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

(11) Publication number: **0 070 607**
A1

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **82200906.4**

(22) Date of filing: **14.07.82**

(51) Int. Cl.³: **A 62 C 3/14**

(30) Priority: **14.07.81 NL 8103352**

(43) Date of publication of application: **26.01.83**
Bulletin 83/4

(84) Designated Contracting States: **AT BE CH DE FR GB IT LI LU NL SE**

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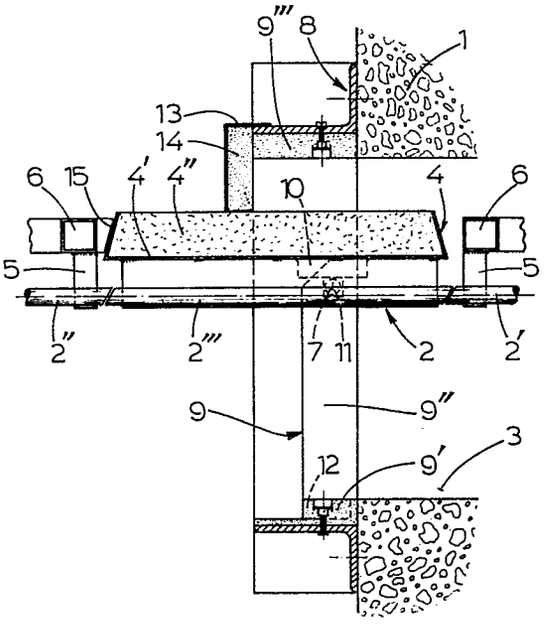
(54) **Closable passage through a wall or a floor, adapted to be passed by a conveyor system.**

(57) The invention relates to a closable passage through a wall or a floor (1), adapted to be passed by a conveyor system (10), comprising a conveyor track (2), as well as conveyor elements, such as conveyor receptacles, movable along this conveyor tranck (12), wherein the wall or the floor is provided with a passage opening, which is closable by a closing panel (4), which may be reciprocated between a closed position and a release position, while a conveyor track portion (2) is displaceable between two positions and extends in one of these positions through the passage opening released by the closing panel (4).

According to the invention the displaceable conveyor track portion (2) is fixedly connected to the closing panel (4) and upon displacement of the closing panel (4) to the release position arrives in its position, wherein this conveyor track portion (2) extends through the passage opening.



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Closable passage through a wall or a floor, adapted to be passed by a conveyor system.

The invention relates to a closable passage through a wall or a floor, adapted to be passed by a conveyor system, comprising a conveyor track, as well as conveyor elements, such as conveyor receptacles, movable along this conveyor track, wherein the wall or the floor is provided with a passage opening, which is closable by a closing panel, which may be reciprocated between a closed position and a release position, while a conveyor track portion is displaceable between two positions and extends in one of these positions through the passage opening released by the closing panel.

In a known embodiment of a closable passage of this type the closing panel may be reciprocated between the opened or release position and the closed position by means of a drive mechanism. The displaceable conveyor track portion can also be moved from the one position to the other, or vice versa, in dependence on the displacement of the closing panel by means of a mechanical transmission mechanism.

This known closable passage has the disadvantage, that in particular the transmission mechanism, which takes care of the displacement of the conveyor track portion, is rather complicated and sensitive to break-down.

It is an object of the present invention to provide a closable passage through a wall or a floor, adapted to be passed by a conveyor system, wherein this disadvantage is removed in an effective way.

For this purpose the closable passage according to the invention is characterized in that the displaceable conveyor track portion is fixedly connected to the closing panel and upon displacement of the closing panel to the release position arrives in its position, wherein this conveyor track portion extends through the passage opening.

Therefore it is unnecessary according to the invention to apply a transmission mechanism between the closing panel and the displaceable conveyor track portion, so that the whole construction becomes much simpler and more reliable.

Preferably the closing panel may pivot about an axis, which is perpendicular to the direction of the conveyor track.

Furthermore the end positions of the closing panel may be defined by stops.

