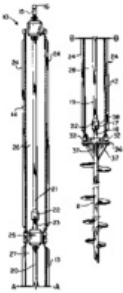
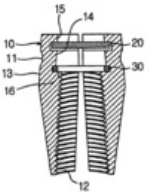
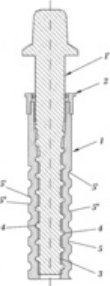
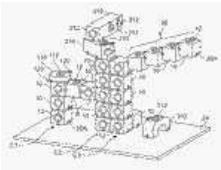
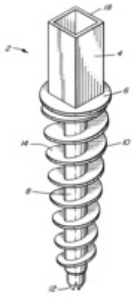
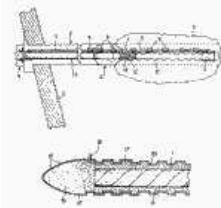
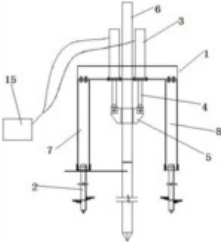
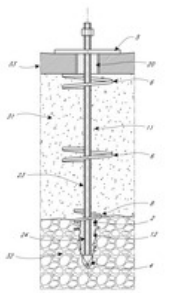
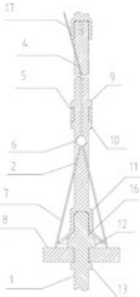
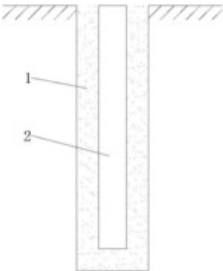
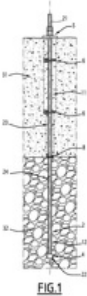
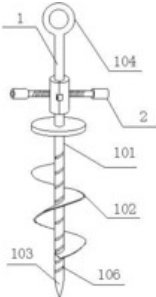
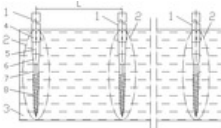
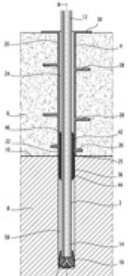
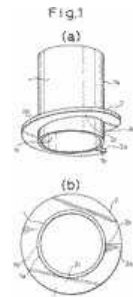


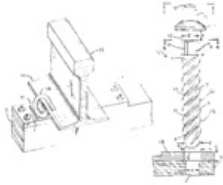
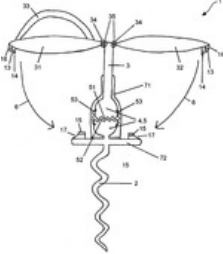
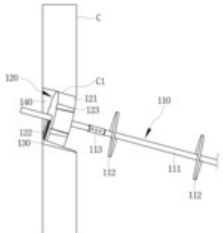
2845 results for (pier+ or pile+ or anchor+)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX AND (ground or soil or land)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX AND (rail+)/TI/AB/IW/CLMS/DESC/ODES/OBJ/ADB/ICLM/KEYW/TX AND (helical)/TI/AB/IW/OBJ/ADB/ICLM) - Collection: FAMPAT

#	 Title	Publication number	1st App. date	Applicant/Assignee	Relevance score
1.	Piling apparatus and method of installation	US6814525	2001-11-14	WHITSETT MICHAEL	100 %
An in-situ piling apparatus (10) includes a helical anchor to which a plurality of elongated generally cylindrically shaped sections can be added. Each of the sections has a specially shaped end portion for connecting to another section. An internal drive is positioned in sections inside the bore of each of the connectable piling sections. The internal drive includes enlarged sections that fit at the joint between piling sections. In one embodiment, the internal drive can be removed to leave a rod behind that defines reinforcement for a tension rod connection from the anchor tip to an upper portion attachment point. 					
