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(54) Title: SINGLE AND DUAL STAGE WAFER CUSHION

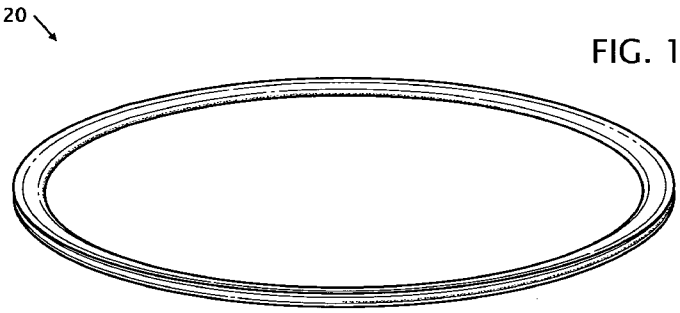


FIG. 1

(57) Abstract: Improvements in a single and dual stage wafer cushion is disclosed where the wafer cushion can use an edge hinge as a single first stage cushion and a second mid span hinge for the dual stage wafer cushion. This dual stage design gives two distinctly different cushioning forces as opposed to using a single stage design where the force is linear with the amount of compression that is being applied to the outer surfaces of the wafer cushion. The outside edge of the ring provides the greatest expansion such that only the outer edge of the ring makes contact with the outer edge of a wafer. The wafer cushion is a material that flexes and absorbs shocks before the shock is transferred to the wafer stack. The material minimizes debris or contaminants from embedding into the wafer cushion and also prevents sheading of material from the wafer cushion.