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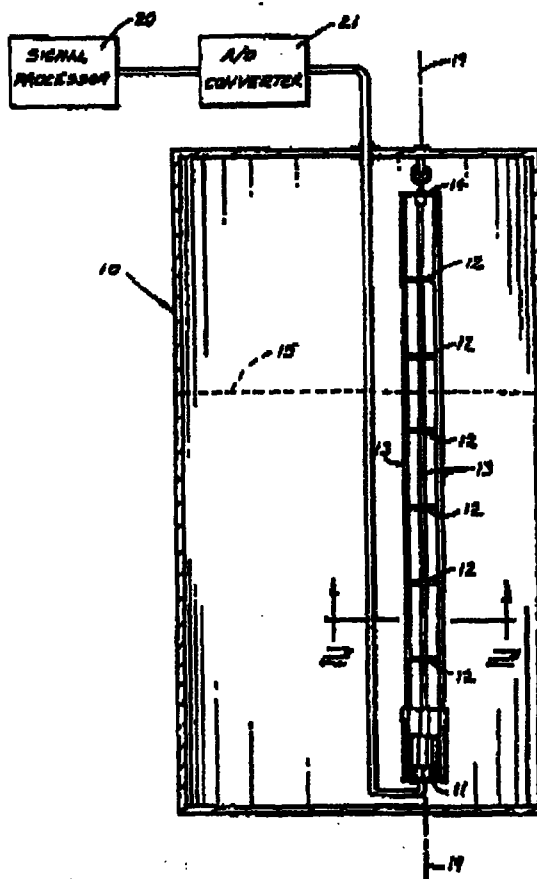
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upon receipt of that report.(54) Title: MULTI-LEVEL PROBE AND SYSTEM FOR MEASUREMENT OF PHYSICAL CONDITIONS IN LIQUID-
CONTAINING TANKS

(57) Abstract

A multi-level probe for sonic range measurements utilizes a plurality of parallel reflectors that each include an opening arranged coaxially about a beam of ultrasonic energy transmitted along a reference axis from an associated transducer. The opening in each reflector permits most of the sonic energy to pass to a subsequent reflective surface, while the periphery about the opening provides echo signals for determining physical conditions in the environment through which the sonic energy has passed. A novel system is used for determining physical conditions that are a function of time differences between signals from different reflectors, calculated with a highly efficient digital signal processing algorithm.



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