(19) Octrooicentrum Nederland

(11) **2009948**

(12)C **OCTROOI**

(21) Aanvraagnummer: **2009948**

(22) Aanvraag ingediend: **10.12.2012**

(51) Int.Cl.:
B66F 3/46 (2006.01) ***B66F 7/28*** (2006.01)

(43) Aanvraag gepubliceerd:
-

(47) Octrooi verleend:
11.06.2014

(45) Octrooischrift uitgegeven:
18.06.2014

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(54) **Wheel base measuring lifting system for lifting a vehicle and method therefor.**

(57) The present invention relates to a wheel based measuring system and a method for lifting a vehicle. The lifting system comprises:
- one stationary lift;
- a number of moveable lifts;
- positioning means for defining a position of a wheel axle of the vehicle;
- distance measuring means for determining the distance of the vehicle to a reference point; and
- control means for determining the distance between two vehicle axles and steering the one or more moveable lifts to the correct position.

NL C 2009948

WHEEL BASE MEASURING LIFTING SYSTEM FOR LIFTING A VEHICLE AND METHOD THEREFOR

The invention relates to a vehicle lifting system and more specifically to a system comprising one or more moveable lifts or lifting devices. These lifting systems are specifically used for lifting trucks and busses, or other vehicles.

A known vehicle lifting system with a moveable lifting device is disclosed in WO 2006/112857. Such a lifting system relates to a moveable in-ground lifting system that is provided with a scissor type lifting device with the additional advantage that the installation depth is relatively small. The moveable lifting device is manoeuvred under the rear axle of the vehicle, like a bus or truck, in accordance with the specific axle distance of this vehicle. In case of an incorrect positioning, the vehicle may tumble from the lifting device, thereby creating a safety concern. Especially when confronted with different types of vehicles on the lifting system, it is problematic to guarantee a correct position of the moveable lifting device under the vehicle. For example, companies are confronted with over 200 types of vehicles that have different dimensions.

An object of the invention is to obviate or at least reduce the above problems and to improve safety when lifting a vehicle.

This object is achieved with a vehicle lifting system according to the invention, the vehicle lifting system comprising:

- one stationary lift;
- a number of moveable lifts;
- positioning means for defining a position of a wheel axle of the vehicle;

- distance measuring means for defining the distance of the vehicle to a reference point; and
- control means for determining the distance between two vehicle axles and steering the one or more moveable lifts to the correct position.

While lifting a vehicle, at least two of the wheel axles of the vehicle have to be positioned over the lifts of the lifting system. The wheel base distance defines the distances between axles of the vehicle. The wheel base distance is a measure for correct positioning of the lifts.

Preferably, the front wheels are positioned in a wheel positioning hatch or wheel recess, preferably adjacent to the stationary lift. One or more movable lifts are positioned under some or all of the other vehicle axles.

Different configurations are possible for the position of the vehicle relative to the lifting system.

In a first configuration, when positioning the vehicle, the vehicle rides past or over the movable lifts and the front axle is positioned over or on top of the stationary lift. The other wheel axles are positioned relative to the moveable lifts.

In a second configuration, when positioning the vehicle, the vehicle rides past or over the stationary lift and the front axle is positioned over or on top of a movable lift. In case the lifting system comprises more than one movable lift, the front axle is preferably movable over the lift at the largest distance from the stationary lift. The rear axle to be lifted is positioned over or on top of the stationary lift.

By providing positioning means a wheel axle can be positioned accurately. Preferably, the wheel position can be defined accurately. The distance measuring means determine the distance of the vehicle to a reference point. As the

wheel axle is accurately positioned with the positioning means, either directly or indirectly through defining the wheel position, the distance from this vehicle to a reference point is measured. By performing a separate measurement for every wheel axle that needs to be lifted the control means are capable of determining the distance between two vehicle axles by calculating the difference between the distances of the vehicle to a reference point for different wheel axles. After the distance between two vehicle axles is calculated the control means steer one or more movable lifts to the correct position.

By measuring the actual wheel base distance between individual wheel axles, automatically the desired lifting position for the lifts of the lifting system is detected. This is achieved by first positioning one of the wheel axles, preferably the front axle, in a defined position, for example with a wheel positioning edge or recess. By comparing the distance measurement with the measurement(s) for other wheels and wheel axles the desired wheel axles distances can be determined. Using the determined distances between the wheel axles the movement of the moveable lifting device is controlled and the lifts are positioned correctly for the type of vehicle that needs to be lifted.

Preferably, the lifts lift the vehicle by engaging the vehicle axles. Alternatively, the vehicle can be lifted by the lifts engaging on another part of the vehicle.

Automatically detecting the desired lifting position and next, preferably fully automatic, moving the moveable lift or lifts to the desired position, guarantees a correct positioning of the lifts under the vehicle independent of the vehicle type. Furthermore, the system according to the invention guarantees a correct and safe lifting operation. A further advantage of the lifting system according to the

invention is that the operation of the vehicle lifting system does not depend on the type of vehicle that needs to be lifted. New vehicle types can be lifted as easily as known conventional vehicles.

