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MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
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[Continued on next page]

(54) Title: IMPACTOR AND REMOVER DEVICES

FIG. 1

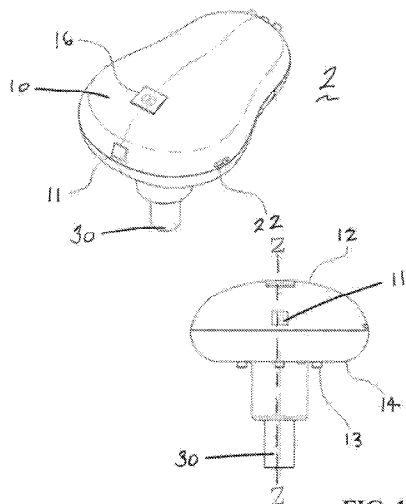


FIG. 1A

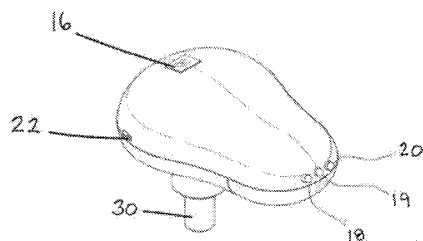


FIG. 1B

(57) Abstract: An impactor having a housing including an upper portion and a lower portion at least a part of which extends perpendicularly from the upper portion, a ram having a first end positioned in the upper portion and positioned in axial alignment with the lower portion, an opposite end of the ram extending from the lower portion of the housing, at least one drive assembly including a first drive shaft operably coupled to a cam shaft, a cam operably coupled to the cam shaft, a cam operably coupled to the cam shaft, the drive shaft operably connectable to motor, wherein the cam is operable to rotate and positioned to contact the proximal end of the ram upon rotation of the cam, a circuit board comprising circuitry operable to receive instructions from a plurality of switches electrically coupled to the circuit board to operate the impactor, wherein the impactor is operable to deliver low amplitude pulsed strikes to a workpiece at variable frequencies.



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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61B 17/92 (2015.01)

CPC - A61B 17/92 (2015.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - A61B 17/16, 17/92; A61F 2/46; B25D 17/00 (2015.01)

CPC - A61B 17/92, 17/1604, 2017/922; A61F 2/46, 2/4607 (2015.01) (keyword delimited)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 74/44; 173/201; 606/86R, 99, 100

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Orbit, Google Patents, Google Scholar, Google, YouTube.

Search terms used: impactor, extractor, ram, cam, shaft, reciprocate, surgery, motor

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7,569,057 B2 (LIU et al) 04 August 2009 (04.08.2009) entire document	1-7, 9, 11, 17, 19-20
Y	US 2013/0255981 A1 (HITACHI KOKI CO., LTD.) 03 October 2013 (03.10.2013) entire document	1-7, 9, 11, 17, 19-20
Y	US 2,138,862 A (JOHNSTON) 06 December 1938 (06.12.1938) entire document	19
A	US 4,644,952 A (PATIPA et al) 24 February 1987 (24.02.1987) entire document	1-20
A	US 6,171,312 B1 (BEATY) 09 January 2001 (09.01.2001) entire document	1-20

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