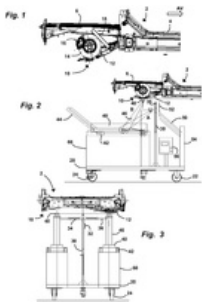
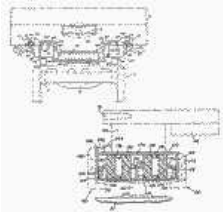
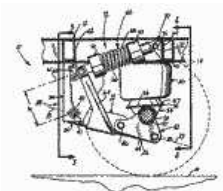
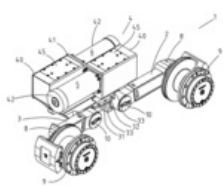
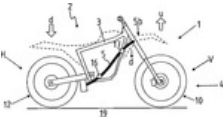
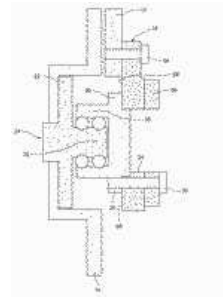
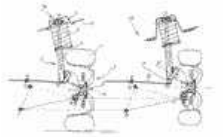
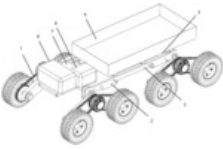
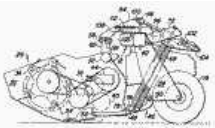
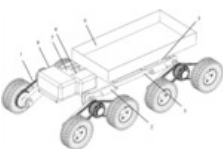
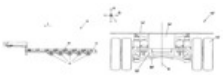
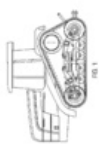
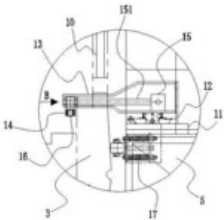
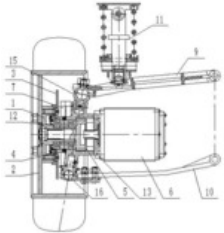
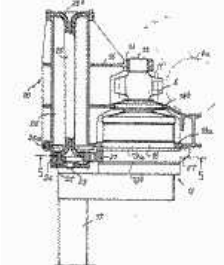
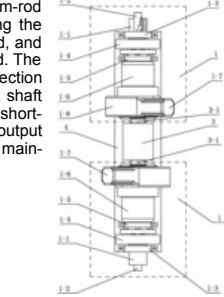
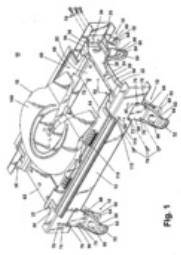
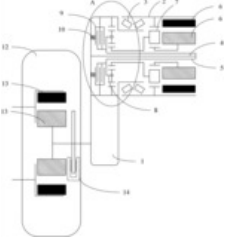
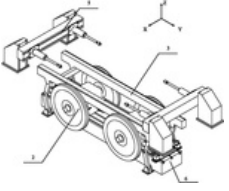
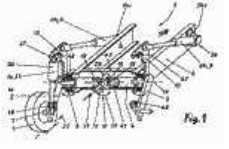
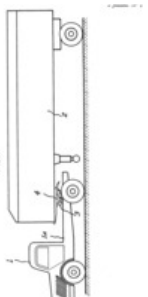


6277 results for (wheel and suspension and platform and arm and train)/AB/IW/CLMS/DESC/ODES/KEYW/TI/TX - Collection: FAMPAT

