

Search history

Search 1: TAC=(IPC=G01R33/02) (Results 10651)
Search 2: 1 and industrial and plug and electromagnetic and energy (Results 0)
Search 3: 1 and industrial and plug (Results 2)
Search 4: 1 and plug and electromagnetic (Results 12)

Title: ELECTROMAGNETIC MEASURING DEVICE

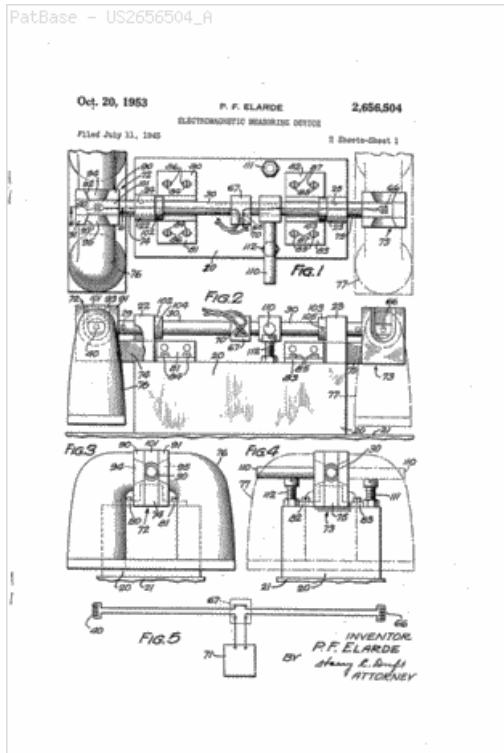
Abstract: Source: US2656504A (Claim 1) 1. An apparatus for measuring magnetic fields of magnets, which comprises a hollow shaft, means mounting the shaft rotatably, a standard magnet mounted at one end of the shaft, means for rotating a magnet to be tested at the other end of the shaft, a search coil keyed to one end of the shaft in the field of the standard magnet, a second search coil keyed to the other end of the shaft in the field of a magnet supported by the mounting means, manually operable means, for turning the shaft, means for limiting movement of the shaft to a predetermined angle, a fluxmeter for measuring total interlinkages, and flexible leads extending along the hollow shaft for connecting the coils in series-opposition to the fluxmeter.

Classifications:**International (IPC 8-9):** G01R33/028 (Advanced/Invention);

G01R33/028 (Core/Invention)

International (IPC 1-7): G01R33/02**CPC:** G01R33/0283**European:** G01R33/028B**US:** 324/205 336/110 336/130 336/192 336/208 336/92

PatBase - US2656504_A

**Family:**

Publication number	Publication date	Application number	Application date
US2656504 A	19531020	US19450604456	19450711

Priority:

US19450604456 19450711

Probable Assignee:

WESTERN ELECTRIC CO

Assignee(s): (std):

WESTERN ELECTRIC CO

Assignee(s):

WESTERN ELECTRIC CO INC

Inventor(s): (std):

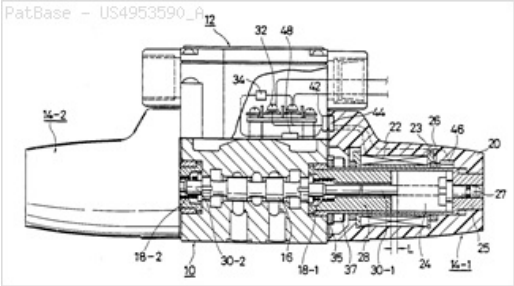
ELARDE PAUL F

Title: **ELECTROMAGNETIC** DIRECTIONAL CONTROL VALVE

Abstract: Source: US4953590A A spool of a valve main body is switched and driven by exciting a solenoid coil by supplying a DC or AC voltage. An intensity of the magnetism generated by the excitation of the solenoid coil is detected by a magnetic sensor. When a predetermined sensor output is obtained, an indicator lamp is lit to indicate that the spool has operated correctly. The intensity of the magnetism due to the DC excitation is detected by magnetoresistive devices. The intensity of magnetism due to the AC excitation is detected by a pickup coil or a current transformer.

Classifications:

International (ipc 8-9): F02D41/20 F16K31/06 F16K37/00
H01F7/16 (Advanced/Invention);
F02D41/20 F16K31/06 F16K37/00 H01F7/08 (Core/Invention)
International (ipc 1-7): F15B13/044 F15B14/044 F16K31/02
F16K31/06 F16K37/00 G01B7/00 G01R33/02 G05D3/10 H01F7/08
H01F7/16 H01F7/18
CPC: F16K37/0083 F02D41/20 F02D2041/2058 F02D2041/228
H01F7/1607 Y10T137/8242 Y10T137/86622
European: F02D41/20 F16K37/00G H01F7/16A R02D41/20C12
R02D41/22W
US: 137/554 137/625.65 251/129.1 251/129.15



Family:

Publication number	Publication date	Application number	Application date
DE3913222 A1	19891123	DE19893913222	19890421
DE3913222 C2	19940811	DE19893913222	19890421
GB2217917 A1	19891101	GB19890008751	19890418
GB2217917 B2	19901121	GB19890008751	19890418
GB8908751 A0	19890607	GB19890008751	19890418
JP1269768 A2	19891027	JP19880099495	19880422
JP1288683 A2	19891120	JP19880115129	19880512
JP1316584 A2	19891221	JP19880149293	19880617
US4953590 A	19900904	US19890331381	19890331
US5101856 A	19920407	US19900569281	19900628

Priority:

