached to a cylindrical shell (hereinafter referred to as "cylindrical grip shell") which is to be gripped, such as, for example, the cylindrical shell of a writing tool or of a cosmetic brush.

Fitting a rubber tube 1' For non-slip purpose on the grip portion of a cylindrical grip shell 2' to provide a non-slip means, as shown in Fig.4, has already been proposed (refer, for example, to Fig.1 and explanation thereof in Japanese Utility Model Laid Open No.115884/80 and Fig.1 and explanation thereof in Japanese Utility Model Laid Open No.109774/86).

Indeed the prior art referred to above is effective in exhibiting the non-slip function, but because both rubber tube 1 and cylindrical grip shell 2' are opaque or because the rubber tube 1' is opaque although the cylindrical grip shell 2' is transparent, the amount and color of ink contained inside the cylindrical grip shell 2' cannot be seen through from

the outside of the rubber tube 1', and particularly with decrease in the amount of ink inside the cylindrical grip shell 2', it is necessary to use the writing tool or the like while paying attention to the residual amount of ink. There have been such inconvenience and disadvantage involved in the prior art.

The present invention has been accomplished in view of the above-mentioned inconvenience and disadvantage and it is the object of the invention to provide a useful non-slip means which is to be mounted on the grip portion of a transparent, cylindrical grip shell and through which the amount and color of ink present inside the cylindrical grip shell can be seen.

SUMMARY OF THE INVENTION

According to means adopted by the present invention for achieving the above-mentioned object, a tubular body to be mounted on the grip portion of a transparent, cylindrical grip shell is formed of a transparent, thermoplastic elastomer or a transparent, polyolefinic, synthetic resin or a polypropylene or polyethylene resin, and the tubular body has a minimum diameter portion in an intermediate position in the

longitudinal direction of its outer peripheral surface..

Since the tubular body is transparent, once it is mounted on the transparent, cylindrical grip shell, the amount and color of ink present inside the cylindrical grip shell can be seen through the tubular body from the outside thereof.

When the user grasps the minimum diameter portion formed intermediately in the longitudinal direction of the tubular body, the user's fingers are difficult to slip in the longitudinal direction of the tubular body.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig.1 is a front view in longitudinal section of a non-slip means according to the present invention;

Fig.2 is a right side view of Fig.1;

Fig.3 is a front view showing the non-slip means as mounted on a transparent cylindrical grip shell, with a principal portion being illustrated in longitudinal section; and

Fig.4 is a front view of a principal portion, showing an example of the prior art.

PREFERRED EMBODIMENT OF THE INVENTION

An embodiment of the present invention will be described below with reference to Figs. 1 to 3.

A tubular body 1 is formed of a thermoplastic elastomer, more specifically, a polyolefinic elastomer, namely, a transparent, polyolefinic, synthetic resin, still more specifically, such a transparent (or translucent) synthetic resin as polypropylene or polyethylene.

The aforesaid polyolefinic, thermoplastic elastomer which forms the tubular body 1 is an elastomer improved like an elastic rubber from a conventional resinous elastomer, and exhibits both elasticity and non-slip function.

The tubular body 1 has a minimum diameter portion 3 (constriction) intermediately in the longitudinal direction its outer peripheral surface. The tubular body 1 becomes larger in diameter gradually from the minimum diameter portion 3 toward both ends in its longitudinal direction so that both such ends are the maximum and equal to each other ($r_1 = r_2$ in the drawings) in outside diameter.

The minimum diameter portion 3 (minimum diameter r , in the drawings) is formed in a position where the tubular body 1 mounted on a cylindrical grip shell 2 is

grasped most commonly, and the minimum diameter portion is formed in such a manner that once it is grasped by the user, the user's fingers are difficult to slip toward both end portions in the longitudinal direction.

