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(54) **Shielding for a keypad of a pin code terminal**

(57) A shielding 31 comprises a cap 35 which is put over a keypad 33. This cap is provided with a viewing window 37 in the top side 39 of the cap, and an inserting opening 41 in the front side 43 of the cap. The cap is further provided with an additional viewing window 23 in the front side of the cap above the inserting opening, through which more particularly a wheelchair user can view the keypad.

In order to confine the direction 49, 51 in which the keypad can be viewed through the viewing windows, two sets of two mirros each are installed in the cap. These mirrors are positioned such that when viewing one of the mirrors 53, 57 at an angle through the viewing windows, the keypad 33 becomes visible via the other mirror 55, 59.

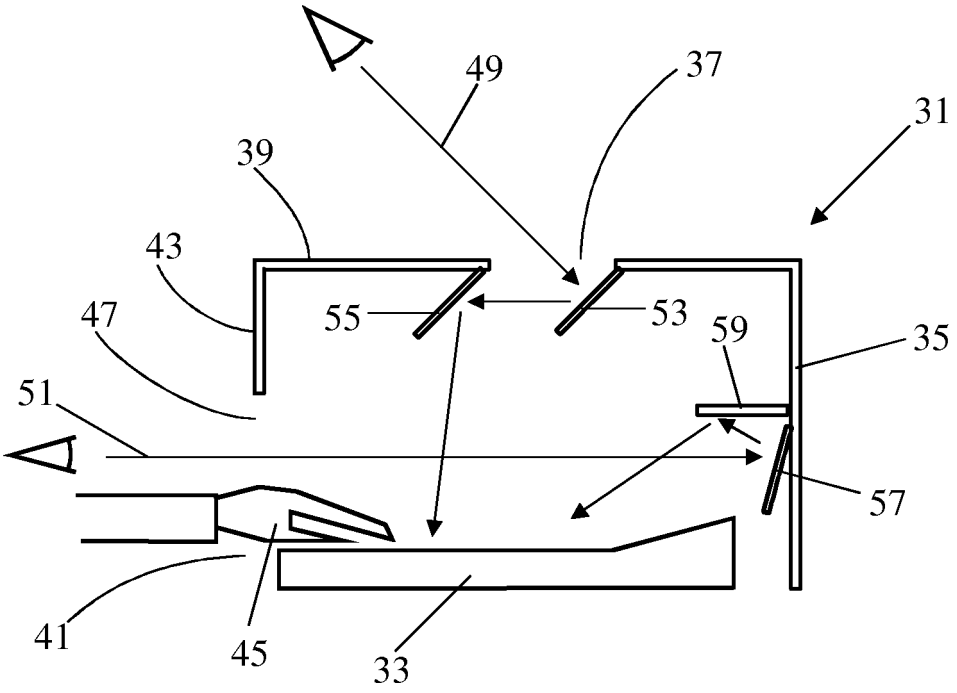

FIG. 6

EP 2 234 076 A1

Description

Field of the invention.

[0001] The invention relates to a shielding for a keypad of a pin code terminal, comprising a cap that is to be put over the keypad, which cap is provided with a viewing window in the top side of the cap through which a user can watch the keypad and which cap is further provided with an inserting opening in the front side of the cap through which the user can put his hand, the shielding comprising means which confine the angle at which the keypad can be viewed through the viewing window.

State of the art.

[0002] A shielding of this type is known from GB-A-2 421 345. With this known shielding the means are formed by a plurality of substantial parallel and equidistant louvre slats, with viewing openings in between the louvre slats. It is only possible for a person to look through the viewing window in the direction determined by the louvre slats. As a result, only the user can watch the keypad through the louvre slats, whereas other persons be it with or without a camera cannot observe the code number that is keyed in.

Summary of the invention.

[0003] It is an object of the invention to improve the known shielding. For this purpose the shielding according to the invention is **characterized in that** the means comprise at least two mirrors which are positioned such that when a person watches one of the mirrors at an angle through the viewing window, the keypad will become visible via the other mirror. As a result of a proper positioning of the mirrors it is impossible for the keyboard to be observed from another angle. In this way it is impossible for another person to observe the pin code from elsewhere (for example with a hidden camera) and the use of the pin code terminal is safeguarded.

