

Title (en)
SYNCHRONIZED LIFTING APPARATUS

Title (de)
SYNCHRONISIERTE HEBEVORRICHTUNG

Title (fr)
APPAREIL DE LEVAGE SYNCHRONISÉ

Publication
EP 2699804 A1 20140226 (EN)

Application
EP 12859424 A 20120410

Priority
• US 201161477931 P 20110421
• US 2012032836 W 20120410

Abstract (en)
[origin: WO2013095693A1] A synchronous lifting system with single-rod, single-acting hydraulic cylinders controlled by parallel-connected lift valves having two fluid passages. Hydraulic fluid for extending the actuators is delivered by a hydraulic supply system alternating between the two passages. Each time the supply circuit alternates passages, a fixed volume of hydraulic fluid is transferred by the lift valves to the cylinders causing the rods to lift a proportionate amount. All of the rods extend by approximately the same increment each time the supply circuit alternates passages. Because the rods all extend the same increment each cycle, the load is lifted evenly and the need for height sensors or transducers is eliminated.

IPC 8 full level
F15B 7/00 (2006.01); **B66F 3/24** (2006.01); **B66F 3/46** (2006.01); **E01D 15/02** (2006.01); **E04B 1/35** (2006.01); **F15B 11/13** (2006.01); **F15B 11/22** (2006.01)

CPC (source: EP)
B66F 3/24 (2013.01); **B66F 3/46** (2013.01); **F15B 11/13** (2013.01); **F15B 11/22** (2013.01); **E04B 1/3511** (2013.01); **F15B 2211/20538** (2013.01); **F15B 2211/3051** (2013.01); **F15B 2211/30515** (2013.01); **F15B 2211/327** (2013.01); **F15B 2211/6309** (2013.01); **F15B 2211/7052** (2013.01); **F15B 2211/782** (2013.01)

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

DOCDB simple family (publication)
WO 2013095693 A1 20130627; AU 2012355968 A1 20131031; CN 103562563 A 20140205; EP 2699804 A1 20140226; EP 2699804 A4 20150729

DOCDB simple family (application)
US 2012032836 W 20120410; AU 2012355968 A 20120410; CN 201280025408 A 20120410; EP 12859424 A 20120410