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(54) Lift for motorbikes and quads

(57) The present invention refers to the field of lifts for servicing small vehicles, such as for example motorbikes and particularly quads.

The lift (1) comprises at least two structures (2, 2') each comprising: a flat element (9), on which a vehicle can be positioned, supported by a lifting unit (3) located below the flat element (9); a frame (6) located below the lifting unit (3), acting as a base for the structure (2, 2');

said frame (6) and said flat element (9) can be parallelly located one to the other with respect to the centerline of the flat element (9).

Said structures (2, 2') are characterized by the fact that they can be reciprocally moved close or away by sliding means (11) integral with the frame (6) of each structure (2, 2') and engaging corresponding guiding tracks (16).

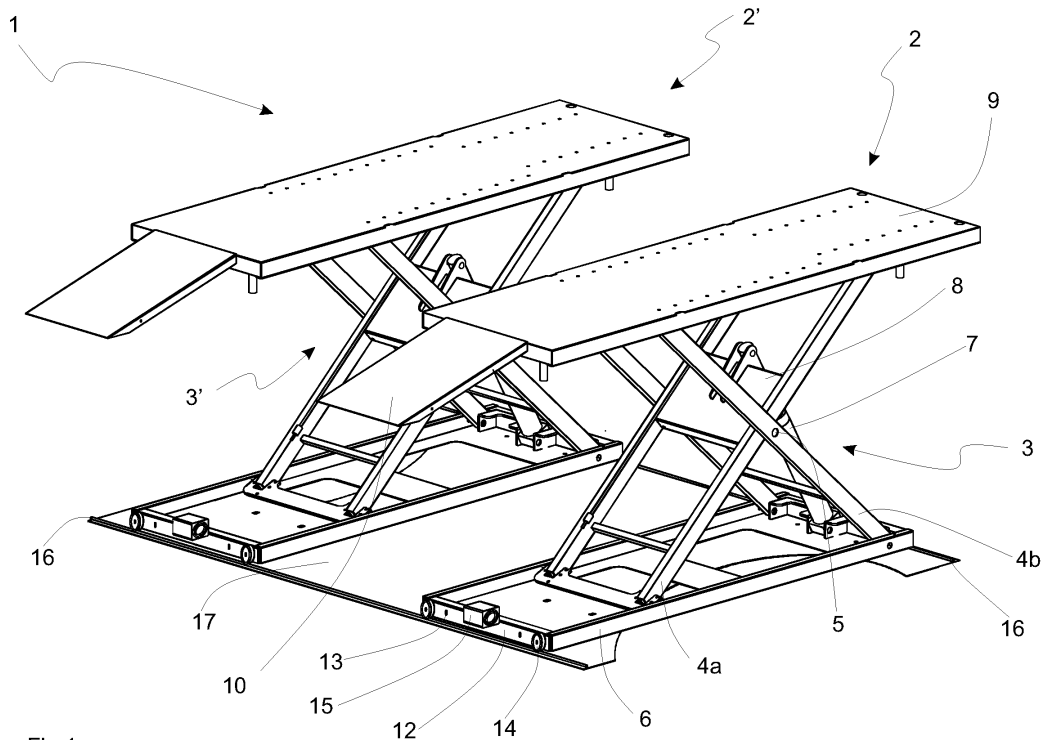


Fig.1

EP 2 444 358 A1

Description

FIELD OF THE INVENTION

[0001] The present invention refers to the field of the lifts for small vehicles such as for examples motorbikes and particularly quads.

STATE OF THE ART

[0002] As it is known, for servicing vehicles scissor-like lifts, pantograph-like lifts or lifts with four columns, with an hydraulic or pneumatic pump are used.

[0003] Said lifts are substantially formed by a single structure formed by:

- a flat element, that is an horizontal surface, on which the vehicles are located by rise/descent ramps;
- a lifting unit, centrally located below the flat element, comprising hydraulic or pneumatic cylinders and at least two pairs of levers wherein a stationary lever is articulated to another freely sliding lever;
- a frame on which the lifting unit is fixed.

[0004] The flat element can be in one piece, or is formed by a plurality of parts.

[0005] As an example, patent EP1851160, describes a scissor-like lift, comprising a single structure with a lifting unit centrally located below the flat element.

[0006] It is to be noted that the scissor-like arrangement is preferred when an operator wants to work at an height greater than the ones of the other kinds of lifts but with a decidedly smaller size.

[0007] Said flat element is movable and is provided with rise/descent ramps and with containment stops and can be divided by translating on suitable guides. It is to be observed that, as a function of the vehicle to be positioned, the flat element can take different arrangements, such as for example:

- closed, for motorbikes;
- divided in two parts for four wheels vehicles;
- divided in three parts for three wheels vehicles. Unfortunately, the lifts of the prior art, since they comprise a single structure with a single central lifting unit, and therefore schematically just one support point, are unstable. In fact, once a four wheels vehicle, such as a quad, has been positioned, the cantilevered structure can be unstable during the rising and descending steps.

[0008] Moreover, it is to be noted that since these lifts have a lifting unit centrally located with respect to said single structure, the servicing operations of the central part below the positioned vehicle are more difficult and limited.