JP19880099495 19880422 JP19880115129 19880512 US19890331381 19890331
JP19880149293 19880617

Probable Assignee: TOYODA JIDOSHOKKI SEISAKUSHO KK

Assignee(s): (std): TOKYO KEIKI KK

Assignee(s): TOYODA JIDOSHOKKI SEISAKUSHO KK ; TOKIMEC INC ; TOKYO KEIKI CO ; TOKYO KEIKI CO LTD ; TOKYO KEIKI CO LTD NO 16 46 MINAMIKAMATA 2 CHOME O ; TOKYO KEIKI CO LTD NO 16 46 MINAMIKAMATA 2 CHOME OTA KU TOKYO JAPAN A CORP OF JAPAN ; TOKYO KEIKI CO LTD TOKIO TOKYO JP ; TOKYO KEIKI COMPANY LTD

Inventor(s): (std): HAYASHI KIYOSHI ; KAKINUMA TOSHIBUMI ; KAKINUMA TOSHIFUMI

Inventor(s): KIYOSHI HAYASHI ; TOSHIBUMI KAKINUMA ; KAKINUMA TOSHIBUMI SANO TOCHIGI JP ; HAYASHI KIYOSHI TATEBAYASHI GUNMA JP

Title: COMPACT SENSING APPARATUS HAVING REDUCED CROSS SECTION AND METHODS OF MOUNTING SAME

Abstract: Source: US2002074997A A compact sensing apparatus having reduced cross section and methods are provided for sensing the magnitude and direction of an electrical or magnetic field. The compact sensing apparatus and method preferably provide one of two transducer orientations in relation to the direction of the field arranged in the sensor apparatus to provide the smallest possible cross section. The compact sensing apparatus preferably includes a plurality of mounting pins. Each of the plurality of mounting pins preferably is formed of a magnetic material and includes a first pin portion and a second pin portion connected to the first pin portion at a predetermined angle. The predetermined angle is preferably less than 180 degrees and more preferably in the range of about 70-110 degrees. A transducer formed from a semiconductor wafer is preferably mounted to the first pin portion for generating a transducer signal, and a signal conditioner also preferably formed from the same semiconductor wafer is mounted to the second pin portion for conditioning the transducer signal.

Classifications:

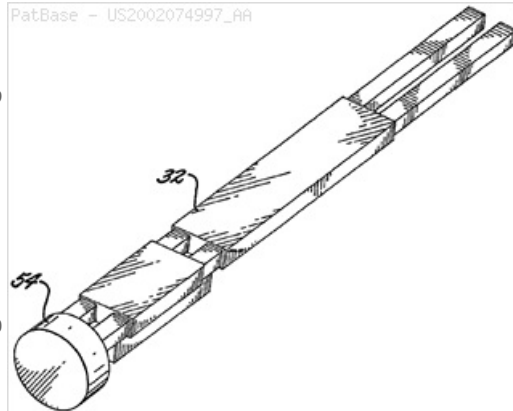
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International (IPC 1-7): F02D31/00 F02D41/38 F02D41/40 F02M65/00 F16K37/00 G01B15/00 G01B7/00 G01B7/10 G01B7/14 G01D5/14 G01D5/16 G01D5/245 G01D5/48 G01N27/02 G01P3/44 G01R1/02 G01R1/30 G01R27/00 G01R29/08 G01R33/02 G01R33/07 G01R33/09 G01S13/04 G01S13/06 G01S13/74 G01S3/782 G01S5/10 G01V3/10 G01V3/12 G05D7/06 H01L21/00 H01L29/82 H01Q1/20 H01Q1/36 H01Q13/28 H04B3/50

CPC: G01D5/12 G01D5/145 G01D5/202 G01D5/2451 G01D5/2492 G01D5/48 G01V3/12 Y10T137/8242 G01D11/245 F02B3/06 F02D41/20 F02D41/32 F02D2041/1409 F02D2041/2017 F02D2041/2058 F02D2200/063 F02M63/0007 G01R29/12

European: F02D41/20 F02D41/32 F02M63/00C3 G01D11/24S G01D5/12 G01D5/14B1 G01D5/16B1 G01D5/20B2 G01D5/245B G01D5/249B G01D5/48 G01R29/12 G01V3/12 R02B3/06 R02D200/0630 R02D41/14B13 R02D41/20B R02D41/20C12

US: 123/357 123/494 137/554 257/414 257/415 257/416 257/417 257/421 257/422 257/425 257/427 324/160 324/165 324/207.11 324/207.2 324/207.21 324/252 324/252P 324/260 324/262 324/629 324/632 324/644 342/127 342/458 438/48 438/51 438/53 438/64 438/66 438/67 438/74 438/78 73/862

**Family:**

Publication number	Publication date	Application number	Application date
AU199216097 A1	19921126	AU19920016097	19920507
AU199533151 A1	19951214	AU19950033151	19951010
AU199672346 A1	19961230	AU19960072346	19960606
AU199738930 A1	19980629	AU19970038930	19970724
AU199898008 A1	19990510	AU19980098008	19981013
AU696444 B2	19980910	AU19950033151	19951010
AU701854 B2	19990204	AU19960072346	19960606
BRPI9201944 A	19930105	BR1992PI01944	19920522
CA2068098 AA	19921123	CA19922068098	19920506
DE69217413 D1	19970327	DE19926017413	19920521
DE69217413 T2	19970710	DE19926017413T	19920521
DE69624142 D1	20021107	DE19966024142	19960606
DE69624142 T2	20030605	DE19966024142T	19960606
EP0515187 A2	19921125	EP19920304615	19920521
EP0515187 A3	19930811	EP19920304615	19920521
EP0515187 B1	19970212	EP19920304615	19920521
EP0880679 A2	19981202	EP19960933727	19960606
EP0880679 B1	20021002	EP19960933727	19960606
EP0948712 A1	19991013	EP19970936198	19970724
EP1025446 A1	20000809	EP19980952265	19981013
EP1164357 A2	20011219	EP20010203046	19960606
ES2097875 T3	19970416	ES19920304615T	19920521
JP11507132 T2	19990622	JP19970501491T	19960606
JP2001505637 T2	20010424	JP19980525546T	19970724
JP2001521150 T2	20011106	JP20000517284T	19981013
JP5187850 A2	19930727	JP19920153067	19920521
KR100246260 B1	20000401	KR19920008496	19920520
KR19920021968 A	19921219	KR19920008496	19920520
KR19990022678 A	19990325	KR19970709119	19960606
MX9202384 A1	19921201	MX19920002384	19920520
US2002074997 AA	20020620	US20020074360	20020212
US5459405 A	19951017	US19910703269	19910522
US5633593 A	19970527	US19950454696	19950531
US5670886 A	19970923	US19950471192	19950607
US5738071 A	19980414	US19960760104	19961203
US6002252 A	19991214	US19970954196	19971020
US6187609 BA	20010213	US19990321191	19990527
US6346811 BA	20020212	US19990454319	19991203
US6590390 BB	20030708	US20020074360	20020212
US6600202 BA	20030729	US20000680722	20001006
WO9641134 A2	19961219	WO1996US09087	19960606
WO9641134 A3	19970206	WO1996US09087	19960606