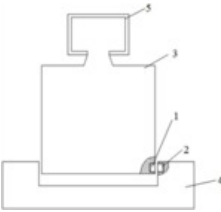
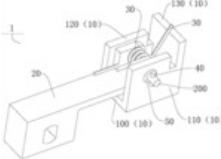
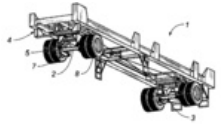
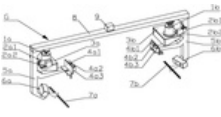
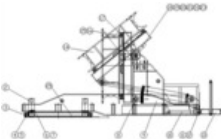
#	 Title	Publication number	1st app. date	Applicant/Assignee		
1.	Machine for mounting a vehicle rear axle, comprising a system for anchoring the body shell and a means for lifting each suspension arm	WO2016075378	2014-11-13	PEUGEOT CITROEN AUTOMOBILES PSA AUTOMOBILES*	100 %	
Machine for assisting the mounting of a rear axle with a deformable crossmember (10) onto a vehicle (2), said axle comprising a longitudinal suspension arm (12) on each side, having a connection at the front on the body shell of said vehicle and having a support at the rear for receiving the base of a suspension spring, the two arms being connected together in a rigid manner by a deformable crossmember, characterized in that said machine comprises a trolley (20) having a height-adjustable anchoring system (36) for fixing same between the two suspension arms (12), on the rear axle (10) or the body shell (2) while preventing rising, said trolley comprising, on each side of the anchoring system, a lifting means (40) for applying an upward force to the rear of each arm.						
2.	Train of highway trailers using improved railroad truck suspension	AU7846487	1986-10-20	CHAMBERLAIN WABASH NATIONAL*	100 %	
A railroad train (70) comprising a plurality of highway trailers (72) hitched front end to rear end (74, 76) with the end of each trailer supported on an adapter releasably connected to the trailer and with the adapter permanently mounted on the bolster of a four-wheel double-axle railroad truck (10), desirably a swing motion truck, with the adapter (100) also supported by side bearings mounted on the bolster and with the adapter desirably having a secondary spring suspension.						
3.	Trailing arm suspension with lever arm	WO9528312	1994-04-18	NAI NEWAY*	100 %	
A retractable suspension (10) comprises a trailing arm (22) pivotally mounted to a vehicle frame (12), an air spring (30) mounted between the trailing arm and the frame, and a lifting device (32) mounted between the trailing arm and the frame. The lifting device (32) comprises a strut (60) pivotally mounted between the frame (12) and a lever arm (64) that is fixedly mounted to the trailing arm (22). The strut (60) applies a force to the lever arm (64) that imparts a moment to the trailing arm (22) to urge the trailing arm and attached wheels (14) to a retracted position. The force of the air spring (30) can be adjusted to counter the upward movement of the wheels (14).						
4.	A trailing arm suspension assembly	EP1366972	2002-05-30	TECHNOLOGY INVESTMENT TECHNOLOGY INVESTMENTS*	100 %	
A suspension assembly has a pair of suspension arms, namely a forward suspension arm (2) and a rear suspension arm (3). Each suspension arm is pivotally mounted on a housing (4) containing spring means (5,6) associated with each of the suspension arms. A wheel hub assembly (9) is mounted at an outer end of each suspension arm. An inner end of each suspension arm is connected by a pivot shaft (11) with a lower end of an associated lever arm (12) mounted within the housing. An upper end (13) of the lever arm is connected to the spring means. The spring means opposes pivotal movement of the suspension arm away from a neutral position. Mounting flanges on the housing allow the assembly to be bolted to a floor of a vehicle and adjusted for correct alignment on the vehicle. <IMAGE>						
5.	Undercarriage for single-lane vehicle e.g. electrically driven motorcycle, has plate spring that is extended between front wheel suspension and rear wheel suspension, and coupled with front wheel suspension and ...	DE102012101551	2012-02-27	BENTELER SGL*	100 %	
The undercarriage (1) has a vehicle frame (3) that is provided with landing gears (4). A front wheel suspension (V) and a rear wheel suspension (H) are movably arranged in the landing gears and provided with a plate spring (5). The plate spring made from composite material, is mounted between the front wheel suspension and rear wheel suspension. The plate spring is extended between the front wheel suspension and the rear wheel suspension and coupled with the front wheel suspension and the rear wheel suspension. An independent claim is included for a method for regulating driving dynamics of undercarriage.						
6.	Wheel suspension for motor vehicles having a wheel carrier	FR2961157	2010-06-10	PEUGEOT CITROEN AUTOMOBILES*	100 %	
Wheel carrier system for a vehicle axial assembly comprising a suspension arm (66), a brake calliper (12) and a member (24) for guiding the rotation of a brake disc associated with the wheel. The system comprises a mounting plate (10) provided on the one hand with a central part (32) that supports the rotational guidance member (24), which part is interposed between the suspension arm (66) and the rotational guidance member (24), is fixed removably to the suspension arm and has a predetermined thickness (E1) in the direction of the axis of the rotational guidance member and defines the gauge width of the axial assembly and, on the other hand, with at least one lateral part (50) that supports the calliper. The mounting plate can be replaced with another mounting plate, the central part (32) of which has a different predetermined thickness (E2) in order to define an axial assembly with a different gauge width.						

