(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 854 745 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
14.11.2007 Bulletin 2007/46

(51) Int Cl.:
B65F 3/00 *(2006.01)*

(21) Application number: **07380121.9**

(22) Date of filing: **04.05.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **05.05.2006 ES 200601032**

(71) Applicant: **Ros Roca, S.A.**
25300 Tarrega (Lleida) (ES)

(72) Inventor: **Roca Enrich, Ramón**
c/o Ros Roca, S.A.
E.25300 Tarrega (ES)

(74) Representative: **Pastells Teixido, Manuel**
c/o PASTELLS & ARAGONES, S.L.,
Pau Claris, 138
08009 Barcelona (ES)

(54) A system for detecting the presence of laboures on the rear platforms of garbage and refuse collecting lorries and container washing lorries

(57) This system as a characterising feature comprises the installation of an active transmitter (1) on the platform (P) and of an active receiver (2) on the handhold (A), the platform (P) and the handhold (A) having a galvanic insulation (3), the body of the labourer (O) being arranged on the platform (P) and clinging to the handhold (A) acting as a capacitive bridge (4), the receiver (2) generating the signal (5) being indicative of the correct arrangement of the labourer (O) on the platform (P). The labourer (O) can possibly carry on him- or herself an identifier device (6) in order to be identified on the platform (P).

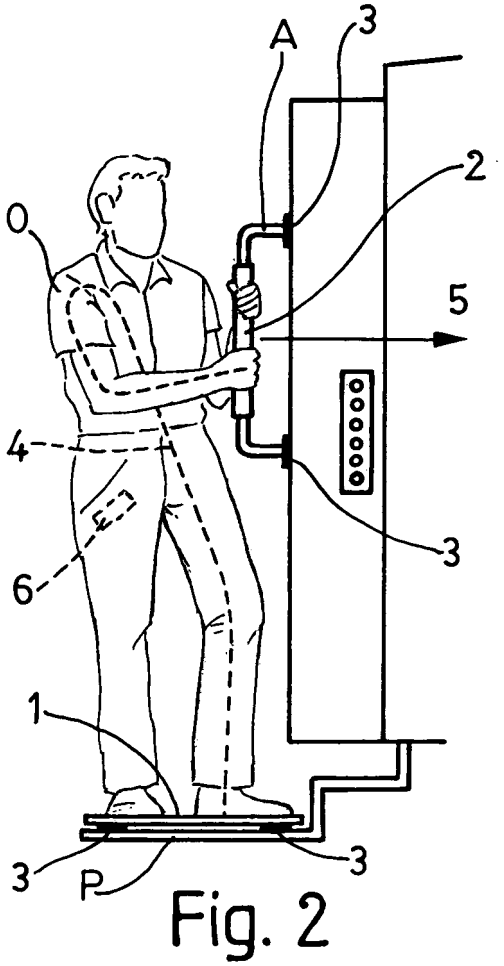

Fig. 2

EP 1 854 745 A1

Description

OBJECT OF THE INVENTION

[0001] A system for detecting the presence of labourers on the rear platforms of garbage and refuse collecting lorries and container washing lorries.

FIELD OF THE INVENTION

[0002] This system is to be applied to the garbage and refuse collecting lorries and container washing lorries or lorries being provided with container washing systems wherein during the travel of the lorry the labourers are located in a standing position on rear platforms and are clinging to a handhold being provided at the rear portion of the lorry.

BACKGROUND OF THE INVENTION

[0003] Different systems have been used for detecting the presence of labourers on the rear platforms of the garbage and refuse collecting lorries and the container washing lorries.

[0004] One of the known systems carries out the control of said presence by means of sensors being provided for detecting a given weight on said platform. This system is not safe because it does not detect if the labourer is clinging to the handhold, with the consequent danger that such an indeterminacy would represent.

[0005] Another of the known systems consists in the installation of sensors being provided for detecting the position of the platforms (retracted platform equals unoccupied platform, and extended platform equals occupied platform). This system is not very operative because of the fact that at each stoppage of the lorry it is necessary to reposition the platforms, this forcing to carry out many manoeuvring operations and causing a substantial loss of time.