[0004] A disadvantage of the known shielding is that wheelchair users cannot look through the viewing window at the desired angle, because it is impossible for them to bring their eyes to the desired height. An embodiment of the shielding according to the invention with which wheelchair users too can view the keypad in a safe manner is **characterized in that** the cap is provided with an additional viewing window in the front side of the cap above the inserting opening, through which additional viewing window the user can also watch the keypad, while the shielding is provided with further means which confine the angle at which the keypad can be viewed through the additional viewing window, which further means comprise at least one additional mirror which is present in the cap and is connected to the cap and which is positioned such that it is visible when viewed through the additional viewing window and renders the keypad visible via the other two mirrors.

[0005] A further embodiment of the shielding according to the invention with which wheelchair users can safely view the keypad is **characterized in that** the cap is provided with an additional viewing window in the front side of the cap above the inserting opening, through which additional viewing window the user can also watch the keypad, while the shielding is provided with further means which confine the angle at which the keypad can be viewed through the additional viewing window, which further means comprise at least two additional mirrors which are present in the cap and are connected thereto and which are positioned such that when viewing one of the additional mirrors at an angle through the additional viewing window the keypad is rendered visible via the other additional mirror.

Brief description of the drawings.

[0006] The invention will now be described in more detail based on examples of embodiment of the shielding while reference is made to the appended drawing figures, in which:

Fig. 1 shows a first embodiment of the shielding according to the invention attached to a fixedly mounted pin code terminal;
Fig. 2 shows the shielding shown in Fig. 1 attached to a moveable pin code terminal;
Fig. 3 shows a second embodiment of the shielding according to the invention attached to a fixedly mounted pin code terminal;
Fig. 4 shows the shielding shown in Fig. 3 attached to a moveable pin code terminal;
Fig. 5 shows a perspective view of a third embodiment of the shielding according to the invention attached to a moveable pin code terminal; and
Fig. 6 shows a cross sectional view of the shielding shown in Fig. 5.

Detailed description of the drawings.

[0007] Fig. 1 shows a first embodiment of the shielding according to the invention in cross section. The shielding 1 is put over a keypad 3 of a fixedly mounted pin code terminal, for example a cash dispenser. The shielding 1 has a cap 5 which is provided with a viewing window 7 in te top side 9. A user of normal build can view the keypad through the viewing window 7.

[0008] The cap 5 is further provided with an inserting opening 11 in the front side 13 of the cap. The user can put his hand through this inserting opening 11 for touching the keypad 3. In the front side of the cap, underneath the inserting opening 11, there is a reading slot 15 for a bank card.

[0009] For making the keypad 3 visible from only one direction and at a limited viewing angle, there are mirrors 17 and 19 installed in the cap 5. These mirrors are posi-

tioned such that when viewing mirror 17 at an angle through the viewing window 7, the keypad 3 is visible via the other mirror 19. Since the cash dispenser is placed with its back against a wall, it is impossible to view the keypad 3 through the viewing window 7 from behind in a direction parallel to the two mirrors 17, 19.

[0010] Fig. 2 shows the shielding of Fig. 1 attached to a moveable pin code terminal. In this embodiment the top side of the cap 5 of the shielding 1 has an additional part 5A to avoid that the keypad 3 can be observed in the direction mentioned above parallel to the two mirrors 17 and 19.

[0011] Figs. 3 and 4 show a second embodiment of the shielding according to the invention attached to a mounted or moveable pin code terminal respectively. All components that are equal to those of the first embodiment shown in Figs. 1 and 2 are designated by like reference numerals. With this shielding 21 it is possible to view the keypad 3 of the pin code terminal through an additional viewing window 23 directly above the inserting opening 11. With this additional viewing window 23 it is possible for a child or a wheelchair user to view the keypad 3.

[0012] With this shielding 21 there is an additional mirror 25 present in the cap 5. The keypad 3 can then be viewed via this additional mirror 25 and the combination of the two mirros 17 and 19.

[0013] Figs. 5 and 6 show a third embodiment of the shielding according to the invention in a perspective view and a cross sectional view respectively. The shielding 31 comprises a cap 35 which is put over the keypad 33 of a moveable pin code terminal. This cap 35 is provided with a viewing window 37 in top side 39 of the cap through which viewing window a user of normal build can view the keypad.

[0014] The cap 35 is further provided with an inserting opening 41 in the front side 43 of the cap. The user can put his hand 45 through this inserting opening 41 to touch the keypad 43.

