Title (en)
METHOD, ANALYSIS DEVICE AND PUMPING SYSTEM FOR DETECTING AN OIL LEAK IN A BEAM PUMP

Title (de)
VERFAHREN, ANALYSEVORRICHTUNG UND PUMPSYSTEM ZUR ERKENNUNG EINES ÖLAUSTRITTS BEI EINER GESTÄNGE-TIEFPUMPE

Title (fr)
PROCÉDÉ, DISPOSITIF D'ANALYSE ET SYSTÈME DE POMPAGE POUR LA DÉTECTION D'UNE FUITE DE PÉTROLE DANS UNE POMPE À BALANCIER

Publication
EP 4208624 A1 20230712 (DE)

Application
EP 21801031 A 20211019

Priority
• EP 20203338 A 20201022
• EP 2021078915 W 20211019

Abstract (en)
[origin: CA3199307A1] A computer-implemented method for detecting an oil leak in a beam pump, wherein, during pumping movement of the rod linkage through the wellhead, a stroke region is formed, the method including a) capturing images of an image sequence containing at least the stroke region of the rod linkage, b) detecting soiling in the stroke region of the rod linkage in comparison with a known clean state for an image in question of the image sequence, c) ascertaining the position of the detected soiling for an image in question of the image sequence by the associated position of the rod linkage, d) determining the change in the soiling at the ascertained position over at least one pumping cycle from the images of the image sequence, e) checking if the change in the soiling exceeds a predefined limit value, and if applicable, outputting a warning of an oil leak.

IPC 8 full level
E21B 47/009 (2012.01)

CPC (source: EP US)
E21B 47/009 (2020.05 - EP US); **G06V 10/25** (2022.01 - US); **G06V 20/52** (2022.01 - US); E21B 2200/22 (2020.05 - EP US)

Citation (search report)
See references of WO 2022084297A1

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

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
EP 3988761 A1 20220427; CA 3199307 A1 20220428; EP 4208624 A1 20230712; US 2023383642 A1 20231130; WO 2022084297 A1 20220428

DOCDB simple family (application)
EP 20203338 A 20201022; CA 3199307 A 20211019; EP 2021078915 W 20211019; EP 21801031 A 20211019; US 202118032181 A 20211019