ABSTRACT OF THE DISCLOSURE

The present invention utilizes low-friction, stepped triggering of successively higher-pre-loaded, counterdirected, nested stages in a compact configuration to efficiently multiply an input force. The present invention thus presents a novel force-multiplying mechanism for incorporation in any apparatus taking advantage of its ability to convert a force of a given magnitude into a force of greater magnitude. Such devices include, but are not limited to, those utilizing hydrostatic pressure for actuation of flotation, marking, and retrieval devices, those actuated by barostatic, mechanical, and pneumatic pressure, and those which trigger chemical (including pyrotechnic), electrical, mechanical, and pneumatic devices. There is theoretically no limit to the force multiplication inherent in the design, given the option of successive stages and ever-increasing driving forces.

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