It is not always necessary that the outside diameters of both ends in the longitudinal direction of the tubular body 1 should satisfy the formula of $r_1 = r_2$. Both may be in the relationship of $r_1 > r_2$ or $r_2 > r_1$ if only they satisfy the relationships of $r_1 > r_3$ and $r_2 > r_3$.

The tubular body 1 has a uniform inside diameter throughout its overall length and is mounted by being fitted in a mounting groove 4 of the transparent, cylindrical grip shell 2.

The mounting groove 4 for fitting therein of the tubular body 1 is formed annularly in the outer peripheral surface of the transparent, cylindrical grip shell 2 in a position where the shell is grasped most commonly so as to prevent displacement of the tubular body.

It is optional whether the material of the transparent, cylindrical grip shell 2 is to be a known, transparent, synthetic resin such as rigid polyvinyl chloride resin or polystyrene resin, or any other

transparent, synthetic resin.

According to the above construction of the tubular body 1, since the tubular body is transparent, the amount and color of ink present inside the transparent, cylindrical grip shell 2 can be seen through the tubular body; besides, since the tubular body 1 exhibits both elasticity and non-slip function, once it is mounted on the transparent, cylindrical grip shell 2, it becomes possible to grasp the cylindrical grip shell with little fear of slip and fatigue of the user's fingers.

Since the present invention is constructed as above, the tubular body is formed as a transparent body.

Therefore, once the tubular body is mounted on the transparent, cylindrical grip shell, it becomes possible to see the amount and color of ink present inside the cylindrical grip shell through the tubular body. Particularly, the writing tool or the like to which the invention is applied can be used while easily checking the amount of ink remaining inside the transparent, cylindrical grip shell. This is very convenient.

Further, since the tubular body has a minimum diameter portion intermediately in the longitudinal

direction of its outer peripheral surface, once the said minimum diameter portion is grasped by the user, the user's fingers are difficult to slip on the longitudinal direction of the tubular body.

Therefore, the transparent, cylindrical grip shell with the tubular body mounted thereon can be grasped with little fear of its slip and is thus very easy to use.

Having described specific preferred embodiments of the invention with reference to the accompanying drawings, it will be appreciated that the present invention is not limited to those precise embodiments, and that various changes and modification can be effected therein by one of ordinary skill in the art without departing from the scope and spirit of the invention as defined by the appended claims.



What Is Claimed Is:

1. A non-slip means for a cylindrical grip shell, including a tubular body to be mounted on a grip portion of the cylindrical grip shell which is transparent, said tubular body being formed of a transparent, thermoplastic elastomer.

2. A non-slip means for a cylindrical grip shell according to Claim 1, wherein said transparent, thermoplastic elastomer is a transparent, polyolefinic, synthetic resin.

3. A non-slip means for a cylindrical grip shell according to Claim 2, wherein said transparent, polyolefinic, synthetic resin is a polypropylene resin.

4. A non-slip means for a cylindrical grip shell according to Claim 2, wherein said transparent, polyolefinic, synthetic resin is a polyethylene resin.

5. A non-slip means for a cylindrical grip shell according to Claim 1, wherein said tubular body to be mounted on the grip portion of said transparent, cylindrical grip shell has a minimum diameter portion in an intermediate position in the longitudinal direction of its outer peripheral surface.

6. A non-slip means for a cylindrical grip shell according to Claim 2, wherein said tubular body to



be mounted on the grip portion of said transparent, cylindrical grip shell has a minimum diameter portion in an intermediate position in the longitudinal direction of its outer peripheral surface.

7. A non-slip means for a cylindrical grip shell according to Claim 3, wherein said tubular body to be mounted on the grip portion of said transparent, cylindrical grip shell has a minimum diameter portion in an intermediate position in the longitudinal direction of its outer peripheral surface.

8. A non-slip means for a cylindrical grip shell according to Claim 4, wherein said tubular body to be mounted on the grip portion of said transparent, cylindrical grip shell has a minimum diameter portion in an intermediate position in the longitudinal direction of its outer peripheral surface.