

Title (en)

SOUND TRANSDUCER FOR SENDING AND/OR RECEIVING UNDERWATER SOUND SIGNALS, UNDERWATER ANTENNA, TRAILING ANTENNA, SONAR, AND WATERCRAFT

Title (de)

SCHALLWANDLER ZUM SENDEN UND/ODER EMPFANGEN VON UNTERWASSERSCHALLSIGNALEN, UNTERWASSERANTENNE, SCHLEPPANTENNE, SONAR UND WASSERFAHRZEUG

Title (fr)

TRANSDUCTEUR ACOUSTIQUE DESTINÉ À ÉMETTRE ET/OU À RECEVOIR DES SIGNAUX SONORES SOUS-MARINS, ANTENNE IMMERGÉE, ANTENNE REMORQUÉE, SONAR ET VÉHICULE NAUTIQUE

Publication

**EP 3774082 A1 20210217 (DE)**

Application

**EP 19715023 A 20190326**

Priority

- DE 102018205285 A 20180409
- EP 2019057556 W 20190326

Abstract (en)

[origin: WO2019197149A1] The invention relates to a sound transducer for sending and/or receiving underwater sound signals, wherein the sound transducer comprises at least two sound transducer shells, each comprising a piezoceramic material and each being electrically conductive on an outer surface and an inner surface, the sound transducer shells forming a toroidal shape so that an underwater sound signal can be sent and/or can be received rotationally symmetrically. The invention also relates to an underwater antenna, a trailing antenna, a sonar for sending and/or receiving underwater sound signals, and a watercraft.

IPC 8 full level

**B06B 1/06** (2006.01); **H04R 17/00** (2006.01)

CPC (source: EP)

**B06B 1/0644** (2013.01)

Citation (examination)

CN 103152666 A 20130612 - UNIV HARBIN ENG

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102018205285 A1 20191010**; EP 3774082 A1 20210217; WO 2019197149 A1 20191017

DOCDB simple family (application)

**DE 102018205285 A 20180409**; EP 19715023 A 20190326; EP 2019057556 W 20190326