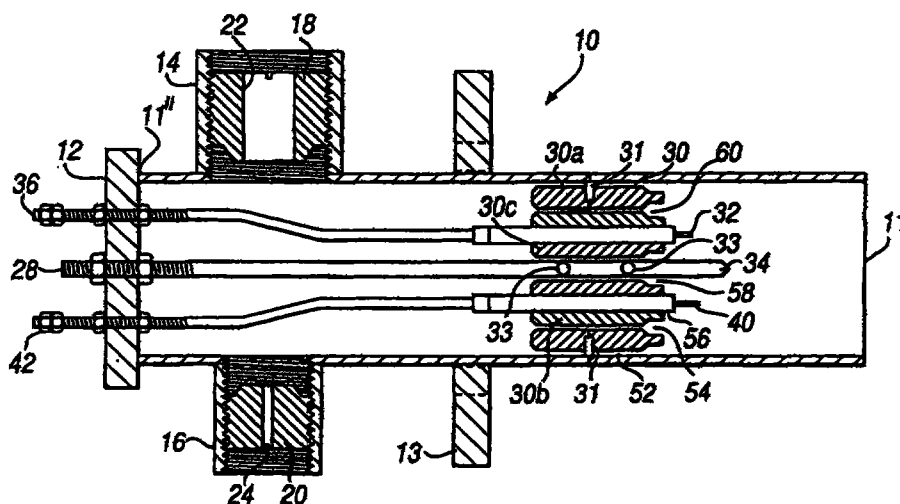


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(54) Title: **BURNER**

(57) Abstract

A burner for combusting gaseous mixture of gaseous fuel with a combustion supporting gas, such as oxygen or air, comprising a burner tube (11) open at one end (11') and closed at its other end (11'') with a flame holder (30) at which fuel is burnt adjacent the open end (11'), the flame holder (30) being traversed by passageways (52, 54, 56, 58) for the gaseous mixture, the burner (10) having inlets (14, 16) adjacent the closed end (11'') connected to combustion supporting gas and gaseous fuel supply lines, one of said lines having a control valve operable for controlling the size of the flame, the said one line having a pressure or flow transducer and the other line having a variable booster or restrictor responsive to the transducer, for balancing air and fuel supplied to the burner (10) to ensure the gaseous mixture remains stoichiometric irrespective of the size of the flame and such that the lowest gaseous fuel mixture flow rate is at least as low as 1/60th the highest flow rate of the gaseous fuel mixture each passageway (52, 54, 56, 58) having a flared exit (60) at the end nearer the open end (11') of the burner (11) each passageway being dimensioned such that at the highest obtainable flow rate of gaseous fuel mixture the flames do not lift off from the flamer holder, at the lowest flow rate the velocity of the gaseous fuel mixture at some point within the passageway (52, 54, 56, 58) is sufficient to prevent flame back through the flame holder.