WO9825016 A1	19980611	WO1997US12999	19970724
WO9921018 A1	19990429	WO1998US21544	19981013

Priority:

AU19920016097	19920507	CA19922068098	19920506	EP19960933727	19960606
US19910703269	19910522	US20000680722	20001006	US19960760104	19961203
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WO1997US12999	19970724	WO1998US21544	19981013	WO1996US09087	19960606

Probable Assignee: WOLFF CONTROLS CORP

Assignee(s): (std): SMITH MARSHALL E JR ; STETTLER RICHARD ; STETTLER RICHARD W ; WOLFF PETER U ; WOLFF CONTROLS CORP ; WOLFF CONTROLS

Assignee(s): WOLF CONTROLS CORP ; WOLFF CONTROLS CORP WINTER HAVEN FLA US ; WOLFF GEORGE D ; UORUFU CONTROLS CORP ; JR MARSHALL E SMITH ; MARSHALL E JR SMITH ; PETER U WOLFF ; RUCK GEORGE T ; SMITH JR MARSHALL E ; SMITH JUN ; SMITH JUN MARSHALL E ; SMITH MARSHALL E

Inventor(s): (std): GEORGE T RUCK ; GEORGE D WOLFF ; MARSHALL E SMITH ; MARSHALL E SMITH JR ; PETER U WOLFF ; RICHARD STETTLER ; RICHARD W STETTLER ; RUCK GEORGE T ; SMITH MARSHALL E ; SMITH MARSHALL E JR ; SMITH JR MARSHALL E ; STETTLER RICHARD W ; WOLFF GEORGE D ; WOLFF PETER U ; STETTLER RICHARD

Inventor(s): WOLFF GEORGE D WINTER HAVEN FLORIDA 33884 US ; SMITH JUN ; SMITH MARSHALL E JR EATON PARK FLORIDA 33840 US ; SMITH MARSHALL EJR ; RUCK GEORGE T WORTHINGTON OHIO 43085 US ; GEORGE DWOLFF ; JIYOOJI DEII UORUFU ; JIYOOJI TEII RATSUKU ; MAASHIYARU II SUMISU JIYUNIAA

Agent(s): GRIFFITH HACK; MACRAE AND CO

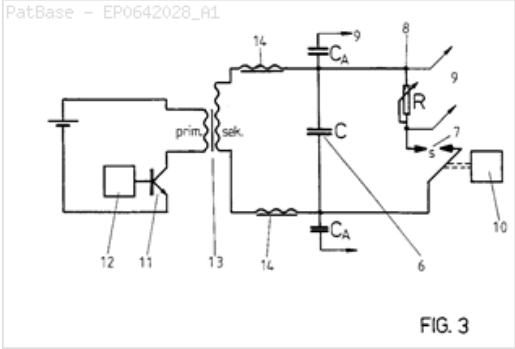
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Title: MEASURING AND EXPERIMENTING SYSTEM FOR SENSING EMP SUSCEPTIBILITY OF ELECTRICAL APPLIANCES AND CIRCUITS.

Abstract: The technical equipment for a measurement and experiment system which can be used both for modelling examinations to give the EMC behaviour and also for detecting and evaluating the EMC behaviour of electrical devices, modules or an electronic circuit is described. By virtue of the modular construction of the measurement and experiment system, it is intended to achieve extension of the EMC know-how by training with models or original circuit parts and to allow reproduction and therefore appraisal of the EMC behaviour during the circuit or device design. Correct EMC of the device and circuit design is thereby guaranteed. The measurement and experiment system according to the invention is produced using modules, module components or circuit models, which, by virtue of their variable combination and their adjustment parameters, are matched to the EMC behaviour of the device or of the circuit. When the value of the interference quantity approaches the value which corresponds to a functional defect or when this critical value is reached, a signal is produced by the measurement system. In conjunction therewith, the measurement system signals that its interference threshold, established by adjustment parameters, has been exceeded, after which further required actions and changes of the geometrical arrangement and of the adjustment parameter can be initiated.

Classifications:

International (IPC 8-9): G01R15/18 G01R31/00 G01R31/28
G09B23/18 H04B10/00 H04B10/80 (Advanced/Invention);
G01R15/14 G01R31/00 G01R31/28 G09B23/00
H04B10/00 (Core/Invention)
International (IPC 1-7): G01R29/08 G01R31/00 G01R31/28
G01R33/00 G01R33/02 G09B25/00 H01T9/00 H03B29/00 H04B10/00
H05K7/10
CPC: G01R31/001 G01R15/181 G09B23/187 H04B10/801
European: G01R15/18B G01R31/00E G09B23/18E H04B10/801



Family:

Publication number	Publication date	Application number	Application date
AT180574 E	19990615	AT19940113567T	19940831
DE4330345 C1	19941027	DE19934330345	19930908
DE4340514 A1	19950601	DE19934340514	19931127
DE4340514 C2	19970424	DE19934340514	19931127
DE59408305 D1	19990701	DE19945008305	19940831
DE9317586 U1	19940120	DE19930017586U	19931118
EP0642028 A1	19950308	EP19940113567	19940831
EP0642028 B1	19990526	EP19940113567	19940831