In a presently preferred embodiment the system according to the invention relates to a so-called in-ground lifting device. Such vehicle lifting system comprises a first lifting device that preferably has a stationary position and is used for lifting the front, or alternatively the rear, of the vehicle. The system further comprises at least one second moveable lifting device for lifting the rear part, or alternatively the front part, of the vehicle. The lifts of such lifting system are preferably provided in a pit. The pit enables a translational movement in the length of the vehicle to be lifted for the moveable lifting device. The moveable lift moves in a pit such that can be dealt with a wide range of vehicle dimensions. Preferably, the pit is covered with a pit cover. Preferably, the moveable lift is connected to the pit cover such that the pit remains covered during the operation. Depending on the dimensions of the vehicle, for example the amount of axles or axles, more than one moveable lift according to the invention may be provided.

The vehicle lifting system according to the invention may comprise lifts of a scissor type or alternatively of a telescopic type. The scissor type lift has the additional advantage that a relatively shallow pit construction can be used which can be applied beneficially to situations with bedrock, water table or unstable soil conditions. Both types accommodate vehicles with relatively low ground clearance.

Preferably, the vehicle is lifted by the lift engaging one of the wheel axles or axles of the vehicle. The one or more movable lifts are positioned based on the distance as

determined between two vehicle axles. In case more than two vehicle axles need to be lifted, the wheel base measuring lifting system according to the present invention can steer a movable lift to the movable desired position after determining the distance between the second axle and the first axle, while, if relevant, at the same time measuring the distance between a third wheel axle and the other axles. This achieves an effective and efficient positioning of the movable lift reducing the time required for positioning a vehicle relative to the lifting system according to the invention.

In a presently preferred embodiment according to the present invention the positioning means comprise a recess. An alternative positioning means may comprise a ramp, for example. The advantage of using a recess is the clearly defined wheel position in the recess due to gravity. As the wheel is exactly positioned the wheel axle is also defined relatively accurate. The recess can be shaped in a suitable form, including a ditch, a channel, a hole and the like. Preferably, the recess is provided with a detector. The detector measures the presence of a wheel in the recess, or other positioning means, and, in addition, the detector may activate the measuring means and/or the control means for starting a measurement and/or calculation for the distance of a vehicle from a reference point and/or between two vehicle axles.

In a presently preferred embodiment according to the present invention the recess corresponds to a wheel recess associated to a stationary lift.

Lifting systems with one or more movable lifts also have one stationary lift. To aid in positioning the wheel axle relatively to the stationary lift a wheel recess is often provided. By using this recess also for the wheel base

measuring system according to the present invention, and in particular for the positioning means thereof, an effective lifting system is achieved without the need for providing additional positioning means, such as additional recesses in the floor of a workplace, for example.

In an advantageous preferred embodiment according to the present invention the distance measuring means comprise a transmitter and a receiver.

By having the distance measuring means comprising a transmitter and a receiver a wireless distance measurement can be performed. Optionally, the measurement information is forwarded to the control means wirelessly. The measuring means involve a sensor preferably comprising a type of transmitter and a type of receiver. This involves the use of RF, IR etc. More particularly the sensor may involve a laser including infra-red lasers, ultraviolet lasers, X-ray lasers and the like.

In addition, by providing a contactless sensor the robustness of the system is further improved. No physical contact between the detection means and the vehicle is required for determining the desired lifting position.

Preferably, the control means comprise a process controller. More preferably, the process controller is the overall lifting system controller that integrates the wheel bases measuring system with the lifting system to provide an integrated wheel based lifting system for lifting a vehicle. This also enables to start moving the movable lift to its desired lifting position while manoeuvring the vehicle relative to the lifting system. This reduces the time required for positioning a vehicle on the lifting system.

Furthermore, the integrated process controller enables performing additional safety checks to see whether the measured and/or calculated distances are in an expected

range and to provide an operator with an alarm in case the measured and/or calculated distance is outside such range.

The invention further relates to a method for lifting a vehicle, the method comprising the steps of:

providing a lifting system comprising a stationary lift and a number of moveable lifts;

- providing a lifting system comprising a stationary lift and a number of moveable lifts;
- riding the vehicle towards the lifting system;
- defining a first position of a first wheel axle of the vehicle with positioning means;
- measuring a first distance between the vehicle and a reference point;
- moving the vehicle and defining a second position of a second wheel axle of the vehicle with the positioning means;
- measuring a second distance between the vehicle and the reference point;
- calculating from the first and second distances the wheel base distance between the first and second wheel axles with the control means.

The same effects and advantages apply for the method as described for the system. The method according to the invention involves a wheel based measuring system preferably performing a measurement for every wheel axle that needs to be lifted by the wheel based measuring lifting system according to the invention.

In a presently preferred embodiment the method according to the invention performs a measurement of a distance between a reference point and the vehicle, for example the front or the back thereof, as a reference distance for a wheel axle. From the measured distances of

two reference distances the wheel base distance between two wheel axles can be calculated.

Preferably, the control means involve a process controller, preferably the lifting system controller, uses the calculated distances to position the movable lifts of the lifting system.

After positioning the one or more movable lifts relative to the vehicle with the control means, the vehicle can be lifted.

In one of the embodiments of the present invention the first wheel axle is the front wheel axle of the vehicle. By having the front wheel axle measured as first wheel axle the vehicle can be positioned in a forward driving direction relative to the lifting system.

In one of the embodiments according to the invention the first wheel axle is lifted by the stationary lift during a lifting operation.

In an alternative embodiment according to the present invention the first wheel axle is lifted by one of the movable lifts during a lifting operation. An advantage of having the first wheel axle lifted by one of the movable lifts, is that, in case the stationary lift is already provided with a wheel recess, this existing wheel recess can be easily adapted and used for the wheel based measuring system according to the invention. This is especially beneficial for existing conventional lifting systems.