[0006] Another of the known systems uses optical, ultrasound or laser emissions, etc. Nevertheless, these emitters do not cover all of the spaces where the labourer can move about, it not being hence guaranteed if this latter is occupying the platform in a correct manner or if he or she is clinging to the handhold.

[0007] These lorries generally comprise in the cab a rearview camera in order to thus enable the driver to see what is happening at the rear portion of the lorry.

SUMMARY OF THE INVENTION

[0008] This invention has as its object a high safety detection system being adapted to be fitted to the aforementioned lorries with no need for substantial changes to their structure.

[0009] This system is characterised in that it comprises the installation of an active transmitter on the platform and of an active receiver on the handhold, the platform and the handhold having a galvanic insulation for the proper operation of the system, the body of the labourer being arranged on the platform and clinging to the handhold acting as a capacitive bridge, the receiver generating a signal being indicative of the correct arrangement of the labourer on the platform.

[0010] This system optionally provides for incorporating to the labourer an identifier device that will indicate if he or she is the person who is supposed to be on the platform.

[0011] These and other characterising features will be best made apparent by the following detailed description whose understanding will be made easier by the accompanying sheet of drawings showing a practical embodiment being cited only by way of example not limiting the scope of the present invention.

DESCRIPTION OF THE DRAWINGS

[0012] In the drawings:

Fig. 1 diagrammatically shows a lorry type where this detector system will be installed;
Fig. 2 diagrammatically shows the components of the system being incorporated to the lorry and their operation; and
Fig. 3 is a wiring diagram of the circuit of this system.

DETAILED DESCRIPTION

[0013] According to the drawings this labourer detection system is to be applied to a lorry (C) at its rear portion having at each side a platform (P) and a handhold (A) where the labourers (O) are to be arranged when the lorry is travelling.

[0014] This system comprises the installation of an active transmitter (1) on the platform (P) and of an active receiver (2) on the handhold (A), said platform and handhold having a galvanic insulation (3), the body of the labourer (O) acting as a capacitive bridge (4), the receiver (2) generating the signal (5) being indicative of the correct arrangement of the labourer on the platform.

[0015] This signal (5) can be processed to CAN-Bus and/or to digital contact.

[0016] An option being also possibly offered by this system is that of providing the labourer with an identifier device (6) that will be carried for example in a trousers' pocket and with which and by means of a reader module it will be checked if the person being detected is the one being supposed to occupy his or her position in his or her arrangement on the platform.

[0017] The invention within its essentiality can practically be carried out in other ways of embodiment differing only in detail from the one shown herein only as a way of example and to which will also reach the protection now being sought after. This system for detecting the presence of labourers on the rear platforms of garbage and refuse collecting lorries and container washing lor-

ries can thus be manufactured in any shape or size with the most suitable means and materials, the component elements can be replaced by others technically equivalent because all this is included within the claims.

Claims

1. A system for detecting the presence of labourers on the rear platforms of garbage and refuse collecting lorries and container washing lorries, the lorry at its rear portion comprising handholds for the labourers to cling to them; **characterised in that** it comprises the installation of an active transmitter on the platform (P) and of an active receiver on the handhold the platform and the handhold having a galvanic insulation, the body of the labourer being arranged on the platform and clinging to the handhold acting as a capacitive bridge, the receiver generating the signal being indicative of the correct arrangement of the labourer on the platform.

2. A system for detecting the presence of labourers on the rear platforms of garbage and refuse collecting lorries and container washing lorries, as per claim 1, **characterised in that** the labourer carries on him- or herself an identifier device in order to be identified on the platform.