In order to obtain a closable passage of such kind, that the same is fire resisting in the closed position of the closing panel and prevents the propagation of a fire through the passage in an effective manner, the closing panel may at least partly consist of fire resisting material, while the passage opening is provided with a framing made of fire resisting material, with which the closing panel is in sealing engagement in the closed position.

In this connection a framework composed of sections may be mounted on the wall or the floor and may surround the passage opening, while the framing of fire resisting material is connected to this framework.

Advantageously one of the two framing portions extending parallel to the pivot axis of the closing panel, as well as the two framing portions perpendicular to the aforementioned framing portions may form stops for the closing panel in the closed position.

The invention will hereinafter be elucidated with reference to the drawing, which shows an embodiment of a closable passage according to the invention by way of example.

Fig. 1 is a front view of the closable passage according to the invention through a wall, wherein the closing panel is in de opened position.

Fig. 2 is a cross-section of the closable passage according to fig. 1.

Fig. 3 is a cross-section corresponding with fig. 2, wherein, however, the closing panel is in the closed position.

The drawing shows by way of example an embodiment of a closable passage through a wall 1, which passage is adapted to be passed by a conveyor system.

This conveyor system consists of a conveyor track 2, which in the embodiment shown by way of example is formed by two rails, along which two conveyor elements, such

as conveyor receptacles (not shown) may be moved forward. In the embodiment shown in the drawing the conveyor elements are suspended from the conveyor track 2, but as an alternative it is also possible that the conveyor elements are supported on the conveyor track 2.

The wall 1 is provided with a rectangular passage opening 3, which may be closed and released respectively by a closing panel 4, which is also rectangular, for which purpose this closing panel 4 may be pivoted between a closed and a release position.

On both sides of the passage a first conveyor track stretch 2' and a second conveyor track stretch 2'' are stationary suspended from a carrier construction 6 by means of clips 5.

A conveyor track portion 2''' is fixedly connected to the closing panel 4 in order to be able to bridge the distance between the two conveyor track stretches 2', 2'' in the release position of the closing panel 4.

As appears upon comparison of figs. 2 and 3, upon a displacement of the closing panel 4 from the closed position (fig. 3) to the relase position (fig. 2), this conveyor track portion 2''' moving with the closing panel 4, comes in a position wherein this conveyor track portion 2''' extends through the passage opening 3 and interconnects the two conveyor track stretches 2' and 2''.

Although in the closed position of the closing panel 4 (fig. 3) of course the conveyor track 2 is interrupted, this conveyor track 2 automatically extends through the passage in the manner as shown in fig. 2 in the release position of the closing panel 4.

In order to construct the closable passage in such manner, that the same in case of fire may resist the flames, the closing panel 4 is composed of a plate metal incasement 4' open at one side and a filler 4'' of fire resisting material received therein.

Further a framework 8 composed of metal angle sections is mounted on the wall 1, which framework surrounds the passage opening 3, a framing 9 of fire resisting material, which is exactly aligned with the passage opening 3 (figs.

2 and 3), being connected thereto.

The closing panel 4 carries two lugs 10, wherein pivot pins 11 are mounted, which extend through the framing 9 of fire resisting material and which are journalled in the framework 8.

The pivot axis 7 of the closing panel 4, which is perpendicular to the direction of the conveyor track 1, does not extend along the centre of the closing panel 4, but is displaced to one side thereof. In this way a large free passage is obtained in the release position of the closing panel 4.

The actuating mechanism (not shown) for the closing panel 4 may engage one of the two pivot pins 11. A servo-motor may be used as the actuating mechanism. When the closing panel 4 usually has to occupy the closed position, this closing panel 4 may be executed with one or more counter weights, which immediately return the closing panel 4 to the closing position upon switching off of the servo-motor. However, when the closing panel 4 usually has to occupy the release position, a holding magnet, a fuse wire or the like may be applied, which maintains the closing panel 4 in the opened position, while the pivotal movement of the closing panel 4 may again be carried out by a servo-motor.

In the embodiment shown by way of example the lower stepped portion 9' of the framing, which is parallel to the pivot axis 7 of the closing panel 4, as well as the two upstanding portions 9'' of the framing, which are stepped as well, form stops for the closing panel 4 in the opened position.

