

Title (en)

WORKPIECE TAKING-OUT APPARATUS AND TRANSFER PRESS MACHINE

Title (de)

WERKSTÜCKENTNAHMEVORRICHTUNG UND TRANSFERPRESSMASCHINE

Title (fr)

APPAREIL D'EXTRACTION DE PIÈCE ET MACHINE DE PRESSE DE TRANSFERT

Publication

EP 3756784 A1 20201230 (EN)

Application

EP 20163994 A 20200318

Priority

JP 2019121368 A 20190628

Abstract (en)

To provide a workpiece taking-out apparatus configured to take out a cylindrical workpiece to a position more spaced apart from the lateral surface of a transfer press machine as compared to the conventional apparatuses, and a transfer press machine including such a workpiece taking-out apparatus. In a workpiece taking-out apparatus (40) of the present disclosure, a pair of arm parts (50) configured to clamp a cylindrical workpiece (90) extends from a pair of second movable bases (44) toward a bolster (16). By the pair of second movable bases (44) being shifted in a second horizontal direction H2 by a pair of open-close driving parts (52) relative to a pair of first movable bases (43), a pair of arm parts (50) opens and closes. The pair of first movable bases (43) is shifted by a ball screw mechanism (60) relative to a fixed base (41), to convey the cylindrical workpiece (90). That is, in the workpiece taking-out apparatus (40) of the present disclosure, a mechanism portion for causing the pair of arm parts (50) to open and close and to convey is provided as being spaced apart from the pair of arm parts (50).

IPC 8 full level

B21D 43/00 (2006.01); **B21D 43/10** (2006.01); **B21D 43/12** (2006.01)

CPC (source: CN EP KR)

B21D 24/005 (2013.01 - CN); **B21D 37/08** (2013.01 - KR); **B21D 43/006** (2013.01 - EP); **B21D 43/05** (2013.01 - KR); **B21D 43/10** (2013.01 - EP);
B21D 43/105 (2013.01 - CN); **B21D 43/12** (2013.01 - EP KR); **B21D 43/20** (2013.01 - CN); **B21D 45/02** (2013.01 - KR);
B30B 15/32 (2013.01 - EP)

Citation (applicant)

- JP 2015088297 A 20150507 - TOYOTA MOTOR CORP
- JP 2016206683 A 20161208 - JIN CO LTD

Citation (search report)

- [A] KR 101590589 B1 20160201 - ASAHI SEIKI MFG [JP]
- [A] JP 2018144096 A 20180920 - INABA MIEKO
- [A] US 2008216547 A1 20080911 - KONG MOON-GYU [KR]
- [A] CN 109647975 A 20190419 - SHANDONG SHIFENG GROUP CO LTD
- [A] KR 101729321 B1 20170421 - ASAHI-SEIKI MFG CO LTD [JP]
- [A] CN 207170665 U 20180403 - DONGGUAN ZHONGYI RENXIN AUTOMATION TECH CO LTD

Cited by

JP2022115157A; CN117774243A; CN113677452A

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 3756784 A1 20201230; EP 3756784 B1 20220511; EP 3756784 B8 20220615; CN 111531054 A 20200814; CN 111531054 B 20210316;
JP 2021007952 A 20210128; JP 6626234 B1 20191225; KR 102121878 B1 20200611

DOCDB simple family (application)

EP 20163994 A 20200318; CN 202010384309 A 20200507; JP 2019121368 A 20190628; KR 20200010825 A 20200130