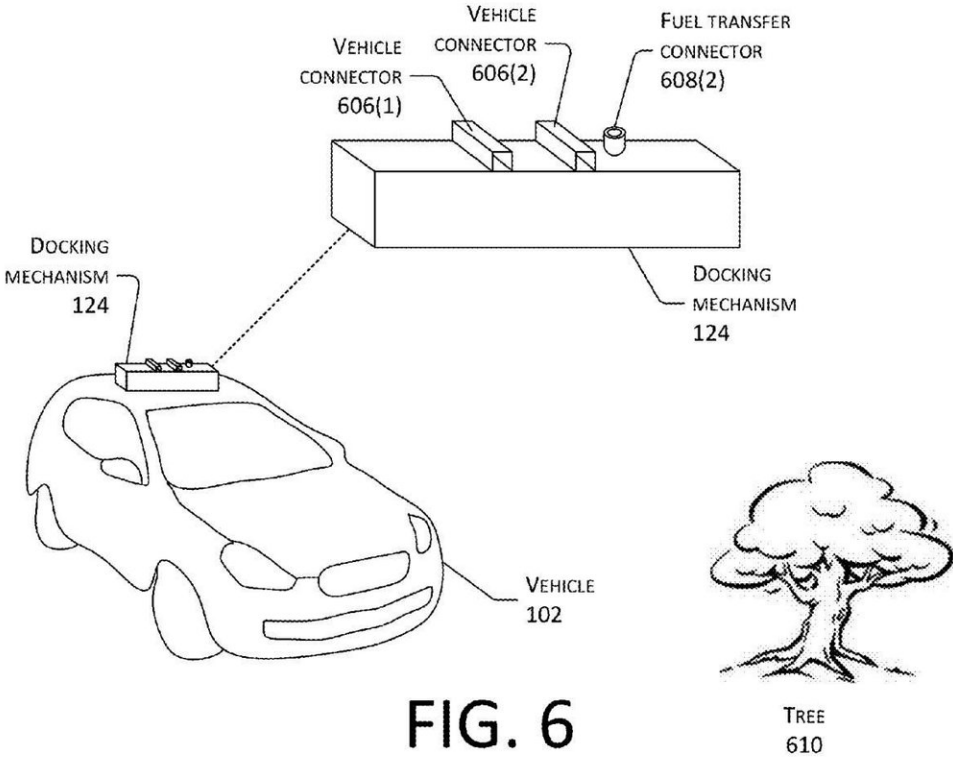


# Patent talk: Amazon looks at drones juicing up electric vehicles

October 19 2017, by Nancy Owano



Credit: United States Patent US9778653

(Tech Xplore)—Electric vehicles inspire a key question for a prospective buyer, and that is, what's the deal with battery life? Range? How far do I sit back in the car without leaning forward to fret over

where and how to juice it up before I can say 'Honey I'm home'?

Amazon has an answer in its [patent](#) discussion. This week, several sites including Roadshow by CNET and *TechCrunch*, are reporting on a drone idea from Amazon.

Andrew Krok, Roadshow by CNET, reported Tuesday that Amazon was granted a patent on a drone that can juice up an EV's battery while on the move. Fetching concept: Why worry about going to a refueling station when the charging apparatus can come to you?

*Greentech Media* said of Amazon that "this patent makes its link to the electric-[vehicle](#) market much more tangible. And it has the potential to solve several persistent problems in the electric vehicle market: charging infrastructure and range anxiety."

The US Patent and Trademark Office granted Amazon the patent for developing a refueling drone that can carry the charge right out to a vehicle.

The patent is titled "Systems, devices and methods delivering energy using an uncrewed autonomous vehicle."

A figure illustration in the patent showed a docking mechanism on the roof of a car.

Emma Merchant in *Greentech Media*: "The patent describes a process where Amazon's drones can communicate with [electric](#) vehicles out on the road through servers that monitor energy usage and need."

Krok also explained the procedure: "If an EV is incapable of reaching its [destination](#) with its current charge level, it can request a top-off from a server, which will dispatch a drone to a rendezvous location."

No need to find a charging station. Krok continued: "The drone will read a target atop the car to determine it's the right one, and it will then dock with the vehicle while it's moving," and provide the charge.

As for the drone, the battery in the drone is rechargeable, Krok said. It can return to base and fill itself back up to serve another EV.

Amazon filed the application in 2014, and we may or may never see the patent idea put into real use.

Just how much of a charge you could expect from a refueling drone may be limited. David Grossman in *Popular Mechanics*: "There would be questions about how much new juice the drones would actually contain, perhaps no more than half an hour's worth of travel. But even that might prove [handy](#) in a pinch."

Darrell Etherington in *TechCrunch* said the rooftop docking station that the drone can land on to stay connected with the vehicle and provide power on an ongoing basis while it continues along its route would translate into "aftermarket modifications" or buy-in from automakers.

Echo Huang, reporter for *Quartz*, said that "Obtaining a patent is one thing, but getting a drone in the field is another, especially with a series of US regulations that limit [flying](#) heights and areas for drones."

Etherington in *TechCrunch*: "At the moment, it's not a super realistic concept...But it has potential, especially if we get to a future where EVs are commonplace, as are [drone](#) delivery services."

**More information:** Systems, devices and methods delivering energy using an uncrewed autonomous vehicle, [United States Patent US9778653](#)

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