In this alternative embodiment wheel base measuring is achieved by driving the vehicle in a forward direction with such that the wheel of the front axle or axle is positioned in the wheel recess associated with the stationary lift. Then the measuring system performs the required measurement(s). The remaining axles can be measured thereafter by repositioning the vehicle. After the

measurements have been performed the vehicle is positioned in the lifting position with the wheels of the rear axle that needs to be lifted in the wheel recess and the movable lifts positioned correctly. In fact, the rear wheels maintain in the wheel recess of the stationary lift in this embodiment/configuration. Then the vehicle can be lifted.

Further advantages, features and details and of the embodiment will be elucidated on the basis of preferred embodiments therefore wherein reference is made to the accompanying drawings, in which:

- figure 1 shows a view of the system according to the present invention;
- figure 2 shows a schematic diagram of the method and system of figure 1; and
- figures 3-4 show a vehicle being lifted by the system of figure 1.

A lifting system 2 (figure 1) comprises a stationary lifting column 4 and a moveable lifting column 6 that are located on or in floor 8. The front lifting column 4 is provided in cassette or box 10 with a telescopic lifting cylinder 12. On top of cylinder 12 there is provided carrier 14 with axle carriers 16. In the illustrated embodiment wheel edges or wheel recesses 18 are provided. Recesses 18 define the position of the front wheels of the vehicle. Furthermore, in the illustrated embodiment a hatch 20 is provided in front of the front lifting column 4 for maintenance, for example.

The moveable lifting column 6 moves in cassette or box 22. Box 22 provides a pit with a slot or recess 24 for guiding the moveable lifting column 6. Moveable lifting column 6 is provided with carrier 26 whereon axle carriers 28 are mounted. Depending on the type of vehicle additional

adapters can be provided that cooperate with carriers 14, 26 to enable engagement with different axle dimensions.

Lifting column 6 is optionally provided with camera 30 that enables a safety check when system 2 is about to lift the vehicle and allows the operator to additionally check the engagement of the carrier 26 on the axle of the vehicle.

Depending on the dimensions and configuration of the axle of the vehicle additional adapters (not shown) can be provided with the carriers 14, 26. Optionally, camera 30 is provided as a stand-alone system to assist the operator when using system 2. In addition or alternatively, camera 30 can be used as an axle or wheel recognition system capable of determining the type and/or dimensions of an axle or wheel to be lifted.

Using system 2 enables positioning the moveable lifting column 6 with accuracy of at least 2.5 cm and preferably within the range of about 1.25 cm.

Further details of conventional parts of system 2 are disclosed in WO 2006/112857 which is included by reference herein. WO 2006/112857 specifically discloses a scissor type lifting device that is positioned in a pit. This pit with a pit cover and lifting means involving auxiliary adapters engaging the axle of the vehicle have been described in detail herein.

Wheel base measuring system 32 comprises sensor 34, 36.

In the illustrated embodiment sensor 34, 36 is positioned on or against wall 38 to provide a stable reference point for the measurement. Sensor 34, 36 provides a signal 40 when performing a distance measurement. Signal 40 may use infrared, ultrasound and/or another signal. The use of such signal 40 prevents physical contact between the sensor 34, 36 and the wheels or axles of the vehicle. Measurement signal 42 is provided to controller 44.

Controller 44 steers the required sensor activities and performs the desired calculations. Controller 44 starts a measurement when a wheel of the vehicle is in recess 46, 48. Recesses 46, 48 can be provided with a sensor 50, for example a load sensor. Sensor 50 provides a measurement signal 52 to controller 44 indicative of the presence of a wheel in recess 46, 48. Optionally recess 46 can be combined with wheel recesses 18 to provide one recess adjacent to stationary lift 4. It will be understood that one recess 46, 48 will suffice for the wheel base measuring system 32 included in lifting system 2. In one of the preferred embodiments recess 46 is combined with wheel recess 18 such that no additional recesses are required.

In the illustrated embodiment controller 44 provides a steering command 54 to the movable lift 6.

Lifting operation 56 (figure 2) first performs an initialization step 58. Then a first axle of a vehicle is positioned by providing a wheel in a recess in positioning step 60. Thereafter measurement step 62 is performed to measure the distance between the vehicle and a reference point. The vehicle is moved forward in step 64 and a second wheel is positioned in the recess in step 66 such that a further measuring step 68 can be performed. In case more than two axles need to be lifted the vehicle is moved further and steps 64, 66, 68 are performed again. Finally, the vehicle moves towards the lifting system in step 70. The wheels are positioned in positioning step 72 relative to the stationary lift 4. Thereafter, or alternatively at the same time, the one or more movable lifts 6 are positioned relative to the further axles in positioning step 74 such that the vehicle is positioned relative to the lifting system and is ready for lifting operation 76. At the end of

the lifting operation the vehicle is removed from lifting system 2.

A vehicle 78 (figures 3-4) is positioned over or relative to system 2. Moveable lifting device 6 is positioned under rear axle 80 of vehicle 78 using wheel base measuring system 32 that is integrally provided with lifting system 2 in the illustrated embodiment.

Rear axle 80 is lifted by movable lifting column 6, while front axle 82 is lifted by stationary lifting column 4. In the illustrated embodiment movable lift 6 moves from starting positioned 84 to the desired lifting position 86.

