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Patent Search

Invention Title	AERIAL FIRE EXTINGUISHING SYSTEM AND METHOD
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Abstract:

AERIAL FIRE EXTINGUISHING SYSTEM AND METHOD ABSTRACT An aerial fire extinguishing system (100) integrated with an unmanned air vehicle (102) is disclosed. The air vehicle (102) comprising: an electronic speed controller (106), a flight controller (112), a camera (114); and a pressurized canister (116) comprising a nozzle (118) to store a chemically active fire extinguishing compound. The system (100) further comprises a control unit (122) that receives an emergency signal comprising a destination from a user device (126) and directs the unmanned air vehicle (102) to surveil an area of interest aerially for detecting a fire outbreak at the destination location. The system actuates a servo motor (120) for engaging the nozzle (118) of the pressurized canister (116) to eject the chemically active fire extinguishing compound to extinguish the fire outbreak. Claims: 10, Figures: 5 Figure 1A is selected.

Complete Specification

Description:BACKGROUND

Field of Invention

[001] Embodiments of the present invention generally relate to a drone and particularly to an aerial fire extinguishing system integrated with an Unmanned Air Vehicle (UAV).

Description of Related Art

[002] Firefighting is the act of extinguishing or controlling fires to prevent damage to life, property, and the environment. Firefighting involves a range of activities at managing both small and large fires in various settings, including urban areas, rural locations, forests, and industrial facilities. Firefighters, either professionals or volunteers, are typically responsible for carrying out firefighting tasks. Firefighters use specialized equipment such as fire hoses, trucks, ladders, extinguishers, and protective gear to control and suppress fires.

[003] Firefighting has traditionally relied on manual methods such as fire trucks, hoses, and human intervention. While these methods are effective in many situations, they come with significant challenges, especially in difficult-to-reach areas or hazardous environments. Firefighters often navigate through traffic, congested urban areas, or challenging terrains, which leads to delays and causes exacerbated fire damage. Further, even if the firefighters manage to reach, first responders are frequently at high personal risk, especially in environments where toxic fumes, extreme heat, or structural instability are present. In some cases, these risks limit human access, and reliance on manual labor and large, cumbersome equipment becomes a disadvantage.

[004] Aerial firefighting vehicles, such as helicopters and airplanes, have been introduced to tackle large-scale wildfires or fires in remote areas that are inaccessible to ground-based firefighting.

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