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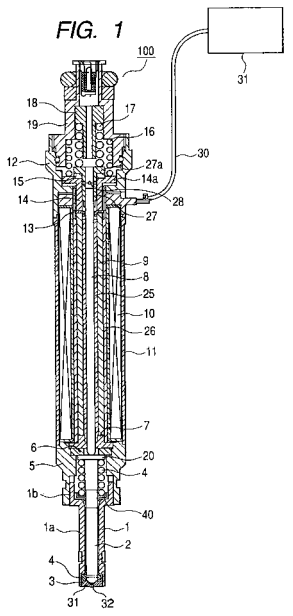
(54) **Fuel injection valve**

(57) The invention relates to a fuel injection valve comprising a valve seat (31) being provided upstream from a fuel nozzle orifice (32). A first valve rod (2) opens and closes the fuel nozzle orifice (32) with axial movements relative to the valve seat (31). A spring (4) exerts the first valve rod (2) away from the valve seat (31). A stopper (6) restricts a lift amount of the first valve rod (2) lifted with a force of the spring (4). A solenoid produces a magnetic field. A magnetostrictive element (9) extends when current passes through the solenoid and shrinks when no current passes through said solenoid, and having a hysteresis in an axial deformation amount on extending and in an axial deformation amount on shrinking. A second valve rod (8) presses the first valve rod (2) onto the valve seat (31) against the force of the spring (4) when the solenoid is not energized, and allows the first valve rod (2) to move away from the valve seat (31) with exertions of an extension of the magnetostrictive element (9) and the force of said spring (4) when said solenoid is energized. Wherein the extension amount of the magnetostrictive element (9) when the first valve rod (2) is fully open is set greater than a full stroke of the first valve rod (2) from the valve seat (31) to stopper (6).

FIG. 1



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