Furthermore, the lower portion 9' of the framing is provided with passage slots 12 for the conveyor track 2.

The upper portion 9''' of the framing carries a cap 13, which comprises a filler 14 of fire resisting material joining the upper portion 9''' of the framing of fire resisting material and also functioning as a stop for the closing panel 4 in the closed position of the closing panel 4.

In the opened position of the closing panel 4 this closing panel 4 engages a stop 15, which is connected to the

carrier construction 6 for the conveyor track 2.

According to the invention a closable passage is provided, wherein, upon displacement of the closing panel 4 between the closed position and the release position and vice versa, the conveyor track portion 2''', which is connected to the closing panel 4, is automatically displaced as well. In this way a particular simple construction is obtained.

Although in the embodiment shown by way of example the closing panel 4 obtains a pivotal movement, it is also possible to realise the invention with the use of a closing panel 4, which moves in a different way.

Further it is possible that a conveyor element engages the conveyor track portion 2''', while the same is displaced.

Although a closable passage through a wall 1 is shown and described in the embodiment given by way of example, of course this passage may also be made through a floor.

The invention is not restricted to the embodiment shown in the drawing by way of example, which may be varied in several ways within the scope of the invention.

Claims:

1. Closable passage through a wall or a floor, adapted to be passed by a conveyor system, comprising a conveyor track, as well as conveyor elements, such as conveyor receptacles, movable along this conveyor track, wherein the wall or the floor is provided with a passage opening, which is closable by a closing panel, which may be reciprocated between a closed position and a release position, while a conveyor track portion is displaceable between two positions and extends in one of these positions through the passage opening released by the closing panel, c h a r a c t e r i z e d in that the displaceable conveyor track portion is fixedly connected to the closing panel and upon displacement of the closing panel to the release position arrives in its position, wherein this conveyor track portion extends through the passage opening.

2. Closable passage according to claim 1, c h a r a c t e r i z e d in that the closing panel may pivot about an axis, which is perpendicular to the direction of the conveyor track.

3. Closable passage according to claim 1 or 2, c h a r a c t e r i z e d in that the end positions of the closing panel are defined by stops.

4. Closable passage according to any one of the preceding claims, c h a r a c t e r i z e d in that the closing panel at least partly consists of fire resisting material, while the passage opening is provided with a framing made of fire resisting material, with which the closing panel is in sealing engagement in the closed position.

5. Closable passage according to claim 4, c h a r a c t e r i z e d in that a framework composed of sections is mounted on the wall or the floor and surrounds the passage opening, while the framing of fire resisting material is connected to this framework.

6. Closable passage according to claim 5, c h a r a c t e r i z e d in that one of the two framing portions extending parallel to the pivot axis of the closing panel, as well as the two framing portions perpendicular to the aforementioned framing portions form stops for the closing

panel in the closed position.

7. Closable passage according to claim 6, c h a r a c t e r i z e d in that the framing portion opposite the first mentioned framing portion carries a cap, which is made of fire resisting material, also acting as a stop for the closing panel in the closed position.

8. Closable passage according to claim 6 or 7, c h a r a c t e r i z e d in that one or more passage slots for the conveyor track are formed in the first mentioned framing portion.

