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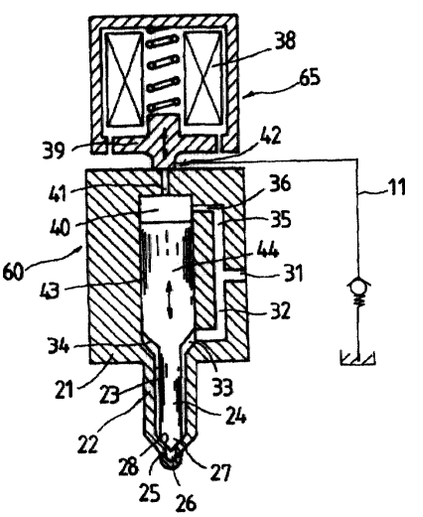
## (54) Common-rail fuel-injection system

(57) A common-rail fuel-injection system is disclosed, in which varying the effective stroke of an actuator-operated valve (42) results in adjusting an amount of fuel leaking out of a pressure-control chamber (40), thereby controlling the fuel injection in compliance with the engine operating conditions. When the lift of the valve (42) is small and therefore the opening area of the valve (42) is less than the cross-sectioned area of a fuel leakage path (41), the leakage of high-pressure fuel out of the pressure is defined by the lift of the valve (42). According to the pressure fall in the pressure-control chamber (40), the lift of a needle valve (24) is regulated to thereby control the fuel-injection rating, namely, the quantity of fuel injected and the rate of change of the fuel-injection rating. An exciting signal applied to the actuator (65) to operate the its associated valve is determined in accordance with a desired fuel-injection rating or the like, which is found in compliance with the engine operating conditions.

F I G. 3

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# EUROPEAN SEARCH REPORT

Application Number
EP 99 30 5441

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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
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| MUNICH | 18 December 2001 | Kolland, U |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 30 5441

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