

Liquid driven downhole drilling machine comprising a housing (11,12), a drill bit (13) mounted in a guiding bushing (31) to be angularly fixed but axially limitedly movable thereto, a piston hammer (30) arranged to impact on a shank (14) of the drill bit, and a valve (40) for controlling reciprocation of the hammer piston, the valve alternately pressurising and depressurising a pressure chamber (47) in which there is a piston area 46 that drives the hammer piston forwards when the chamber is pressurised, characterised in that the guiding bushing (31) is rotatably guided in the housing (11,12) and, via a one-way coupling (29), coupled to a turnable sleeve (22) that has axial ridges (24) that bound a number of chambers (25,26, 27) and form turning pistons for turning the turnable sleeve to and fro, a number of these chambers being coupled to be pressurised and depressurised simultaneously with said pressure chamber (47) with the piston area (46) for driving the piston hammer (30) forwards.