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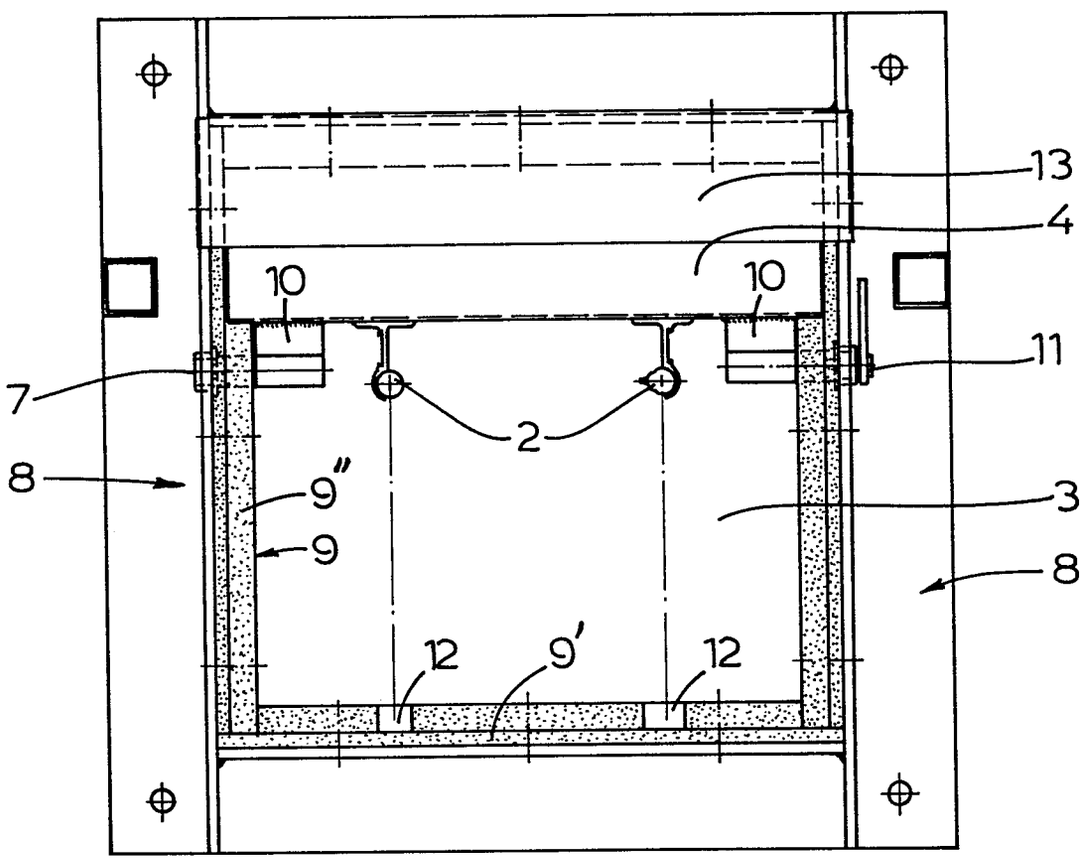

fig.1

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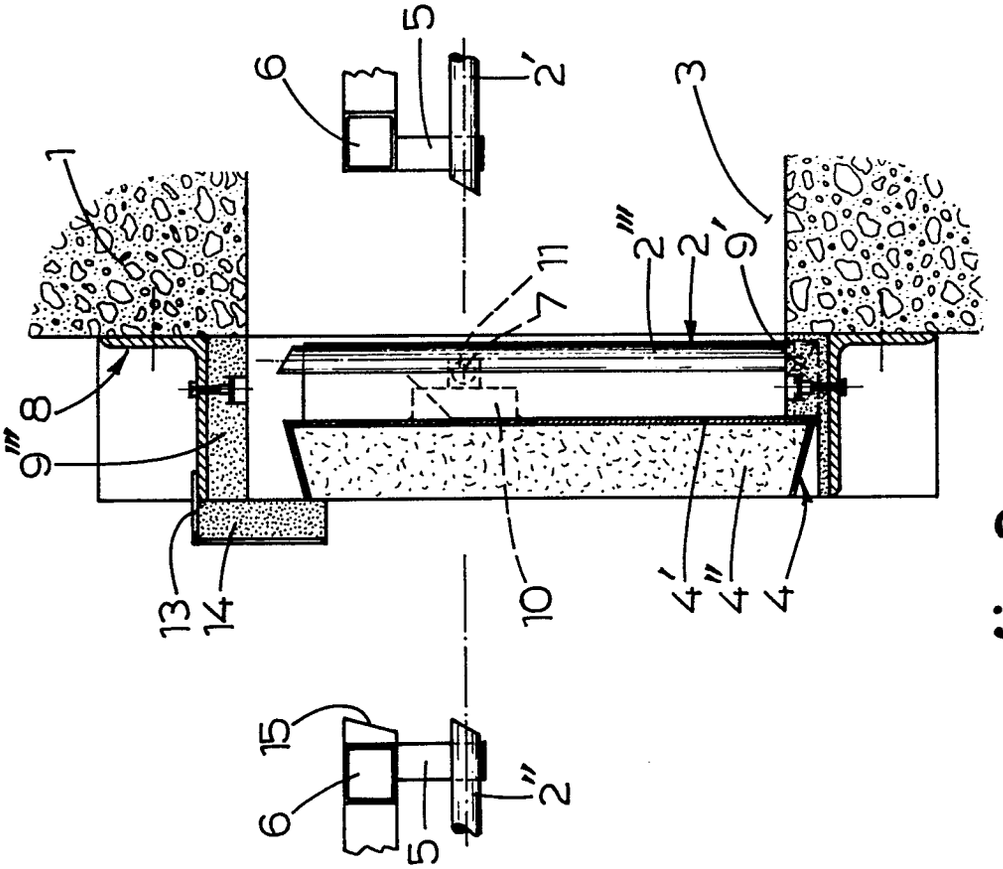

