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[54] **METHOD FOR CONSERVATIVELY EVALUATING CONTINUOUS THERMAL TREATMENT PROCESS FOR A PARTICULATE-CONTAINING FOOD PRODUCT STREAM**

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Related U.S. Application Data

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[52] **U.S. Cl.** **374/102**

[58] **Field of Search** 374/102; 73/861.05, 73/866; 99/372; 426/231

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[57] **ABSTRACT**

A method of generating a residence time measurement of a particulate-containing food product while passing the product as a continuous stream through a thermal processing apparatus is described. The method includes the steps of inserting at least one detectable particle, and preferably many detectable particles, tagged with at least one magnetic implant into the stream at pre-selected intervals; detecting the at least one implant using at least one sensor located at a detection point downstream from a location of the inserting of the at least one detectable particle; determining a time of passage of the at least one detectable particle in the stream using output from the at least one sensor; and generating a residence time measurement for the stream using the time of passage for the at least one detectable particle. The method also includes the use of multiple sensors for detecting the implants. A suitable system and detectable particle for carrying the method are also described.

3 Claims, 12 Drawing Sheets