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Ryerson et al.

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(54) **TWO WAY PRESSURE RELIEF VALVE**

(75) Inventors: **Michael R. Ryerson**, Fall River, MA (US); **Paul E. Moody**, Barrington, RI (US)

(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

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(52) **U.S. Cl.** **137/493; 137/493.9**

(58) **Field of Search** **137/493, 493.9, 137/493.8**

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Primary Examiner—Stephen M. Hepperle
(74) *Attorney, Agent, or Firm*—Michael J. McGowan; James M. Kasischke; Prithvi C. Lall

(57) **ABSTRACT**

A two way pressure relief valve for equalizing pressure between a first region and a second region. The valve has a housing with a lateral aperture in communication with the second region and a first aperture in communication between the first region and the lateral aperture. A piston assembly having an annular rim portion is retained slidably within the housing. Flutes are formed in the piston assembly for allowing fluid communication between the first region and the second region. An annular retaining piece having a second aperture therein is joined within the lateral aperture in the housing at the second region for retaining the piston assembly within the housing. A first biasing means is positioned in the housing between the first aperture and the piston assembly for biasing the piston assembly away from the first aperture. A second biasing means is positioned in the housing between the retaining piece and the piston for biasing the piston assembly away from the second region. The piston assembly prevents flow through the housing during normal operations. If a pressure differential exists between the first region and second region, the piston assembly slides in the housing allowing communication through the first aperture, flutes, lateral aperture and second aperture.

16 Claims, 2 Drawing Sheets

