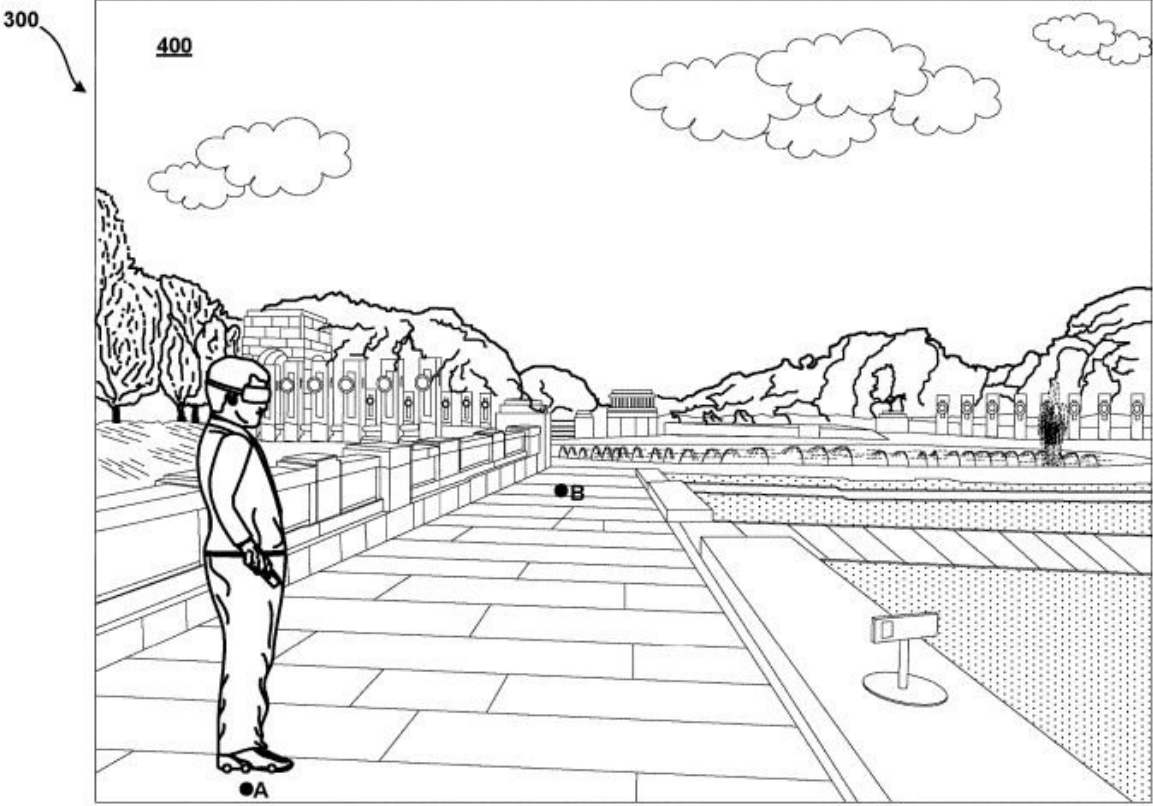


# Google's shoe idea teases moonwalks in the VR zone

November 22 2018, by Nancy Cohen



Credit: Augmented and/or virtual reality footwear, US Patent application

"Try walking forwards and the magic quickly falls apart—either when you walk into a wall, or are yanked back by the cable attaching your headset to a computer." That is [Alistair](#) Charlton in *GearBrain*. He

was—you guessed it— ruefully calling out the one thing about virtual reality that does not feel new-world magical. "The problem with virtual reality is how you can only walk a few steps forward before the illusion is shattered."

[Currently](#) the most comfortable VR experiences are stationary, usually with the user being seated, said *unity3D.com*.

Techies with big ideas are not about to take that sitting down. If the user in the mind can enjoy an unlimited journey into the world of virtual reality, the limitations of easy movement are issues. As David Grossman in *PopularMechanics.com* put it, "the promise of VR has always been unlimited [space](#) to explore. But how to move around that world without physically having people walk into walls or traffic?"

Enter VR treadmills, or at least know they are around; but now there is a patent idea that could be more satisfying. The concept is all about special footwear. Some observers are calling them roller skates, of sort, and these could increase VR range.

"Getting from Point A to Point B in real life is relatively straightforward, but in virtual reality, it can be difficult to build an experience where moving through a 3-D environment feels natural." Those were the words of a software engineer, [Rob Jagnow](#), on a Google site last year.

Fast-forward to this year, when Google field a patent titled "Augmented and/or virtual reality footwear."

They have described motorized footwear with omnidirectional capabilities, according to *Ars Technica*. The patent was filed in May this year and made public earlier this month. Nidhi Rathi and Maksim Ratner were named as the two California-based inventors.

*Toms Guide* reported that the patent is looking at a motorized shoe and when you are running out of space to walk, an activated mechanism allows you to take a step in the virtual world "without actually advancing in the real world (and smacking your face against a bookshelf)."

The [shoes](#) sit on wheels powered by [electric motors](#), and can stop you ever reaching the physical boundaries of a virtual reality experience, said *GearBrain*. Jesus Diaz in *Tom's Guide* offered a realtime look at the footwear, that "from the outside, you will look like Michael Jackson [moonwalking](#)."

Ron Amadeo, reviews editor at *Ars Technica*, saw the boost in functionality: "...you can strap on a Vive or Oculus headset and more or less be visually transported to a virtual world, but the reality of, well, [reality](#), means you can usually only take a few steps before you bump into your coffee table." This, then, would be a step up in transportation, in a solution of "motorized VR shoes." Wheels on the bottom would help keep you in place as you walk around in VR.

So, apart from the immersed you, what is really going on? [Amadeo](#) explained the concept, allowing to "walk normally while the motors and wheels work to negate your natural locomotion and keep you inside the VR safe zone. As the patent puts it, Google's new kicks will let you walk 'seemingly endlessly in the virtual environment' while keeping you in one spot in real life."

Another description came from *UploadVR*: "By adding actual movement to the user's shoes, the redirection can be both optical and physical. As you're walking towards the edge of the room, the motors in the shoes will activate in the opposite direction when your feet touch the [ground](#)."

Amadeo said, "The tracking would know when you're too close to the virtual walls of your VR area, and the system would wheel you back into

place."

Also, Amadeo applauded the idea of omnidirectional wheels, allowing the person to sidestep, "while still having your position corrected by the shoes."

Verdict over at *Ars Technica*? Amadeo said, "if Google gets everything right, strapping on a pair of compact VR shoes sounds a lot easier than having to store a giant treadmill somewhere."

If Google gets everything right. Amadeo had, before that, said, "Adding a set of [wheels](#) to the bottom of your shoes, which could start and stop unpredictably, may make staying upright a challenge."

*UploadVR* gave the idea a thumbs up. "A standing solution without having to install or strap into a full omnidirectional treadmill could potentially bring standing walking VR to regular consumers one day."

Several reports on the Google [patent](#) filing turned to the topic of the circular treadmills designed for [virtual reality](#), where rollers ensure you can't actually walk forward but can keep moving you ahead in the virtual zone. "However, these treadmills come with a tether and waist-height bar to stop you from falling over, and in our experience have been difficult to use comfortably," Charlton said.

**More information:** Augmented and/or virtual reality footwear, US Patent application:

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