In the illustrated embodiment lifts 4, 6 engage axles 80, 82 directly, such that lifting position 86 corresponds to the rear axle 80 location. As described earlier, carriers 14, 26 may engage other parts of the vehicle. Furthermore, in the illustrated embodiments one moveable lifting column 6 is shown. Alternatively, more than one, for example two, moveable lifting columns 6 can be provided for system 2. When engaging the axles of the vehicle for lifting, the number of lifting devices 4, 6 may depend on the size of the vehicle and/or number of axles of the vehicle. It will be understood that either the front wheel axle or a rear wheel axle can be lifted by the stationary lift during a lifting operation.

The present invention is by no means limited to the above described preferred embodiments thereof. The rights sought are defined by the following claims, within the scope of which many modifications can be envisaged. For example, it is explicitly mentioned that the combinations of the illustrated embodiments are possible. In the illustrated embodiments axle carriers have been shown. Alternatively, other carriers engaging other parts of the vehicle to be lifted can be applied.

CLAUSES

1. Wheel base measuring lifting system for lifting a vehicle, comprising:
   - one stationary lift;
   - a number of moveable lifts;
   - positioning means for defining a position of a wheel axle of the vehicle;
   - distance measuring means for defining the distance of the vehicle to a reference point; and
   - control means for determining the distance between two vehicle axles and steering the one or more moveable lifts to the correct position.

2. Wheel base measuring lifting system according to clause 1, wherein the positioning means comprise a recess.

3. Wheel base measuring lifting system according to clause 2, wherein the recess is provided with a detector.

4. Wheel base measuring lifting system according to clause 1, 2 or 3, wherein the recess corresponds to a wheel recess associated with the stationary lift.

5. Wheel base measuring lifting system according to any of the foregoing clauses, wherein the distance measuring means comprise a transmitter and a receiver.

6. Wheel base measuring lifting system according to any of the foregoing clauses, wherein the control means comprise a process controller.

7. Method for lifting a vehicle, comprising the steps:
   - providing a lifting system comprising a stationary lift and a number of moveable lifts;
   - riding the vehicle towards the lifting system;
   - defining a first position of a first wheel axle of the vehicle with positioning means;
   - measuring a first distance between the vehicle and a reference point;
   - moving the vehicle and defining a second position of a second wheel axle of the vehicle with the positioning means;
   - measuring a second distance between the vehicle and the reference point;
   - calculating from the first and second distances the wheel base distance between the first and second wheel axles with the control means.

8. Method according to clause 7, further comprising the steps of:
   - positioning the vehicle relative to the stationary lift;
   - positioning the one or more moveable lifts relative to the vehicle with the control means; and
   - lifting the vehicle.

9. Method according to clause 7 or 8, wherein the first wheel axle is the front wheel axle of the vehicle.

10. Method according to clause 7, 8 or 9, wherein the first wheel axle is lifted by the stationary lift during a lifting operation.

11. Method according to clause 7, 8 or 9, wherein the first wheel axle is lifted by one of the moveable lifts during a lifting operation.

CONCLUSIES

1. Hefsysteem met wielbasismeetsysteem voor het heffen van een voertuig, omvattende:
   - een vaste stempel;
   - een aantal verplaatsbare stempels positioneringsmiddelen voor het definiëren van een positie van een wielas van het voertuig;
   - afstandsmeetmiddelen voor het bepalen van de afstand van het voertuig tot een referentiepunt; en
   - regelmiddelen voor het bepalen van de afstand tussen twee voertuigassen en het sturen van de een of meer verplaatsbare stempels naar de correcte positie.

2. Hefsysteem volgens conclusie 1, waarin de positioneringsmiddelen een goot omvatten.

3. Hefsysteem volgens conclusie 2, waarin de goot is voorzien van een detector.

4. Hefsysteem volgens conclusie 1, 2 of 3, waarin de goot overeenkomt met de wielgoot geassocieerd met de vaste stempel.

5. Hefsysteem volgens een of meer van de voorgaande conclusies, waarin de afstandsmeetmiddelen een zender en een ontvanger omvatten.

6. Hefsysteem volgens een of meer van de voorgaande conclusies, waarin de regelmiddelen een procesregelaar omvatten.

7. Werkwijze voor het heffen van een voertuig, omvattende de stappen:

- het voorzien van een hefsysteem omvattende een vaste stempel en een aantal verplaatsbare stempels;
- het rijden van het voertuig naar het hefsysteem;
- het definiëren van een eerste positie van een eerste wielas van het voertuig met positioneringsmiddelen;
- het meten van een eerste afstand tussen het voertuig en een referentiepunt;
- het verplaatsen van het voertuig en het definiëren van een tweede positie van een tweede wielas van het voertuig met de positioneringsmiddelen;
- het meten van een tweede afstand tussen het voertuig en het referentiepunt;
- het met de regelmiddelen uit de eerste en twee afstanden berekenen van de afstand tussen de eerste en tweede wielassen.

8. Werkwijze volgens conclusie 7, verder omvattende de stappen:

- het positioneren van het voertuig relatief ten opzichte van de vaste stempel;
- het positioneren van de een of meer verplaatsbare stempels relatief ten opzichte van het voertuig met de regelmiddelen; en
- het heffen van het voertuig.

9. Werkwijze volgens conclusie 7 of 8, waarin de eerste wielas is de voorste wielas van het voertuig.

10. Werkwijze volgens conclusie 9, waarin de eerste wielas wordt geheven door de vaste stempel gedurende een hefoperatie.