DISCLOSURE AND ADVANTAGES OF THE INVENTION

[0009] The object of the present invention consists of solving the above-mentioned problems by providing a further lift, such as a scissor-like lift, formed by at least two structures which in turn are each formed by a flat element, a lifting unit and a frame acting as a base. Sliding means adapted to slide the structures on guiding tracks are fixed to said frames.

[0010] A first advantage of the invention is due to the fact that, since the structures translate along the guiding tracks, it is possible to easily perform the servicing operations of four wheels vehicles because it is possible to stay centrally under them and not at the side, as it occurs with the car lifts.

[0011] Another advantage consists in the fact that said invention is more stable both during the servicing step and during the rise and descent steps of the flat element.

[0012] Said objects and advantages are all met by the lift for motorbikes and quads, object of the present invention, which is characterized by the attached claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] This and other characteristics will be better understood by the following description of a preferred embodiment shown in a non limiting exemplifying way in the attached drawings.

- Figure 1 illustrates a perspective view of the device.

DESCRIPTION OF THE INVENTION

[0014] Particularly referring to figure, 1 generally indicates a lift, particularly a known scissor-type.

[0015] Said lift 1 comprises at least two structures 2, 2' each having a lifting unit 3, 3'.

[0016] Since said structures 2, 2' are completely identical, in the following, for the sake of simplicity, we will refer just to one of the two.

[0017] A structure 2 comprises:

- a flat element 9, on which vehicles can be positioned, supported by:
- a lifting unit 3 located below the flat element 9;
- a frame 6, located below the lifting unit 3, acting as a base for the structure 2, 2'; said frame 6 and said flat element 9 are parallelly located one to the other with respect to the centerline of the flat element 9.

[0018] At least one of the two short sides of the flat element 9 is provided with a vehicle rise/descent ramp 10.

[0019] Said structures 2, 2' are characterized by the fact that they can be reciprocally moved closed or away by sliding means 11 integral to the frame 6 of each structure 2, 2' and engaging corresponding guiding tracks 16.

[0020] Said sliding means 11 can slide along guiding

tracks 16 by friction, using runners, or by rolling by means of a plurality of wheels 14 mounted to one of plates 12 fixed by slots 13 to the short sides of the frame 6, as shown in the figure.

[0021] The lifting unit 3 is formed by:

- at least two levers 4 articulated in a pin 5, one 4a of these pins can freely slide inside the frame 6, the other lever 4b is hinged to the bottom end of the frame 6 itself;
- at least a cylinder 7, for example an hydraulic one, acting as a motion transmission member, fixed at one of its ends to the frame 6, and to the other end to the levers 4 by a sector 8.

[0022] An example of embodiment provides that the guiding tracks 16 are integral to a platform 17 making the lift 1 easily transportable and locatable.

[0023] The sliding means 11, and consequently the structures 2, 2', can be engaged/disengaged from the corresponding guiding tracks 16 by means of an engaging/disengaging system 15, comprising an hydraulic cylinder and a group of leverages.

[0024] Operatively, during a motorbike servicing, the structures 2, 2' have a closed arrangement, that is they are close one to the other, the flat elements 9, 9' being longitudinally adjacent.

[0025] Instead, when it is desired to position a four wheels vehicle, for example a quad, the structures 2, 2' translate along the guiding tracks 16 by the sliding means 11, and finally take an opened arrangement.

[0026] In the shown solution, in this position, by the engaging/disengaging system 15, the wheels 14 can be raised so that the frames 6, 6' directly abut the platform 17, stopping the structures 2, 2' in the desired position.

[0027] It is to be noted that the two cylinders 7, 7' are driven by a single driving unit and therefore, for example, by a known hydraulic system, which causes, by the adjustment of a service fluid flow rate, the raising of the stems and in turn of the structures 2, 2'.

Claims

1. Lift for motorbikes and quads comprising at least two structures (2 and 2'), each of them comprising:
 - a. a flat element (9), on which vehicles are located, said flat element being supported by:
 - b. a lifting unit (3) located below the flat element (9);
 - c. a frame (6) located below the lifting unit (3) and acting as base for the structure (2, 2'); said frame (6) and flat element (9) are parallel to each other with respect to longitudinal centre line of the flat element (9),

characterized by the fact that said structures (2, 2')

can be reciprocally moved close or away by sliding means (11) integral with the frame (6) of each structures (2, 2') and engaging corresponding guiding tracks (16).