Priority:

DE19930017586U 19931118 DE19934330345 19930908 DE19934340514 19931127
DE19945008305 19940831

Probable Assignee: LANGER GUENTER

Assignee(s): (std): LANGER GUENTER ; LANGER GUNTER ; LANGER GUNTER DIPL ING

Assignee(s): LANGER GUNTER DIPL ING 01728 BANNEWITZ DE

Inventor(s): (std): LANGER GUNTER ; LANGER GUNTER DIPL ING

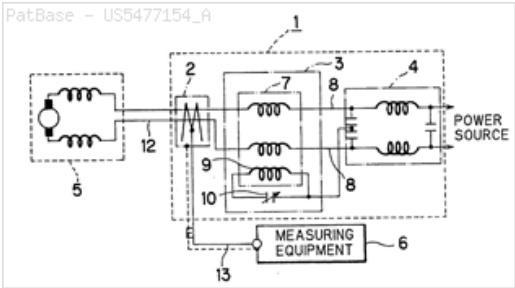
Inventor(s): LANGER GUNTER DIPL ING 01728 BANNEWITZ DE

Designated states: AT BE CH DE FR GB IT LI NL SE

Title: An EDP checker including a matching circuit

Abstract: Source: US5477154A An **electromagnetic** disturbance power (EDP) checker measures disturbance waves of an equipment under test (EUT), that is, a small electric appliance having a power cord. The EDP checker is capable of detecting and measuring disturbance waves even in sites more confined and having more external disturbance waves than in absorbing clamp method. The EDP checker includes a VHF current probe 2, a matching circuit 3 having input impedance matched at a reception frequency of a measuring equipment (receiver) 6 connected to the VHF current probe 2, and a circuit separating mains 4 for designating terminal impedance of the matching circuit 3 and eliminating influence of power source impedance. Power is supplied from the circuit separating mains 4 to drive the EUT 5 connected to the VHF current probe 2. The maximum value of disturbance power generated by the EUT 5 and supplied through the power cord 12 is measured by the measuring equipment 6 connected to the VHF current probe 2.

Classifications:
International (IPC 8-9): G01R29/00 G01R29/08
G01R31/00 (Advanced/Invention);
G01R29/00 G01R29/08 G01R31/00 (Core/Invention)
International (IPC 1-7): G01R29/00 G01R29/08 G01R31/00
G01R33/02
CPC: G01R31/001
European: G01R31/00E
US: 324/529 324/628 340/657



Family:

Publication number	Publication date	Application number	Application date
DE4422986 A1	19950119	DE19944422986	19940630
DE4422986 C2	19990602	DE19944422986	19940630
JP7020174 A2	19950124	JP19930162364	19930630
US5477154 A	19951219	US19940269377	19940630

Priority:

JP19930162364 19930630

Probable Assignee: HITACHI KOKI CO LTD

Assignee(s): (std): HITACHI KOKI KK

Assignee(s): HITACHI KOKI CO LTD ; HITACHI KOKI CO LTD TOKIO TOKYO JP

Inventor(s): (std): KOIZUMI TOSHIAKI ; SUZUKI SHUN ; TAKAHASHI KUMIO ; SUZUKI TAKASHI

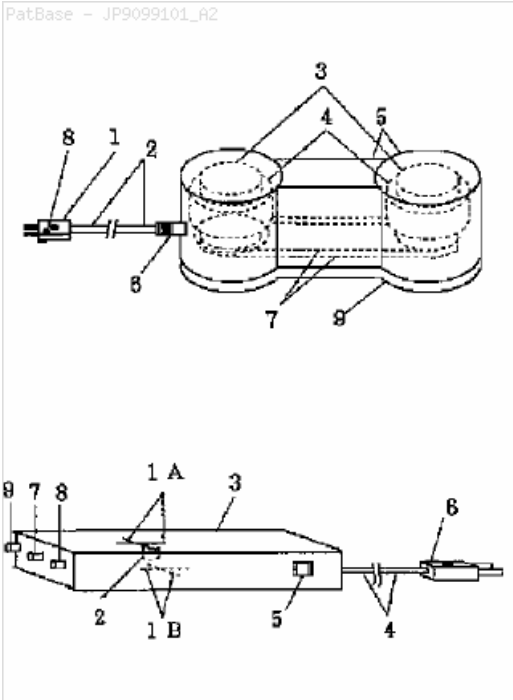
Inventor(s): TAKAHASHI KUMIO KATSUTA IBARAKI JP ; SUZUKI SHUN KATSUTA IBARAKI JP ; KOIZUMI TOSHIAKI KATSUTA IBARAKI JP

Title: PHASE TESTER OF MAGNETIC POLE OF AC MAGNETIC THERAPEUTIC DEVICE

Abstract: Source: JP9099101A PROBLEM TO BE SOLVED: To conduct simply and rapidly and accurately the inspection of the phases of the magnetic poles of the electromagnets of an AC magnetic therapeutic device by making **electromagnetic** coils approximate close to the AC electromagnets of the AC magnetic therapeutic device magnetized by a commercial power source, comparing voltage phases induced at the **electromagnetic** coils with the voltage phase of the commercial power source. SOLUTION: In the case of an AC magnetic therapeutic device, right and left coils 4 are mutually connected so that a coil iron core 3 as the left side magnetic pole may become a reverse phase, supposing that a coil iron core 3 as the right side magnetic pole is a positive phase, and they are connected to a **plug** 1 through cords 2. The coil iron cores 3 are made integral with layer iron cores 7 at the bottoms. As for a phase tester, at the time of use, an **electromagnetic** coil position mark 1A or 1B attached to it is made to approximate close to the magnetic poles of the magnetic therapeutic device. At this time, a positive phase lamp 8 is lit in case of a positive phase, and a reverse phase lamp 9 is lit in the case of a reverse phase. When the reverse phase lamp 9 is lit, correction is made by reversing the insertion direction of the **plug** 1, as electromagnet phase setting is wrong.