11. Werkwijze volgens conclusie 7, 8 of 9, waarin de eerste wielas wordt geheven door een van de verplaatsbare stempels gedurende een hefoperatie.

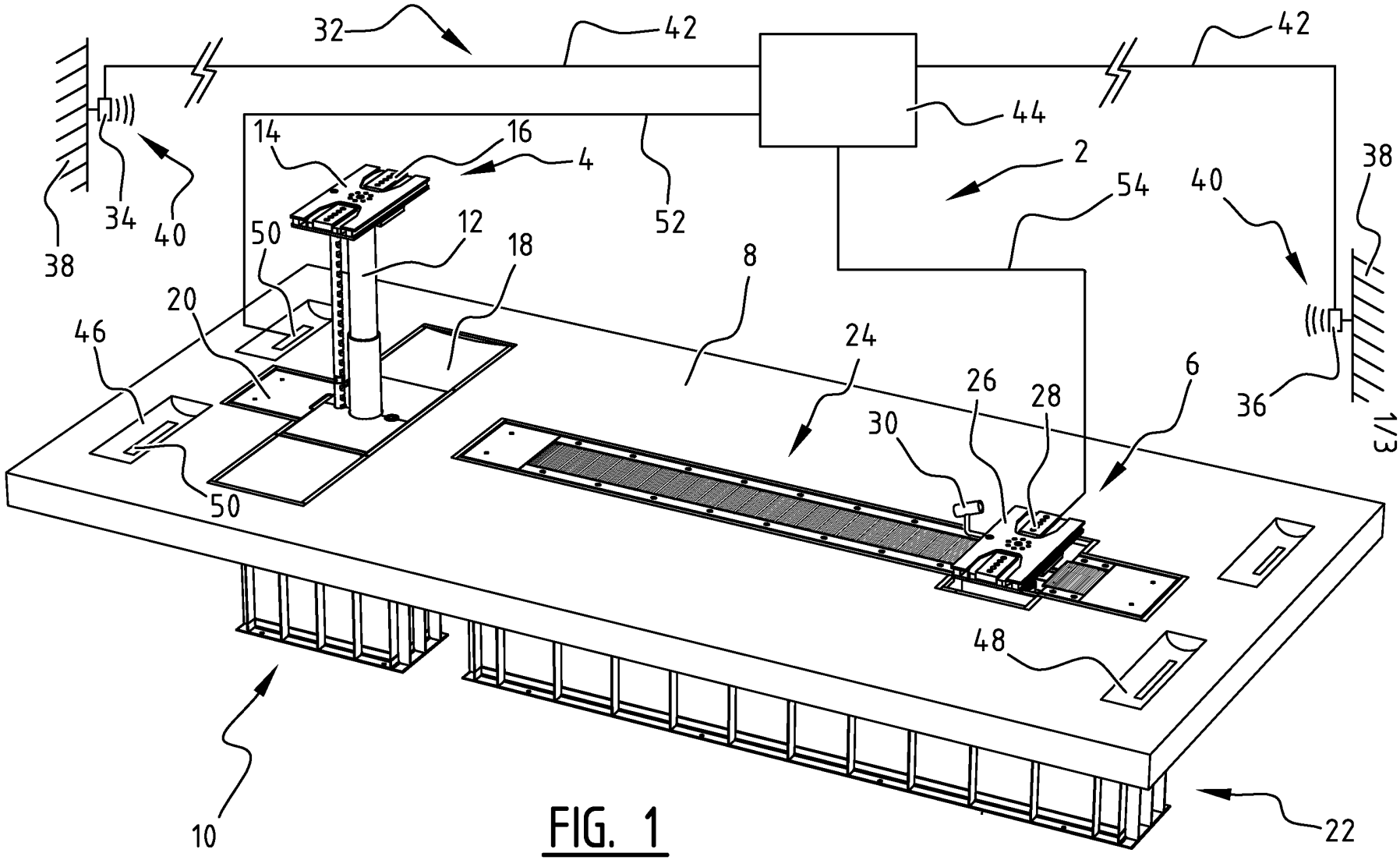
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FIG. 1

