

Gecko Climbing robot for complex surfaces (BGN)

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Based on a biomechanical design that mimics gecko adhesion, this is an advanced attachment and climbing apparatus that can carry weight over obstacles. Its effective payload has been established, and it has outstanding obstacle negotiating abilities, all carried out by a lightweight device characterized by low energy consumption. Tests on the alpha model were successful.

Goals and Advantages

Simple, mobile platform able to move within geometrically complex structures
Increase platform payload capacity to carry instruments

Potential Commercial Uses and Market

Maintenance and security applications are often required to perform in geometrically complex environments. The proposed invention facilitates easy and reliable access to locations that are normally difficult to reach, such as steel bridges, high buildings, sea-going vessels, and ocean drilling platforms, to name just a few, to perform a variety of tasks. Equally capable of both dryland and underwater operation, the Gecko is also ideally suited to performing security inspections of ship hulls.

Initial assessment of the market has shown that the majority of maintenance and inspection tasks of large, steel structures are performed manually, those for maritime fleets (both civilian and military), oil tank farms, and a wide range of other structures (electricity poles, cellular antennas, security fences, etc.). With its proven micro climbing and stealth climbing capabilities, this invention can replace the human worker, thereby increase inspection frequency and quality to improve overall maintenance.


Development Stage and Development Status Summary

Excellent performances were achieved on the alpha model Test results, demonstrations, and/or video demonstrations are available upon request.

Patent Status

Patent Pending

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