2.	Internal anchorage for a tension member	WO02077372	2002-03-21	COOK YL KIM KOREA 4 1 5 7 3 3 GYEONGGI DO KIM PO SISAW DONG 1 2 2 4 NON SANGMUL SING AN APARTMENT 1 1 0 0 3 SAMU GEOTECH SAMWOO GEOTECH*	99 %
A wedge assembly for removing a tension member by the release of the wedge engagement corresponding to the external anchoring of the tension member in imposing the anchoring load on the tension member anchored to the underground anchor hole, an internal anchorage wedge assembly for more simply and efficiently removing the tension member using the aforementioned wedge assembly without any removing equipment such as a drawbench, and an internal anchorage using the wedge assembly are provided. 					
3.	Sheath for fastening railway rails, method for replacing said sheath in a sleeper and tools for performing said method	ES2283235	2007-04-04	MONDRAGON SOLUCIONES U RAILTECH SUFETRA* RAILTECH SUFETRA S A	99 %
Sheath for railway track fixings, procedure and tools to replace said sheath of a sleeper, free of projections that prevent the rotation thereof and which comprise a helical rabbetting (5) on an outer surface configured to house a helical projection (6) of the sleeper (7) and thread with respect to said helical projection (6), said sheath (1) comprising an inner thread (3) configured to house a male thread (4) of a coach screw (1'), where said helical rabbetting (5) comprises an upper part (5') having a concave curved configuration and a lower part (5'') having a straight configuration, the sheath (1) comprising removable anti-rotation means (2) to prevent a rotation movement of the sheath (1) when it is housed in the sleeper (7). 					
4.	Rotary fastener, fastenable material, fastener system, and storage system	US2005002753	2004-02-05	HAAS JAMES R.	99 %
A short turn rotary fastener that comprises a helical prong, a fastenable material that comprises a prong receptor, a fastener system that comprises a short turn rotary fastener and a fastenable material, and a storage system comprised of a short turn rotary fastener and fastenable materials in the form of a shelf and a support. The prong can be self-tapping to allow for the absence of a prong receptor in a material. A prong can have a thickened portion to limit the penetration of the fastener into the material. Multiple prongs may be joined by a connector. The fastener may have a rotating mechanism such as a shape change metal or a lever to engage or disengage the fastener. A fastenable material can be a variety of items such as a block, a bar, a connector, or a support piece. 					
5.	Helical ground anchor and method of its use	CA2520080	2004-09-17	DAHLSTROM PER A DAHLSTROM PER ALTON	99 %
A ground anchor system for anchoring a post comprises a base plate, a housing extending above the base plate, an anchor extending below the base plate, the anchor comprising a tapered helix having a thread encircling a tube which tapers inwardly towards the lower end of the anchor, and a boring tip at the lower end of the anchor. The tapered helical thread of the anchor firmly engages with the ground into which it is threaded to provide a solid support to a post inserted in the housing. Helix taper and length, and thread taper and pitch may be selected to optimize retention and lateral support of a post in a particular ground type. 					

6.	Ground anchor means utilising a reinforcement or tie insulated from the ground	BE868954	1977-07-13	SOLETANCHE* SOORUTANSHU	99 %	
The ground anchor means comprises a reinforcement combined with an adjacent injection tube furnished with sleeves acting as retention valves and a distensible sack intended to obturate the drilled hole. The fixing zone of the reinforcement is protected by an impervious envelope made of a rot-proof and anti-corrosive material in which the reinforcement is immersed in a hardenable material such as grouting cement. The free zone is immersed in an anti-corrosive product, which may be flexible in another envelope or sheath, the two envelopes being joined together by a sealing sleeve. Application, particularly for supporting walls.						
7.	Helical anchor apparatus and its method embraces the hydrostatic pressure piles construction job	CN107489152	2017-09-07	HUAIHAI INSTITUTE OF TECHNOLOGY*	99 %	
The present invention discloses a screw anchor-embracing the hydrostatic pressure piles lining apparatus, comprising a reaction frame, has its bottom end which comprises a screw anchor, disposed on the top jacks, screw jacks are mounted within the lower the top push rod, the rod end portion connected within friction clamp, friction grip the stump. The present invention also discloses a screw anchor-embracing the hydrostatic pressure piles construction method, comprising: step one, the estimated pressure piles reaction force, the fixation helix anchor; step two, frame counter-force assembly; step three, cut pile and positioned; step four, mounted jacks and friction clamp; step five, clamp friction stump; step six, pressed into a first section of stump; step seven, step is repeated three to six, pressed into the 2nd section stump; step eight, the end pressure piles, removable pressure piles device. The present invention embraces the hydrostatic pressure piles of helical anchor provides a device and a construction method under construction, reduces the height construction pressure piles, improving the construction efficiency, a helical anchor need only be anchored in the concrete mass in the base perimeter, provides a desired anchoring force, small disturbances to the soil.						
