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## EUROPEAN PATENT APPLICATION

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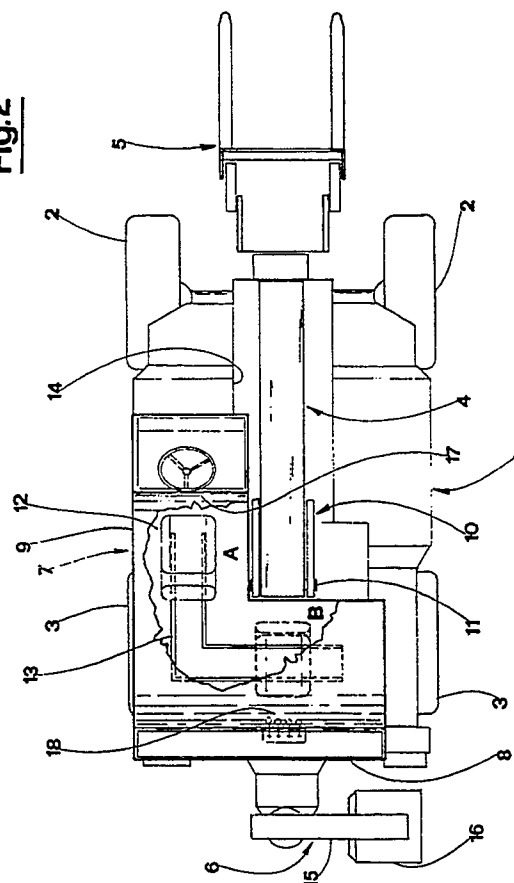
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(54) **A mobile elevator with backhoe.**

(57) The invention relates to a mobile elevator with backhoe.

It comprises a chassis (1) mounted on wheels (2) and (3), on which a telescopic manoeuvring arm (4) is fixed which is able to bear at its free end a fork-group or similar (5), and an articulated-arm backhoe (6). The telescopic manoeuvring arm 4 is located longitudinally, in median position with respect to the chassis 1, on which chassis 1 an L-shaped cabin (7) is arranged for the operator. Internally to the cabin (7) there is a seat (12) fixed on the tracks (13), permitting of movement, as required, in the longitudinal part (9) where the driving controls are situated, or the transversal part (8), where the controls for the manoeuvring of the backhoe (6) are situated.

**Fig.2**



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The invention relates to a mobile elevator with backhoe.

Basically the invention is a multifunction machine of the type usually comprising a tractor equipped with a lifting device (or mechanical shovel) operating frontally and an articulated-arm hoe operating from the back.

In particular, for those machines which use a lifting device, comprising a telescopic manoeuvring arm located in median position on the frame of the vehicle, the problem exists of where best to position the driver-operator so that he can both drive the machine and operate the articulated-arm backhoe. Since for the driving of the vehicle and for the manoeuvring of the lifting mechanism a frontal driving position is required, while for the backhoe manoeuvring a more posterior position is necessary to allow the operator to control directly the entire working-field of the backhoe, two driving positions are envisaged. In the prior art this has obliged driver-operators to get out of the vehicle in order to take up the second position.

The present invention, as described in the claims which follow, seeks to obviate this inconvenient existing in the prior art.

The invention further proposes to realise a new mobile elevator with backhoe in which the positioning of the various chassis parts, the telescopic lifting arm and the hoe permit of bettering the conditions of visibility in all operating conditions with respect to the prior art.

Advantage of the invention is the fact that it offers a comfortable and safe driving position.

Further characteristics and advantages will better appear in the detailed description which follows of a preferred but not exclusive embodiment, illustrated here purely in the form of a non-limiting example in the diagrams, where :

- Figure 1 is a vertical-elevation lateral view ;
- Figure 2 is a schematic view from above of Figure 1.

