rotary wing is tilted with respect to a vertical direction by a given angle such that the rotary wing blows air downwardly and backwardly. This configuration makes it possible to obtain a lift force and a thrust force without providing separate rotary wings as in the unmanned aircraft described in Patent Document 1, and thereby achieving a more compact configuration.

CITATION LIST

[Patent Document]

[0006]

Patent Document 1: PCT International Publication No. WO2019/198155

SUMMARY OF INVENTION

[Technical Problem]

[0007]

However, when employing the rotary wing configured to blow air downwardly and backwardly, an airflow is likely to become unstable during takeoff of the unmanned aircraft, causing the aircraft body to suddenly largely tilt forwardly. This gives rise to a problem that a forward part of a lower end of the aircraft body interferes with an inner bottom surface of the sewage pipe, and therefore the unmanned aircraft becomes failing to stably take off.

[0008]

As used in this specification, the term "takeoff" means that an unmanned aircraft which remains stationary on a given surface (e.g., inner bottom surface of a sewage pipe) is lifted upwardly. Further, the term "forward-tilt" means that an unmanned aircraft is in a posture where it is tilted forwardly with respect to a posture where the unmanned aircraft which remains stationary on a horizontal surface.

[0009]

~~The~~Embodiments of the present invention ~~has been made to solve the above problem, and an object thereof is to~~ provide an unmanned aircraft capable of stably taking off.

[Solution to Technical Problem]

[0010]

~~In order to achieve the above object, the~~According to an aspect of the present invention, there is provide~~s~~d an unmanned aircraft configured to fly based on a manipulation signal received from outside. The unmanned aircraft comprises an aircraft body which comprises: an information acquisition device for acquiring information regarding an object around the aircraft body; a rotary wing for blowing air downwardly

to generate a lift force; and a protective member disposed around the rotary wing to protect the rotary wing, the aircraft body being configured such that a dimension in a width direction thereof is less than a dimension in a front-rear direction thereof, wherein: the rotary wing has a rotation axis which is tilted with respect to a vertical direction by a given angle, such that the rotary wing generates a forward thrust force; and the aircraft body has a lower edge which comprises a middle lower edge located in a middle of the aircraft body in the front-rear direction, and a forward lower edge located forward of the middle lower edge, and wherein: the protective member has a lower edge comprising the forward lower edge; the forward lower edge is located above the middle lower edge; and the forward lower edge has a rear end located backward of a rear end of the rotary wing.

[0011]

Preferably, in the unmanned aircraft of the present invention, the forward lower edge is formed to linearly extend forwardly and upwardly from the side of the middle lower edge.

[0012]

Preferably, in the unmanned aircraft of the present invention, the protective member is formed with an opening which opens, to outside, a space lateral to the rotary wing in the width direction.

[0013]

More preferably, in the above unmanned aircraft, the rotary wing is disposed in a position corresponding to the forward lower edge in the front-rear direction.

[Effect of Invention]

[0014]

~~The~~Embodiments of the present invention make~~s~~ it possible to provide an unmanned aircraft capable of stably taking off.

BRIEF DESCRIPTION OF DRAWINGS

[0015]

FIG. 1 is a perspective view showing an unmanned aircraft according to one embodiment of the present invention.

FIG. 2 is a perspective view showing the unmanned aircraft in FIG. 1.

FIG. 3 is a side view showing the unmanned aircraft in FIG. 1.

FIG. 4 is a front view showing the unmanned aircraft in FIG. 1.

FIG. 5 is a top plan view showing the unmanned aircraft in FIG. 1.

FIG. 6 is a perspective view showing the unmanned aircraft in FIG. 1.

FIG. 7 is an explanatory diagram showing the unmanned aircraft in FIG. 1,