7.	Motor vehicle's e.g. private car, front axle adaptation device, has spacers added to connections between hub carrier and a arm and between tie rod and carrier respectively, and cup to support suspension spring	FR2901736	2005-12-01	PEUGEOT CITROEN AUTOMOBILES*	100 %	
The device has spacers (12, 13) that are added to a connection between a hub carrier and an A arm and to another connection between a tie rod (10) and the carrier respectively. Height of the spacers are determined for compensating a difference between diameters of a base vehicle wheel and a specific vehicle wheel. A cup (4) supports a suspension spring (8) and is placed at an upper end of a Macpherson strut (5), by being supported against a vehicle body and against the spring. The cup allows to control the height of a vehicle body.						
8.	Method based on a controllable balanced swing arm suspension of the platform to a high power	CN208452767	2018-04-10	PEOPLE S LIBERATION ARMY GROUND FORCE MILITARY TRANSPORTATION UNIVERSITY*	100 %	
The present utility model discloses a method for balancing a swing arm of the suspension can be controlled on the basis of a high power platform, comprising a frame (3) cross profile, the frame (3) is hinged at the back ends of the controllable balanced respectively outside the swing arm suspension wheel (1) set; group to a frame (3) with at least one of the power supply apparatus; electrical energy providing means and four sets of the controllable balanced conductively connect the swing arm suspension wheel (1) set, which is used to provide electrical energy to the swing arm suspension wheel (1) set controllable balance, balanced swing arm suspension wheel (1) set travel drive the controllable. The present utility model discloses a method which is based on swing arm suspension of the controllable balanced high-powered platform, through its pair of complex terrain is strong, it is possible to accommodate different road conditions such as road and field, sufficiently to meet customer demands the use of it, enhancing the customer's product experience, facilitating widespread, production is of great practical significance.						
9.	Railway train with length exceeding that of platform and configuration system therefor	WO2015027666	2014-08-25	XI AN SHIYUN TRANSPORTATION EQUIPMENT*	100 %	
A railroad train marshaling system or marshaling method is disclosed. The railroad train includes cars within platform area which are made up of several cars; door-free cars which are connected with the cars within platform area at both ends or one end and made up of at least one car with no side door for passengers to get on and off the train. When the railroad train stops at the platform, the cars within platform area are arranged to stop within the area of platform or corresponding to the platform, the door-free car is arranged to stop beyond platform area and passengers in the door-free car will get to the platform directly from the car within platform area. The sum of length of door-free car and cars within platform area is more than that of the platform.						
10.	Mower-conditioner platform suspension including single upper arm and hydraulic cylinder for platform lift	CA2170078	1995-04-17	CRIDER GRANT W* DEERE*	100 %	
A mower-conditioner platform or header is suspended from the main frame of the mower-conditioner by a pair of transversely spaced lower links and a single upper link or lift arm. A hydraulic lift cylinder is connected directly to the lift arm. The lift arm is mounted between the main and platform frames in a manner for permitting the lift arm to undergo a given amount of side-to-side movement about its connection with the main frame in response to relative vertical movement between the opposite ends of the platform as the platform travels over uneven ground contour during cutting operation, and for limiting the side-to-side movement of the upper link to an amount considerably less than said given amount when the platform is raised to its transport position. Three different connection points are provided at the forward end of the lift arm for connection to the platform frame and by selecting different ones of these points different platform cutting angles may be obtained. A transport lock is provided for holding the lift arm in its raised position and the mounting of the cylinder is such as to permit the latter to be stroked when the lock is engaged without any forces being transferred to the lift arm or lock.						
11.	High maneuvering platform based on controllable balance swing arm suspension frame	CN108327498	2018-04-10	CHINESE PEOPLE S LIBERATION ARMY ARMY MILITARY TRANSPORTATION COLLEGE*	100 %	
The invention discloses a high maneuvering platform based on a controllable balance swing arm suspension frame. The high maneuvering platform comprises a transversely-distributed vehicle frame (3). The outer sides of the front end and the rear end of the vehicle frame (3) are each connected with a controllable balance swing arm suspension frame wheel set (1) in a hinged mode, and at least one electric energy supplying device is mounted on the vehicle frame (3). The electric energy supplying devices are in conductive connection with the four controllable balance swing arm suspension frame wheelsets (1) and used for supplying electric energy to the controllable balance swing arm suspension frame wheel sets (1) to drive the controllable balance swing arm suspension frame wheel sets (1) to travel. According to the high maneuvering platform based on the controllable balance swing arm suspension frame, the ability of passing of the high maneuvering platform through a complex terrain is high, the high maneuvering platform can adapt to different road conditions such as roads and fields, the use demand of a client for the high maneuvering platform is sufficiently met, the product use feeling of the client is enhanced, wide application and popularization are facilitated, and great production practice significance is achieved.						
12.	Heavy-duty trailer with macpherson independent wheel suspension	CA2869065	2012-04-05	GOLDHOFFER* GOLDKHOFFER	100 %	
The invention relates to a heavy-duty trailer (10) in which at least one of the wheels (12) has a MacPherson independent wheel suspension (16). The wheel (12) can be a steered wheel, wherein the steering cylinders (94) of the steering device (40) enclose an angle (a) with the longitudinal direction (L) of the trailer. The transverse control arms (30l, 30r) can also be articulated onto the trailer frame at least in the longitudinal centre plane (E) of the trailer (10).						
13.	Positively driven elastomeric track and suspension system for an agricultural tractor	WO200153143	2001-01-12	NEW HOLLAND*	100 %	
The invention relates to a track and suspension system for an agricultural tractor. Invention consists of an endless rubber track (2) encircling a drive wheel (3), front and rear idle wheels (4, 5) and a supporting undercarriage (10). The undercarriage has front and rear suspension arms (15, 13) supporting front and rear idler wheels. Movement of the suspension arms is limited and controlled by a bridge beam (24) and a pair of air springs (14, 16). The undercarriage also has mid track roller frames (20, 21) whose movements are limited and controlled by a bridge beam.						

