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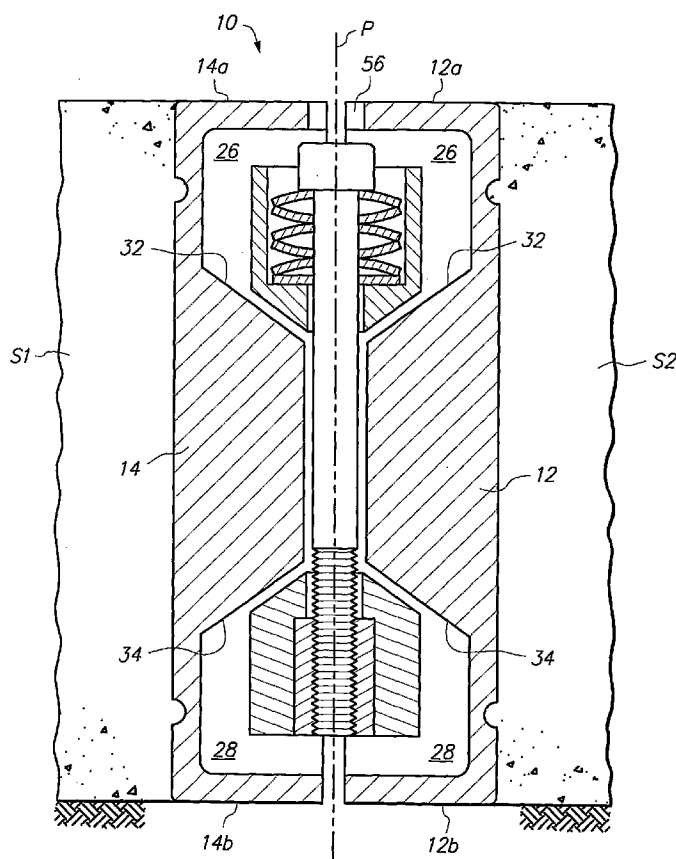
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(54) Title: CONCRETE SLAB JOINT STABILIZING SYSTEM AND APPARATUS



(57) Abstract: A joint stabilizing apparatus having an expandable cylindrical housing is inserted into a circular hole drilled at a "loose joint" of a concrete slab that is to be stabilized against relative vertical displacement between adjacent slab sections. The hole is drilled downward into the concrete, centered on the plane of a lateral opening/joint in the concrete slab. The expandable housing comprises two rigid semi-circular housing halves, and the assembly is oriented inside of the circular hole such that the two housing halves are on opposite sides of the centerline of the lateral opening/joint. The housing halves are pushed apart by turning of a threaded bolt inside of the housing. Turning of the bolt causes two bilaterally symmetric wedge blocks to draw towards each other, and pressing the bearing surfaces of the wedge blocks against inclined surfaces inside of the respective housing halves. As the housing halves are pushed apart, the outside surfaces of the expandable housing engage the walls of the drilled hole and apply opposing horizontal compressive forces to the slab sections. Friction between the expandable housing and the concrete slab sections prevent the slab sections from vertically moving relative to each other. In other embodiments of the invention, the joint stabilizing apparatus is used to prevent relative motion between non-horizontal construction members, and between four adjacent slab sections separated by intersecting loose joints.



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