With reference to the diagrams, 1 shows a chassis mounted on two wheel pairs 2 and 3, on which chassis 1 a motor-transmission group is mounted transversally (not illustrated in diagram). The chassis 1 is formed in such a way as to present in its central anterior part a median longitudinal channel 14 disposed according to the longitudinal axis of the said chassis 1. The median longitudinal channel 14 is formed so that it can house, at least in part, a telescopic manoeuvring arm 4 which at its free end is able to bear a fork-group or similar, in this instance a fork-group 5. The telescopic manoeuvring arm 4 is pivoted at its base, by means of a pivot 11 to the top of a support 10 located in central position to the posterior extremity of the median longitudinal channel 14. A backhoe (the whole assembly is indicated by 6) is posteriorly mounted to the chassis 1, which backhoe 6 is equipped with an articulated arm 15 at whose extremity a bucket 16

is arranged. The backhoe 6 is hydraulically activated, as is the telescopic manoeuvring arm 4. A cabin 7, arranged on the chassis 1, is L-shaped and comprises : a transversal part 8 positioned in the posterior area of the chassis 1 between the backhoe 6 and the support 10 and disposed parallel to the posterior axis of the vehicle ; and a longitudinal part 9 positioned on one flank of the chassis 1 in such a way as to extend parallel to the flank of the median longitudinal channel 14. Tracks 13 are arranged in an L-shape on the floor of the cabin 7 ; a seat 12 is slidably mounted to said tracks 13 in the desired position. In particular, the tracks 13 are arranged so that the seat 12 can be slid into two positions, indicated in the illustrations by A and B, situated respectively in proximity to the controls 17 for the driving of the vehicle and the manoeuvring of the telescopic manoeuvring arm 4, and the controls 18 for the manoeuvring of the backhoe 6.

From each of the two positions indicated the operator sitting in the seat 12 enjoys an excellent view through the windows of the cabin 7.

The changing of the position of the seat 12 from position A to position B and viceversa can be effected very rapidly by the simple sliding of the seat 12 along the tracks 13, without the need for the operator to get out of the cabin.

## Claims

1. Mobile elevator with backhoe comprising a chassis (1), mounted on wheel pairs (2) and (3), on which chassis (1) are mounted : a telescopic manoeuvring arm (4) able to bear at its free end a fork-group or similar (5) ; a backhoe (6) equipped with an articulated arm or similar (15) ; comprising an L-shaped cabin (7) for the operator with a transversal part (8) positioned in the posterior area of the chassis (1) parallel to the posterior axis of the vehicle ; and a longitudinal part (9) positioned on one flank of the chassis (1) ; said longitudinal part (9) being flanked by said telescopic manoeuvring arm (4) which is located along the median longitudinal plane of the chassis (1) and hinged around a horizontal axis perpendicular to said longitudinal axis to the top of a support (10) situated frontally to the transversal part (8) of said cabin (7) ; having internally to the cabin (7) a seat 12 for the operator which is slidable and at least horizontally positionable along said tracks (13), which are arranged in an L-shape, from a laterally advanced position in the longitudinal part (9) of the cabin (7) to permit of guiding the manoeuvring of the telescopic manoeuvring arm (4), to a median posterior position to permit of manoeuvring the backhoe (6) and vice-versa.

2. Elevator as in claim 1, wherein said seat (12) is

slidably mounted on tracks (13) arranged in an L-shape on the floor of the cabin (7) ; having means for the locking and unlocking of the seat (12) in any position along said tracks (13).

3. Elevator as in claim 1, wherein the top of the support (10) is located frontally to the transversal part (8) of said cabin (7), laterally to said longitudinal part (9) at a height which with respect to the cabin (7) does not obstruct the view of the operator ; wherein said chassis (1) is conformed in such a way as to present a sort of median longitudinal channel (14) inside which the telescopic manoeuvring arm (4) is at least in part freely housable.