8.	A pullout device for soil nails & anchors	IN201611022643	2016-07-01	COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH*	99 %	
Soil nails and anchors are frequently used to increase the stability of slopes, protection of vertical cut, unstable face of road or rail embankments. Pullout resistance of nails and anchors is the most important parameter in the design of soil nails and anchors. Pullout resistance of nails and anchors are mostly determined through laboratory tests and further verified by limited number of field pullout tests. A review of the prior art instruments reveals that the installation effects and angle of inclination on pullout resistance of nails and anchors cannot be determined through the existing laboratory instruments. The present invention described herein alleviates the drawback of the prior art instruments. The present invention relate to the pullout device for soil nails and anchors comprises of driving unit, pullout unit, inclination unit and control unit, capable of driving of soil nails and anchors through controlled push and push-rotation mechanism and determination. of pullout resistance of soil nails and anchors. Driving unit of the present invention enables to determine the installation effects on the pullout force of the smooth, straight, rough, spiral, screw and helical nails and anchors. The inclination assembly of the present invention enables to drive and pullout of the soil nails and anchors.in horizontal as well as at different downward angle with, the horizontal under different speeds and surcharge pressure.						
9.	Railroad sleeper sulfur anchor mortar anchor-correction anchorage frame	CN105463951	2016-01-15	CHINA RAILWAY NO 4 ENGINEERING*	99 %	
The invention discloses a railroad sleeper sulfur anchor mortar anchor-correction anchorage frame which comprises a base support arranged in a sleeper rail bearing groove. Spike brackets are connected to the inner walls of the wide edges of the two sides of the base support respectively through anchorage frame bodies, a connecting rod is connected between the spike brackets on the two sides, and each spike bracket comprises a semi-circular steel pipe and a magnet fixed to the inner wall of the steel pipe. The problems of spike decentralization, deflection and nonstandard anchorage height caused by on-site manual screwing anchorage are solved, the construction quality of on-site artificial sulfur anchorage is ensured, and the quality passing percent is up to 100%.						
10.	Ground anchor	FR2940807	2009-01-06	ANCREST ANCREST S A* PRODUCTS MECANQUES ANCR EST SOC INDUSTRY SOC INDUSTRY DE PRODUITS MEC ANCR EST SOCIETE INDUSTRIELLE DE PRODUITS MECANQUES ANCR EST* SOCIÉTÉ INDUSTRY DE PRODUITS MÉCANIQUES ANCR EST SOCIÉTÉ INDUSTRY DE PRODUITS MÉCANIQUES ANCR EST	99 %	
The invention relates to an anchoring device wherein a positioning plate (5), intended for bearing on the ground surface, is mounted onto a hollow rod (2). The rod consecutively supports, from the positioning plate (5) to the free end (22), at least one helical force disk (6) then one helical penetration disk (8). Said anchoring device is characterized in that the rod extends after the helical penetration disk opposite the plate (5). Said anchoring device is moreover characterized in that a bit (4) is placed on the free end of said rod so that a first portion of the rod (2), capable of being screwed into at least one first ground layer, extends from the plate (5) to the helical penetration disk and moreover so that a second portion of the rod (2), capable of being anchored in a second ground layer, extends from the helical penetration disk (8) to the bit (4).						
