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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/753,637	05/25/2007	Julian Poyner	07EJ086 (1506.158)	5904

63122 7590 01/08/2009

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EXAMINER	
CUMBESS, YOLANDA R	
ART UNIT	PAPER NUMBER
3651	

MAIL DATE	DELIVERY MODE
01/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/753,637	POYNER ET AL.	
	Examiner	Art Unit	
	YOLANDA CUMBESS	3651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☒ Claim(s) *21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 21 is objected to because of the following informalities: The word “polarisation” is misspelled and should be spelled "polarization". Appropriate correction is required. Any other occurrence of the word "polarisation" should also be corrected.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Lines 8-9 recite the “signal detecting unit is in optical communication with the signal detecting unit…" It appears that Applicant intends "the signal detecting unit is in communication with the signal generating unit. Appropriate clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Nord et al (US Patent No. 4,863,012). Relative to claims 30-31, Nord discloses a safety arrangement for use with a piece of equipment (10)(Fig. 1) method of affecting operation of the equipment comprising: providing a signal generating unit (54)(Fig. 3) for generating an electrical signal; an elongate element (57)(Fig. 3) to be disposed along, about, around or through the piece of equipment, the elongate element (57) being capable of transmitting an electrical signal (Col. 6, lines 33-50); and a signal detecting unit (Col. 6, lines for detecting an electrical signal 32-44); the signal generating unit being connected to the signal detecting unit (54) by the elongate element (57), such that the signal detecting unit is in electrical communication with the signal detecting unit, the signal detecting unit being arranged to detect a change in the electrical signal transmitted by the elongate element as a consequence of movement of the elongate element (Col. 6, lines 30-35) and, upon detection of the change in the signal, the detecting unit is configured to effect a change in the operation of the piece of equipment (Col. 6, lines 25-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-27 (as understood by the Examiner) are rejected under 35 U.S.C. 103(a) as being unpatentable over Buescher et al (US Patent No. 5,992,604) in view of (Balzer-Apke et al (US Patent No. 6,230,871). Buescher discloses: a safety arrangement (Fig. 1) for use with a piece of equipment ("escalator", Col. 3, lines 29-32), and method comprising: providing a signal generating unit (4)(Fig. 1) for generating an optical signal; an elongate element (11, 12)(Fig. 1) to be disposed along, about, around or through the piece of equipment, the elongate element being capable of transmitting an optical signal (Col. 3, lines 35-40); and a signal detecting unit (2)(Fig. 1) for detecting an optical signal; the signal generating unit being connected to the signal detecting unit by the elongate element (Fig. 1), such that the signal detecting unit is in optical communication with the signal detecting unit (Col. 3, lines 46-60), the signal detecting unit is arranged to detect changes in optical signals transmitted by the elongate element and, upon detection of the change in the signals, the detecting unit is configured to effect a change in the operation of the piece of equipment (Col. 3, lines 50-61); wherein the piece of equipment is a conveyor belt ("escalator"); wherein the signal generating unit comprises a laser (Col. 3, lines 29-45); wherein the signal detecting unit comprises a photo detector (Col. 2, lines 25-45; light barrier chain is a laser); wherein the detecting unit is, upon detection in the change of the optical signal, configured to directly affect the operation of the piece of equipment (Col. 3, lines 50-60); wherein the detecting unit is, upon detection in the change of the optical signal, configured to indirectly affect the operation of the piece of equipment (Col. 3, lines 45-60); and wherein the support cable is electrically conductive (Col. 3, lines 45-50).

Buescher does not expressly disclose: wherein the elongate element is an optical fiber or two optical fibers, and wherein the signal detecting unit is arranged to detect a change in the optical signal transmitted by the elongate element as a consequence of movement of the elongate element; wherein the detected change is a change in the wavelength or polarization state, wherein the optical fibre extends along a support cable; wherein the support cable is provided with protrusions; wherein upon detection of the change in the signal, the detecting unit is configured to effect the prevention of the supply of power to the piece of equipment; and wherein upon detection of the change in the signal, the detecting unit is configured to effect the prevention of movement of at least a part of the equipment.

It is known in the art to provide an elongate element in the form of optical fibers to permit data transfer. See Buescher, (Col. 2, lines 46-50); Van Den Bulcke (US Patent No. 6,196,101; Col. 5, lines 1-10). It is also known in the art of fiber optic communications to provide a signal detecting unit to be arranged to detect a change in the optical signal transmitted by an elongate element as a consequence of movement of the elongate element, and wherein the detected change is a change in the wavelength or polarization state, see Meyrueix, (US Patent No. 5,394,098; Col. 2, lines 34-50) as a result of alternating intensities of light. See also, Olsen et al, (US Patent No. 4,743,752, Col. 2, lines 39-67); Wright et al, (US Patent No. 5,184,009, Col. 4, lines 20-55). Finally, it is known in the art of performance communications to provide a support cable with protrusions. See Glew, (US PG Pub 2006/0096777; Para. 009-0011).

