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(54) **Hydraulic excavator for wells.**

(57) Such excavator comprises a supporting column (1) of structural cross section, a hydraulic pump (2) and associated control box (13) for feeding the hydraulic system, a motor (3) driving said pump (2), an articulated arm (4), a working tool (5) and a control system (6) for the arm (4) and the tool (5).

A pivot (11) extending with its axis parallel to the vertical longitudinal axis of the column (1) is mounted on the projection (1d) of the column (1) and the articulated arm (4) is secured by means of the hinge (16) to the pivot. Such pivot (11) permits the articulated arm (4) to be rotated through 180° about the axis of the pivot. The hinges (16) also permit the articulated arm (4) to be lifted.

The working tool (5) is mounted at the distal end of the portion (4b) of the articulated arm (4). All rotary movements of the articulated arm and its portions as well as the working tool are hydraulically controlled by means of hydraulic rams (12, 4c, 4d and 5a).

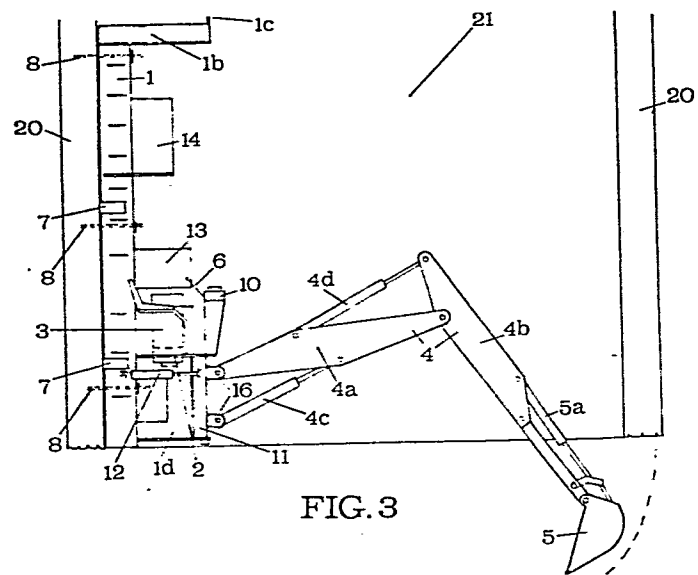
The motor (3) is an electric motor or an internal combustion engine and may be located adjacent the column (1) or outside the well (21).

The column (1) is secured by means of the brackets (7) to anchoring means (8) or by means of the guide (1a) to a rail on the wall (20) of the well (21).

In this manner the excavator can perform its excavating work within the well by penetrating gradually more and more thereto as the depth of the well increases. A plurality of anchoring means or rails may be mounted at the same depth on the wall of the well to give the excavator a range of manoeuvrability of 360°.

This excavator permits to make vertical or inclined wells of any cross section and shape, particularly wells of small diameter or of oblong cross-sectional shape which cannot be made by conventional excavators.

Further, this excavator is particularly useful for excavations under difficult working conditions such as in places that are not easily accessible or cannot be easily supplied with electric power.





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# EUROPEAN SEARCH REPORT

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Application number

EP 81 20 1101

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Y	<p>--- GB-A-1 056 692 (MOWLEM) *The whole document*</p>	1,3,5- 9,12	E 02 F 3/32 E 21 D 1/03
Y	<p>--- DE-C- 486 168 (ALTENHOFF) *The whole document*</p>	1,2	
A	<p>--- US-A-3 061 122 (ROBBINS)  *Column 2, line 67 - column 4, line 58*</p>	1,3,5, 7-9,11 ,12	
A	<p>--- GB-A-1 190 068 (PRUZHINER) *The whole document*</p>	4,8,10	
A	<p>--- US-A-2 785 813 (TOFFLEMIRE) *Column 2, lines 10-18*</p>	4	TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
A	<p>--- DE-A-1 533 688 (HAUSHERR) *Pages 5,6*</p> <p>-----</p>	8-11	E 02 F E 21 D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-01-1983	Examiner PAUCNIK B.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			