

Hybrid Air & Rubber Cells Layer Tire - Claim

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The purpose of the 'Hybrid Air & Rubber Cells Layer Tire' invention is intended to replace the existing tires to prevent flat tire with the new rubber cells layer around the outer layer of the inner tire and would work with the existing rims and air pressure sensors. The Hybrid Air & Rubber Cells Layer is the layer to protect nails or other sharp objects that may cut the outer part of the tire along the treads; this layer is recommended with at least 2 inches to protect the common nails and would come with different rubber cells patterns. The rubber cells layer would be strong enough to protect the tire even when the tire got a big nail or a cut on the outer tire, and this layer would be strong enough without air and would provide great momentum for the wheel when the wheel is rotating. The inner tire would be air layer like the existing tire, and the process of overlapping rubber sheet for inner tire would be the same as the existing tire. The rubber cells layer would also be overlapped around the inner air tire after overlapping process of the inner tire. This claim shows the overview figure of this invention which was submitted on 2024/12/23 with U.S. PCT/US24/61635 and International PCT/IB2024/000780 Patent Numbers, which can be used as the representing invention drawing to print on the patent frame and the following functions and features of this invention.

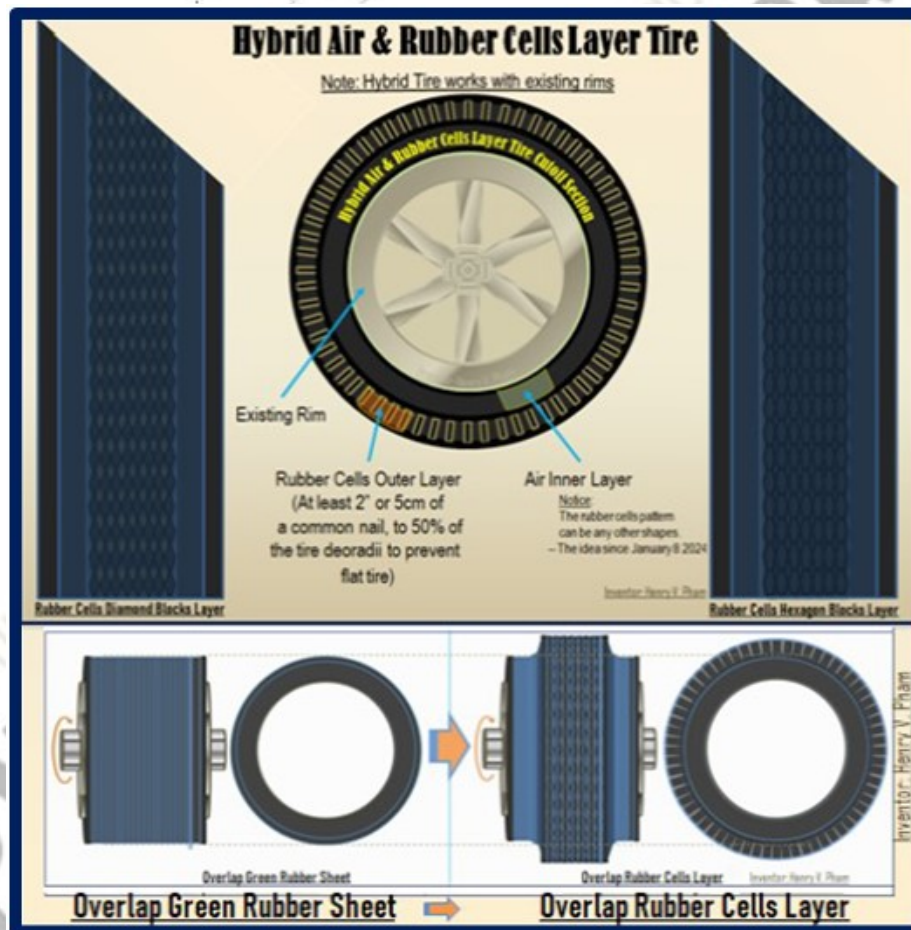


Figure-A: Hybrid Air & Rubber Cells Layer Tire -- Overview

1. The main apparatus for the Hybrid Air & Rubber Cells Layer Tire, comprising:

This Hybrid Tire would come with Rubber Cells Layer on the outer of the tire while the inner tire would be air like the existing tires. Wherein, the Rubber Cells layer is recommended with at least 2 inches

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to protect the common nails and would come with different rubber cells patterns; the Rubber Cells Layer would be wrapped and overlapped around the inner rubber sheet and would be cured in the mold with threads and other fabric protection layers.

2. The functional apparatus for the Hybrid Air & Rubber Cells Layer Tire, comprising:

The Rubber Cells Layer of the Hybrid Tire would protect the tire from flat with common nails or sharp objects. Wherein, the Rubber Cells Layer would be in different patterns without air and strong enough to hold the tire from flat while the vehicles is running; this layer would be strong enough without air and would provide great momentum for the wheel when the wheel is rotating; the inner layer would be filled with air similar to the existing tire and would support the existing pressure sensors and rims.

3. The layers layout apparatus for the Hybrid Air & Rubber Cells Layer Tire, comprising:

The Hybrid Tire would be layout with inner rubber sheet with the Rubber Cells layer wrapping around and overlapped before curing with additional fabric protection layers on sidewall and wedge layers plus the tire threads and bead bundle. Wherein, the Rubber Cells layer is the new layer to protect the tire from flat, and other layer would be similar to the existing tires; the Rubber Cells layer would be wrapped and overlapped in the middle to protect the tire from flat.

4. The Rubber Cells patterns apparatus of claim 2 & 3, further comprising:

The Rubber Cells patterns would come with different block shapes such as Diamond Blocks, Hexagon Blocks or Round Blocks. Wherein, the Cells Blocks would be in string of patterns that connected together for stronger support and would be molded on the rubber sheet; the rubber cells can be padded with foam into the rubber cells holes which can be used material such as Neoprene foam pads or similar with medium to high density, lightweight and durable that can stay in shape with high PSI pressure and temperature during the final curing process.

5. The Inner Rubber Sheet overlapping apparatus of claim 2 & 3, further comprising:

The inner rubber sheet overlapping process would be similar to the existing tire except that this inner green rubber sheet would be smaller compare to the existing tire. Wherein, the inner rubber sheet would be the base rubber sheet for the Rubber Cells layer to be wrapped around.

6. The Inner Layer & Rubber Cells Layer overlapping process apparatus of claim 2, 3 & 5, further comprising:

The new Rubber Cells layer would be wrapped around the inner green rubber layer. Wherein, the Rubber Cells layer would be molded and pre-cut in parallelogram shape or pre-molded in round shape to wrap around the inner rubber layer perfectly matching the top circumference; the Rubber Cells layer would be overlapped after wrapped around the inner layer; the overlapping technique would be similar to the existing tires.

7. The molding and curing processes apparatus for the Hybrid Air & Rubber, comprising:

The molding and curing processes would be similar to the existing tires after the Rubber Cells layer is wrapped and overlapped around the inner rubber layer. Wherein, the mold base with sidewalls which would be used to imprint the tire dimension and tire information of the manufacturer; the mold for Hybrid Air & Rubber Cells Layer tire would be the similar as the standard manufacturing tire molds with different sizes and prepare with fabric layer, protection layers plus wear layer and bead bundle around

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except the inner dimension of the Hybrid Tire is different with the existing tires with the same outer dimension; the molding and curing processes would go through the hot air bladder push with timing and correct curing temperature.

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