fig.3

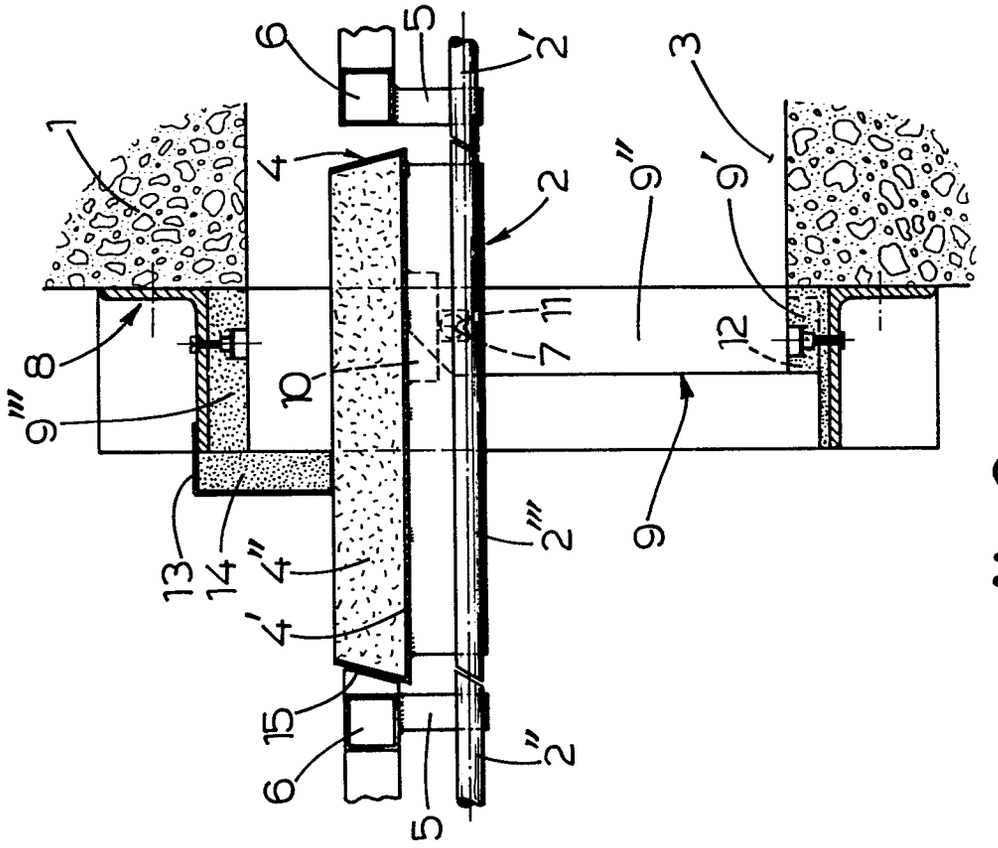

fig.2

European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 82 20 0906

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
E	DE-A-3 005 234 (I.P.U. LTD.) * pages 8 to 11; figure 5 *	1-8	A 62 C 3/14
A	DE-A-2 922 650 (I.P.U. LTD.) * pages 10 to 14; figures 1 to 5 *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

A 62 C
B 65 G
F 16 L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21-10-1982	WOHLRAPP R.G.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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