



(12) **United States Patent**
Kearse et al.

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(54) **VALVE, SELF-INFLATING BLADDER ASSEMBLY, CUSHION ASSEMBLY AND METHOD FOR OPERATING THE SAME**

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(57) **ABSTRACT**

A sub-assembly is disclosed. The sub-assembly is a valve including: a housing, a plunger, a seal, an indexing member, a biasing member, a seat member and a push button actuator. The plunger axially supports the seal and the indexing member within the housing. The biasing member is supported by the seat member and axially biases the plunger relative the housing in a first axial direction in order to axially bias the seal in the first axial direction toward a sealing surface formed by the housing. Arrangement of the seal adjacent the sealing surface formed by the housing prevents fluid flow through the valve. When the seal is arranged adjacent the sealing surface formed by the housing, a distal camming surface of the indexing member is not registered adjacent a corresponding camming surface of the housing. The push button actuator is arranged for movement relative the housing in a second axial direction that is opposite the first axial direction such that movement of the push button actuator relative the housing in the second axial direction results in a corresponding movement imparted to the plunger in the second axial direction. Movement of the plunger in the second axial direction results in corresponding axial movement of the seal in the second axial direction such that the seal is axially moved away from the sealing surface formed by the housing to thereby permit fluid flow through the valve. A self-inflating assembly is also disclosed. A cushion assembly is also disclosed. A method is also disclosed.

4 Claims, 15 Drawing Sheets