14.	Suspension method for bridge detection device and suspension arm assemblies	CN106638296	2016-10-11	ZHUZHOU GUOYI INDUSTRIAL*	100 %	
The invention discloses a suspension method for a bridge detection device and suspension arm assemblies. The suspension method includes the steps that when walking beam bodies need to be suspended firstly, the first suspension arm assemblies are controlled to move in the horizontal direction to be inserted in a gap between two adjacent guardrails, the first suspension arm assemblies are then controlled to move downwards in the vertical direction so as to be arranged on the upper surfaces of the bridge edges on the two sides of a railway bridge, then detection beam bodies are controlled to move, after the detection beam bodies move in position, the second suspension arm assemblies are controlled to move in the horizontal direction to be inserted in the gap between the two adjacent guardrails, the second suspension arm assemblies are then controlled to move downwards in the vertical direction so as to be arranged on the upper surfaces of the bridge edges on the two sides of the railway bridge, the first suspension arm assemblies are then controlled to move upwards in the vertical direction, the first suspension arm assemblies are then controlled to move in the horizontal direction to be drawn out of the gap between the two adjacent guardrails, the walking beam bodies are then controlled to move, and suspension actions are conducted alternately in the way till detection operation is finished. By the adoption of the suspension method and the suspension arm assemblies, the bridge detection device can be stably suspended.						
15.	Double-swing-arm motor power suspension system for steering wheel	CN106240339	2016-09-21	SHANXI JIAHE YONGXIN TRANSPORTATION TECHNOLOGY*	100 %	
The invention relates to a double-swing-arm motor power suspension system for a steering wheel and belongs to the technical field of automobile suspension systems. The double-swing-arm motor power suspension system for the steering wheel is simple in structure and relatively low in manufacturing cost, a gear reduction mechanism is arranged in an irrotational hub casing, and the larger reduction ratio can be obtained. The adopted technical scheme is characterized in that a wheel is arranged outside a rotating hub, a brake disc is arranged on the inner side of the rotating hub, the irrotational hub casing is mounted on the rotating hub, a reduction gear set is arranged in a cavity of the irrotational hub casing, an output shaft of the reduction gear set is in key connection with the rotating hub, an input shaft of the reduction gear set is connected with a middle motor, and the middle motor is fixed on the irrotational hub casing; brake calipers are arranged at the front end of the irrotational hub casing, a steering swing rod is arranged at the rear end, an upper swing arm is arranged at the top of the irrotational hub casing, a lower swing arm is arranged at the bottom, and a suspension spring component is arranged on the upper swing arm. The invention is widely applied to the motor power suspension system.						
16.	Suspension device for supporting the legs of a self-lifting oil platform	FI875119	1986-11-26	ANGURUNAAJU & RUDEYUKUTEYUURU SHITOROEN MESHIAN DEYURAN CITROEN MESSIAN DURAND ENGREN* ENGRENAGES & REDUCTEURS CITROEN MESSIAN DURAND ENGRENAGES & REDUCTEURS CITROEN MESSIAN DURAND SOCIÉTÉ ANONYME TECHNIP GEOPRODUCTION* JEKUNITSUPU JEOPURODEYUKUSHION	100 %	
The suspension device for the support legs of a jack-up oil platform having a hull movable along the legs includes a driving mechanism having a plurality of output gear pinions cooperating with racks mounted along at least a part of the legs. Each of the output gear pinions is drivable by an electric motor associated with a speed reducer which is pivotally mounted on a structure which is connected to the hull and has at least one bearing which allows a given angular movement of the speed reducer and each corresponding output gear pinion. Each speed reducer cooperates with an energy absorbing mechanism including at least one torsionally elastically yieldable support element connected to a corresponding speed reducer and affording a progressive absorption of shock particularly at the moment when the legs contact the sea floor. (From US4880336 A)						
17.	Main-rocker-arm long-short-section opening angle regulating mechanism for active suspension type rover	CN105150789	2015-10-22	HARBIN INSTITUTE OF TECHNOLOGY*	100 %	
The invention provides a main-rocker-arm long-short-section opening angle regulating mechanism for an active suspension type rover, and relates to a double-pendulum-rod opening angle regulating mechanism. The main-rocker-arm long-short-section opening angle regulating mechanism for the active suspension type rover aims at solving the problems that for unfolding an existing passive suspension rover suspension, an unfolding assisting system is additionally needed, emission loads are additionally increased, and active shape changing of the rover suspension for reducing enveloping size and matching with wheels to achieve wheel-step composite walking in driving cannot be achieved. The main-rocker-arm long-short-section opening angle regulating mechanism comprises a differential mechanism, a bottom plate and two sets of main-rocker-arm long-short-section opening angle regulators; each set of the main-rocker-arm long-short-section opening angle regulator comprises a long arm output shaft, a short arm output shaft, output shaft support seats, a planetary gear train, a harmonic reducer, a speed reducer and a motor; the differential mechanism is arranged between shells of the main-rocker-arm long-short-section opening angle regulators, and the differential mechanism and the main-rocker-arm long-short-section opening angle regulators are installed on the bottom plate; the output ends of the motors are connected with the input ends of the speed reducers, and input shafts of the planetary gear trains are connected with the short arm output shafts. The main-rocker-arm long-short-section opening angle regulating mechanism is used for the active suspension type rover.						
18.	Vehicle special for road transportation of magnetic suspension train	CN102490642	2011-12-28	BEIJING XIANGLONG LOGISTICS* PLA NATIONAL DEFENSE UNIVERSITY OF SCIENCE & TECHNOLOGY*	100 %	
The embodiment of the invention discloses a vehicle special for road transportation of a magnetic suspension train. The vehicle comprises a traction vehicle and a flat vehicle which are connected with each other, wherein a loading track which consists of a sleeper and a track skeleton and corresponds to a basic track arranged on the site of the magnetic suspension train is arranged on a cargo platform of the flat vehicle along the length direction; and a suspension device is arranged between a sub-frame of the flat vehicle and a wheel shaft of the flat vehicle. By adjusting the suspension device, the magnetic suspension train can be directly and horizontally moved to the loading track of the flat vehicle through the basic track after the loading track which is arranged on the flat vehicle and consists of the sleeper and the track skeleton is in butt joint with the basic track arranged on the site of the magnetic suspension train. Therefore, the vehicle special for the road transportation of the magnetic suspension train can be in butt joint with the basic track on the site of the magnetic suspension train conveniently and can be matched with a horizontal movement type assembly and disassembly scheme of the magnetic suspension train.						
19.	Wheel suspension system for vehicles	WO2006047217	2005-10-21	GENERAL PURPOSE VEHICLES*	100 %	
A wheel suspension system for a vehicle having a body supported on a set of wheels each provided with a rim and an axle generally consisting of a lower control arm pivotally connectable to a first portion of such body; an upper control arm pivotally connectable to a second portion of such body; a roller bearing having inner and outer races, disposed within such rim, coaxially relative to the rotational axis of the rim; a steering plate mounted on the outer race of the bearing, having a first portion universally connected to the lower control arm and a second portion universally connected to the upper control arm, defining a steering axis intersecting the rotational axis of the rim; and a hub member mounted on the inner race and connectable to an axle receivable through an opening provided in the steering plate.						

20.	Integrated fifth wheel and frame suspension	WO200196171	2001-06-07	HOLLAND HOLLAND NEWAY INT LASALLE BANK*	100 %
An integrated fifth-wheel hitch and axle suspension assembly (10) for mounting on a truck with a pair of spaced apart frame rails (12) comprises a fifth-wheel hitch carriage (80) adapted for mounting a fifth-wheel hitch (100), a pair of suspension brackets (16) for mounting an axle suspension component and an integrating connector rigidly connecting the fifth-wheel hitch carriage (80) to the suspension brackets (16) at opposite sides of the hitch carriage (80). The integrating connector, the hitch carriage (80) and the suspension brackets (16) define an elongated opening for slidably receiving the truck frame rails (12) so that the integrated fifth-wheel hitch and axle suspension assembly (10) can slide as a unit onto the truck frame rails (12). An integrated connection interface (120) includes a plurality of electronic and pneumatic connectors in connectors in a connector harness for selectively connecting electronic and pneumatic systems on a truck with electronic and pneumatic components (140, 130) of an integrated fifth-wheel hitch and axle suspension assembly (10).					
					