11.	Screw anchor overwater vertical anchorage connecting mechanism	CN103264753	2013-05-23	MILITARY TRANSPORTATION RESEARCH INSTITUTE PLA GENERAL LOGISTICS DEPT*	99 %	
The invention relates to a screw anchor overwater vertical anchorage connecting mechanism which comprises an extension rod, an anchor cable, a guiding snap ring and a screwing prevention lifting lug. A groove is formed in the middle of the extension rod and connected with the guiding snap ring in a sliding mode, a lifting lug upper limiting boss and a lifting lug lower limiting boss are arranged at the upper end of an anchor rod, and the screwing prevention lifting lug is connected between the lifting lug upper limiting boss and the lifting lug lower limiting boss in a sliding mode. The anchor cable is formed by one guiding anchor cable and two position guiding anchor cables, the lower end of the guiding anchor cable is connected with upper ends of the two position guiding anchor cables through limiting balls to form an inverted Y-shaped structure, lower ends of the two position guiding anchor cables penetrate through small holes in the same central line of two sides of the screwing prevention lifting lug respectively and then are fixedly connected with the screwing prevention lifting lug, and the guiding anchor cable moves up and down in the guiding snap ring. The screw anchor overwater vertical anchorage connecting mechanism has the advantages that the device can moor and unmoor by itself without the need of matching of divers, and achieves reutilization. Negative influences of an anchor chain in spiral operation are overcome, guiding and positioning effects of the anchor chain are fully played, and operation procedures are simplified.						

12.	Anchor rope and anchorage monitoring experimental system and experimental method	CN106290742	2016-09-30	UNIVERSITY SHIJIAZHUANG TIEDAO* 99 %	
The invention discloses an anchor rope, an anchorage monitoring experimental system and an experimental method, and belongs to the field of slope model experimental equipment. The anchor rope comprises an anchor rope free section, a spiral pressurizing device, an anchorage sleeve and anchorage teeth, and the anchorage monitoring experimental system comprises the anchor rope, an anchor rope middle beam, horizontal sliding rails and vertical sliding rails. After the experimental system is assembled, the whole system is buried in a rock-soil body model, and an anchor rope model experiment is performed. The anchor rope is simple in structure and reusable, anchorage parameters of the anchorage monitoring experimental system are conveniently adjusted, and experimental contents are diversified.					
13.	Foundation pit supporting method for manual dig-hole cement-soil steel pile	CN103015431	2012-12-04	BEIJING BUILDING MATERIAL GEOL ENGINEERING* BEIJING URBAN CONSTRUCTION SCIENCE TECHNOLOGY PROMOTING ASS* ZHONGCAI GEOL ENGINEERING EXPLORATION ACADEMY*	99 %
A foundation pit supporting construction method for a manual dig-hole cement-soil steel pile comprises the technological processes: manually digging cylindrical pile holes in a side-by-side or interval way; hoisting processed profile steels by a crane and then fixing the profile steels in the holes; pouring cement soil slurry well stirred in a stirrer in the pile holes, performing partial vibrating if necessary, so as to form cement-soil steel piles; manufacturing pile top coupling beams at the tops of the cement-soil steel piles; when foundation pits are deeper, adopting inner supports or detachable anchor rods to compositely support the cement-soil steel piles; hanging nets on the side surfaces of the cement-soil steel piles and then carrying out concrete spray when the foundation pits are dug; dismantling the anchor rods or the inner supports when the backfilling of foundation pit and the trough meets requirements; and finally removing the profile steels for recycle. The method has the advantages of being mainly suitable for hard soil in northern China, such as water-free dense sand gravel stratum where machinery construction is not available or the stratum suitable for manually digging, and being reduced in cost; the manual digging is economical and easy to implement; and the quality and construction period are ensured and the environment is protected.					