Relative to claims 12 and 13, Balzer-Apke teaches: wherein upon detection of the change in the signal, the detecting unit is configured to effect the prevention of the supply of power to the piece of equipment; and wherein upon detection of the change in the signal, the detecting unit is configured to effect the prevention of movement of at least a part of the equipment as an effective means to monitor and control functional units of escalators and moving walkways via to maintain domestic and international safety standards.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Buescher to be configured to effect the prevention of supply of power to the equipment, or movement of the equipment as taught in Balzer-Apke as an effective means to monitor and control functional units of escalators and moving walkways via to maintain domestic and international safety standards.

Relative to claims 20, and 22-25, the device of Buescher in view of Balzer-Apke teaches: wherein the detected change is a change in a time of flight of the optical signal sent along the elongate element (Balzer-Apke, Col. Col. 3, lines 40-50); wherein the signal is continuous (Balzer-Apke, Fig. 1-3); wherein two signals are sent along the elongate element (Buescher, Col. 2, lines 30-39); wherein the detected change is a change in phase between the two signals (Buescher, Col. 2, lines 30-39; Col. 3, lines 44-50); wherein the signal is continuous (Balzer-Apke; Fig. 1-3); wherein the signal comprises a plurality of pulses (Buescher, Col. 2, lines 30-40)(Balzer-Apke, Col. 3, lines 40-45).

Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoxen et al (US Patent No. 5,842,554) in view of Genahr et al (US Patent No. 5,021,766). Relative to claims 28-29, Stoxen discloses a safety arrangement and for use with a piece of equipment (Ref. 10)(Fig. 1), and method of affecting operation of a piece of equipment, comprising: providing a signal generating unit (42)(Fig. 2) for generating a pressure wave signal; an elongate element (43)(Fig. 2-3) to be disposed along, about, around or through the piece of equipment Col. 3, lines 15-40), wherein the elongate element is capable of transmitting a pressure wave signal (15-25); and a signal detecting unit (26) for detecting a pressure wave signal; the signal generating unit (42) being connected to the signal detecting unit by the elongate element (43), the signal detecting unit being arranged to detect a change in the pressure wave signal transmitted by the elongate element, and upon detection of the change in the signal, the detecting unit is configured to effect a change in the operation of the piece of equipment (Col. 3, lines 15-60).

Stoxen does not expressly disclose: providing the signal detecting unit that is arranged to detect a change in the pressure wave signal transmitted by the elongate element as a consequence of movement of the elongate element. Genahr discloses a signal detecting unit that is arranged to detect a change in the pressure wave signal transmitted by the elongate element as a consequence of movement of the elongate element (Col. 2, lines 28-60) to provide an improved means to accurately detect movement caused by changes in pressure with enhanced sensitivity.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Stoxen with the signal detecting unit that is arranged to detect a change in the pressure wave signal transmitted as a consequence of movement as taught in Genahr to provide an improved means to accurately detect movement caused by changes in pressure with enhanced sensitivity.

Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Middeldorp (US Patent No. 4977,998) in view of Wolfe (US Patent No. 6,420,846). Relative to claims 32-35, Middeldorp discloses a safety arrangement for use with a piece of equipment (1)(Fig. 1), and method of affecting operation, comprising: providing an elongate element (12) to be disposed along, about, around or through the piece of equipment (Col. 3, lines 20-22), the elongate element (12) being provided with a component (8) sensitive to changes in magnetic fields which is fixed in position relative to the elongate element (Col. 3, lines 5-15), the component being in communication with a monitoring apparatus (13)(Col. 3 lines 20-25); and a magnet or a component sensitive to changes in magnetic fields (Col. 3, lines 10-15) located adjacent to the elongate element; the monitoring apparatus (13) being arranged to detect changes in the component (8) sensitive to changes in magnetic fields (11), and thus the elongate element (12), relative to the magnet, and, upon detection of that change in the component sensitive to changes in magnetic fields, the monitoring apparatus (13) is configured to effect a change in the operation of the piece of equipment (Col. 3, lines 20-36).

Middeldorp does not expressly disclose the component sensitive to changes in magnetic fields as a consequence of movement of the component.

Wolfe teaches a component (73)(Col. 5, line 50) sensitive to changes in magnetic fields as a consequence of movement in order to monitor the operation of the system and to shut off power when inoperable conditions are detected (Col. 1, lines 41-56).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of Middeldorp with the component sensitive to changes in magnetic fields as a consequence of movement, as taught by Wolfe in order to monitor the operation of the system and to shut off power when inoperable conditions are detected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOLANDA CUMBESS whose telephone number is (571)270-5527. The examiner can normally be reached on MON-THUR 9AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GENE CRAWFORD can be reached on 571-272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gene Crawford/
Supervisory Patent Examiner, Art Unit 3651

/YOLANDA CUMBESS/
Examiner, Art Unit 3651