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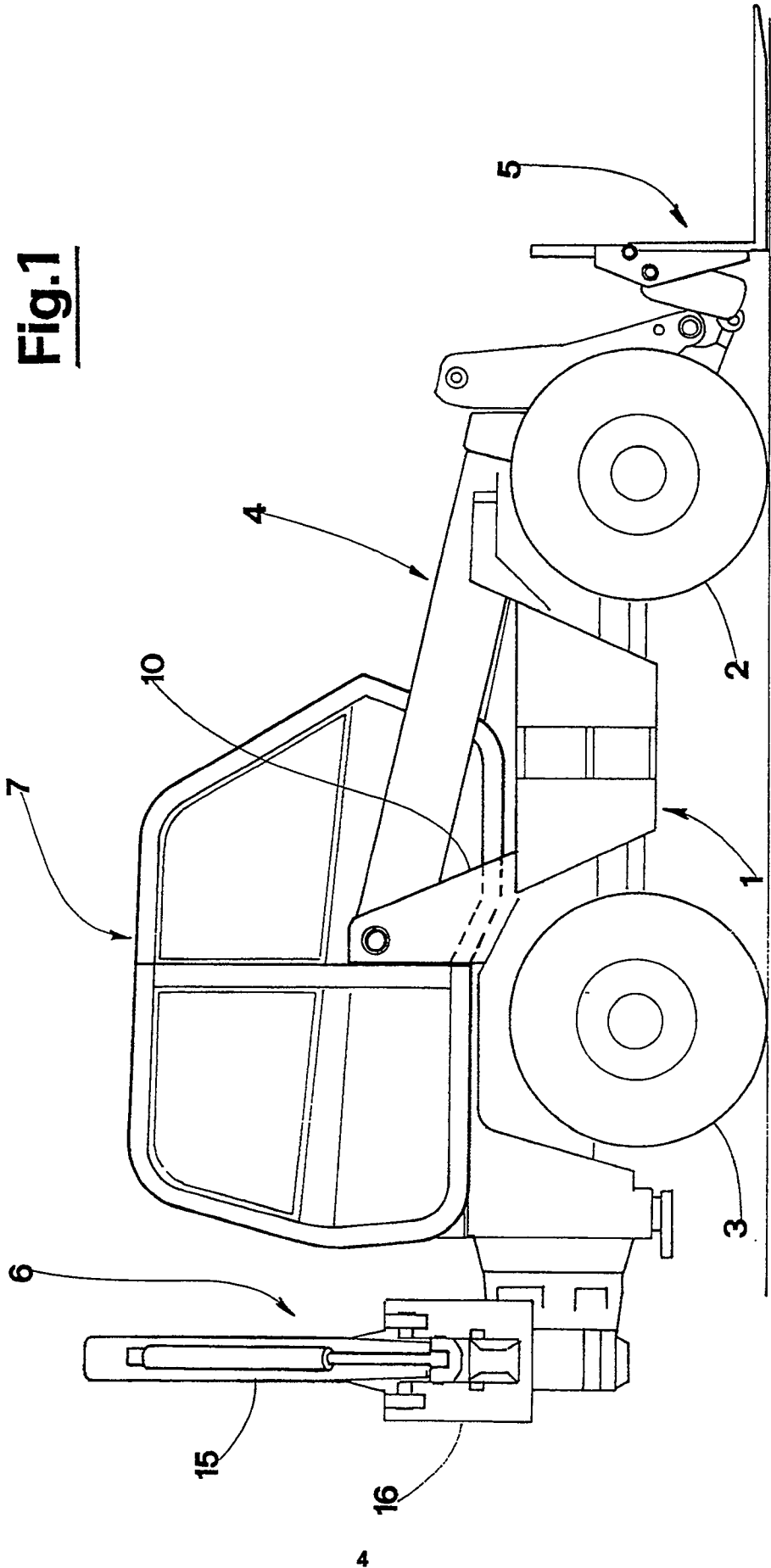
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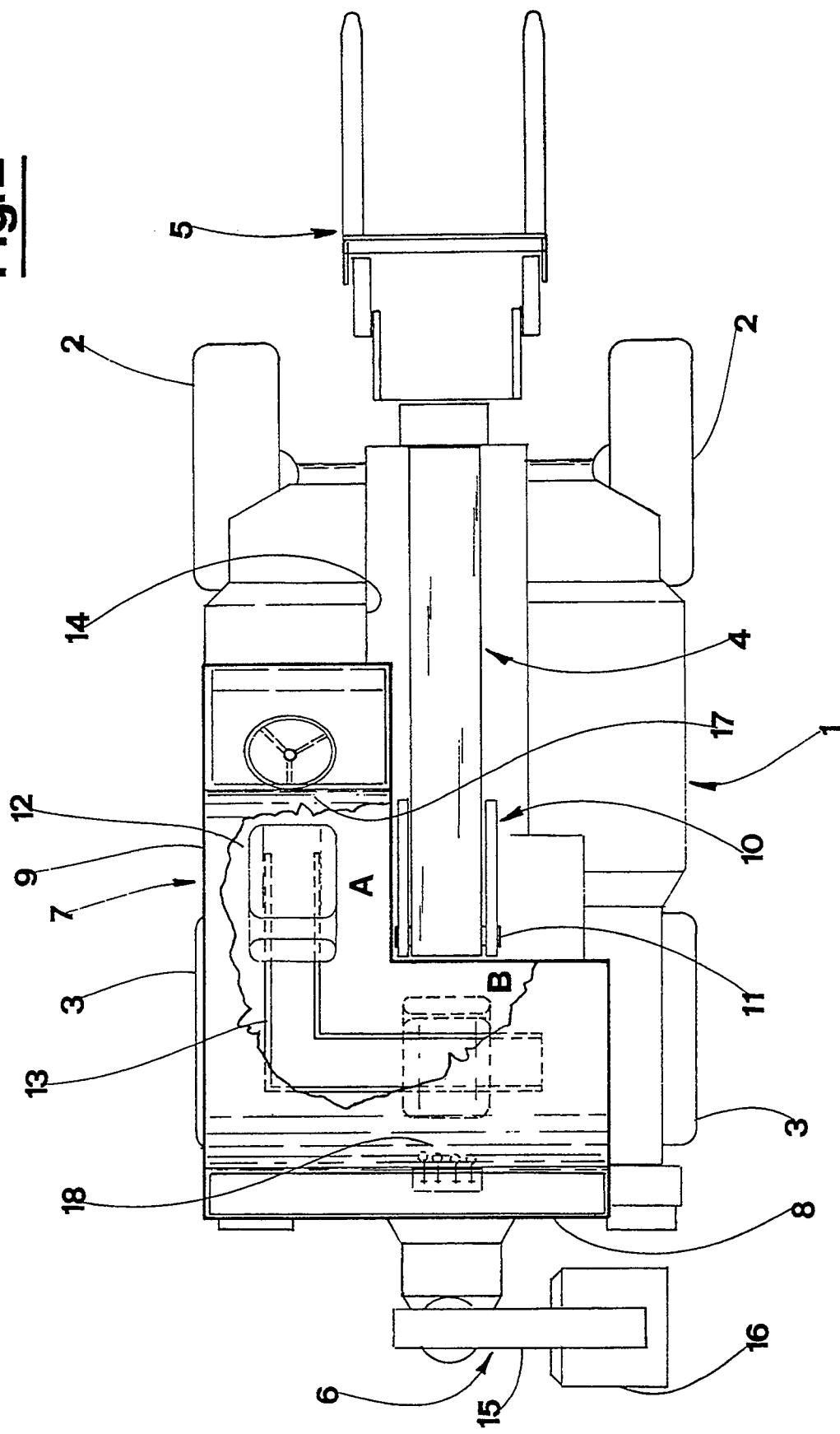
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**Fig.2**





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# EUROPEAN SEARCH REPORT

Application Number

EP 90 83 0515

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.5)
A	EP-A-0 150 154 (M.T.P.) * Abstract; figure 4 *	1	E 02 F 9/16 B 66 F 9/075 E 02 F 3/96 B 66 F 9/065
A	US-A-4 026 379 (DUNN)		
A	EP-A-0 005 908 (INTERNATIONAL HARVESTER CO.)		
A	FR-A-2 344 680 (FONTANA)		
A	WO-A-8 900 972 (MERLO INDUSTRIA METALMECCANICA)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 66 F B 62 D E 02 F B 60 N
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-02-1991	Examiner VAN DEN BERGHE E.J.J.
CATEGORY OF CITED DOCUMENTS		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 ..... & : member of the same patent family, corresponding document	
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			

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