14.	Replaceable press-grouted cement soil composite pile, construction method of replaceable press-grouted cement soil composite pile and long twist drill employed in construction method	CN104929109	2015-05-20	LUO JIACHENG SUN WEN	99 %
The invention discloses a replaceable press-grouted cement soil composite pile which comprises a replaceable cement soil layer and a core pile, wherein the core pile is vertically distributed in the center of the replaceable cement soil layer; the replaceable cement soil layer comprises cement, soil, building rubbish, coal cinder, slag and/or factory waste; and the raw materials of the replaceable cement soil layer stay in a superfluid state when injected into a pile hole initially. The invention further discloses a construction method of the replaceable press-grouted cement soil composite pile, which comprises the following steps: (1) enabling the drill rod of a long twist drill to drill to a design pile bottom level, and making superfluid cement soil slurry of soil which is taken out during drilling; (2) spirally lifting up the drill rod while performing press-grouting; and (3) placing the core pile in the cement soil slurry in the pile hole from the center of a steel sleeve. The invention further provides the long twist drill. The composite pile made according to the construction method has the beneficial effects of high bearing capacity, no waste slurry discharge and no soil compaction effect.					
15.	Device for anchoring in multi-layer soil.	FR2968684	2010-12-14	ANCREST SOC INDUSTRY DE PRODUITS MECANQUES ANCR EST* SOCIÉTÉ INDUSTRY DE PRODUITS MÉCANIQUES ANCR EST	99 %
The anchor has a positioning turntable (5) assembled on a stem (2). The stem is fully extended after penetration of a helicoid disk (8) to the positioning turntable. An edge (4) is laid out at a loose lead of the stem such that a part (23) of the stem extends from the turntable to the helicoid disk and another part (24) of the stem extends from the helicoid disk to the edge. The former part of the stem is screwed in a soil layer (31), and the latter part is anchored in another soil layer (32). A cylindrical envelope is formed around the former part of the stem.					
16.	Construction method of premixing pouring soil cement pile used for strengthening ground and pile produced thereby	CN101487251	2009-02-23	YUJIE XU	99 %
The invention discloses a construction method for pre-mixing pouring cement soil pipe used for reinforcing foundation and a pile formed by the construction method. Firstly, after the cement, soil, sand and the like are uniformly mixed with water by a forcible mixer, an internal pumping method is used for construction by a long spiral pipe; the problems that the pile-forming quality of the normal cement soil mixing pile is not easy to be controlled, the pile strength is low and the pile-forming depth is limited are thoroughly changed by ensuring the mixing uniformity, controlling the water-binder ratio, improving the soil quality and increasing the effective disposal depth and the like. Compared with the conventional cement soil mixing pile, the pile body strength can be improved by more than 3-5 times, the disposal depth can achieve 30m, and the CFG pile can be replaced for the engineering where the settlement is strictly controlled.					

17.	Rail fixing device	WO2005106124	2004-04-29	BVG BWG BWG BUTZBACHER WEICHENBAU* FAE FAE AJZENBANJUSTEME PANDROL* PANDROL RAIL FASTENINGS PEHNDROL VAE* VAE EISENBAHNAYSTEME VAE EISENBAHNSYSTEME* VAE EISENNAHNSYSTEME VOESTALPINE BWG	99 %
The invention relates to a rail fixing, for securing a rail (10), the bottom flange of which is supported on a concrete sleeper (16), comprising at least one elastic tensioning clamp (20) with several ears, of which at least one ear extends within a collar (42, 44) or channel of a retainer (24), connected to the concrete sleeper and at least one further ear rests on the bottom flange of the rail. According to the invention, a securing of the rail with constructively simple means and saving of space with regard to the dimensions necessary may be achieved, whereby the retainer (24, 26) is detachably arranged in the concrete sleeper (16), or in a plate element supported thereon and connected to the concrete sleeper by means of a screw element.					
18.	Ground anchor drill structure adopting rotating beating mode to achieve ground entering of anchor body	CN104912074	2015-06-17	MCC5*	99 %
The invention discloses a ground anchor drill structure adopting a rotating beating mode to achieve ground entering of an anchor body. The ground anchor drill structure adopting the rotating beating mode to achieve ground entering of the anchor body comprises the anchor body (1) and a beating rotating device (2), wherein the anchor body (1) comprises a spike (101) and a spiral anchor blade (102), a blocking ring (3) and a guide rail (4) are further arranged on the peripheral wall of the spike (101), the guide rail (4) comprises two guide grooves (401) in the axial direction of the spike (101), the two guide grooves (401) are symmetrical about the axis of the spike (101), the beating rotating device (2) comprises two semi-rings (201), and the middle lines of the outer ring walls of the two semi-rings (201) are each connected with a bolt (202) in a threaded mode. The ground anchor drill structure adopting the rotating beating mode to achieve ground entering of the anchor body has the advantages that the guide rail is arranged on the anchor body of the structure, the blocking ring is located below the guide rail, the beating rotating device moves along the guide rail, therefore, the blocking ring is beaten to provide downward impulsive force for the spike, the beating rotating device can also rotate the spike, rotation is performed while beating is performed, so that the ground entering of the spike is facilitated.					
