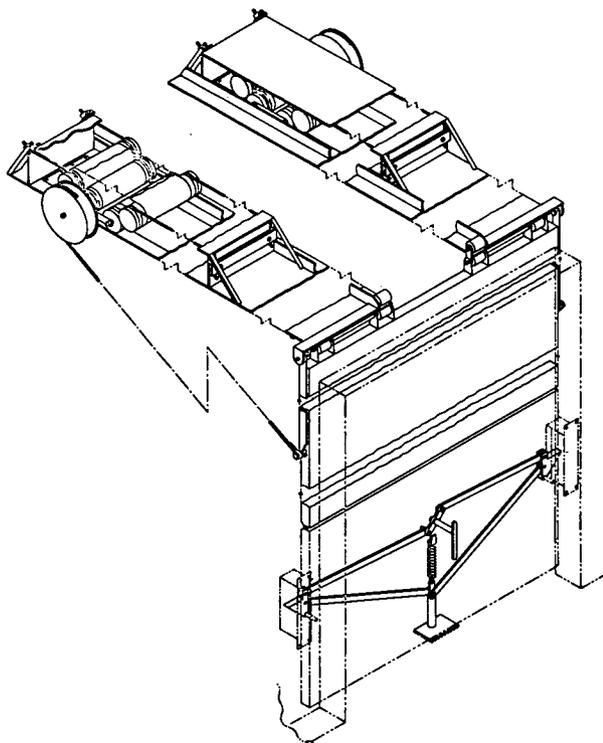


NASA TECH BRIEF



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Easy Manual Operation of Overhead Garage Doors: A Concept



Graphic View of the Device

A novel manually actuated mechanical device (see fig.) easily raises or lowers a two-section overhead garage door; the Rolamite principle (see AEC-NASA Tech Brief 67-10611) is used to provide a controlled but varying rate of ascent or descent.

Rolamites traversing an overhead channel generate forces that rotate a drum that maintains a controlled tension on a cable attached to the door. The geometry of the apparatus permits the door to translate and rotate when opening or closing, and requires no vertical guides in the door's portal. Once manually

actuated by turning or pulling a handle, the Rolamite apparatus completes the opening or closing without further manual effort.

The rate of raising or lowering can be controlled by design characteristics based on the Rolamite principle. The mechanism is extremely quiet since rolling friction is minimized and no vertical guides or rollers are required for vertical movement of the lower section of the door within the portal.

The mechanism's life should be long because the only stressed components are the cables and the contoured bands of the Rolamites, all of which can survive the average life of a residence. Installation is simplified by hanging the overhead channel from the ceiling so that all necessary support is provided for door and mechanism. Apart from the latch, no coil springs take part in movement of the door. Maintenance is minimal because Rolamites require no lubrication.

Although the device is intended primarily for operation of home or industrial doors, it may be applied where any type of vertical shielding or baffling needs to be raised or lowered. It may be inverted for raising a barrier from floor level without vertical guides or supports.

Notes:

1. This invention is in the conceptual stage only; at the time of this publication no model or prototype exists.
2. Requests for further information may be directed to:

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(continued overleaf)

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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