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Hull

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(54) **RETROFIT OF A FORM-FILL-SEAL
MACHINE HEAT STATION WITH AN
ADVANCED ULTRASONIC WELDING KIT**

(71) Applicant: **Gordon Hull**, Newtown, CT (US)

(72) Inventor: **Gordon Hull**, Newtown, CT (US)

(73) Assignee: **Rinco Ultrasonics USA, Inc.**

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(52) **U.S. Cl.**
USPC **156/73.1; 156/580.1**

(58) **Field of Classification Search**
USPC 156/73.1, 580.1, 580.2; 264/442-445;
425/174.2; 53/451, 479
See application file for complete search history.

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Primary Examiner — James Sells

(74) *Attorney, Agent, or Firm* — Thomas A. O'Rourke;
Bodner & O'Rourke, LLP

(57) **ABSTRACT**

Advanced ultrasonic welding components of co-pending application Ser. No. 12/925,652 are readily incorporated into new form-fill-seal machines, but owners of existing machines utilizing heat-seal stations were unsuccessful at swapping the sealing packages. Retrofit kits to a replace heat sealing station with an advanced ultrasonic sonotrode and anvil comprise: a housing; a linear rail fixed thereto; first and second bearing carriages being slidable upon the rail; and first and second fluidic muscles. Each of the fluidic muscles is mounted with a first end fixed to a respective housing wall, and a second end fixed to a respective bearing carriage, permitting actuation of each carriage through pressurization and depressurization of the muscles. The advanced anvil and sonotrode may be secured to respective carriages. In-line arrangements of anvil/sonotrode, bearing carriages, the first fluidic muscle, and the second fluidic muscle provides a narrow profile, permitting side-by-side kit installations for retrofits accomplishing duplex sealing on a horizontal machine.

18 Claims, 11 Drawing Sheets

