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[54] **ULTRASONIC WELDING WITH CONTROLLED SEAL COMPRESSION**

[76] Inventors: **David P. Heckard**, 61566 County Rd. 133, Elkhart, Ind. 46526; **Cameron B. Erekson**, 23724 Cortland Dr., Elkhart, Ind. 46514

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[58] **Field of Search** 156/73.1, 73.4, 580.1, 156/64, 274.4, 274.8, 378, 380.4, 358, 359; 264/23; 425/174.2; 228/1.1, 110

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Primary Examiner—David A. Simmons
Assistant Examiner—J. Sells

[57] **ABSTRACT**

A two stage process of ultrasonic welding is disclosed wherein a first stage determines the amount of displacement required to produce a desired compressive force upon a seal or spring. This displacement is sent to a second stage where the desired displacement is achieved through ultrasonic bonding.

In an alternative embodiment, the first stage determines the amount of displacement required to achieve non-compressive contact between the gasket (seal) and the component. This displacement is summed with an empirically determined displacement required to obtain a desired compressive force upon the gasket. The summed displacement is used as the desired displacement for the second stage.

9 Claims, 3 Drawing Sheets