Classifications:

International (IPC 8-9): A61N2/00 G01R33/02 (Advanced/Invention);
A61N2/00 G01R33/02 (Core/Invention)
International (IPC 1-7): A61N2/00 G01R33/02



Family:

Publication number	Publication date	Application number	Application date
JP9099101 A2	19970415	JP19950296356	19951006

Priority:

JP19950296356 19951006

Probable Assignee:

TAKAGI YASUSHI

Assignee(s): (std):

TAKAGI YASUSHI

Inventor(s): (std):

TAKAGI YASUSHI

Title: ELECTROMECHANICAL VALVE ACTUATOR

Abstract: Source: US2005076866A A compact electromechanical valve actuator that allows the electromechanical valves to generally be situated in closer proximity to each other, thereby reducing overall packaging space requirements. The electromechanical valve actuator includes a connecting rod that is at least partially within the envelope of the electromagnets and armature plate. The armature plate also defines an armature envelope and the connecting rod is pivotally coupled to the armature plate with a pivot axis within the armature envelope.

Classifications:

International (IPC 8-9): F01L9/04 F16K31/06 G01B7/24 G01L3/02 G01L3/10 G01R33/02 G01R33/04 (Advanced/Invention); H01F7/08 (Advanced/Non-invention);

F01L9/04 G01B7/16 G01L3/02 G01L3/10 G01R33/02

G01R33/04 (Core/Invention);

H01F7/08 (Core/Non-invention)

International (IPC 1-7): F01L9/04 F16K31/02 F16K31/06 G01L3/02 G01R33/02 G01R33/04 H01F7/08 H01F7/14

CPC: F01L2009/0405 F01L2009/0407 F01L2009/0434 G01L3/102

G01L3/105 G01R33/04 F01L9/04 F01L2009/0409 F01L2009/0436

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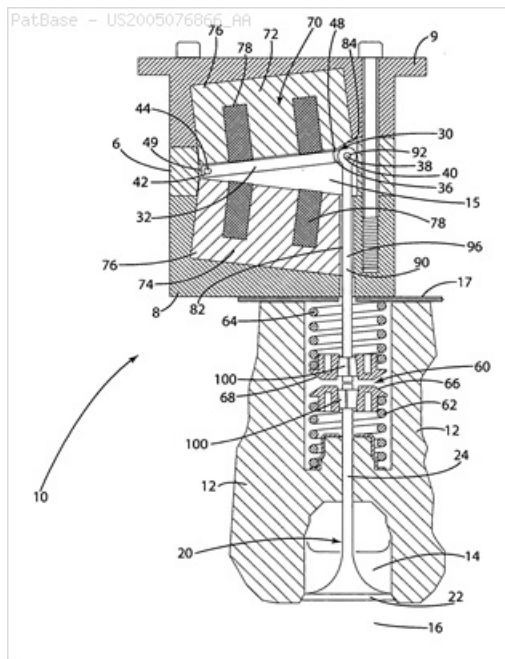
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T01F7/08A6

US: 123/193.3 123/90.11 123/90.110P 123/90.15 123/90.24

251/129.01 251/129.07 251/129.09 251/129.15 251/129.2 324/209

324/244 324/244P 324/253 324/254 335/235 335/276 73/862.333



Family:

Publication number	Publication date	Application number	Application date
DE102004050013 A1	20050609	DE200410050013	20041013
DE102004050013 B4	20090319	DE200410050013	20041013
DE102004050267 A1	20050616	DE200410050267	20041014
DE102005014865 A1	20051103	DE200510014865	20050330
FR2860912 A1	20050415	FR20040010754	20041012
GB200421478 A0	20041027	GB20040021478	20040928
GB200422761 A0	20041117	GB20040022761	20041014
GB2407130 A1	20050420	GB20040022761	20041014
GB2407209 A1	20050420	GB20040021478	20040928
US2005076866 AA	20050414	US20040947632	20040922
US2005081807 AA	20050421	US20040963892	20041013
US2005115525 AA	20050602	US20050029305	20050105
US2005218891 AA	20051006	US20040816423	20040401
US7089894 BB	20060815	US20040963892	20041013
US7098658 BB	20060829	US20040816423	20040401
US7152558 BB	20061226	US20050029305	20050105

Priority:

US20030510988P 20031014 US20040816423 20040401 US20040947632 20040922
US20050029305 20050105 US20040963892 20041013

Probable Assignee: VISTEON GLOBAL TECHNOLOGIES INC

Assignee(s): (std): SWALES SHAWN H ; VISTEON GLOBAL TECH INC

Assignee(s): MICHIGAN MOTOR TECHNOLOGIES LLC ; MOBILE AUTOMOTIVE TECHNOLOGIES LLC ; VISTEON GLOBAL TECHNOLOGIES INC ; WILMINGTON TRUST FSB AS ADMINISTRATIVE AGENT ; WILMINGTON TRUST FSB ADMINISTRATIVE AGENT AS ; VISTEON CORP ; VISTEON ELECTRONICS CORP ; VISTEON EUROPEAN HOLDING INC ; VISTEON GLOBAL TREASURY INC ; VISTEON INT BUSINESS DEVELOPMENT INC ; VISTEON INT HOLDINGS INC ; VISTEON SYSTEMS LLC ; VISTEON EUROPEAN HOLDINGS INC ; VISTEON GLOBAL TECHNOLOGIES ; JPMORGAN CHASE BANK NA ; JPMORGAN CHASE BANK ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; MORGAN STANLEY SENIOR FUNDING INC AGENT AS ; VC AVIATION SERVICES LLC ; NORTON JOHN D ; BANK OF NEW YORK MELLON ADMINISTRATIVE AGENT AS ; BANK OF NEW YORK MELLON AS ADMINISTRATIVE AGENT ; CITIBANK NA ADMINISTRATIVE AGENT AS ; GODO KAISHA IP BRIDGE 1 ; HOPPER MARK L