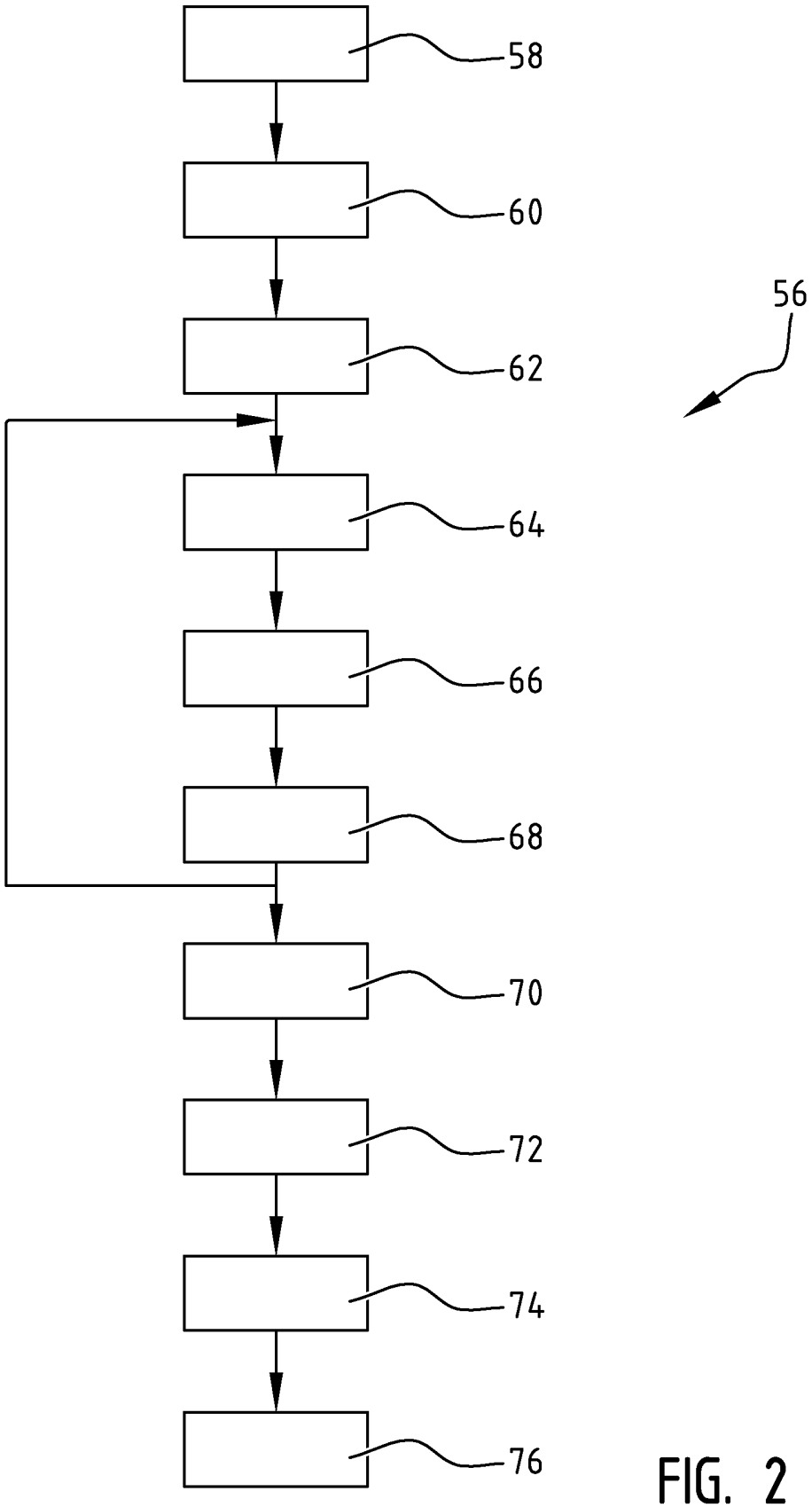


FIG. 2

FIG. 3

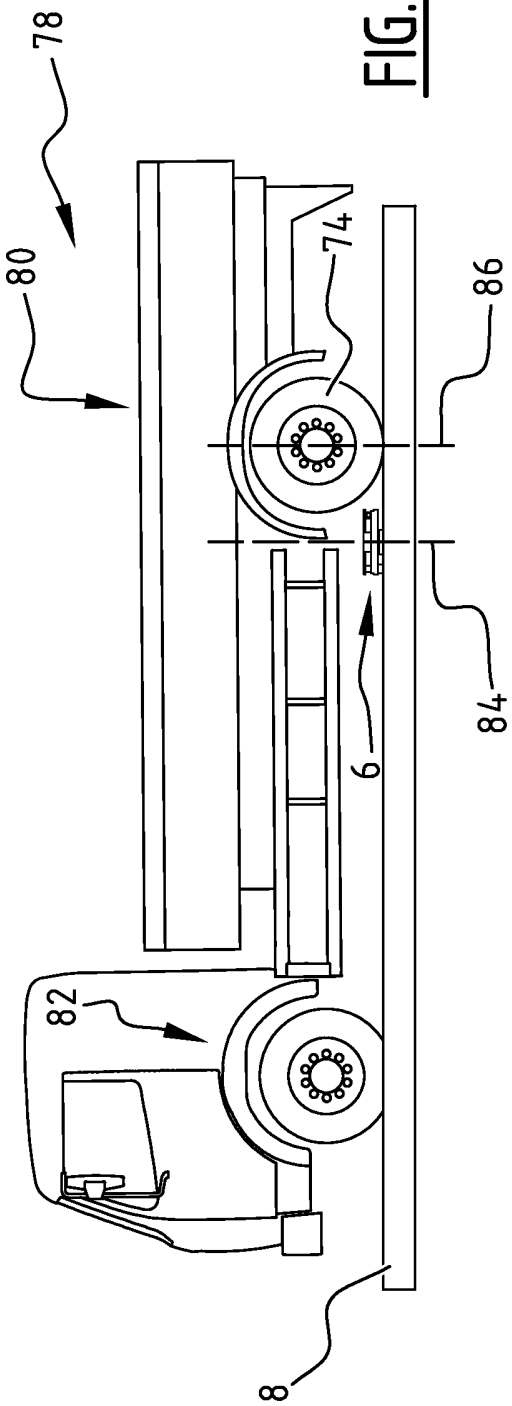
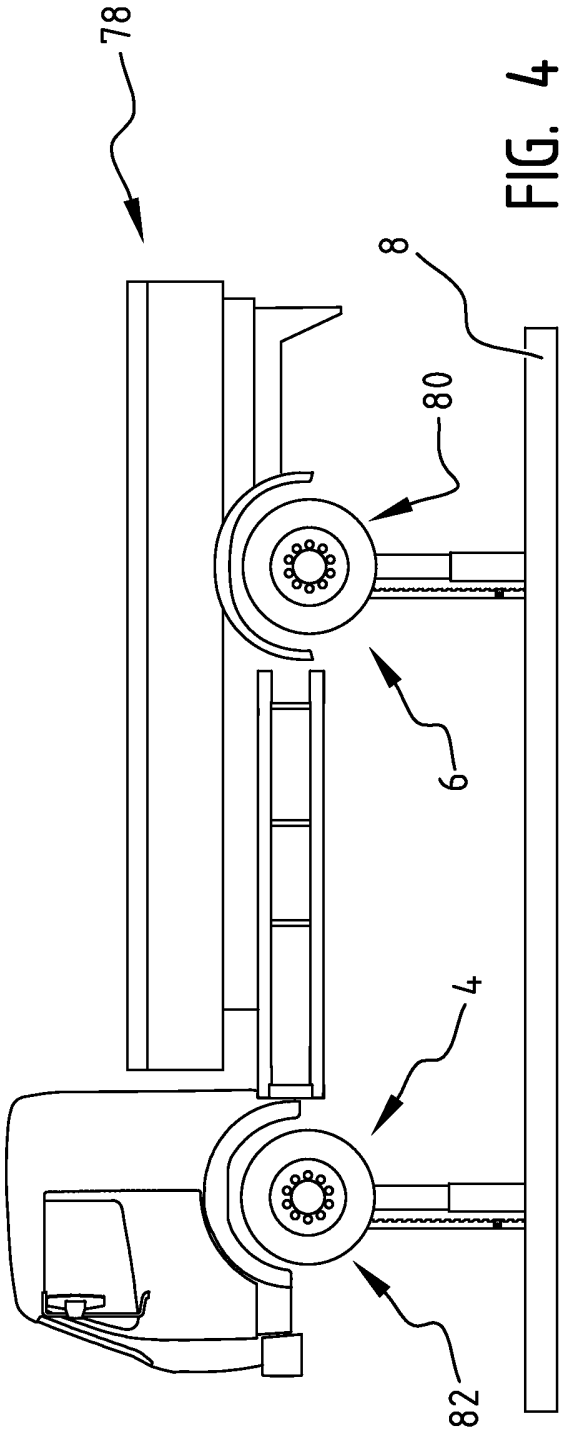


