

Title (en)

METAL REMELTING AND ELECTRICAL POWER GENERATION WITH CONCENTRATED SOLAR POWER

Title (de)

METALLUMSCHMELZUNG UND STROMENERGIEERZEUGUNG MIT KONZENTRIERTER SONNENENERGIE

Title (fr)

REFONTE DE MÉTAL ET PRODUCTION D'ÉLECTRICITÉ AU MOYEN D'ÉNERGIE SOLAIRE CONCENTRÉE

Publication

EP 2938934 A1 20151104 (EN)

Application

EP 13868435 A 20131220

Priority

- US 201261746950 P 20121228
- US 2013077002 W 20131220

Abstract (en)

[origin: WO2014105715A1] One disclosed embodiment is a concentrated solar thermal system for re-melting recycled or scrap metal. The system includes a solar receiver configured to receive concentrated solar flux reflected from one or many reflecting surfaces to heat a quantity of the recycled metal and cause at least a portion of the recycled metal to melt. The molten metal is then passed to a solidification stage where the molten metal may be cast into any type of solid form useful for sale or the subsequent production of metal products. The solidified metal may be sold or otherwise removed from the system. In certain embodiments, heat exchange is made to occur between the molten metal and the working fluid of an electrical power generation cycle resulting in electrical power generation. Methods of remelting metal using solar thermal power and methods of generating power using a molten metal heat transfer material derived from recycled metal or scrap are also disclosed.

IPC 8 full level

F24S 20/30 (2018.01); **C22B 7/00** (2006.01); **C22B 9/00** (2006.01)

CPC (source: EP US)

B22D 25/00 (2013.01 - EP US); **C22B 7/00** (2013.01 - US); **C22B 7/003** (2013.01 - EP US); **C22B 9/16** (2013.01 - US); **F24S 20/30** (2018.04 - EP US); **F28D 2020/0004** (2013.01 - EP US); **Y02E 10/40** (2013.01 - EP); **Y02P 10/20** (2015.11 - EP US)

Citation (search report)

See references of WO 2014105715A1

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)

WO 2014105715 A1 20140703; CL 2015001819 A1 20151002; CN 104981668 A 20151014; EP 2938934 A1 20151104; US 2015308715 A1 20151029; ZA 201503931 B 20160428

DOCDB simple family (application)

US 2013077002 W 20131220; CL 2015001819 A 20150624; CN 201380066045 A 20131220; EP 13868435 A 20131220; US 201314650540 A 20131220; ZA 201503931 A 20150601