[0015] The cap 45 is furthermore provided with an additional viewing window 47 in the front side 43 of the cap directly above the inserting opening 41. This additional viewing window forms a whole with the inserting opening 41. Through this additional viewing window 47 it is possible for a child or a wheelchair user to view the keypad 43.

[0016] For allowing the keypad 43 to be visible from two totally different viewing directions 49, 51 and also allowing the keypad to be visible only at a confined viewing angle through the two viewing windows 37, 47, there are mirrors loacted in the cap 35. The mirrors form two pairs of mirrors 53, 55 and 57, 59. These mirrors are installed such that when viewing at an angle through the viewing windows 37, 47, the keypad 33 is visible on one of the mirrors 53, 57 of a pair via the other mirror of the pair 55, 59.

[0017] Albeit the invention described above has been described in the foregoing with reference to examples of embodiment, it will be evident that the invention is not by any manner or means restricted thereto. Within the spirit and scope of the invention the shielding for a keypad of a pin code terminal could be embodied differently at various points. The extent of the invention is indeed exclusively determined by the following claims.

Claims

1. A shielding for a keypad of a pin code terminal, comprising a cap that is to be put over the keypad, which cap is provided with a viewing window in the top side of the cap through which a user can watch the keypad and which cap is further provided with an inserting opening in the front side of the cap through which the user can put his hand, the shielding comprising means which confine the angle at which the keypad can be viewed through the viewing window, **characterized in that** the means comprise at least two mirrors which are positioned such that when a person watches one of the mirrors at an angle through the viewing window, the keypad will become visible via the other mirror.

2. A shielding as claimed in claim 1, **characterized in that** the cap is provided with an additional viewing window in the front side of the cap above the inserting opening, through which additional viewing window the user can also watch the keypad, while the shielding is provided with further means which confine the angle at which the keypad can be viewed through the additional viewing window, which further means comprise at least one additional mirror which is present in the cap and is connected to the cap and which is positioned such that it is visible when viewed through the additional viewing window and renders the keypad visible via the other two mirrors.

3. A shielding as claimed in claim 1, **characterized in that** the cap is provided with an additional viewing window in the front side of the cap above the inserting opening, through which additional viewing window the user can also watch the keypad, while the shielding is provided with further means which confine the angle at which the keypad can be viewed through the additional viewing window, which further means comprise at least two additional mirrors which are present in the cap and are connected to the cap and which are positioned such that when viewing one of the additional mirrors at an angle through the additional viewing window the keypad is rendered visible via the other additional mirror.

