USF Available Technologies

Technology Transfer Office

Roof Rack Carrier & Loading System

Researchers at the University of South Florida have developed an automobile roof rack device that enables a single user to load and unload heavy equipment such as kayaks, bicycles, ladders, containers, and various bulky items.

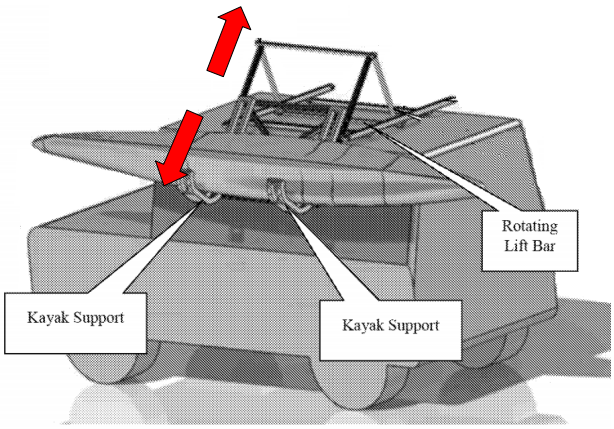
Kayaks are easily maneuvered in the water, but handling them on land can be quite difficult. Unloading one from the roof of a vehicle can be extremely difficult, especially when the vehicle is tall, such as an SUV. It is often impossible to load a kayak on a roof rack without additional assistance, and attempting to do this alone increases the risk of injury. These limitations present a need for an adjustable system to securely load and unload kayaks and other equipment to and from the roof of a vehicle.

USF inventors have created a device that makes the loading and unloading of kayaks easy and which requires only one person. The device features support struts that, in their initial position, hang much lower than current rack designs. This reduces the risk of sustaining injury while loading onto the top of a vehicle. Once the supports are loaded and the items strapped in, the supports are raised into a safe position over the vehicle for transport by a motorized folding system. This novel roof rack system will be useful for any kayak enthusiast and potentially for transporting other bulky items.

ADVANTAGES:

- **One person can easily load and unload cargo**
- **Reduced risk of potential injury**
- **Motor assisted roof rack folding and unfolding**

Novel Roof Rack for Easier Loading and Unloading on a Vehicle



The roof rack on a vehicle while actively loading a kayak. The supports fold, storing the cargo on the roof.

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University of South Florida | Technology Transfer Office
813.974.0994 (office) | 813.974.8490 (fax)
patents@research.usf.edu
http://www.usf.edu/research-innovation/pl/