21.	Rocker suspension frame, wheel-leg-type mobile platform and unmanned control system	CN107571702	2017-09-13	BEIJING UNIVERSITY OF TECHNOLOGY*	100 %
The invention discloses a rocker suspension frame, a wheel-leg-type mobile platform and an unmanned control system. The rocker suspension frame comprises a body which comprises the two opened ends and the two closed ends which are arranged in the opposite direction. A connecting shaft is fixed to the outer side wall, close to the direction of the closed ends, of the body and is perpendicular to the axis of the body; a bearing is arranged on the outer side wall of the middle of the body, and the body is internally provided with an inner torsion rod and an outer torsion rod; the position, close to the closed direction ends away from the body, of the inner torsion rod is connected with the outer torsion rod, and the other end of the outer torsion rod stretches towards the body closed direction ends; the body is internally provided with a driving unit, a harmonic reducer, a planetary gear train, a friction clutch and an adjustable pressing unit which are connected in sequence; and the planetary gear train is functionally connected with the closed direction end, close to the body, of the outer torsion rod. The wheel-leg-type mobile platform comprises a vehicle frame, driving wheels and the multiple rocker suspension frames; the unmanned control system is used for controlling cooperative work of the driving wheels and the rocker suspension frames of the platform under different working conditions; and rotary moving of the rocker suspension frames can make the platform to obtain the accurate moving position and speed.					
					
22.	Test platform for testing reliability of traction drive systems of frame-suspended bogies of high speed train	CN102680229	2012-05-15	JILIN UNIVERSITY*	100 %
The invention discloses a test platform for testing reliability of traction drive systems of frame-suspended bogies of a high speed train, which comprises a test platform foundation (1), power transmission assemblies (2), lifting devices (3) and bogie positioning devices (5), wherein the power transmission assemblies (2) are installed in the middle of a foundation platform (6) in the test platform foundation (1); a No.1 lifting arm assembly (31) and a No.2 lifting arm assembly (32) in the lifting devices (3) are parallel installed on the foundations on the left and right sides of the foundation platform (6); No.1 fixed support assemblies (33) and driving assemblies (34) are installed at the front and rear ends of the foundation platform (6); a No.1 fixed cross beam (29) and a No.2 fixed cross beam (30) are fixedly connected with a No.1 transition longitudinal beam (35) and a No.2 transition longitudinal beam (52) in the No.1 lifting arm assembly (31) and the No.2 lifting arm assembly (32); and the bogie positioning devices (5) are installed on the top end faces of two short groove walls in the test platform foundation (1).					
					
23.	Suspension type aerial train station interfacing apparatus	CN206086721	2016-09-30	SHANGHAI KONGLIE RAIL TECHNOLOGY*	100 %
The utility model relates to a suspension type aerial train station interfacing apparatus, it is installed in the platform is stopped to the train, interfacing apparatus includes platform positioning device, train positioning device, location drive device and activity running -board, the platform positioning device is located on the board of train stop station tableland, the location drive device locate under the board of train stop station tableland, the train positioning device passes through the joint -action mechanism and links to each other with location drive device, the activity running -board passes through the footboard linkage and links to each other with location drive device. Its advantage shows as: the utility model discloses a synthesize platform positioning device, train positioning device, location drive device and activity running -board for integrated device to possess reliability, usability and maintainability, through setting up station U type groove or magnetic force lock, the carriage when strengthening the train stop is stable.					
					
24.	Axle assembly for a vehicle and method for its operation	EP0983883	1998-08-13	BAYER COMMUTER RINSPEED RIGHTSHOLDERS BAYER COMMUTER RINSPEED* SIEBEN HANS HERMANN	100 %
A variable suspension for a vehicle, e.g. a service bus, has the wheels (1) fitted to support arms (2) which are hinged on the chassis. The supports arms are also braced on the chassis by suspension units and by rams (9) which raise and lower the suspension. The upper mounting points for the suspension and the rams are on brackets which are attached to crossmembers in the chassis and with the crossmembers having a swivel mounting in the chassis. The swivel action is driven by a linkage inside the chassis crossmember and controls the riding height of the vehicle. The suspension control is linked to an active control which stabilizes the ride. For load transfer the suspension can lower the rear, or both ends of the vehicle to the ground.					
					
25.	Articulated suspension for attachment members between the vehicles in a road train	NL246239	1958-12-09	LORRAINE ANCIENS ETABLISSEMENTS DIETRICH*	100 %
923.273. Tractor/trailer couplings. SOCIETE LORRAINE DES ANCIENS ETABLISSEMENTS DE DIETRICH & CIE DE LUNEVILLE. Dec. 7, 1959 [Dec. 9, 1958], No. 41472/59. Class 103(5). A tractor/trailer combination has coupling members comprising a cradle 3 mounted at the rear of the tractor and a bearer member 4 on the trailer, which members are connected by pairs of forward and rearward links which may be moved relatively to one another to vary the point of intersection M and the proportion of trailer load transferred to the tractor. A pair of forward inner links 5, are pivoted on a shaft 7 to the member 4, and through a shaft 9, to stub shafts 8 on the cradle flanges. Rear inner and outer pairs of links 5 2 and 6 2 are similarly connected to a shaft 9 2 and to stub shafts, and the forward and rearward pairs of links are constrained to lie in common respective planes. The shafts 9 1 and 9 2 are connected by nuts 9a and 9b threaded on a shaft 10 having opposite handed threads 10a and 10b so that rotation of the shaft 10 may move the shafts towards or away from one another to adjust the angle formed between forward and rear links and the position of the point M. The angular position of the links and the member 4 with the flanges 3, and the precise position of the point M relative to the tractor may be adjusted by rotating a shaft 11 pivotally mounted on an arm 14 freely rotatable about a shaft 13 fixed between the flanges 3, the shaft 11 having a nut 12 thereon which is freely rotatable about the shaft 9 2 . U.S.A. Specification 2,809,851 is referred to. (From GB923273 A)					
					

