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MEEN 30152

**Computer Applications for ME**

# ACTIVITY NO.2

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# 1. BUILD A QUERY SEARCH

Search code:

**“FP:((drone AND indoor) AND (air OR purifier) AND (track\* OR monitor\*))”**


Link: [https://patentscope.wipo.int/search/en/result.jsf?\\_vid=P12-LP3YXS-24936](https://patentscope.wipo.int/search/en/result.jsf?_vid=P12-LP3YXS-24936)



 3 results   Offices all   Languages en   Stemming true   Single Family Member false   Include NPL false      

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1. **WO/2023/068477** **AIR PURIFIER HAVING 3D ACTIVE TRACKING MONITORING DRONE** WO - 27.04.2023

Int.Class **E24F 11/79**    Appl.No **PCT/KR2022/008999**   Applicant **PURIUM CO.,LTD.**   Inventor **NAM, Hojin**

The present invention relates to an **air purifier** having a 3D active **tracking monitoring drone** and, more specifically, to an **air purifier** having a 3D active **tracking monitoring drone**, in which a **drone** interlocked with an **air purifier** detects **indoor air** quality in a three-dimensional manner, and the **air purifier** adjusts a discharge direction and intensity on the basis of the three-dimensional **air** quality detected by the **drone**. According to an embodiment of the present invention, an **indoor** contaminant source can be **tracked** by **monitoring** the **air** quality in an **indoor** space in a three-dimensional manner by periodically flying a **drone** linked to the **air purifier**, and the effect of **indoor air** purification can be increased by adjusting the direction and intensity of clean **air** discharged from the **air purifier**, on the basis of the **monitored** three-dimensional spatial data.

2. **1020200091173** **INDOOR DRONE HAVING FUNCTIONS FOR DECOMPOSING FINE DUST, EXTINGUISHING FIRE, DRIVING THIEF** KR - 30.07.2020

## 2. CHOOSE ONE PATENT DOCUMENT

Link: [https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2023068477&\\_cid=P12-LP3YXS-24936-1](https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2023068477&_cid=P12-LP3YXS-24936-1)

### 1. WO2023068477 - AIR PURIFIER HAVING 3D ACTIVE TRACKING MONITORING DRONE

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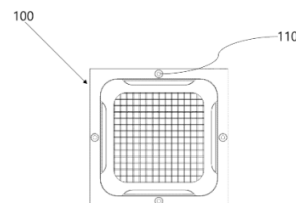
Korean (ko)

#### Title

**[EN] AIR PURIFIER HAVING 3D ACTIVE TRACKING MONITORING DRONE**

**[FR] PURIFICATEUR D'AIR COMPRENANT UN DRONE DE SURVEILLANCE DE POURSUITE ACTIVE 3D**

**[KO] 3D 능동 추적 모니터링 드론을 구비한 공기정장기**



#### Abstract

**[EN]**

The present invention relates to an air purifier having a 3D active tracking monitoring drone, and more specifically, to an air purifier having a 3D active tracking monitoring drone, in which a drone interlocked with an air purifier detects indoor air quality in a three-dimensional manner, and the air purifier adjusts a discharge direction and intensity on the basis of the three-dimensional air quality detected by the drone. According to an embodiment of the present invention, an indoor contaminant source can be tracked by monitoring the air quality in an indoor space in a three-dimensional manner by periodically flying a drone linked to the air purifier, and the effect of indoor air purification can be increased by adjusting the direction and intensity of clean air discharged from the air purifier, on the basis of the monitored three-dimensional spatial data.

**[FR]**

La présente invention concerne un purificateur d'air comprenant un drone de surveillance de poursuite active 3D et, plus précisément, un purificateur d'air comprenant un drone de surveillance de poursuite active 3D, dans lequel un drone interverrouillé avec un purificateur d'air détecte la qualité de l'air intérieur d'une manière tridimensionnelle, et le purificateur d'air ajuste une intensité et une direction d'évacuation sur la base de la qualité de l'air tridimensionnelle détectée par le drone. Selon un mode de réalisation de la présente invention, une source de contaminant d'intérieur peut être poursuivie par surveillance de la qualité de l'air dans un espace intérieur d'une manière tridimensionnelle par vol périodique d'un drone relié au purificateur d'air, et l'effet de purification de l'air intérieur peut être accru par ajustement de la direction et de l'intensité de l'air propre évacué du purificateur d'air, sur la base des données spatiales tridimensionnelles surveillées.

**[KO]**

본 발명은 3D 능동 추적 모니터링 드론을 구비한 공기정장기에 관한 것으로, 보다 상세하게는 공기정장기와 연동된 드론이 실내의 공기질을 3차원으로 감지하고, 상기 공기정장기가 상기 드론이 감지한 3차원 공기질을 토대로 배출 방향과 세기를 조절하는 3D 능동 추적 모니터링 드론을 구비한 공기정장기에 관한 것으로, 본 발명의 일 실시예는 공기정장기와 연동되는 드론을 주기적으로 비행시켜 실내 공간의 공기질을 3차원으로 모니터링하여, 실내 오염원을 추적하고, 상기 모니터링한 3차원 공간 데이터를 토대로 공기정장기의 정장 공기 배출 방향과 세기를 조절하여 실내 공기 정화의 효과를 높일 수 있다.

