

[54] FLOW TUBE DRIVE CIRCUIT HAVING A BURSTY OUTPUT FOR USE IN A CORIOLIS METER

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[52] U.S. Cl. 73/861.38; 331/154

[58] Field of Search 73/861.37, 861.38, 32 A; 331/154, 155, 65

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[57] ABSTRACT

A drive circuit for providing bursts, rather than continuously alternating amounts, of energy for use in driving a flow tube (conduit) in a Coriolis meter and methods for use in such a circuit. Specifically, the drive circuit provides a pre-defined burst of energy to a drive coil affixed to a flow conduit at an appropriate point during a cycle of the oscillatory motion of the conduit in order to maintain the peak amplitude of the oscillatory motion substantially within a prescribed range. This burst can be applied at a pre-defined point, illustratively the peak, in each cycle of the oscillatory motion with no energy being applied during that cycle other than when the pulse occurs in order to reduce the amount of electrical energy applied to the drive coil. Alternatively, to further reduce this energy, a burst need not be applied during every such cycle but rather only at those pre-defined points, e.g. the peaks, within those cycles where the velocity of the flow conduit is less than a pre-defined limit value.

15 Claims, 6 Drawing Sheets

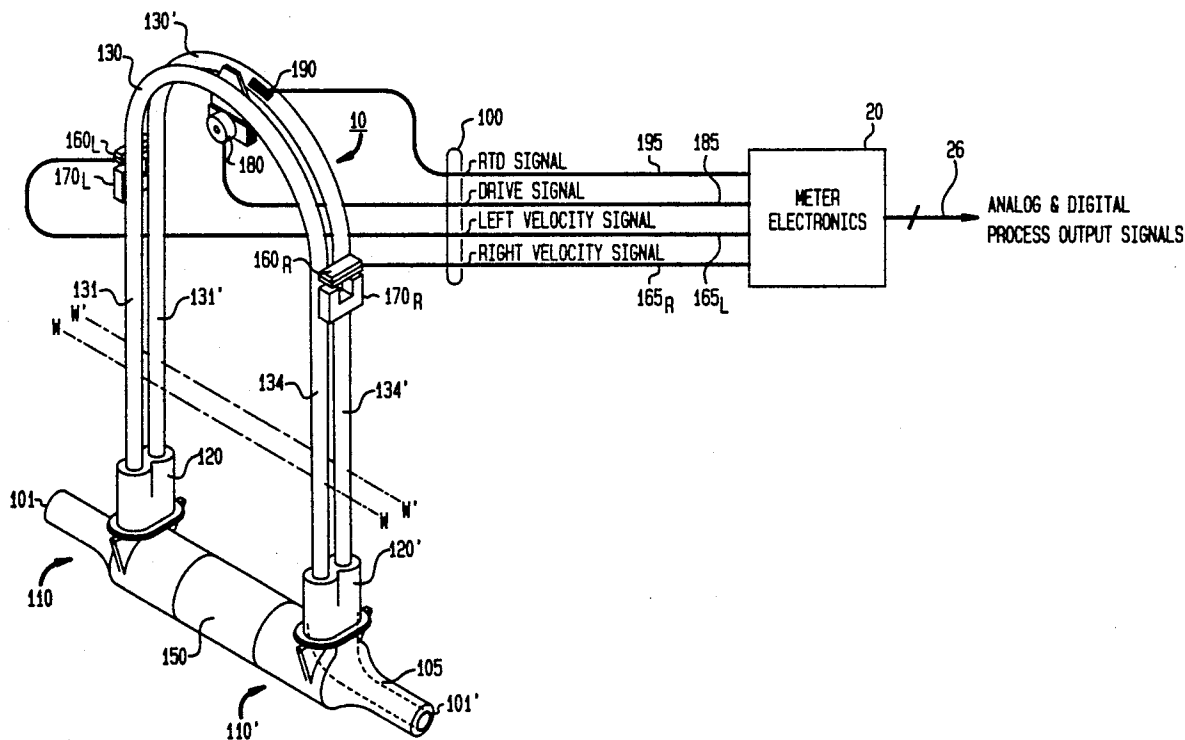


FIG. 1

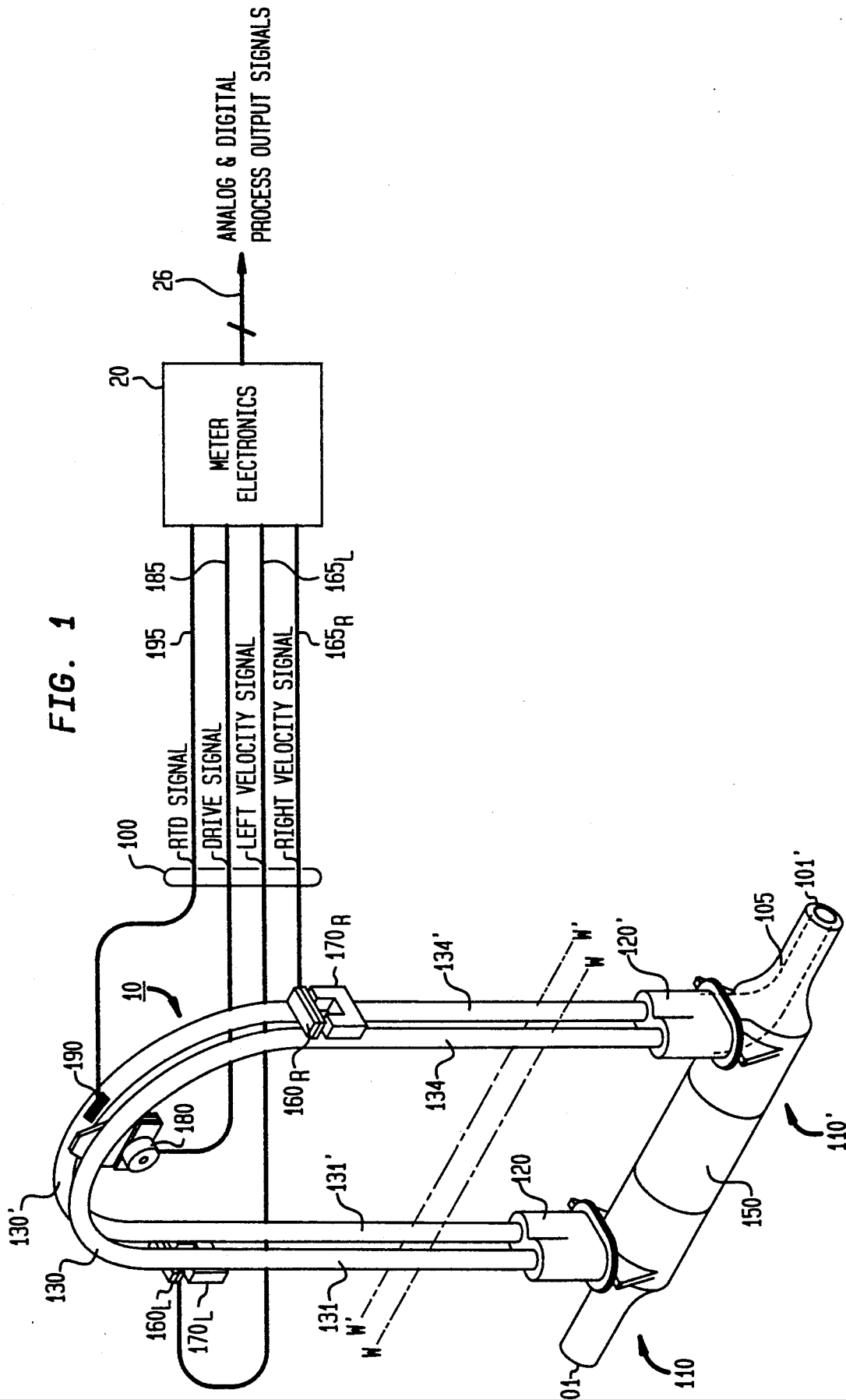


FIG. 2

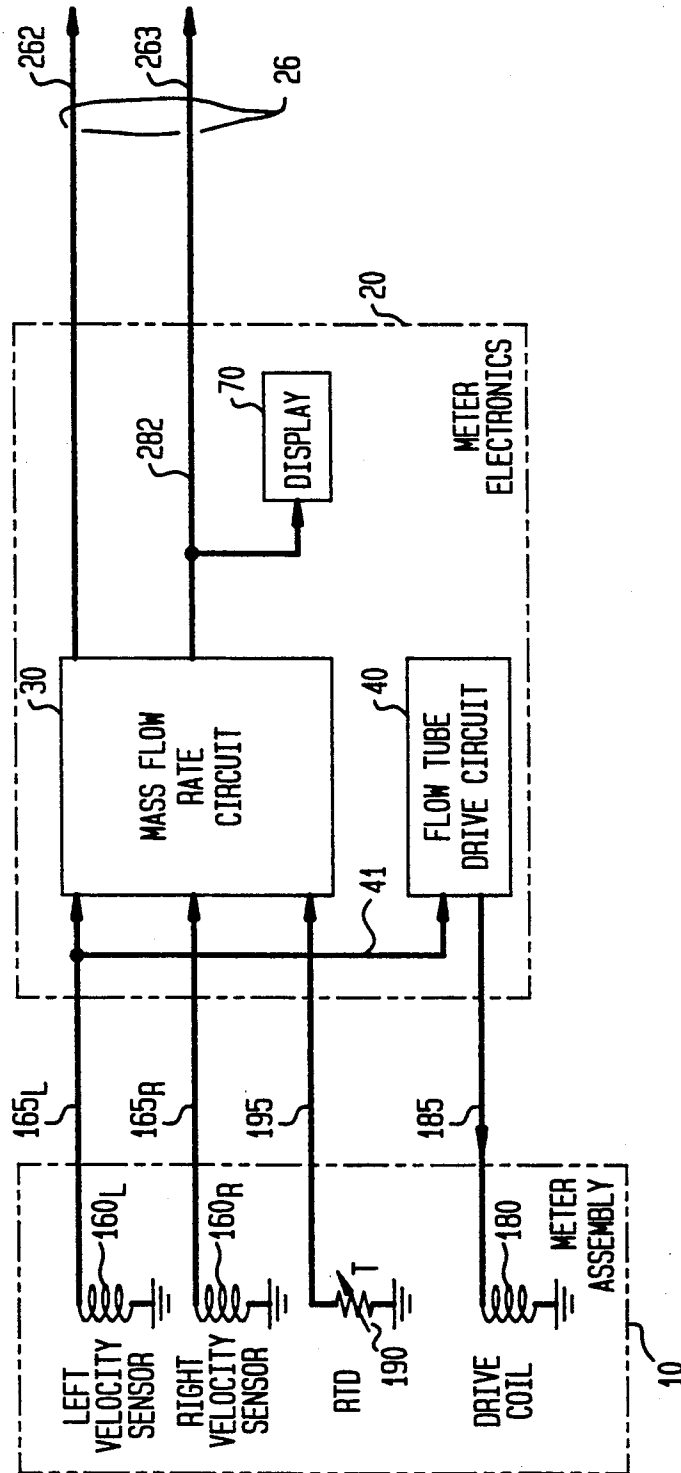


FIG. 3
FLOW TUBE DRIVE CIRCUIT

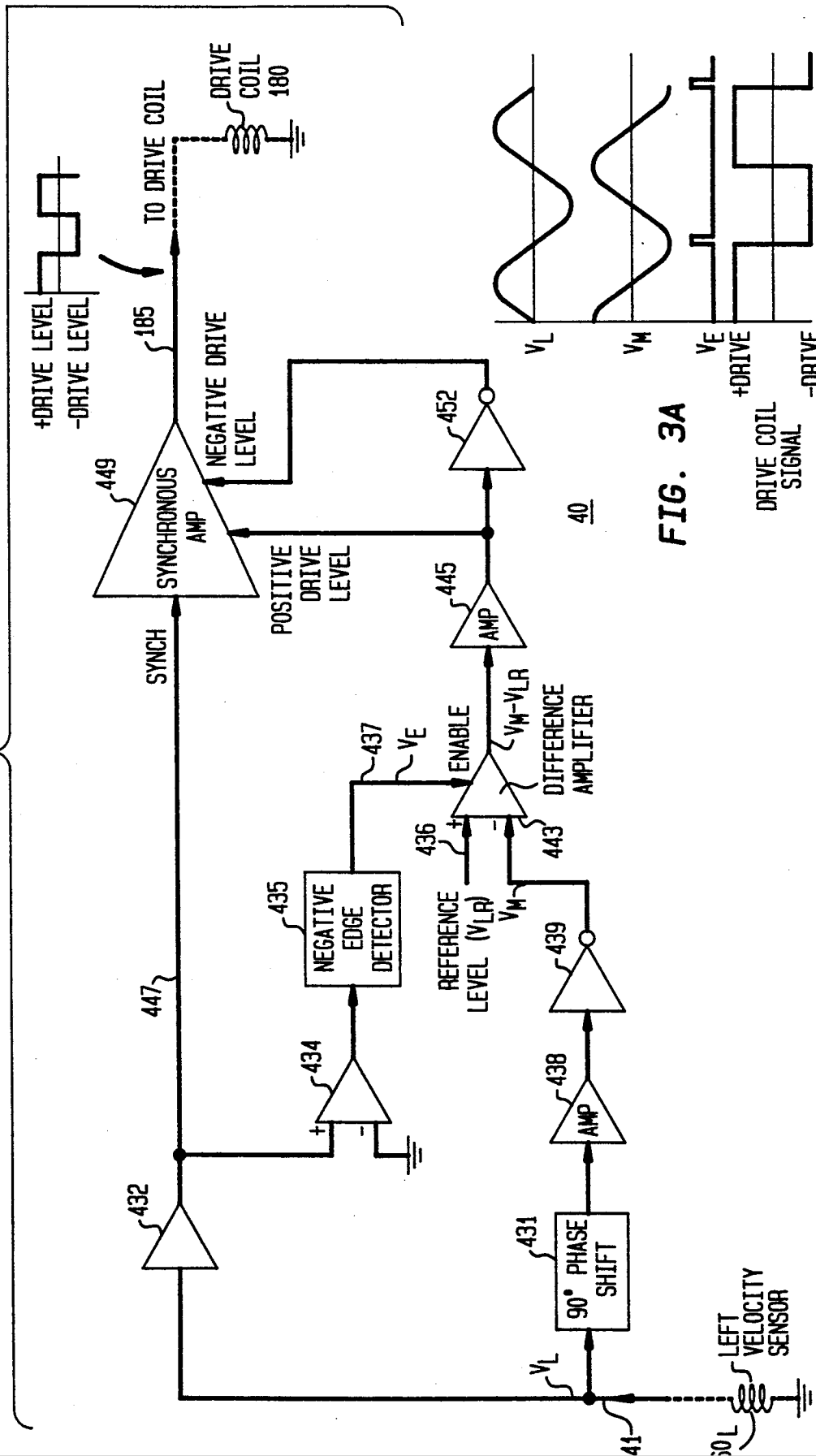
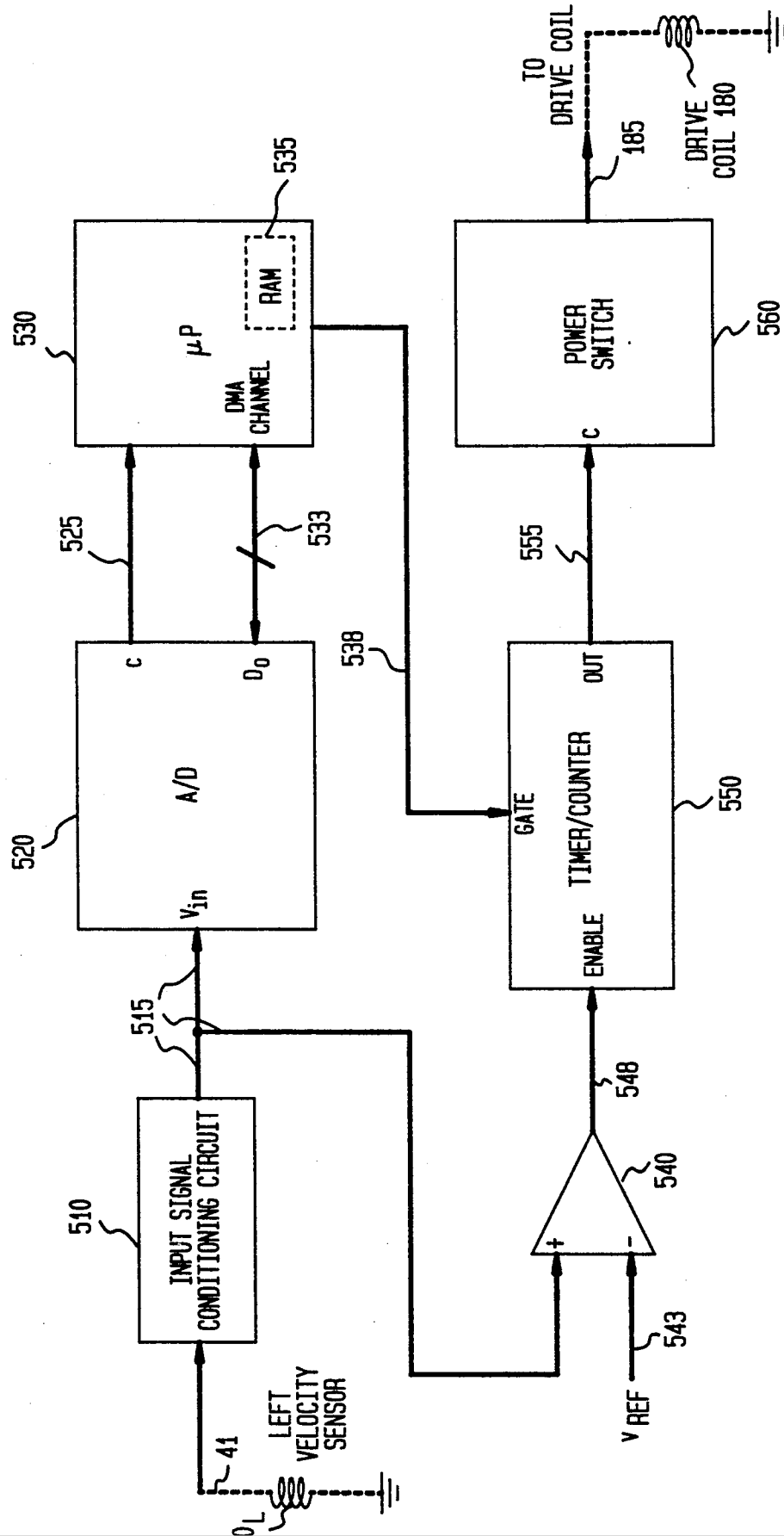


FIG. 3A

DRIVE COIL SIGNAL

FIG. 4



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