26.	Method for chassis measurement and a device for measuring the chassis geometry of a vehicle	DE102008054975	2008-12-19	ROBERT BOSCH*	100 %	
A method according to the invention for chassis measurement includes the steps of providing a chassis measurement system having four measuring heads (2, 4, 14, 16) arranged in known positions relative to one another, each having a monocular image recording device (22, 24, 26, 28), wherein the position of the measuring heads (2, 4, 14, 16) relative to one another is known; recording an image of a wheel (6, 8, 10, 12) or a measurement target applied thereto in an initial position (A) of the vehicle (1) with each of the four measuring heads (2, 4, 14, 16); shifting the vehicle (1) from the initial position (A) into at least one additional position (E); recording an image of a wheel (6, 8, 10, 12) or a measurement target applied thereto of the vehicle (1) in the additional position (E) using each of the four measuring heads (2, 4, 14, 16); recording an image of a reference target that has a known pattern (34, 36) and is attached to the vehicle (1) using one of the four measuring heads (2, 4, 14, 16) in at least one of the initial position (A) and the additional position (E) of the vehicle (1) and determining an absolute scale for the measuring heads (2, 4, 14, 16) therefrom; executing local 3D reconstructions for determining the translation vectors (t1, t2, t3, t4), the rotation vectors (R1, R2, R3, R4) and the angle of rotation of the wheels between the at least two positions (A, E) as well as the centers of rotation of the wheels and the axes of rotation of the wheels (6, 8, 10, 12); and determining the chassis measurement parameters of the vehicle (1), in particular inclination, single track and/or total track, wheelbase and track width.						
27.	Integrated single swinging arm suspension synchronous belt reduction type hub electric-drive system with tension device	CN102745073	2012-06-18	TONGJI UNIVERSITY*	100 %	
The invention relates to an integrated single swinging arm suspension synchronous belt reduction type hub electric-drive system with a tension device. The integrated single swinging arm suspension synchronous belt reduction type hub electric-drive system comprises a frame, an elastic hinge, a hub reducer box body, synchronous belt wheels, an input shaft, a middle shaft, an output shaft, the synchronous belt tension device, wheel hubs and a hub motor. The elastic hinge and the hub reducer box body are of an integrated structure. The hub reducer box body is hinged to the frame through the elastic hinge, the hub motor is fixedly connected with a hub reducer box body member, and the output shaft is connected with wheels through the wheel hubs. A primary driving synchronous belt wheel is fixed on the input shaft, a primary driven synchronous belt wheel and a secondary driving synchronous belt wheel are fixed on the middle shaft, and the secondary driven synchronous belt wheel is fixed on the output shaft. The input shaft and the output shaft are supported on the hub reducer box body, and the middle shaft is supported on the synchronous belt tension device which comprises a supporting seat, a movable pushing plate, a middle shaft bearing seat and a stud bolt. The integrated single swinging arm suspension synchronous belt reduction type hub electric-drive system utilizes transmission of synchronous cog belts to effectively reduce noise of a transmission system, is low in cost, and improves ride comfort of automobiles and grounding performance of driving wheels.						
28.	Rocker arm cantilever and wheel-legged type mobile platform	CN108394270	2018-04-26	BEIJING UNIVERSITY OF TECHNOLOGY*	100 %	
The invention discloses a rocker arm cantilever and wheel-legged mobile platform. A transmission box is internally provided with a first speed reducing planetary line, a wheel driving clutch, a rocker arm driving clutch, a sun gear control clutch, a damping unit, by coupling the two functions of a driving rocker arm and a driving wheel, the size and the weight of a whole vehicle are smaller, the elastic damping effect of a damping unit torsion bar spring and a blade damper effectively lowers the pavement vibration in the working state of the mode of the driving wheel, the blade damper is fixed to a vehicle frame, cooling of a damper is facilitated, and the service life is prolonged; the rocker arm can obtain a precise motion position and a motion speed in the working state of the mode of the driving rocker arm, and mechanism interference with the mode of the driving rocker arm is removed. The rocker arm cantilever and wheel type mobile platform comprises several rocker arm cantilevers parallelly arranged at the two sides of the vehicle frame, the obstacle crossing capability of the platform is improved, and the veering resistance under in-situ veering driving working conditions can be reduced.						
29.	Decoy vehicle for making a route mine-safe	FR2847852	2002-12-02	MBDA - MATRA BAE DYNAMICS AEROSPATIALE*	100 %	
The vehicle has a frame (12) carried by a wheel carriage with a cross-piece (18) at each end with a wheel train. The train has a cross-brace with arms, each carrying a carrying wheel (32, 34) turning around a hub. Two opposite wheels are aligned in the direction of bearing and shifted in the direction of the cross-piece. Length is equal to the common width of the wheels when the wheel is in support over the ground.						
30.	Movable type top operating platform for overhauling motor train unit	CN102059687	2010-11-05	CHINA RAILWAY CONSTRUCTION ENGINEERING* CHINA RAILWAY ENGINEERING DESIGN INSTITUTE*	100 %	
The invention relates to overhauling equipment for a motor train unit, in particular to a movable type top operating platform for overhauling the motor train unit, which is applied to the overhauling operation of a motor train unit roof. In the operating platform, a traveling trolley suspends a movable guardrail and a movable operating trolley on three H-shaped steel rails of a roof; the running of the movable guardrail and the movable operating trolley is controlled by a control system of the movable type top operating platform; the movable operating trolley is provided with a revolving safety guardrail, an arm column type cantilever crane and an operating turnover plate; the movable guardrail is provided with a protective turnover plate and a revolving connection device; and when the movable operating trolley stops operating, the revolving safety guardrail on the movable operating trolley is laid above the motor train unit roof horizontally, and in order to enhance stability, the revolving connection device and the revolving safety guardrail are locked.						
31.	Suspension sky train traction system with emergency landing function	CN107856679	2017-10-31	ZHONGTANG AIR RAILWAY*	100 %	
The invention discloses a suspension sky train traction system with an emergency landing function. The suspension sky train traction system comprises a power traction frame, a suspension sky train, driven wheel sets and a driving wheel set. The middle portion and the rear end of the power traction frame are each provided with one driven wheel set. The driving wheel set is arranged at the front end of the power traction frame and comprises driving hubs, a transmission shaft, a motor and a speed reducer. Output shafts at the two ends of the speed reducer are connected with the transmission shaft. The transmission shaft is installed on the power traction frame through bearings. The outer ends of the transmission shaft are connected with the driving hubs. An input shaft of the speed reducer is arranged downwards and connected with the motor. The motor is connected with a high-voltage lead through an electric brush, wherein the high-voltage lead is arranged at the top of a suspension guiderail. By the adoption of the suspension sky train traction system, the suspension sky train can quickly and stably land to the ground from the upper air, and the problems that a suspension sky train traction system is complex in structure and small in power, and the power traction system and the suspension sky train are difficult to match are solved.						
32.	Directive wheel double pendulum arm motor dynamic suspension	CN206327147	2016-09-21	SHANXI JIAHE YONGXIN TRANSPORTATION TECHNOLOGY*	100 %	
The utility model relates to a directive wheel double pendulum arm motor dynamic suspension, belong to automobile suspension system technical field, which has the advantages of simple structure, the cost is lower, gear reduction unit constructs the setting in irrotational hub shell, can obtain the directive wheel double pendulum arm motor dynamic suspension of great speed reducing ratio, the technical scheme who adopts is provided with the wheel for the outside of rotating wheel hub, it is provided with the brake disc to rotate the wheel hub inboard, install irrotational wheel hub shell on the rotation wheel hub, irrotational hub shell inner chamber is provided with reduction gear system, reduction gear system's output shaft and rotation wheel hub key-type connection, reduction gear system's input shaft is put the motor in with and is connected, in put the motor and fix on irrotational hub shell, irrotational hub shell's front end is provided with brake caliper, the rear end is provided with and turns to the pendulum rod, irrotational hub shell's top is provided with the swing arm, the bottom is provided with down the swing arm, upward be provided with the shock-proof spring subassembly in the swing arm, the utility model discloses extensively be used for the motor dynamic suspension.						

