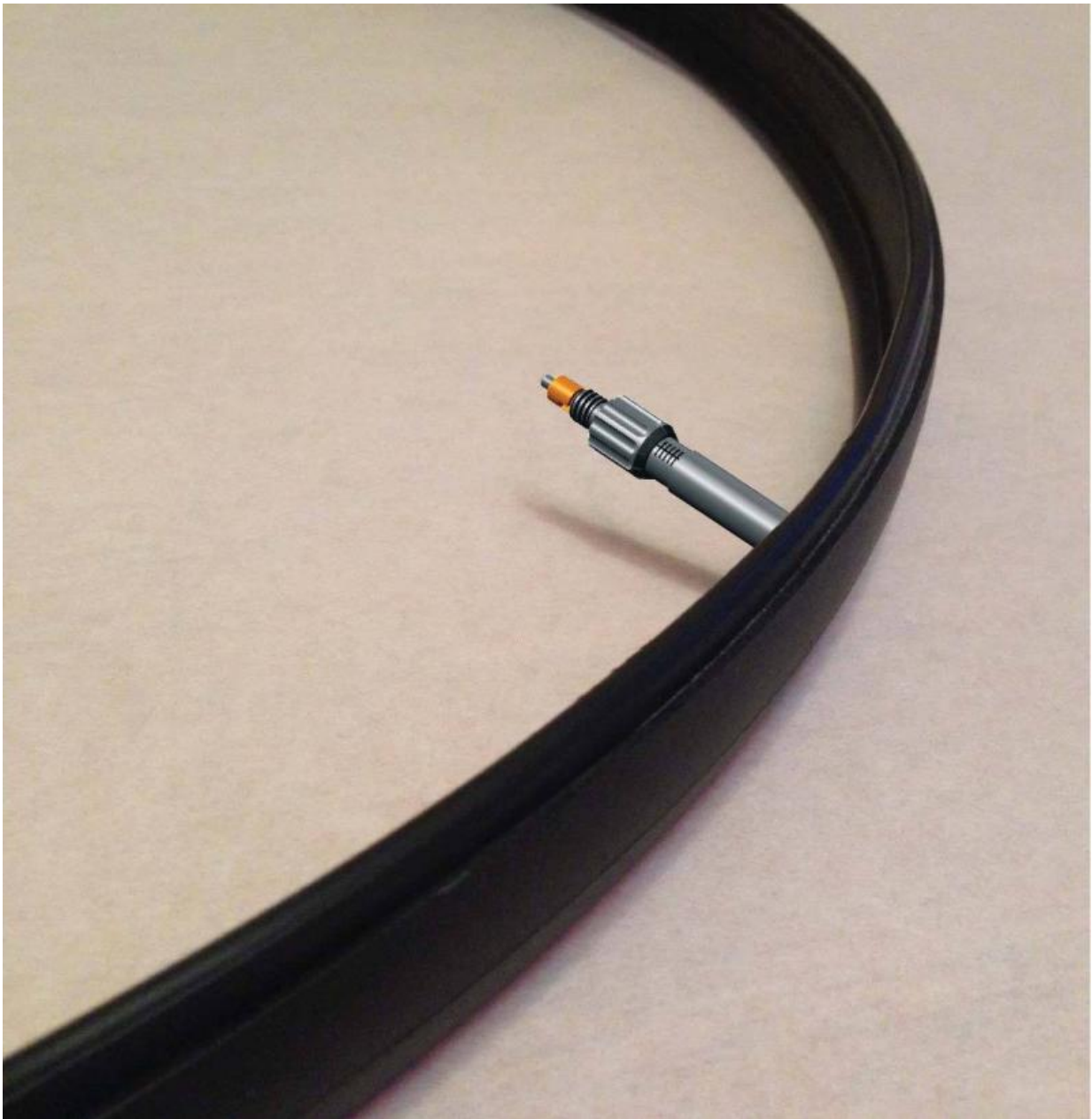


# PumpTire prototype takes riders off of pumping grind

December 15 2015, by Nancy Owano

---



In 2011, *Wired.co.uk* reported that inventor Benjamin Krempel has an interesting idea for those who ride bicycles and would prefer not to be hassled with pumping their tires every few [weeks](#).

Many would to be sure like the idea of maintenance -free transport, but would this self-inflating idea work? In 2015, Krempel is continuing his journey to make a tire with a difference. Ben Coxworth in *Gizmag* said Monday that what was originally a bicycle tire prototype using motion to maintain inflation has developed into an alternative, which addresses the limitations of the original concept.

What were those limitations? Takers would need to give up their existing [tires](#), said Coxworth, and once the tread wore away, "the peristaltic pumping mechanism would be [compromised](#)."

Enter PumpTire with its new self-inflating inner tube. Or, as the catchline of its web site says, "Lungs for your bike."

Mark Sutton of *BikeBiz* quoted Krempel: "Exactly 100 percent of pneumatic bike tires suffer from pressure loss. The PumpTire system solves this problem without compromising ride quality or requiring modifications to your bicycle."

With PumpTire, the inner tubes and tires are compatible with existing tires and rims. No modifications would be required if you were to add PumpTire inner tubes and tires to your current bike.

How it works: Some of the rolling energy of the tire is used to push air

into the inner tube until it reaches the desired pressure.

Air enters through the valve stem and is pushed around the circumference of the wheel by the deformation of tire against pavement. When the tire goes back to its original shape, it draws in more air for the next pumping cycle. A control circuit turns off the pump once the desired pressure is reached.

The PumpTire message: "Inner tubes and tires are one of the most important parts of your bike's suspension. Shock absorption and ride preferences vary from person to person and yet most people don't adjust their [tire pressure](#) unless they absolutely have to. And how can you really know what the right pressure is if it's always changing?"

The technology gives users freedom to set and keep specific pressures.

The main difference between the PumpTire inner tube and standard tubes is with the valve, said Henry Robertshaw in *Cycling Weekly*.

*Cycling Weekly* said that the product was designed to maintain a set [pressure](#) within the tube over multiple rides where other inner tubes might lose [pressure](#).

Robertshaw said "The PumpTire project is only currently at the prototype stage, but the company will be launching a crowdfunding campaign on Kickstarter in early 2016."

Sutton in *BikeBiz* also reported that the startup had a working prototype. Krempel said, "The valve is designed, patented, but not yet a production piece."

Krempel was asked if he had a rough cost estimate for when the tube launches.

He told *BikeBiz*: "The inner tube will be in the \$30-50 range. It's not yet fixed, however. We also plan to have basic and performance version, which would occupy different price [points](#)."

**More information:** [www.pumptire.com/](http://www.pumptire.com/)

© 2015 Tech Xplore

Citation: PumpTire prototype takes riders off of pumping grind (2015, December 15) retrieved 9 April 2024 from <https://techxplore.com/news/2015-12-pumptire-prototype-riders.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.