Title (en)

SELF LEVELING STACK ASSEMBLY WITH FRONT-LOADED AMPLITUDE UNIFORM ULTRASONIC WELDING HORN

Title (de)

SELBSTNIVELLIERENDE STAPELANORDNUNG MIT FRONTGELADENEM AMPLITUDENGLEICHFÖRMIGEM ULTRASCHALLSCHWEISSHORN

Title (fr)

ENSEMBLE COLONNE À NIVELLEMENT AUTOMATIQUE AVEC SONOTRODE DE SOUDAGE PAR ULTRASONS UNIFORME À AMPLITUDE À CHARGEMENT AVANT

Publication

EP 4196310 A1 20230621 (EN)

Application

EP 21856617 A 20210811

Priority

- US 202063064423 P 20200812
- US 202163183204 P 20210503
- US 2021045475 W 20210811

Abstract (en)

[origin: WO2022035924A1] An ultrasonic welder (10) has a booster (50) and stack assembly (34) carrying an ultrasonic horn (14). The stack assembly is self-leveling and rotational. Also, the ultrasonic horn is annular and is mounted against the booster, which has a threaded cavity, by a threaded bolt (52) that passes through the annular ultrasonic horn and into the threaded cavity of the booster. The horn includes a shaft portion (35) attachable to a source of high-frequency ultrasonic vibration, a transition (37) having a height and a width and being smaller in cross- sectional area than the shaft cross-sectional area by tapering its height. The transition is attached to an intermediate holder (31) and has a cross-sectional area that is smaller than the transition cross-sectional area. The intermediate holder has a concave width dimples. The intermediate holder carries a rectangular welding tip (33) having a cross-sectional area larger than the intermediate holder cross-sectional area.

IPC 8 full level

B23K 20/10 (2006.01); **B29C 65/08** (2006.01)

CPC (source: EP KR)

B23K 20/10 (2013.01 - EP KR); **H01M 50/516** (2021.01 - KR); **H01M 50/536** (2021.01 - EP KR); H01M 50/516 (2021.01 - EP)

Citation (search report)

See references of WO 2022035924A1

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)

WO 2022035924 A1 20220217; EP 4196310 A1 20230621; JP 2023538468 A 20230908; KR 20230049665 A 20230413

DOCDB simple family (application)

US 2021045475 W 20210811; EP 21856617 A 20210811; JP 2022515525 A 20210811; KR 20237007181 A 20210811