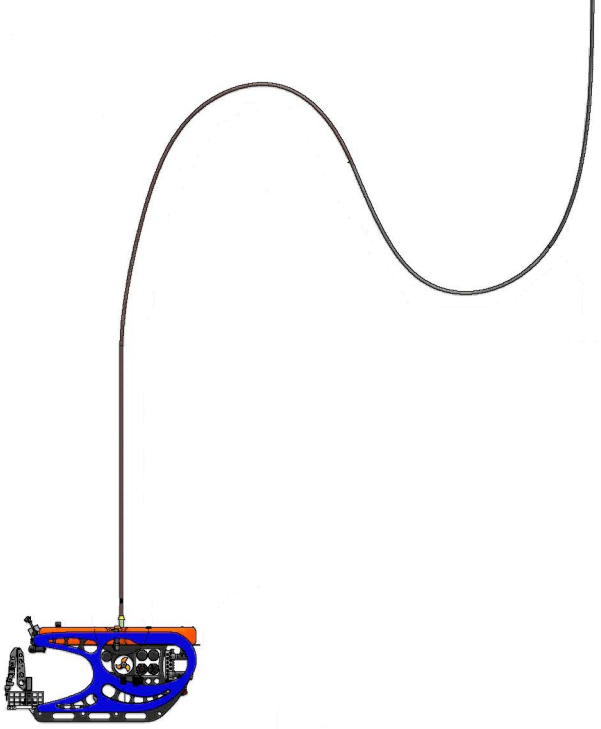
Woods Hole Oceanographic Institution

ROV Lifting Tether

US Patent No. 9,463,849



ENHANCED LOAD-CARRYING CAPABILITY

MANAGES TORSIONAL FORCES TO PREVENT TWISTING & HOCKING

ALLOWS FOR USE OF SMALLER WINCH

REDUCES OVERALL TETHER SIZE & WEIGHT

Overview: Tethers are used to communicate and/or provide power between a platform such as an ocean vessel and a remotely operated vehicle (ROV). Such tethers most often employ fiber optics or electrical conductors as signal carriers. The performance requirements to transmit data within the tether, are often such that very light gauge materials may be used. In general, light gauges are not suitable for load-bearing operations. Typically cable diameters must be increased with load weight. Large diameter tethers not only reuire larger equipment, but are also not properly equipped to manage torsional foreces from operation which can lead to damage and breakage of the tether system and signaling capabilities.

Technology: The ROV lifting tether is a lightweight, flexible marine tether with enhanced load-carrying capability and minimized tether diameter. Improved load-bearing is accomplished through the use of a terminal lead providing additional weight support during launch and recovery. This allows for an overall lighter tether which can be paired with a smaller onboard winch, freeing valuable deck space. Reducing winch size allows for the ROV to be used on a diverse range of vessels. In addition to decreased size, the tether manages torsional forces and minimizes pull on the ROV. Flotation and weight are added to different tether sections to create an “S” shape which allows the ROV to operate without being tugged by its tether.

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