33.	Suspension monorail train body stabilizer	CN107298107	2017-06-06	SOUTHWEST JIAOTONG UNIVERSITY*	100 %
The present invention provides a suspension monorail train body stabilizer and belongs to the technical field of monorail trains. The suspension monorail train body stabilizer comprises a body and a platform. Onboard mobile permanent magnet steel is provided on the outer side of the bottoms of walls on the left and the right sides of each compartment, two pairs of onboard mobile permanent magnet steel are arranged on the front and back of each compartment, the inner side of the platform is provided with fixed permanent magnet steel on the position corresponding to the stop position of each compartment, the fixed permanent magnet steel is in one-to-one correspondence with the onboard mobile permanent magnet steel in positions when the train stops, the size of the fixed permanent magnet steel provided on the platform is greater than that of the onboard mobile permanent magnet steel in the train advancing direction, the like poles of each pair of the onboard mobile permanent magnet steel and the fixed permanent magnet steel provided on the platform are arranged oppositely, and repulsive force of the fixed permanent magnet steel provided on the platform and repulsive force of the onboard mobile permanent magnet steel are equal and opposite in directions. The suspension monorail train body stabilizer is mainly used for stabilization of suspension monorail train bodies.					
					
34.	Hanging suspension control method of the magnetic levitation train	CN108973767	2018-08-06	JIANGXI UNIVERSITY OF SCIENCE & TECHNOLOGY* SOUTHWEST JIAOTONG UNIVERSITY*	100 %
The present invention provides a suspension type magnetic levitation train control method of the suspension, hanging type magnetic levitation train track of permanent magnets of rare earth permanent magnetic material mounted on the inner tian liang, interacts with the permanent magnet group on a truck, a repulsive force is formed, the suspension control method through a suspension control, drive to travel, steering control, a speed positioning control, braking and the like, to achieve stable levitation, operating without contact, a linear induction drive motor in cooperation with the locating system implementing secure, smooth travel. The present invention overcomes the deficiencies of the permanent magnet levitation system to be unstable, increasing the stability of the suspension system.					
					