19.	Spiral ground pile foundation structure suitable for railway station region and two sides along line	CN204311445	2014-12-08	ZHENGZHOU RAILWAY EQUIPMENT MANUFACTURING*	99 %
The utility model discloses a spiral ground pile foundation structure suitable for a railway station region and two sides along a line. The spiral ground pile foundation structure comprises spiral ground piles which vertically stretch into soil, the top ends of the spiral ground piles are flush with the surface of the soil, the spiral ground piles are arranged in sequence at intervals from front to rear along the straight line, and the center distance between every two adjacent spiral ground piles is 2.5 m-3.5 m. The spiral ground piles comprise pile head parts, cylindrical connecting parts, circular truncated cone connecting parts and rod parts, wherein the pile head parts, the cylindrical connecting parts, the circular truncated cone connecting parts and the rod parts are sequentially fixedly connected from top to bottom. The pile head parts are in square tube shapes with upward openings, the cylindrical connecting parts are in a cylindrical shape, circular truncated cones are downwards contracted, spiral blades are arranged on the surfaces of the outer rings of the rod parts, and the bottom ends of the rod parts are bottom ends with pointed heads. The top end of each spiral ground pile is connected with a vertical cement stand column. The spiral ground pile foundation structure for the railway station region and the two sides along the line can rapidly and stably complete the sealing work along the line and is free of pollution to the environment.					
20.	Device for anchoring in multilayer soil comprising a connecting ring	FR3023857	2014-07-21	PRODUCTS MECANQUES ANCR EST SOC INDUSTRY SOC INDUSTRY DE PRODUITS MEC ANCR EST SOCIÉTÉ INDUSTRY DE PRODUITS MÉCANIQUES ANCR EST*	99 %
A device (1) for anchoring in multilayer soil comprising at least one upper layer (6) and one lower layer (8), said layers (6, 8) being of different hardnesses, said device comprising at least two concentric cylindrical elements: - a hollow rod (2) comprising at least one section for extending into the upper layer (6) and into a part of the lower layer (8), said hollow rod (2) comprising a first end part (12) provided with attachment means and a second end part (14), opposite the first end part (12), provided with a drill bit (16), - a cladding tube (4) comprising at least one section extending around a part of the hollow rod (2) and intended to extend into the upper layer (6), comprising a first end part (20) extending adjacent to the first end part (12) of the hollow rod (2) and a second end part (22), opposite the first end part (20), provided with a helical penetration disc (26), the cladding tube (4) comprising, between the first and second end parts (20, 22), at least one helical force disc (28), said device being characterized in that it further comprises a connecting ring (36) extending between the hollow rod (2) and the second end part (22) of the cladding tube (4), said ring (36) providing a sealed connection between said hollow rod (2) and said second end part (22) and being intended to extend to the interface (10) between the lower layer (8) and the upper layer (6) of the soil.					
