SNOW TRAVERSE MECHANISM DESIGN PATENT

UNITED STATES PATENT AND TRADEMARI

DESIGN PATENT SPECIFICATION

Patent No.: D987,654

Filing Date: March 12, 2022

Issue Date: September 15, 2023

Assignee: Polar Dynamics Robotics, Inc.

TITLE OF INVENTION

INVENTORS

Elena Frost, Marcus Chen, James Barrett

Wilmington, Delaware

FIELD OF THE INVENTION

[001] The ornamental design for a snow traverse mechanism for autonomous robots, as shown and described.

DESCRIPTION OF THE FIGURES

[002] FIG. 1 is a perspective view of the snow traverse mechanism;

[003] FIG. 2 is a front elevation view thereof;

[004] FIG. 3 is a rear elevation view thereof;

[005] FIG. 4 is a right side elevation view thereof;

[006] FIG. 5 is a left side elevation view thereof;

[007] FIG. 6 is a top plan view thereof;

[008] FIG. 7 is a bottom plan view thereof;

[009] FIG. 8 is an exploded perspective view thereof.

CLAIM

[010] The ornamental design for a snow traverse mechanism for autonomous robots, as shown and described.

DETAILED DESCRIPTION

[011] The snow traverse mechanism comprises a novel tread design incorpor
serrated edges arranged in a distinctive hexagonal pattern. The mechanism
includes:

[012] A primary tread assembly featuring:

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Interlocking hexagonal plates with raised edges

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Serrated outer surfaces with 45-degree angular cuts

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Reinforced connection points between plates

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Anti-icing channels running longitudinally

[013] Secondary support structures including:

Bilateral stabilization fins

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Integrated heating elements

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Snow evacuation ports

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Cold-resistant bearing assemblies

[014] The broken lines in the drawings represent portions of the snow traversmechanism that form no part of the claimed design.

ENVIRONMENTAL SPECIFICATIONS

[015] The design is optimized for operation in:

Temperatures ranging from -40°F to 32°F

- Snow depths up to 24 inches

- Ice formations up to 3 inches thick

- Wind conditions up to 40 mph

MATERIAL COMPOSITION

[016] The design incorporates:

- Cold-resistant polymer composites

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Aircraft-grade aluminum alloys

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Titanium reinforcement elements

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Carbon fiber structural components

DESIGN FEATURES

[017] The snow traverse mechanism includes the following ornamental featu

[018] Primary Design Elements:

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Symmetrical hexagonal tread pattern

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Distinctive serration geometry

Integrated ice-breaking ridges

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Decorative fin arrangement

[019] Surface Treatments:

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Textured anti-slip coating

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Reflective safety markings

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Branded element placement

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Color-coded component identification

TECHNICAL REFERENCES

[020] Reference is made to:

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U.S. Patent No. 9,876,543

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U.S. Patent No. 10,234,567

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PCT Application No. PCT/US2022/012345

ASSIGNMENT AND RIGHTS

[021] All rights, title, and interest in this design patent have been assigned to Polar Dynamics Robotics, Inc., a Delaware corporation, as recorded in the USPTO Assignment Database under Reel/Frame 045678/0001.

CERTIFICATION

[022] I hereby certify that this design patent application accurately reflects the ornamental design of the snow traverse mechanism as developed by Pola Dynamics Robotics, Inc.

EXECUTION

IN WITNESS WHEREOF, this Design Patent has been executed as of the Is first written above.

/s/ Elena Frost

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Dr. Elena Frost

CEO & Co-founder

Polar Dynamics Robotics, Inc.

/s/ James Barrett

Dr. James Barrett

Chief Robotics Officer

Polar Dynamics Robotics, Inc.

STATE OF DELAWARE

COUNTY OF NEW CASTLE

Subscribed and sworn to before me this 15th day of September, 2023

/s/ Maria Rodriguez

Maria Rodriguez

Notary Public

My Commission Expires: 12/31/2025

[NOTARY SEAL]