Name of invention: Air purifier with 3D active tracking monitoring drone

Technology field

- [One] The present invention relates to an air purifier equipped with a 3D active tracking monitoring drone. More specifically, a drone linked to an air purifier detects indoor air quality in three dimensions, and the air purifier detects the three-dimensional air quality detected by the drone. It is about an air purifier equipped with a 3D active tracking monitoring drone that adjusts the exhaust aroma and intensity based on the air purifier.

background technology

- [2] An air purifier is a device that sucks in polluted air, purifies it, and then discharges the purified air. The air purifier includes a blower device to bring outside air into the air purifier and a device to filter out dust or bacteria in the air. Includes filters.
- [3] Generally, air purifiers are configured to purify indoor spaces such as homes or offices. According to conventional air purifiers, when monitoring indoor air quality, there was a problem that only the air adjacent to the air purifier was detected and the air in spaces far away from the air purifier could not be detected.
- [4] In relation to conventional air purifiers, technologies such as registered patent 10-2019-0025204 have been proposed.

DETAILED DESCRIPTION OF THE INVENTION

technical challenges

- [5] The purpose of the present invention is to equip an air purifier with a detection sensor that measures air quality in all directions, and to monitor the air quality in indoor space in three dimensions by periodically flying a drone linked with the air purifier to track pollutants in indoor air. It is possible to provide an air purifier equipped with a 3D active tracking monitoring drone, which is characterized in that it adjusts the direction and intensity of clean air discharge from the air purifier based on the 3D air quality data.
- [6] The object of the present invention is not limited to the object mentioned above, and other objects not mentioned can be understood from the description below as a general purpose to which the present invention pertains.
- [7] It will be clearly understandable to those with knowledge.

# WO202306847

## *Air Purifier Having 3D Active Tracking Monitoring Drone*

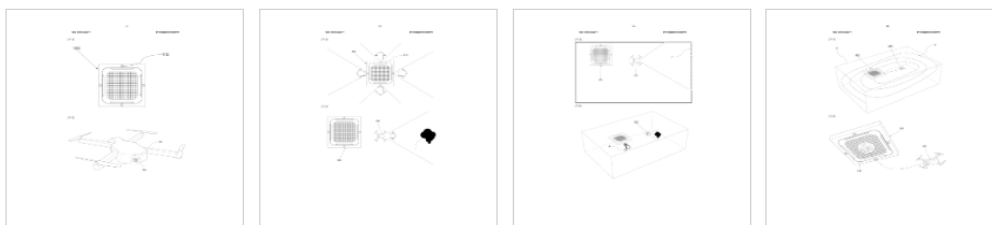
We are unsure about the quality of the air we breathe in the modern world because pollution and diseases are abundant everywhere, particularly in public spaces and sometimes inside of our homes. The Air Purifier Drone is a three-dimensional active tracking monitoring drone that pairs with an air purifier to measure indoor air quality in three dimensions. Based on the drone's three-dimensional observations of the air quality, the air purifier then modifies the direction and intensity of its flow. According to one embodiment of the invention, a drone that is attached to an air purifier and is flown on a regular basis can be used to measure the three-dimensional air quality inside a home space in order to identify the source of pollution. The effects of indoor air filtration are also covered. Perhaps, air purifiers are one of the things that can help slow down the rapid spread of sickness around us.

## DRAWINGS:

### 1. WO2023068477 - AIR PURIFIER HAVING 3D ACTIVE TRACKING MONITORING DRONE

[PCT Biblio. Data](#) [Full Text](#) [Drawings](#) [ISR/WOSA/A17\[2\]\[a\]](#) [National Phase](#) [Patent Family](#) [Notices](#) [Documents](#)

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### 3. POINTS FOR IMPROVEMENT

#### *For efficiencies*

- **Long lasting battery** - It is a good idea to add a long-lasting battery to extend the air 3D purifier's operating hours. Furthermore, since it can use higher watts for quick charging, it also has a stronger battery, which reduces the amount of electricity used throughout the charging process.
- **Advance braking system** - As this technology advances, we can incorporate advanced braking systems that, like other improvements to car braking systems, automatically change their motion on their own, regardless of whether you have no idea that they are about to collide with something.

#### *For designs*

- **Mycelium Bioplastic Materials instead of traditional drone materials** - In the future, drones are anticipated to become widespread, leading to inevitable occurrences of crashes, losses, and the eventual need for disposal. Mycelium Bioplastic, known for its lightweight, robust nature, and environmentally friendly production process, could play a crucial role in addressing this issue. Ecovative, a company mentioned in a research article, utilizes a method that involves blending agricultural waste with fungal mycelium to produce what they refer to as "mushroom materials."
- **Bamboo Charcoal Material for Air Purifier Filter** - Recognized as activated bamboo charcoal or bamboo charcoal powder, this naturally porous substance has a historical application for diverse purification purposes. It stands out as a sustainable and renewable resource, offering an environmentally friendly alternative to certain synthetic filter materials. Nonetheless, its visual appeal aligns with interior design, imparting an aesthetic ambiance to the ceiling air purifier.

*For Adding Features*

- **Built in fan inside of air purifier** - Philippines has a high relative humidity and installing a fan inside of an air purifier will create a slight breeze. It will also help the air to circulate