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Curtis

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(54) **FLOW RELEASE ELASTOMERIC EJECTION SYSTEM**

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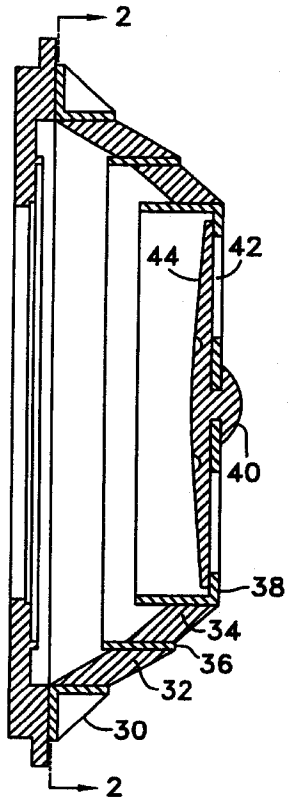
(57) **ABSTRACT**

An apparatus for providing a rapid fluid impulse which can be used for launching vehicles into a liquid medium. The apparatus comprises a ring diaphragm of coupled concentric elastomeric rings, adapted to accept pressurized fluid at an interior side. The pressurized fluid extends the elastomeric rings of the ring diaphragm, placing them in shear strain. When the fluid is released, a kinetic impulse is provided and the ring diaphragm returns to its resting position. The apparatus further comprises a central check valve on the ring diaphragm. The check valve allows fluid to flow from an exterior side, through the ring diaphragm, to the interior side when exterior fluid pressure exceeds interior pressure. The invention is useful in a submarine vehicle launch assembly wherein the ring diaphragm is a component thereof.

16 Claims, 1 Drawing Sheet