Search Report

Automated prior-art search report

July 10, 2025

About this report

This is an automatically generated prior-art search report. It lists a subset of the references identified by the PQAI's prior-art search tool in response to a natural language search query typed in by the user. These references can assist the user in assessing the degree of novelty of an invention. Please note that this report contains only the references manually saved by the user.

Search info

Search queries

Databases

- USPTO Bulk Datasets
- Semantic Scholar's Open Research Corpus

References Summary

Tire assembly

Yasuo July 28, 2014 JP2014136547A

Tire inflating device and method

Del February 26, 2010 CA2639104A1

Inflator with dynamic pressure compensation

Mcintyre et al. September 23, 2021 US2021291795A1

Tire assembly

Yasuo Bridgestone Corp July 28, 2014 JP2014136547A

To obtain a desired centrifugal force, it is not necessary to increase the mass or volume of a piston portion of the pump device, the pump device can be simplified and downsized, and a suitable tire rolling resistance is obtained. A tire assembly capable of maintaining a desired tire internal pressure by a pump device is provided. A tire assembly includes a pneumatic tire and a pump device connected to a valve of the pneumatic tire. The pump device is disposed around a piston portion and an outer peripheral surface of the piston portion. The cylinder portion 21 is provided, and the air chamber portion 24 is defined by the end portion 22 of the piston portion 20 on the tire rotation axis side and the inner side surface 23 of the cylinder portion 21. It arrange | positions with respect to the tire rotation axis O with respect to the part 20, and it is comprised so that it may move relatively with respect to a piston part in the direction which compresses the air chamber part 24 with the centrifugal force which arises by rotation of a tire. [Selection] Figure 2

Tire inflating device and method

Del Claudio Humberto Del Balzo Oliveira February 26, 2010 CA2639104A1

The present invention relates to a tool and method used to pump air into a flat tire. More specifically, this invention relates to a device that provides air to a flat tire by pumping it out of any of the other three tires and/or the spare tire. The tire pump can be used to make the compressed air circulate into the tires of cars, motorcycles, trucks, golf carts and any other vehicle that has at least two tires pumped with common air, as well as any other inflatable object such as pool, cushions, rowboats, balls, life preserver, etc.

Inflator with dynamic pressure compensation

Mcintyre et al. Milwaukee Electric Tool Corporation September 23, 2021
US2021291795A1

A method of inflating a vehicle tire, having an internal volume between about 10 gallons and about 12 gallons, includes discharging compressed air into the internal volume with an inflator. The inflator has an inflator housing, a motor within the inflator housing defining a motor axis and including an output shaft rotatable about the motor axis, a DC power source configured to provide power to the motor at a nominal output voltage, and a pump within the inflator housing and coupled to the output shaft. The pump includes a cylinder defining a cylinder axis and a piston that is reciprocable within the cylinder along the cylinder axis in response to rotation of the output shaft. By discharging compressed air into the internal volume, increasing a static pressure of the internal volume by 5 pounds per square inch (psi) from a starting pressure in the internal volume between 28 psi and 31 psi occurs within 40 to 60 seconds.

Disclaimer

This is NOT A LEGAL OPINION and the search is limited to the patent and non-patent documents available in the PQAI database on the date when this report was generated. **We recommend you to talk to your attorney before taking any decision.**

All information in this report is provided strictly on an "as is" basis, with no guarantee of information’s completeness , accuracy and the correctness of the results. No express or implied warranty, and no explanation for no particular purpose are included in this report. Under no circumstances will the contributors of PQAI Project be liable for any final decisions and losses caused by information and analysis results included in this report.

The reader is advised to cross-check the text and metadata of the search results provided by PQAI with other data sources. The accuracy of the text and metadata cannot be guaranteed because PQAI relies on 3rd party data sources to get these details. Some metadata such as assignee information can update any time and the latest information may not reflect in the search results. Preferably, the details of patent results should be verified from the official PTO websites and for scholarly articles, the details should be verified from their original publisher's websites.