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(54) Title: MAGNETOMETER-BASED DETECTOR FOR OBJECTS IN A PIPELINE

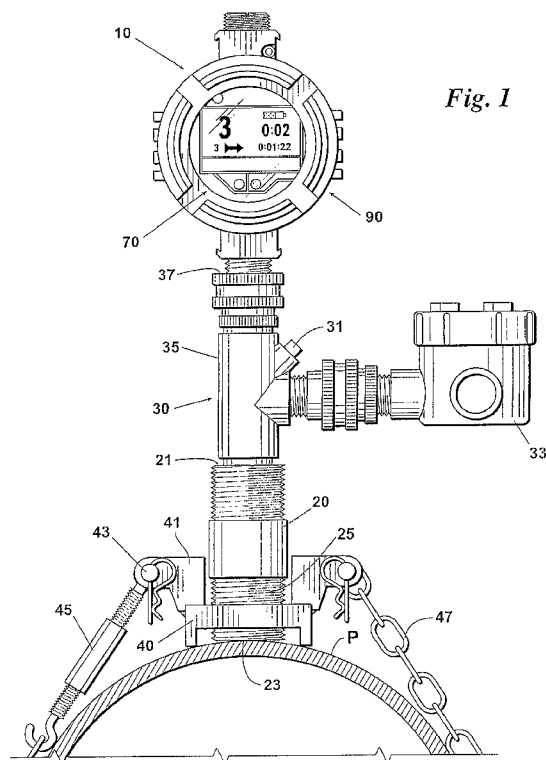


Fig. 1

(57) Abstract: A system and method for detecting the passage of an object in a pipeline includes a non-intrusive detection device that houses one or more shielded magnetometer sensors and a microcontroller with adaptive thresholding detection means. The adaptive thresholding detection means removes outlier data from the magnetic flux data stream and then passes the outlier-free data stream through four low pass filters. A smoothed magnitude of the data stream is compared to detection limits and, if a passage event has occurred, a recent detection is indicated, a counter of a display unit is incremented, a time of passage is recorded, and both statistics are displayed on the display unit. Because a single object may produce multiple magnetic fields, the detector may be locked-out for a predetermined period of time after the passage event to prevent a second detection of the same object as it passes the detection device.



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