Inventor(s): (std): CHUNG HA T ; HOPPER MARK L ; HOPPER MARK LEONARD ; NORTON JOHN D ; SWALES SHAWN H ; VIOLA JEFFREY L ; SWALES SHAWN HAROLD

Inventor(s): SHAWN HAROLD SWALES ; MARK LEONARD HOPPER ; JOHN D NORTON ; CHUNG HA ; VIOLA JEFFREY ; SWALES SHAWN ; NORTON JOHN ; HOPPER MARK

Agent(s): DICKINSON WRIGHT PLLC ; VISTEON ; BRINKS HOFER GILSON AND LIONE

Title: SYSTEM AND PROCESS FOR DETECTING LEAKAGE IN UMBILICALS

Abstract: Source: US2009223283A This invention relates to a system and process for detecting the place of leakage from umbilical hoses. This system comprises an internal device (PIG) which is inserted in the hose of the umbilical cable which is leaking and external detecting equipment which is intended to identify the position of the PIG device which is already inside the umbilical. The device which is inserted in the umbilical and which is known as a PIG, is made of metal and the external detecting equipment comprises two parts: one formed by a ring which surrounds the umbilical, having a sensor system and another part which has the electronics, capable of identifying the presence of the PIG and, with this, modifying the signal, so that it can be identified. The system is presented as a process for detecting the exact place of leakage from umbilical hoses and the technology tested is easy to operate and the inspection is carried out at a good speed and continuously, without creating waste.

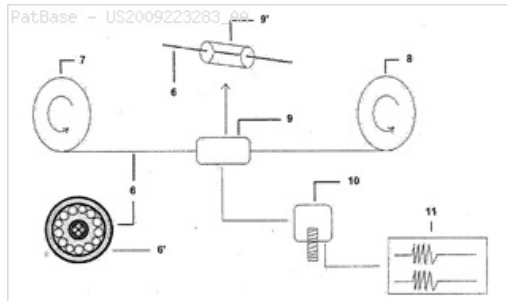
Classifications:

International (IPC 8-9): F16L55/48 F17D5/00 G01M3/00 G01M3/04 G01M3/08 G01M3/28 G01R33/02 (Advanced/Invention); F16L55/26 F17D5/00 G01M3/00 G01M3/04 G01M3/06 (Core/Invention)

CPC: F17D5/06 G01M3/005

European: F17D5/06 G01M3/00C

US: 73/40 73/40.5R 73/40P 73/49.1 73/49.5



Family:

Publication number	Publication date	Application number	Application date
BRPI0800473 A2	20091027	BR2008PI00473	20080305
EP2098846 A2	20090909	EP20080253258	20081007
EP2098846 A3	20161012	EP20080253258	20081007
NO20084313 A	20090907	NO20080004313	20081015
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US8776580 BB	20140715	US20080254343	20081020

Priority:

BR2008PI00473 20080305

Probable Assignee: PETROLEO BRASILEIRO PETROBRAS SA

Assignee(s): (std): BRITO JORGE LUIZ FARIAS ; CAMERINI CLAUDIO SOLIGO ; COSTA LUIS CLAUDIO SOUSA ; DA SILVA WILLIAM ALBUQUERQUE ; E SOUZA LUIZ ANTONIO LOBIANCO ; PETROLEO BRASILEIRO S A PETROBRAS ; PETROLEO BRASILEIRO SA ; RABELO ALEXANDRE SOARES

Assignee(s): PETROLEO BRASILEIRO SA PETROBRAS ; PETROLEO BRASILEIRO PETROBRAS SA

Inventor(s): (std): ALBUQUERQUE DA SILVA WILLIAM ; BRITO JORGE LUIZ FARIAS ; CAMERINI CLAUDIO SOLIGO ; COSTA LUIS CLAUDIO SOUSA ; DA SILVA WILLIAM ALBUQUERQUE ; E SOUZA LUIZ ANTONIO LOBIANCO ; FARIAS BRITO JORGE LUIZ ; RABELO ALEXANDRE SOARES ; SOARES RABELO ALEXANDRE ; SOUSA COSTA LUIS CLAUDIO ; SOUZA LUIZ ANTONIO LOBIANCO E ; LOBIANCO E SOUZA LUIZ ANTONIO

Inventor(s): LUIS CLAUDIO SOUSA COSTA ; LUIZ ANTONIO LOBIANCO E SOUZA ; WILLIAM ALBUQUERQUE DA SILVA ; JORGE LUIZ FARIAS BRITO ; CLAUDIO SOLIGO CAMERINI ; ALEXANDRE SOARES RABELO

Agent(s): ROBERTS MARK PETER; NIXON AND VANDERHYE PC

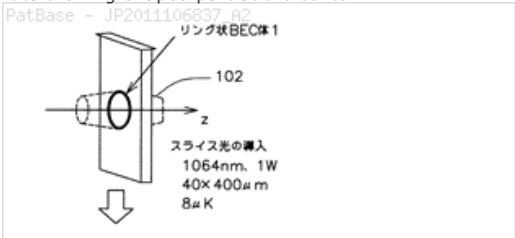
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

Title: RING-SHAPED BOSE EINSTEIN CONDENSATE AND DARK SOLITON FORMED IN THE SAME, METHOD FOR FORMING THE DARK SOLITON, AND EXTERNAL-FIELD MEASURING METHOD USING THESE

Abstract: Source: JP2011106837A PROBLEM TO BE SOLVED: To provide a new high-sensitivity measuring device for an **electromagnetic** field, a gravitational field, a rotating speed, or the like, which uses as a probe a ring-shaped Bose Einstein condensate (hereafter referred to as 'BEC'). SOLUTION: In the ring-shaped BEC, a hollow cigar-shaped BEC is formed by trapping in a vacuum a cigar-shaped BEC composed of a rarefied atomic gas, and introducing an optical **plug** in the direction of the longitudinal diameter of the cigar-shaped BEC, and the hollow cigar-shaped BEC is formed by concentrating the BEC in the ring-shaped part at the center of the BEC by introducing sliced light to the ring-shaped part at the center.