FIG. 4



Agentschap NL
Ministerie van Economische Zaken

OCTROOIAANVRAAG NR.:
NO 138544
NL 2009948

ONDERZOEKSRAPPORT

BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK

RELEVANTE LITERATUUR

Categorie[1]	Literatuur met, voor zover nodig, aanduiding van speciaal van belang zijnde tekstgedeelten of figuren.	Van belang voor conclusie(s) nr:	Classificatie (IPC)
X	WO 2004/026754 A2 (CAPITAL FORMATION INC [US]; BROWN DOUG [US]; BORDWELL MARK [US]; TAYLO) 1 april 2004 (2004-04-01) * samenvatting; figuren 1,2,3A * * alineas [0001], [0002], [0052] - [0056], [0113], [0121], [0144], [0162], [0209], [0210] * -----	1-11	INV. B66F3/46 B66F7/28
A	WO 2006/112857 A2 (PAVLICK ALLAN [US] PAVLICK ALLAN [US]; POLINS KURT E [US]; FELPEL GLEN) 26 oktober 2006 (2006-10-26) * samenvatting; figuren 18,19 * -----	1,7	
A	US 5 404 968 A (FLETCHER ROBERT H [US]) 11 april 1995 (1995-04-11) * samenvatting; figuren * -----	1,7	
A	WO 2012/047787 A1 (WHITING CORP [US]; HORWATH WILLIAM ALLEN [US]; FAIRBAIRN THOMAS JOHN [] 12 april 2012 (2012-04-12) * samenvatting; figuren * * alinea [0030] * -----	1,7	Onderzochte gebieden van de techniek B66F
A	EP 2 181 958 A1 (DANNMAR WORLDWIDE INC [US]) 5 mei 2010 (2010-05-05) * samenvatting; figuren * -----	1,7	

Indien gewijzigde conclusies zijn ingediend, heeft dit rapport betrekking op de conclusies ingediend op:

Plaats van onderzoek:	Datum waarop het onderzoek werd voltooid:	Bevoegd ambtenaar:
's-Gravenhage	27 augustus 2013	Verheul, Omiros

[1] CATEGORIE VAN DE VERMELDE LITERATUUR

X: de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur
Y: de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht
A: niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft
O: niet-schriftelijke stand van de techniek
P: tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur
T: na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvrage, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding
E: eerdere octrooi(aanvrage), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven
D: in de octrooiaanvrage vermeld
L: om andere redenen vermelde literatuur
&: lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

EOB FORM 02.83 (P0414B)

AANHANGSEL BEHORENDE BIJ HET RAPPORT BETREFFENDE HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK, UITGEVOERD IN DE OCTROOIAANVRAGE NR.

