

Title (en)
SONIC HEADS AND ASSEMBLIES AND USES THEREOF

Title (de)
SCHALLKÖPFE UND ANORDNUNGEN UND VERWENDUNGEN DAVON

Title (fr)
ENSEMBLES TETES SONIQUES ET UTILISATIONS

Publication
EP 1649133 A1 20060426 (EN)

Application
EP 04748823 A 20040618

Priority

- NZ 2004000128 W 20040618
- NZ 52663903 A 20030620
- NZ 53183304 A 20040318
- NZ 53205004 A 20040330

Abstract (en)
[origin: WO2004113668A1] A sonic head assembly suitable for generating an output, said assembly having a frame, a sonic head carrying, carried by, substantially locating or substantially being located by the frame, wherein the sonic head has a spaced pair of pistons each located within a head cylinder, and wherein each headed cylinder has a valving arrangement whereby a variable volume can be defined by the piston relative to the headed cylinder as a consequence of fluid supply into and/or fluid release from the variable volume chamber reliant on the valving arrangement, and wherein the valving arrangement of one headed cylinder is out of phase with the other such that as one chamber increases in volume as a consequence of fluid supply thereto, the other correspondingly decreases, and vice versa.

IPC 1-7
E21B 7/24

IPC 8 full level
E02D 3/054 (2006.01); **E21B 7/24** (2006.01); **E21B 28/00** (2006.01)

CPC (source: EP KR US)
E02D 3/054 (2013.01 - EP US); **E21B 7/24** (2013.01 - EP KR US); **E21B 28/00** (2013.01 - EP US)

Citation (search report)
See references of WO 2004113668A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2004113668 A1 20041229; AP 1981 A 20090323; AP 2005003461 A0 20051231; AU 2004250089 A1 20041229; AU 2004250089 B2 20080626; BR PI0411700 A 20060808; CA 2528480 A1 20041229; CN 1839244 A 20060927; CO 5721027 A2 20070131; EA 011262 B1 20090227; EA 200600072 A1 20060630; EP 1649133 A1 20060426; JP 2007521428 A 20070802; KR 20060028770 A 20060403; NO 20060182 L 20060317; PL 378722 A1 20060515; US 2006225922 A1 20061012; ZA 200510291 B 20091028

DOCDB simple family (application)
NZ 2004000128 W 20040618; AP 2005003461 A 20040618; AU 2004250089 A 20040618; BR PI0411700 A 20040618; CA 2528480 A 20040618; CN 200480023846 A 20040618; CO 05128099 A 20051220; EA 200600072 A 20040618; EP 04748823 A 20040618; JP 2006517006 A 20040618; KR 20057024497 A 20051220; NO 20060182 A 20060111; PL 37872204 A 20040618; US 31163005 A 20051220; ZA 200510291 A 20051219