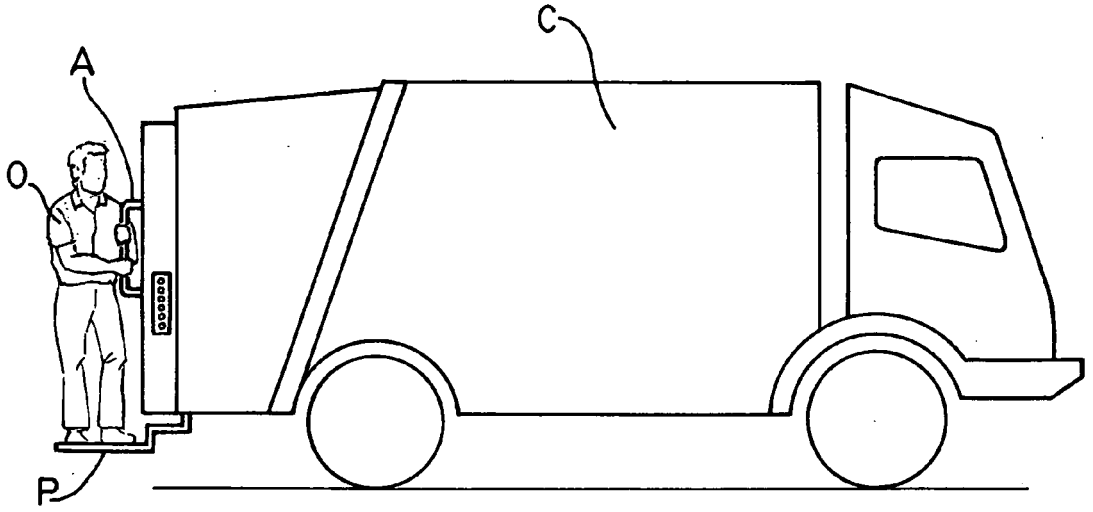

Fig. 1

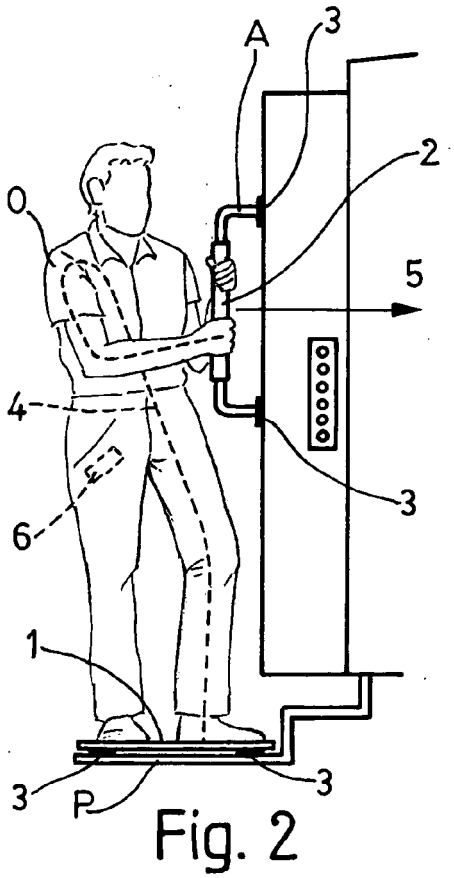

Fig. 2

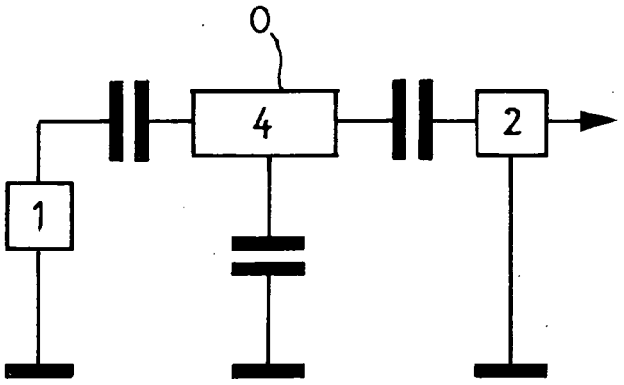

Fig. 3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 38 0121

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 197 17 162 A1 (FAUN UMWELTTECHNIK GMBH & CO [DE]) 29 October 1998 (1998-10-29) * column 1, line 44 - line 65 * * column 3, line 2 - line 23; figure 1 * -----	1	INV. B65F3/00
A	DE 39 18 971 A1 (BAATSCH SIEGFRIED [DE]; GERARD RALF [DE]) 13 December 1990 (1990-12-13) * column 4, line 24 - column 5, line 6; figures 1-3 * -----	1	

TECHNICAL FIELDS SEARCHED (IPC)

B65F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 August 2007	Wartenhorst, Frank

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 38 0121

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-08-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19717162 A1	29-10-1998	NONE	
DE 3918971 A1	13-12-1990	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82