NO 138544
NL 2009948

Het aanhangsel bevat een opgave van elders gepubliceerde octrooiaanvragen of octrooien (zogenaamde leden van dezelfde octrooifamilie), die overeenkomen met octrooischriften genoemd in het rapport.
De opgave is samengesteld aan de hand van gegevens uit het computerbestand van het Europees Octrooibureau per
De juistheid en volledigheid van deze opgave wordt noch door het Europees Octrooibureau, noch door het Bureau voor de Industriële eigendom gegarandeerd; de gegevens worden verstrekt voor informatiedoeleinden.

27-08-2013

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
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Algemene informatie over dit aanhangsel is gepubliceerd in de 'Official Journal' van het Europees Octrooibureau nr 12/82 blz 448 ev

OCTROOICENTRUM NEDERLAND

SCHRIFTELIJKE OPINIE

DOSSIER NUMMER	INDIENINGSDATUM	VOORRANGSDATUM	AANVRAAGNUMMER
NO138544	10.12.2012		NL2009948

CLASSIFICATIE
INV. B66F3/46 B66F7/28

AANVRAGER
Stertil B.V.

Deze schriftelijke opinie bevat een toelichting op de volgende onderdelen:

- ☒ Onderdeel I Basis van de schriftelijke opinie
- ☐ Onderdeel II Voorrang
- ☐ Onderdeel III Vaststelling nieuwheid, inventiviteit en industriële toepasbaarheid niet mogelijk
- ☐ Onderdeel IV De aanvraag heeft betrekking op meer dan één uitvinding
- ☒ Onderdeel V Gemotiveerde verklaring ten aanzien van nieuwheid, inventiviteit en industriële toepasbaarheid
- ☐ Onderdeel VI Andere geciteerde documenten
- ☐ Onderdeel VII Overige gebreken
- ☐ Onderdeel VIII Overige opmerkingen

DE BEVOEGDE AMBTENAAR
Verheul, Omiros

Aanvraag nr.:

SCHRIFTELIJKE OPINIE

NL2009948

Onderdeel I Basis van de Schriftelijke Opinie

1. Deze schriftelijke opinie is opgesteld op basis van de meest recente conclusies ingediend voor aanvang van het onderzoek.

2. Met betrekking tot **nucleotide en/of aminozuur sequenties** die genoemd worden in de aanvraag en relevant zijn voor de uitvinding zoals beschreven in de conclusies, is dit onderzoek gedaan op basis van:

   a. type materiaal:

   ☐ sequentie opsomming

   ☐ tabel met betrekking tot de sequentie lijst

   b. vorm van het materiaal:

   ☐ op papier

   ☐ in elektronische vorm

   c. moment van indiening/aanlevering:

   ☐ opgenomen in de aanvraag zoals ingediend

   ☐ samen met de aanvraag elektronisch ingediend

   ☐ later aangeleverd voor het onderzoek

3. ☐ In geval er meer dan één versie of kopie van een sequentie opsomming of tabel met betrekking op een sequentie is ingediend of aangeleverd, zijn de benodigde verklaringen ingediend dat de informatie in de latere of additionele kopieën identiek is aan de aanvraag zoals ingediend of niet meer informatie bevatten dan de aanvraag zoals oorspronkelijk werd ingediend.

4. Overige opmerkingen:

Aanvraag nr.:

SCHRIFTELIJKE OPINIE

NL2009948

Onderdeel V Gemotiveerde verklaring ten aanzien van nieuwheid, inventiviteit en industriële toepasbaarheid

1. Verklaring

Nieuwheid	Ja:	Conclusies 5
	Nee:	Conclusies 1-4, 6-11
Inventiviteit	Ja:	Conclusies
	Nee:	Conclusies 1-11
Industriële toepasbaarheid	Ja:	Conclusies 1-11
	Nee:	Conclusies

2. Citaties en toelichting:

Zie aparte bladzijde

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Documents

Reference is made to the following document:

D1: WO 2004/026754 A2 (CAPITAL FORMATION INC [US]; BROWN DOUG [US]; BORDWELL MARK [US]; TAYLO) 1 april 2004 (2004-04-01)

1 Novelty

1.1) The present application does not meet the criteria of patentability, because the subject-matter of claims 1-4 and 6-11 is not new.

1.2) D1 discloses:

Wheel base measuring lifting system for lifting a vehicle, comprising:

- one stationary lift (14);

- a number of moveable lifts (12);

- positioning means for defining a position of a wheel axle of the vehicle (§54) ;

- distance measuring means for defining the distance of the vehicle to a reference point (§54); and

- control means for determining the distance between two vehicle axles and steering the one or more moveable lifts to the correct position (§ 54-56, 144, 162, 209, 210)

1.3) Document D1 further discloses further the features of dependent claim 2 "a recess (46)", claim 3 (see §113, last part), claim 4 (see fig. 2), claim 6 process controller see e.g. § 52.

1.4) The same reasoning as given in point 1.2 above based on the same document D1 applies, mutatis mutandis, to the subject-matter of the corresponding independent method claim 7, which therefore is also considered not new.

1.5) Dependent claims 8-11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty as the method steps described therein are all considered known based on the teaching of prior art document D1.

2 Inventive Step

2.1) The present application does not meet the criteria of patentability, because the subject-matter of claim 5 does not involve an inventive step.

2.2) The feature of claim 5, wherein the distance measuring means comprise a transmitter and a receiver, cannot be considered to be inventive as this technique is already used in a similar wheel base measuring system such as disclosed in D1 where the position sensor (see § 54 and 121) and the output of a string potentiometer transmit / communicate the data to the control unit.