35.	Moving platform's suspension and have its moving platform	CN207551213	2017-12-12	IFLYTEK*	100 %
The utility model discloses a moving platform's suspension and have its moving platform. Moving platform's suspension includes base, connecting plate and torsional spring. The one end and the base ofconnecting plate are connected, but the connecting plate is for the base pivot. The pivotal axis of connecting plate is located to the torsional spring cover, and the one end and the connecting plateof torsional spring offset, and the other end and the base of torsional spring offset. The certificate the utility model discloses a moving platform's suspension, through setting up the torsional spring, the torsional spring can cushion the connecting plate and apply the effort on the base, absorbs the vibrations of moving platform on uneven road surface to can improve moving platform's operatingsteadily nature, make it can not topple or cause the damage to the article of its lift -launch because of the vibrations of jolting. In addition, the simple structure of torsional spring, and can accomplish to provide great elasticity under relative small size, so it has great elasticity under compact structure's the circumstances, can provide certain holding power for moving platform to can improve moving platform's bearing force.					
					
36.	Wheel suspension for a vehicle	EP0983881	1998-09-03	ENVISION VEHICLE ENGINEERING NOVASIO TECHNOLOGY - EVENT* GAUSSIN GAUSSIN S A	100 %
The axle support arm (9) is mounted to pivot around one (10) of its extremities, on a bracket (11), which is fixed on to a support structure (12) of the axle mount. The opposite end (14) of the arm is connected via a shock absorber (13) to the same support structure. The shock absorber consists of a helical spring (15), which acts in compression, under control from two pieces (17 and 18), which encase the spring and slide one within the other. The two parts are mounted to pivot around axes, which are parallel to the axles.					
					
37.	Monitoring system and dynamic detection equipment thereof for medium-low magnetic suspension train contact rail	CN102616248	2012-03-20	NATIONAL UNIVERSITY OF DEFENSE TECHNOLOGY* PLA NATIONAL DEFENSE UNIVERSITY OF SCIENCE & TECHNOLOGY*	100 %
The invention discloses a monitoring system and dynamic detection equipment thereof for a medium-low magnetic suspension train contact rail. The dynamic detection equipment disclosed by the invention comprises a left displacement detection device, a right displacement detection device and a fixing rack, wherein the left displacement detection device and the right displacement detection device are respectively used for detecting parameters of a left train gauge and parameters of a right train gauge so as to obtain the left gauge and the right gauge; both ends of the fixing rack are respectively used for mounting the left displacement detection device and the right displacement detection device and respectively rotationally connected as well as hinged with both sides of a bogie, the rotational axis lines in a vertical plane, and the hinge axis extends along a running direction; and one end of the fixing rack is in slip connection with the bogie along a track span direction. The dynamic detection equipment can be better suitable for a special bogie structure of a medium-low magnetic suspension train and can be correspondingly changed along with the dynamic working conditions of the bogie so as to truly react the working states of the contact rail in the running process of a train.					
					
38.	Lifting formula and a wheel train of the wind blade outward a transporting equipment	CN108819824	2018-07-03	XUZHOU HUABANG SPECIAL VEHICLE*	100 %
The present invention discloses a lifting formula and a wheel train of the wind blade is adjusted outward transportation equipment, comprising a turret, a hydraulic motor deceleration unit, 1st pivot bearing, the allen bolts 1st, 1st spring washers, the allen bolts 2nd, 2nd spring washers, 1st cylinder pin, luffing oil cylinder, the counterweight cylinder, 2nd cylinder pin, cotter pin 1st, the counterweight platform, a transition land, the allen bolts, nuts, 2nd pivot bearing, pin, pad, groove-type nut, cotter pin 2nd, a joint bearing, holes with a circlip, swing frame, the apparatus main body, the apparatus main body is provided with a turret, turret hydraulic motor decelerates at an end of train, the transport equipment of the wind blade ramps problem solving large, a large-sized wind blade for larger heavier on a narrow road such that the peaks of the rough turning the vehicle around the wind blade, pitch and pitch, thereby facilitating the large-sized wind blade be transported to mountain, bring convenience for users.					
					
39.	Trailing arm suspension	SE8502405	1985-05-13	STANDARD MANUFACTURING*	100 %
An undercarriage (12) includes a primary frame (22) and a plurality of secondary frames (26) which in turn carry wheel members (28). The secondary frames (26) are urged to pivot away from the primary frame (12) by spring mechanisms (38). An undercarriage (112) includes a primary frame (122) and a plurality of secondary frames (126) which in turn carry wheel members (128). Pivotal movement of the endmost secondary frames (126e) is controlled by spring/shock absorber assemblies (134). Pivotal movement of the center secondary frame (126c) is controlled by a spring/shock absorber/cylinder assembly (136). Spring/shock absorber/hydraulic cylinder assemblies (250) may be used to control the positioning of all of the wheels of an undercarriage (422, 452, etc.).					
					
40.	Train control having improved wheel wear adjustment for more accurate train operation	US4819168	1987-12-29	ADTRANZ ELECTROLUX TRN BUSINESS TRUST A DELAWARE BUSINESS TRUST*	100 %
A microprocessor control system (18) is provided for a steel wheel vehicle having at least two propulsion/braking units.A spin/slide control is executed in the microprocessor (28, 29, 30) to adjust the propulsion/braking control in accordance with differential axle speeds to avoid vehicular spins/slides.Actual wheel size for a preselected axle is entered into the microprocessor from time to time.Speed adjust factors are computed.The respective axle speeds are adjusted in accordance with the speed adjust factors and the adjusted axle speeds are applied to the spin/slide control for computation of differential axle speeds with wheel wear compensation.The adjusted axle speeds are processed by a monitor system to display the wheel wear compensated vehicle speed.Tractive effort adjust factors are computed and applied to the propulsion/braking control for computation and execution of tractive effort with wheel wear compensation.					
