TIRE SEALANT CONTAINER WITH VALVE CORE REMOVER

TECHNICAL FIELD:

This utility model relates to tire sealant containers but more particularly to a tire sealant container with valve core remover.

BACKGROUND OF THE UTILITY MODEL:

Modern pneumatic tires are designed for extended use on vehicles, such as automobiles and trucks, over many distances. Regardless of how well these tires are designed, they can still be punctured by sharp objects inadvertently left on the roadway and go flat. When the tire is punctured, the motorist must change the tire if he has a spare or have another tire put on the vehicle.

In some instances, it is difficult to change the tire due to the location of the vehicle, such as when the puncture occurs on roadway which is not flat and the vehicle cannot be safely raised with a jack to change the tire. Another instance is dangerous to change the tire, such as for example, when the tire is punctured on a heavily travelled roadway and there is not sufficient space to change the tire safely.

As is known, one of the more recent advances in the automotive industry is the development of pneumatic tire sealants to prevent puncture before they occur. While experience has shown that these tire sealants do, in fact, perform the functions for which they are intended, the manner of injecting them through the tire valve leaves much to be desired.

Repair of modern automotive tires often involves removal of an object which has penetrated the tire followed by subsequent injection of sealant into the tire to seal the opening caused by the penetration. The technique for such repair typically includes removal of some of the air from the tire if the tire is not already depressurized and then injecting sealant material into the tire. The sealant material is valve core has been removed, injection of sealant through that opening, waiting for the sealant to at least coat the interior of the tire, and subsequently replacing the valve core in the valve stem and filling the tire with air, nitrogen or an appropriate gas. Removing the valve core in order to inject sealant and then replacing the valve core are operations which take time and, if not performed in a professional manner, may result in ineffective repair to the tire.

Thus, there has developed a need for tools which will enhance the process of tire repair using the technique of injecting sealant into a damaged tire followed by timely pressurizing the tire. Efficient performance of those steps will enable economic repair of the tire which is pressurized by air or some other gas.

Philippine LIM Registration 2-2019-000698 registered to yours truly discloses a tire sealant container. However, the aforementioned sealant container has no provision for tire valve core removal which requires additional tool and effort in removing the core from the valve stem.

SUMMARY OF THE UTILTIY MODEL:

The present utility model discloses a tire sealant container 10 designed to simplify tire repair by integrating a valve core removal function. The container comprises a container body 12, a removable cap 14 secured on top of the container body, a dip tube

16 insertably held to the cap and extending inside the container body, and a plug element 18 positioned on top of the dip tube. The plug element includes a pull-up head member 20 and a downwardly extending protruding member 22. The bottom tip of the protruding member is defined by a center slit 24 and an upwardly extending slot 26 capable of force-fitting a tire valve core C.

The technical problem addressed by this utility model is the need for multiple tools to perform tire repair operations, particularly the removal of a tire valve core and the sequential injection of sealant and pressurized air. The present utility model provides a single tool that integrates these functions, thereby simplifying the repair process.

BRIEF DESCRIPTION OF THE DRAWINGS:

The utility model will be fully understood from the following detailed description, taken in conjunction with the accompanying figures wherein like reference numerals refer to like elements, as follows:

Fig. 1 is a perspective view of the exemplary embodiment of tire sealant container with valve core remover according to present utility model;

Fig. 2 shows the plug element disclosed in the prior art; and

Fig. 3 is shows thereon the plug element capable of being used as tire valve core remover.

DETAILED DESCRIPTION:

For the purposes of promoting an understanding of the principles of the utility model, reference will now be made to the embodiments illustrated in the drawings and

specific language will be used to describe the same. It will nevertheless be understood that no limitation of the scope of the utility model is thereby intended.

Referring now to the drawings in detail, there is shown in Fig. 1 an improved tire sealant container generally designated as 10 which comprises a container body 12, a cap 14 removably secured on top of the container body 12, a dip tube 16 insertably held to the cap 14 and extending inside the container body 12 and a plug element 18 being insertably held on top of the dip tube 16. All other elements and functionalities of the sealant container 10 including the container body 12 and dip tube 16 were already known to a skilled person as discussed in the prior art and need no further elaboration.

Referring now to the Fig. 2 of the drawings, there is shown a prior art plug element 18 having a pull-up head member 20 and a protruding member 22 extending downwardly from the head member 20.

The improvement is done on the plug element 18 as depicted in Fig. 3 which was shown in an upside down manner wherein the protruding member 22 having its bottom tip being defined by a center slit 24 and a slot 26 extending upwardly from said center slit 24 capable of accommodating and force-fitting therein a tire valve core C.

The improved tire sealant container 10 has a plug element 18 which may be attached to valve core C, and may then effect efficient removal of the valve core C from the valve stem S without the need for a separate removal tool. This enables serial injection of a sealant through the valve stem S and pressurized gas through the same valve stem S with the valve core C removed using the plug element 18 during the injection of sealant and in place during the injection of the air.