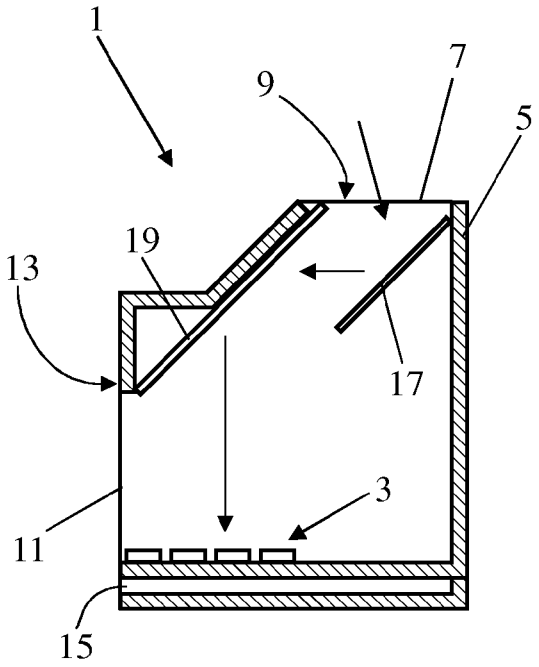

FIG. 1

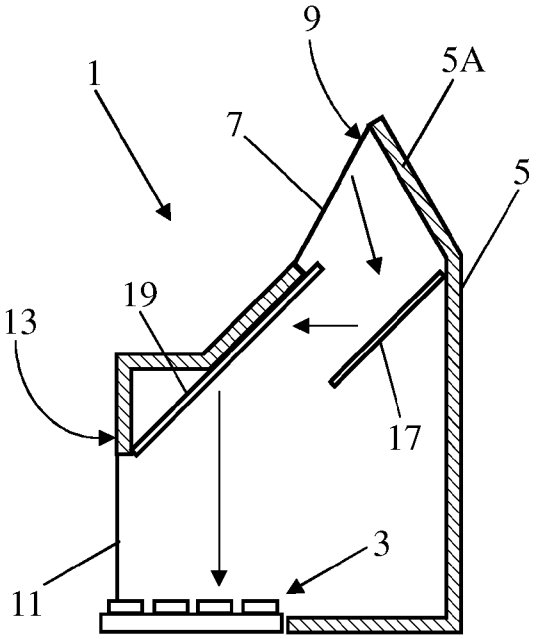

FIG. 2

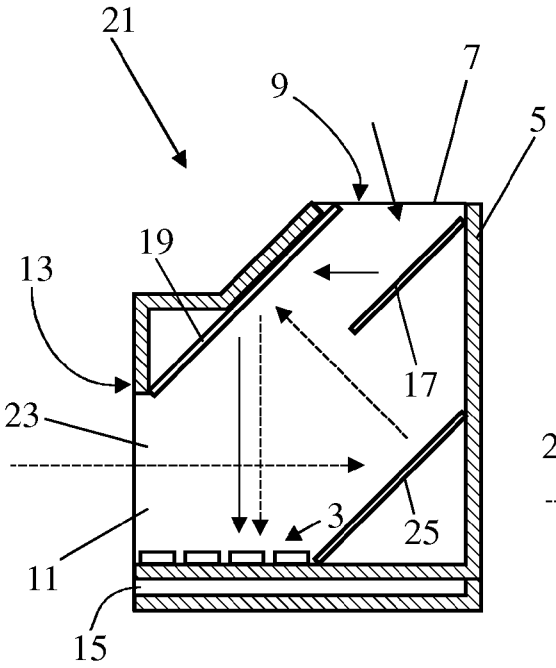

FIG. 3

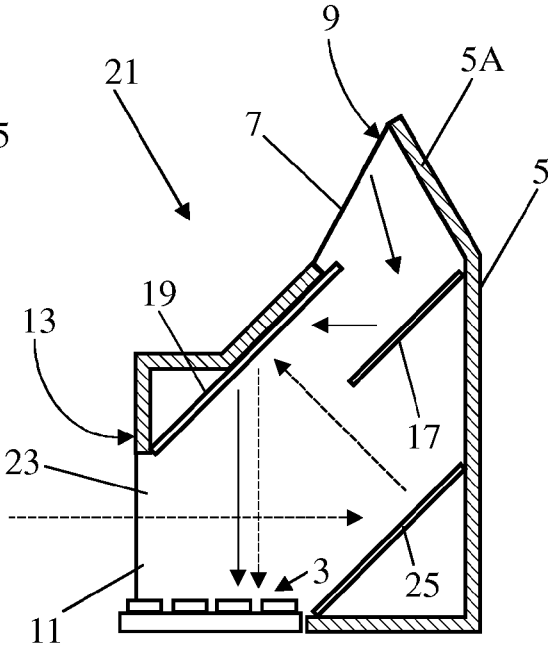

FIG. 4

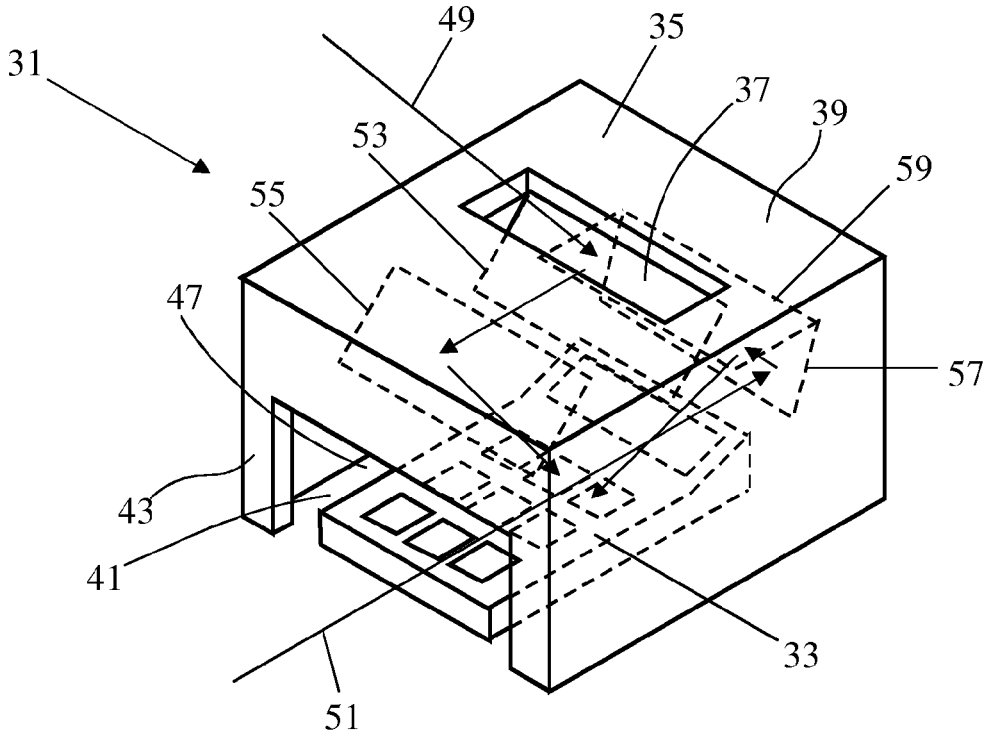
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FIG. 5