2. Lift, according to claim 1, **characterized by** the fact said flat elements (9) are height adjustable by a single drive assembly adapted to simultaneously drive both the lifting units (3).
3. Lift, according to claim 1, **characterized by** the fact said sliding means (11) slide on said guiding tracks (16).
4. Lift, according to claims 1 and 4, **characterized by** the fact said sliding means (11) roll on said guiding tracks (16).
5. Lift, according to claim 1 and 4, **characterized by** the fact said sliding means (11) comprise a plurality of wheels (14) fixed to the short side of the frame (6).
6. Lift, according to claim 1, **characterized by** the fact said sliding means (11) and consequently also the structures (2, 2') can be engaged/disengaged in/from corresponding guiding tracks (16) by means of an engaging/disengaging system (15) comprising an hydraulic cylinder and group of leverages.
7. Lift, according to claim 6, **characterized by** the fact said guiding tracks (16) are integral with a platform (17) making the lift easily transportable and locatable.
8. Lift, according to claim 1, **characterized by** the fact said lifting unit (3) is of the pantograph-, scissors-, or column-type.
9. Lift, according to claims 2 and 8, **characterized by** the fact said lifting unit (3) is of the scissors-type, and comprising:
 - a. at least two levers (4) articulated in a pin (5), one (4a) of said levers (4) can freely move in the frame (6), the other (4b) is hinged in the bottom end of the frame (6);
 - b. at least a cylinder (7), one its bases is fixed to the frame (6), the other base is fixed to the levers (4) by a sector (8).

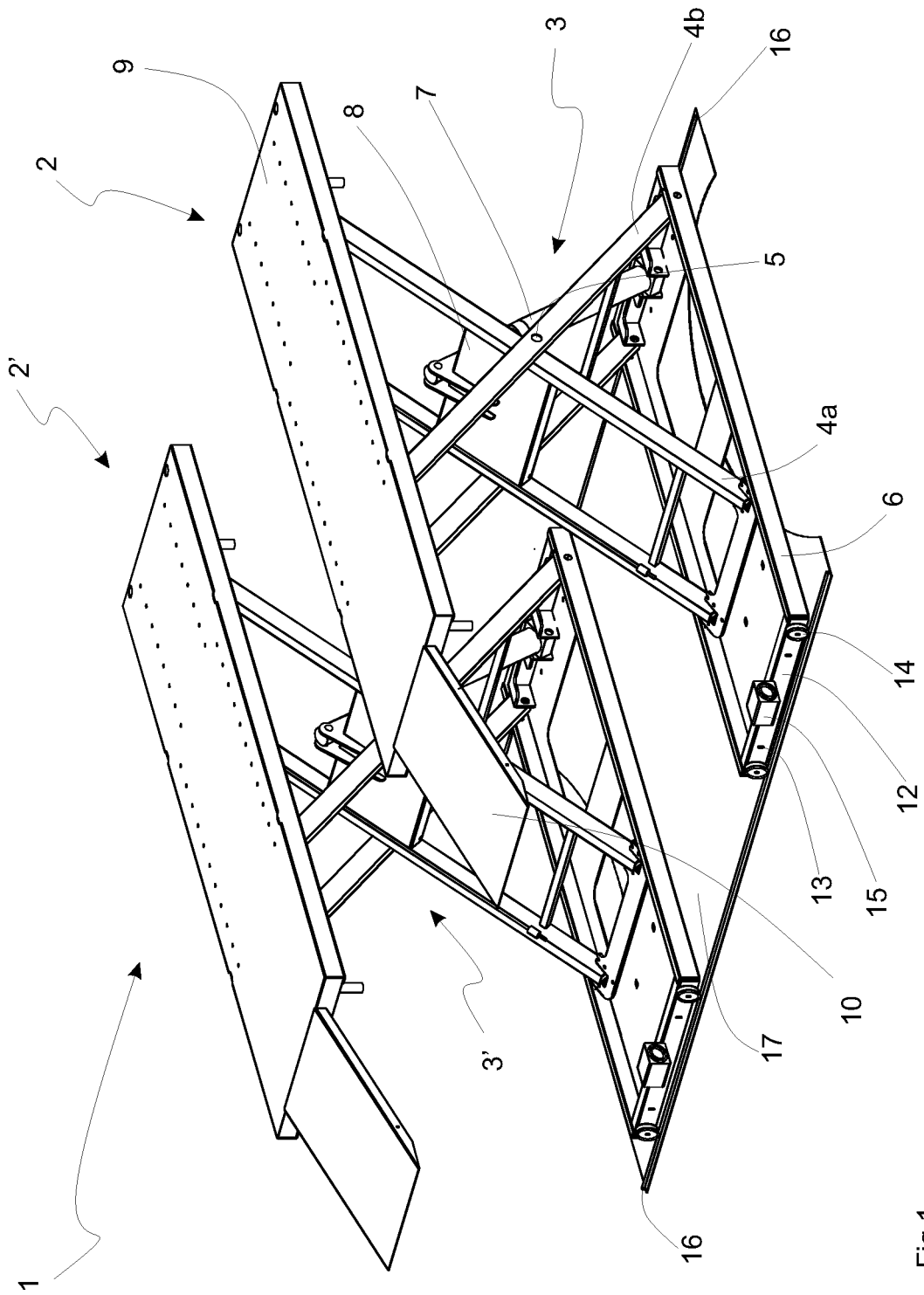


Fig.1



EUROPEAN SEARCH REPORT

Application Number
EP 11 18 3040

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			B66F
1 The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 24 October 2011	Examiner Faymann, L
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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 11 18 3040

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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24-10-2011

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REFERENCES CITED IN THE DESCRIPTION

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