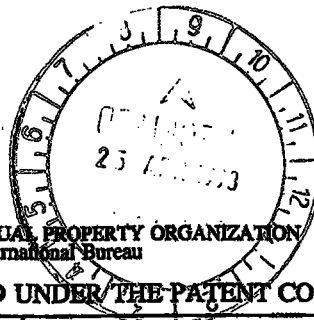
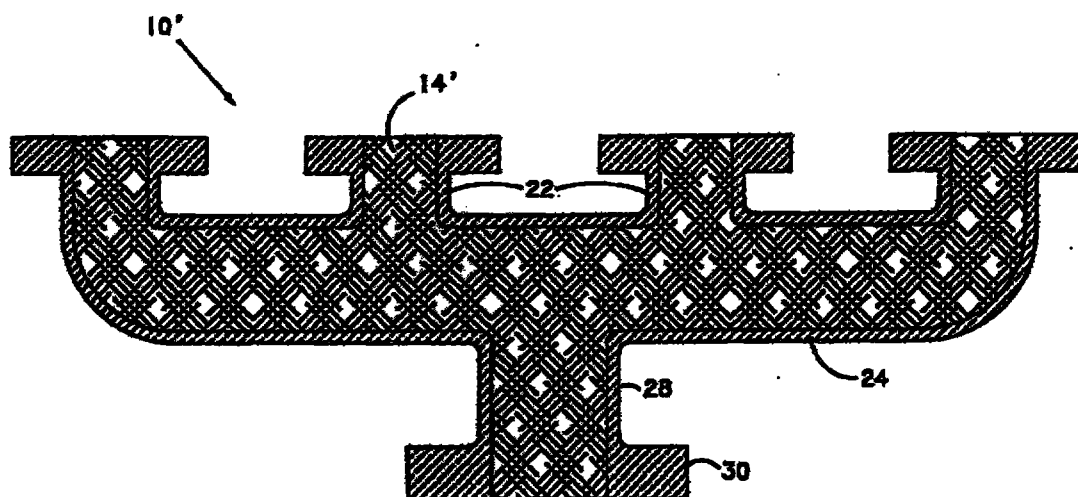


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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(21) International Application Number: <b>PCT/US96/11793</b></p> <p>(22) International Filing Date: <b>16 July 1996 (16.07.96)</b></p> <p>(30) Priority Data:<br/><b>08/515,548</b>      <b>16 August 1995 (16.08.95)</b>      <b>US</b></p> <p>(71) Applicant: <b>NORTHROP-GRUMMAN CORPORATION</b><br/>[US/US]; Intellectual Property Dept., M/S 90/110/CC, 1840 Century Park East, Los Angeles, CA 90067-2199 (US).</p> <p>(72) Inventors: <b>ATMUR, Steven</b>; 3350 May Court, Riverside, CA 92503 (US). <b>STRASSER, Edward</b>; 2593 Independence Way, Corona, CA 91720 (US).</p> <p>(74) Agent: <b>ANDERSON, Terry, J.</b>; Northrop-Grumman Corporation, Intellectual Property Dept., M/S 90/110/CC, 1840 Century Park East, Los Angeles, CA 90067-2199 (US).</p> | <p>(81) Designated States: <b>AU, BG, BR, CA, CN, CZ, DE, EE, GB, HU, IL, JP, KR, LU, LV, MX, PL, RO, RU, SE, SG, SK, UA, VN, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</b></p> <p><b>Published</b><br/><i>With international search report.</i></p> |                                                                                                                                      |

(54) Title: **EXHAUST MANIFOLD WITH INTEGRAL CATALYTIC CONVERTER**

## (57) Abstract

A pollutant reducing exhaust manifold (10') for an internal combustion engine incorporating a catalytic converter therein. The manifold (10') has a plurality of header pipes connected to and receiving exhaust gases from respective ones of a plurality of exhaust ports of an internal combustion engine. The header pipes (22) are connected to a single chamber (24) with an outlet (30) therefrom connected to an exhaust pipe (16) as well as a catalytic converter structure having a catalyst disposed on a supporting substrate (26) disposed in the chamber (24) between the inlet(s) (28) and the outlet (30) so that all exhaust gases from the engine must pass through the catalytic converter structure. The catalytic converter operates at higher temperatures for increased efficiency and comes to operating temperature virtually immediately unlike existing converters. Accordingly, the amount of pollutants released to the atmosphere from the engine is reduced.