21.	Rotation buried pile and execution management method therefor	WO9946449	1998-03-20	NIPPON STEEL*	99 %
There is provided a screwed steel pile, the end portion of which is open, characterized in that: an apparent resistance at the pile end portion of the pile is reduced when the ground strength is suddenly increased, so that the pile can be easily penetrated into the ground and an intensity of the finally obtained bearing capacity of the pile is high. The specific means is that a pile end portion of the pile body composed of a steel pipe or a hollow pipe made of another material is made open, and one or a plurality of wings are provided on the outside of the pile end portion of the pile body. The pile end portion of the wing may be protruded downward from a pile end face of the pile body. There is provided a method of construction management for managing the construction of a screwed steel pile having one or a plurality of wings on the outside face of the lower end portion of the pile, comprising the steps of: finding penetrative resistance Rp of a bottom plate portion in the process of construction from the balance between inputted energy, which has been inputted to the pile top portion, and consumed energy which has been released from the bottom plate portion; and controlling to continue and/or complete penetration of the screwed steel according to an intensity of penetrative resistance while the penetrative resistance Rp is being found. <IMAGE> <IMAGE>					

22.	Rail anchoring spike	WO200214607	2001-08-10	LEWIS BOLT & NUT*	99 %	
An improved fastener for attaching metal to wood is described. The fastener is particularly suited for use as a railroad spike for attaching a metal rail to a wooden tie. The improved spike is adapted for installation by either driving or screwing the spike into the tie. A plurality of flutes are adapted to engage with the tie, thereby preventing loosening of the spike. The spike may be used with or without a metal boss or fishplate to secure a metal rail to a wooden tie.						
23.	Base anchorage for theft prevention of e.g. bag, at beach, has mechanical locking device closing motion from anchor and shank sections with levers pivoted at distance to anchor section, where levers are folded with outside ends to p...	DE102007052906	2007-11-03	DUONG GILBERT	99 %	
The anchorage (1) has an anchor section (2) and a shank section (3), and levers (31, 32) guided in the shank section, where the levers are pivoted parallel to the anchor section. The shank section is connected with the lever opposite to the anchor section in a rotation-movable manner. A mechanical locking device (4) provided to each other against rotation movability closes rotating motion from the sections with the levers pivoted at a distance to the anchor section. The levers are brought downwards into a position parallel to the anchor section and folded with outside ends to a plate (72).						
24.	Spiral ground pile special for protective fences along railway	CN204174619	2014-10-30	ANYANG BAOYI TECHNOLOGY*	99 %	
The utility model discloses a spiral ground pile special for protective fences along a railway. The spiral ground pile comprises a pile body, spiral blades are arranged on the surface of the pile body, one end of the pile body is connected with a hollow sleeve, the other end of the pile body is a submerging end, a spiral head is connected to the submerging end, the screw pitch of the spiral head is 4-5 times that of the spiral blades, the vertex angle alpha of the spiral head ranges from 110 degrees to 130 degrees, and the thickness of the spiral head ranges from 3 mm to 6 mm. By means of the spiral ground pile special for the protective fences along the railway, hot-dip galvanizing processing is carried out on the surface, the surface hardness, the impact resistance, the abrasive resistance and rusting resistance of the spiral pile are improved, and the spiral ground pile is particularly suitable for occasions with serious working conditions and higher requirements for the pile body depth; the spiral head is welded to the submerging end of the spiral pile, large stone blocks or other hard materials can be easily broken during pile driving, the submerging end of the spiral pile cannot be passivated, the working efficiency is improved, and convenience is brought to manufacturing.						
25.	Removal helical anchor apparatus reinforcement construction method using the same	KR20160118821	2015-04-03	HKGEOCON*	99 %	
The present invention relates to a removal type helical anchor device and a ground reinforcing method using the same. The removal type helical anchor device uses a helical anchor with multiple spiral wings. So, the removal type helical anchor device is simply constructed without grouting. The removal type helical anchor device provides excellent performance and reduces noise and vibration of the construction. The ground reinforcing method using the removal type helical anchor device can reduce costs by shortening a construction period and reusing materials. According to the present invention, the helical anchor device comprises: a helical anchor pressed into the ground while rotating; and a blocking cap installed in a cylindrical external shape at an inlet of the ground in which the helical anchor is pressed, and blocking outflow of soil caused when the helical anchor is pressed into the ground, wherein the blocking cap has a spiral through hole in order for the spiral wing and a steel pipe main body of the helical anchor to penetrate the through hole while rotating. The helical anchor comprises: the steel pipe main body; and the multiple spiral wings installed at intervals by spirally enclosing the outer surface of the steel pipe main body.						