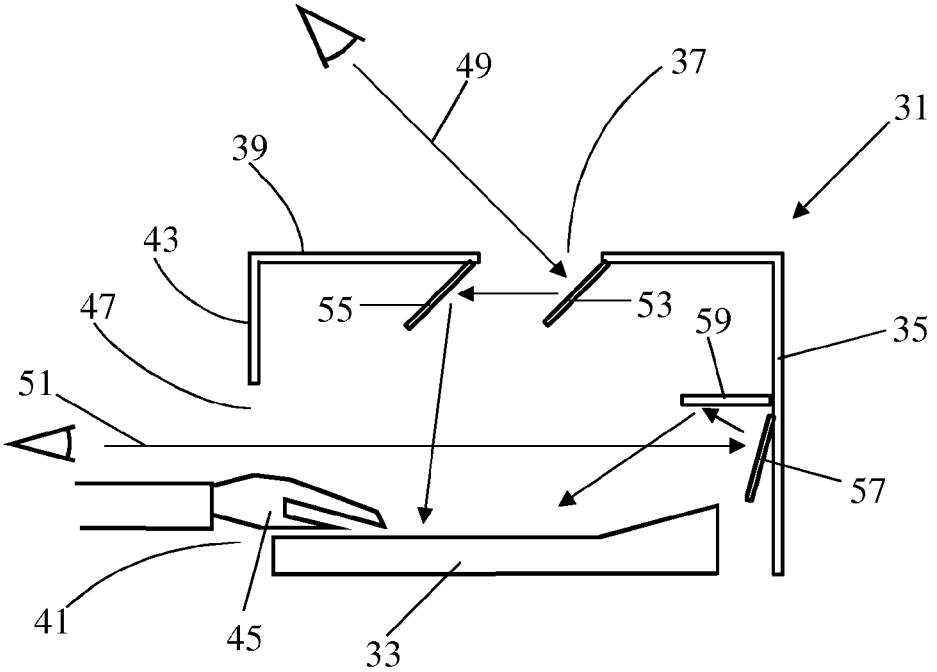
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FIG. 6

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EUROPEAN SEARCH REPORT

Application Number
EP 10 15 8090

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 422 353 A (COLLIER GREG [GB]) 26 July 2006 (2006-07-26) * abstract; figures 1,3 * * page 1, lines 1-3 *	1-3	INV. G07F7/10
A	WO 2008/110759 A (CLANCY PAUL [GB]; BIRTWISTLE GORDON [GB]) 18 September 2008 (2008-09-18) * page 2, paragraph 7 - page 3, paragraph 2 *	1-3	
A	WO 2006/111710 A (BIRTWISTLE GORDON [GB]; CLANCY PAUL [GB]) 26 October 2006 (2006-10-26) * paragraphs [0144], [0145]; figure 13b *	1-3	
A	GB 2 452 722 A (SANDERSON JANE ALISON [GB]; HODGES JULIE FRANCES [GB]) 18 March 2009 (2009-03-18) * the whole document *	1-3	
A	GB 2 421 345 A (LEA CHRISTOPHER ANDRE PHILIP [GB]) 21 June 2006 (2006-06-21) * the whole document *	1-3	TECHNICAL FIELDS SEARCHED (IPC) G07F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	14 July 2010	Verhoef, Peter

CATEGORY OF CITED DOCUMENTS

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14-07-2010

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