Classifications:

International (IPC 8-9): G01B7/30 G01D21/00 G01R29/08
G01R33/02 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
JP2011106837 A2	20110602	JP20090259334	20091112
JP5561717 B2	20140730	JP20090259334	20091112

Priority:

JP20090259334 20091112

Probable Assignee: UNIV FUKUI
Assignee(s): (std): UNIV FUKUI
Assignee(s): UNIV OF FUKUI
Inventor(s): (std): KUMAKURA MITSUTAKA ; MORITA NORIO

Title: FLEXIBLE MAGNETIC FIELD COIL FOR MEASURING IONIC QUANTITY

Abstract: Source: US2013147590A A flexible magnetic coil for determining ion migration rates inside a vacuum device can include a plurality of insulated copper wires held together as a bundle. A positive pole can be connected to a first end of the bundle for receiving a positive DC voltage. A negative pole can be connected to a second end of the bundle for completing a circuit with the positive pole. A DC voltage ranging from ten volts to four thousand volts from a power supply can be connected to the positive pole, the negative pole, or combinations thereof. The bundle can be a loop and can form a circuit when the DC voltage is applied to the loop. The bundle can create a flexible **electromagnetic** field of at least one Gauss around the vacuum device using a calculation of a number of turns of insulated copper wire multiplied by applied DC current.

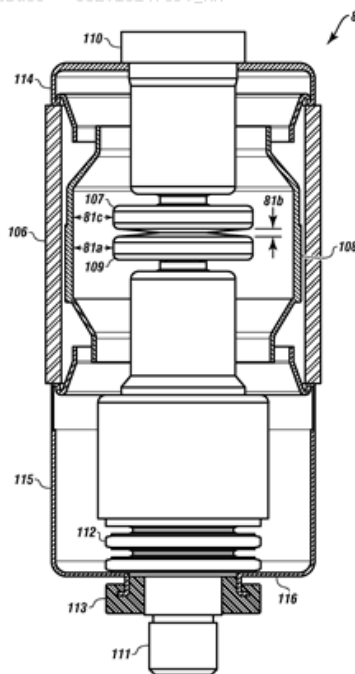
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H01F7/20 H01H1/00 H01H33/66 H01H33/668
H01H75/04 (Advanced/Invention)

CPC: H01F5/04 H01H1/0015 H01H33/66 H01H75/04 H01F27/28
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G01R31/327 G01R31/3274

US: 1/1 324/459 335/18 336/192 361/115 702/34

PatBase - US2013147590_AA



Family:

Publication number	Publication date	Application number	Application date
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WO16205420 A1	20161222	WO2016US37699	20160615

Priority:

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WO2016US37699 20160615		

Probable Assignee: LEDBETTER FINLEY

Assignee(s): (std): FINLEY LEE LEDBETTER ; LEDBETTER FINLEY ; LEDBETTER FINLEY L ; LEDBETTER FINLEY LEE

Assignee(s): LEDBETTER FINLEY LEE112 - 3414 MIDCOURT ROADCARROLLTONTX75006US

Inventor(s): (std): FINLEY LEE LEDBETTER ; LEDBETTER FINLEY LEE

Inventor(s): LEDBETTER FINLEY LEE112 - 3414 MIDCOURT ROADCARROLLTONTX75006US

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GARDERE WYNNE SEWELL LLP; DUBNER MICHAEL W; BERMAN JEREMY B ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN

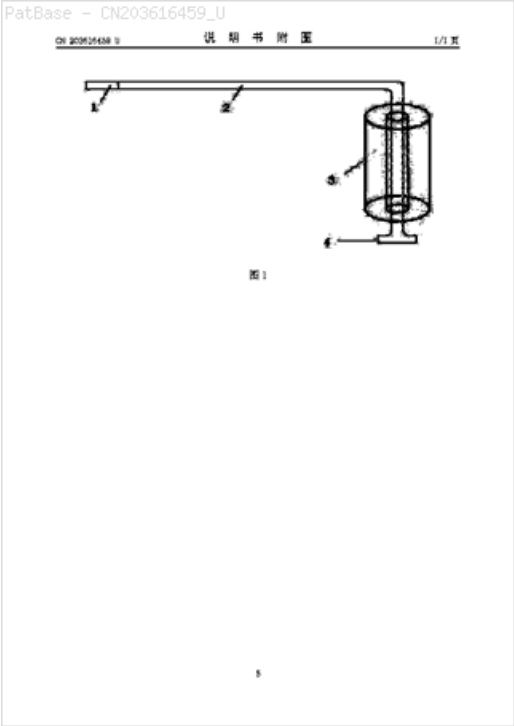
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Title: DEVICE FOR MEASURING **ELECTROMAGNETIC** FORCE DIRECTION OF **ELECTROMAGNETIC** STIRRING ROLLER IN SECONDARY COOLING SECTION OF CONTINUOUS CASTING MACHINE

Abstract: Source: CN203616459U The utility model discloses a device for measuring the **electromagnetic** force direction of an **electromagnetic** stirring roller in a secondary cooling section of a continuous casting machine. The device comprises an insulating handle, a connecting rod connected with the insulating handle and a rotor, wherein the connecting rod is provided with a bending end, and the bending end is connected with a fixed shaft; and the rotor is connected with the bending end through the fixed shaft. According to the device provided by the utility model for measuring the **electromagnetic** force direction of the **electromagnetic** stirring roller in the secondary cooling section of the continuous casting machine, connection of an N-phase cable **plug** and an S-phase cable **plug** of the **electromagnetic** stirring roller in the secondary cooling section and installation of the **electromagnetic** stirring roller are ensured to be correct through measuring the **electromagnetic** force direction of the **electromagnetic** stirring roller in the secondary cooling section, thereby avoiding accidents affecting the internal quality of electrical steel.

