

Title (en)  
METHOD FOR RECIPROCATING PUNCHING/RAKING/LOADING BY POWER BOX ON EXCAVATOR, AND EXCAVATOR HAVING POWER BOX CAPABLE OF RECIPROCATING PUNCHING/RAKING/LOADING

Title (de)  
VERFAHREN FÜR HIN- UND HERGEHENDES STANZEN/WÜHLEN/LADEN DURCH EINE POWER-BOX AUF EINEM BAGGER UND BAGGER MIT DER POWER-BOX FÜR HIN- UND HERGEHENDES STANZEN/WÜHLEN/LADEN

Title (fr)  
PROCÉDÉ PERMETTANT D'ALTERNER LA PERFORATION, LE RACLAGE ET LE CHARGEMENT AU MOYEN D'UN BOÎTIER MÉCANIQUE MONTÉ SUR UN EXCAVATEUR, ET EXCAVATEUR COMPORTANT UN BOÎTIER MÉCANIQUE POUVANT ALTERNER LA PERFORATION, LE RACLAGE ET LE CHARGEMENT

Publication  
**EP 3061904 A1 20160831 (EN)**

Application  
**EP 14855650 A 20141021**

Priority  
• CN 201310492936 A 20131021  
• CN 201310508806 A 20131025  
• CN 201310601557 A 20131126  
• CN 201410042606 A 20140129  
• CN 201410205501 A 20140509  
• CN 201410281255 A 20140615  
• CN 201410318364 A 20140626  
• CN 2014000928 W 20141021

Abstract (en)  
A method for reciprocating punching/raking/loading by a power box on an excavator is disclosed. Said method comprises providing a reciprocating impact power box body (3) and reciprocating impact box raking devices (7). The raking devices (7) each comprise a raking rotary member (11) and a raking rotary arm (12). The rotary member (11) is disposed on the lower portion of the side of the power box body (3). The rotary arm (12) is disposed on the rotary member (11). The rotary member (11) drives the rotary arm (12) to rotate. The raking end of the rotary arm (12) disposed on the power box body (3) rotates to the area away from the surface of the power box body (3) in order to rake. The rotary arm (12) rakes up material fallen from the reciprocating impact heads (6) and moves said material to a material-clearing unit (13). The invention fully solves the difficulty reciprocating impact excavators have with clearing away material that has fallen as a result of reciprocating impact operations, and thereby increases excavation efficiency. An excavator having a power box capable of reciprocating punching/raking/loading is also disclosed

IPC 8 full level  
**E21C 27/00** (2006.01); **E21C 27/28** (2006.01); **E21C 35/20** (2006.01)

CPC (source: CN EP US)  
**E21C 25/02** (2013.01 - CN); **E21C 27/00** (2013.01 - EP US); **E21C 27/28** (2013.01 - EP US); **E21C 31/02** (2013.01 - CN); **E21C 35/20** (2013.01 - CN EP US); **E21D 9/12** (2013.01 - CN)

Cited by  
CN113290127A

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)  
**EP 3061904 A1 20160831**; **EP 3061904 A4 20170614**; AU 2014339659 A1 20160609; AU 2014339659 A2 20160818; AU 2014339659 B2 20180329; CA 2928285 A1 20150430; CN 104564052 A 20150429; CN 104564052 B 20180130; EA 031055 B1 20181130; EA 201690821 A1 20160930; US 2016265355 A1 20160915; WO 2015058465 A1 20150430; ZA 201603439 B 20180926

DOCDB simple family (application)  
**EP 14855650 A 20141021**; AU 2014339659 A 20141021; CA 2928285 A 20141021; CN 2014000928 W 20141021; CN 201410562881 A 20141021; EA 201690821 A 20141021; US 201415030884 A 20141021; ZA 201603439 A 20160519