Classifications:

International (IPC 8-9): G01R31/04 G01R33/02 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN203616459 U	20140528	CN201320700456U	20131106

Priority:

CN201320700456U 20131106

Probable Assignee: BEIJING SHOUGANG CO LTD
Assignee(s): (std): BEIJING SHOUGANG CO LTD
Inventor(s): (std): BI ZEYANG ; HU WEIDONG ; LI ZHIJUN ; ZHANG TAO

Title: IN-SITU POWER CHARGING

Abstract: Source: US2016214714A A device includes a propulsion unit configured to move the device and a steering unit configured to control the direction of the device. The device also includes a power unit configured to provide power to the propulsion unit and a charging unit configured to use an electric field to provide electrical power to the power unit. The device further includes a first magnetic sensor configured to determine a vector of one or more magnetic fields and a processor communicatively coupled to the propulsion unit, the steering unit, the power unit, and the magnetic sensor. The processor is configured to receive, from the magnetic sensor, a time-varying signal indicative of a magnetic field and determine, based on the time-varying signal, that the magnetic field is associated with an electrical power transmission line. The processor is further configured to cause the steering unit to direct the device toward the electrical power transmission line.

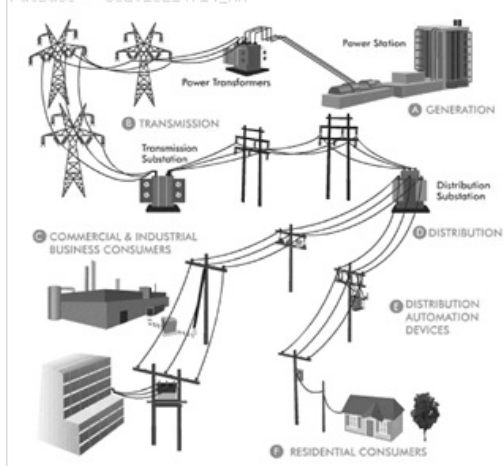
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International (IPC 8-9): B01J3/06 B60L11/18 B60L9/08 B64C39/02 B64D27/24 B64F3/02 B82Y20/00 C30B29/04 F42B10/00 G01B11/16 G01B7/14 G01B7/16 G01C21/00 G01C21/04 G01C21/20 G01C23/00 G01D5/12 G01D5/14 G01H1/00 G01H9/00 G01J1/04 G01J1/08 G01N21/27 G01N21/55 G01N21/63 G01N21/64 G01N21/66 G01N21/87 G01N22/00 G01N27/82 G01N27/83 G01N29/28 G01R1/067 G01R29/08 G01R31/02 G01R33/00 G01R33/02 G01R33/032 G01R33/12 G01R33/26 G01R33/34 G01R35/00 G01V1/18 G01V1/38 G01V3/08 G01V3/165 G01V3/38 G02B1/02 G02B5/08 G05B19/04 G05B19/042 G05D1/00 G05D1/02 G05D1/04 G05D1/08 G05D1/10 G08C17/04 G08G5/00 G1R29/08 H01F38/14 H01L21/00 H01L29/15 H01L33/00 H01L51/52 H02J50/10 H02J7/02 H02J7/14 H04B10/11 H04B10/114 H04B11/00 H04B5/00 (Advanced/Invention); G01C21/20 G01R1/067 G01R31/02 G01R31/08 (Advanced/Non-invention)

CPC: H02J7/025 B64C2201/141 B64C2201/146 B64C2201/066 B64C2201/021 G01C21/20 B64C2201/12 H02G1/02 G01R1/06705 G01R31/021 G08G5/0069 G05D1/0202 G05D1/042 B60L11/1837 G01R31/085 G05D1/0265 G05D1/101 B60L11/182 B60L2200/10 B60L2240/622 G01N22/00 G01N21/63 G01D5/14 G05B19/042 G05B2219/25317 G05D1/0088 G01N29/28 G01D5/12 G01J1/08 G01R33/0094 G01J1/0425 G01V1/3808 G01V1/186 G05B2219/25126 G05B19/04 G01R33/0052 G01N21/66 G01R33/26 G01R33/0017 G01N27/82 H04B5/0081 H04B5/0031 G01R33/02 G01V3/081 H04B5/0075 G01R33/1284 G01V3/08 G01R33/60 G01N2021/6469 G01N2201/068 G01N2201/0637 G01N2201/06113 G01N21/55 G01N21/87 G01R33/032 G01N21/27 G01N22/005 G01N2021/0162 G01N21/6489 G01N2021/646 G01C21/00 Y02T10/7005 Y02T10/7072 Y02T10/7291 Y02T90/121 Y02T90/122 Y02T90/128 Y02T90/14 Y02T90/16 Y02T90/162 B64C39/024 G01R35/00 G01H1/00 G01H9/00

US: 324/207.13 324/225 324/244.1 324/543 356/30 700/56 701/11 701/3

PatBase - US2016214714_AA

**Family:**

Publication number	Publication date	Application number	Application date
AU2016209217 AA	20160728	AU20160209217	20160121
CA2974688 AA	20170721	CA20162974688	20160121
CA2975103 AA	20170726	CA20162975103	20160121
EP3248021 A1	20171129	EP20160740794	20160121
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KR20170108055 A	20170926	KR20177023231	20160121
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WO2016US14386	20160121	WO2016US14392	20160121	WO2016US14403	20160121
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CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID
IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN
MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG
SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW