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71 Applicant: **Huber, Jacob Robert Alfred**
Ambachtstraat 4
Edam(NL)

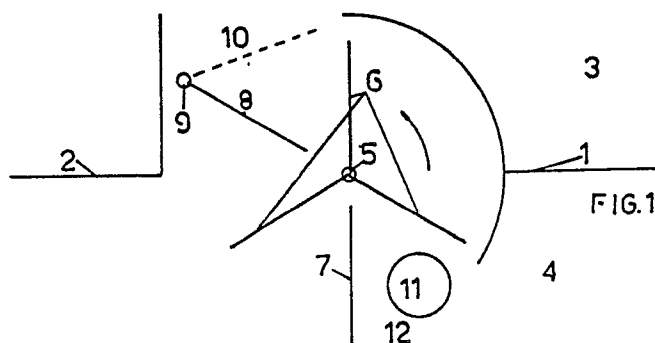
Applicant: **Huber, Erik Jan**
Ambachtstraat 4
Edam(NL)

72 Inventor: **Huber, Jacob Robert Alfred**
Ambachtstraat 4
Edam(NL)
Inventor: **Huber, Erik Jan**
Ambachtstraat 4
Edam(NL)

74 Representative: **Koomen, Jan, Ir.**
Kennemerstraatweg 35-37
NL-1814 GB Alkmaar(NL)

54 **Apparatus for entrance control, more in particular for sporting events, such as football matches.**

57 A revolving-door with a number of partitions, fixed onto a central rotating axis (5), which in pairs enclose compartments and which may be entered or vacated through an entrance (12) or an exit (10), while means (8) are present with which at the place of the exit, the exit of an unauthorized passer may be prevented under the control of a presence-signal, which may be derived from a sensor and by which the presence of a passer in a compartment may be detected, and of an authorization-signal, which may be derived from a signal-generator, placed nearby or within a compartment and to be controlled by the passer.



Apparatus for entrance control, more in particular for sporting events such as football-matches.

The invention relates to an apparatus for entrance control, more in particular for sporting events such as football-matches.

Before the beginning of a football-match, the sports-ground such as for instance a stadium in which the match will take place, is filled with spectators in a relatively short period of time. These spectators have to be checked for their entrance-authorization, such as tickets of admission.

In a known method, the stream of spectators is to that end guided through a passage, and through which the spectators may pass one by one, while further at the exit of the passage or at the entrance of the passage ticket-inspectors are present, who inspect the tickets, make them invalid or just take them in.

This method of entrance-control is relatively long-winded, while at the same time it is very well possible that, possibly with the cooperation of a ticket-inspector, a spectator may pass unauthorized and thus witness the match to be played in the stadium.

The invention aims to obviate these drawbacks of the known method for entrance-control and to that end provides for an apparatus for this entrance-control, characterized in that, this is formed by a revolving-door, which is provided with a number of partitions, fixed onto a central rotating axis, which in pairs enclose compartments and which may be entered through an entrance and vacated through an exit, while means are present by which the exit by an unauthorized spectator may be prevented by the control of a presence-signal, which is derived from a sensor or detection-apparatus, by which the presence of a passer in a compartment may be established and of a authorization-signal, which may be derived from a signal-generator, placed within the compartment and to be controlled by the passer.

By applying the invented apparatus the checking by ticket-inspectors of the stream of spectators has become superfluous.

When a spectator wishes to pass the entrance-control-apparatus, his entering the compartment of the revolving-door causes a presence-signal being emitted while by the spectator himself an authorization-signal may be produced, which may be derived from a signal-generator carried with him, or by the insertion of for instance a ticket of admission into a ticket-machine.

The ticket-machine to that end may be placed near the entrance of the revolving-door or in a compartment to be occupied by the spectator.

The means by which the exit of an unauthorized passer may be prevented at the exit, may be of

variously shaped.

In a suitable embodiment of the entrance-control-apparatus according to the invention, the means are formed by a gate or door which is movable and more in particular rotatable, between an open end and a closed position.

Controlling the means by the combination of the presence-signal and the authorization-signal may take place in two different ways.

So it is possible, that the means, such as the gate or the door which are normally in the closed position, are brought into the open position by the arrival of an authorized passer and by whom the presence-signal as well as the authorization-signal is produced.

In this embodiment of the entrance-control-apparatus, the gate or door would constantly, by the arrival of a compartment taken by a passer, be opened and to be closed again thereupon.

In a favourable embodiment of the apparatus according to the invention, the open position of the gate or door is the position of rest from which, with the lacking of an authorization-signal for an occupied compartment, the gate or door at the arrival and passage of this compartment at the exit, is brought into a closed position adjacent to the course of movement of the compartments, such, that only the compartment with the unauthorized passer at the arrival and passage of the exit is closed off and the authorized passers of the other compartments may leave the compartments undisturbed at arrival at the exit.

In this favourable embodiment of the entrance-control-apparatus according to the invention, a constant stream of spectators will be able to pass the apparatus constantly, while at the same time the accidental unauthorized spectator is led back to the entrance side of the apparatus by the closing off at the exit the compartment occupied by him.

According to a feature of the invented apparatus, a gate is placed at the entrance side, radially extending and completely or partly present in the course of movement of the partitions, and which forms a partition between the entrance to the compartments and an exit from the compartments by the unauthorized passers.

The partitions fixed onto the central rotating axis of the apparatus, such as gate parts, and a gate are, according to a feature of the apparatus according to the invention formed by arrays of bars, extending horizontally and protruding sideways from the rotating axes or a column, and in which the bars of a gate are movable between and through the bars of the partitions.

The invention will now be explained more

closely by way of example with reference to the drawing of an embodiment.

Fig. 1, Fig. 2 and Fig. 3 are schematic figures of the entrance-control-apparatus and show the passing through of an authorized person.

Fig. 4, Fig. 5 and Fig. 6 are similar figures of the entrance-control-apparatus and in which an unauthorized person is prevented from passing the apparatus.

Fig. 7 is a figure of a gate and a gate-shaped partition, which may move through one another.

As shown in the drawing, the apparatus is placed in between the partition 1, 2, for example a sports-ground 3 and the public road 4, and is formed by a revolving-door, in which three gate-shaped partitions 6 are mounted onto the central rotating axis 5, and which in pairs enclose compartments.

Further a fixed gate 7 is placed and a gate 8 is present which is rotatable around the rotating axis 9.

As shown in Fig. 7, the gates 7 and 8 and the gate-shaped partitions 6 are formed by arrays of tubes, extending horizontally, and on the one side fixed to a support such as a rotating axis or a column, or on the other side free ending, such, that the tubes of the partitions 6 may pass between the tubes of the gates 7 and 8.

As shown in Fig. 1, Fig. 2, Fig. 3 and Fig. 4, the gate 9 is in its open or rest-position, turned towards the central rotating axis 5 and in which the compartments may be vacated at the exit, while the gate 9 in Fig. 5 and Fig. 6 is rotated towards the closing position, in which the exit is closed off.

When, as shown in Fig. 1, Fig. 2 and Fig. 3, an authorized person 11 steps through the entrance 12 into the compartment and this turns towards the exit 10, as shown in Fig. 2 and Fig. 3, in which the gate 8 remains in the open position of rest, the compartment 13 may be vacated through the open exit 10 to the sports-ground or stadium.

When however, as shown in Fig. 4, Fig. 5 and Fig. 6, an unauthorized person 11 steps into a compartment 13 through the entrance 12 and subsequently moves within this compartment 13 towards the exit 10, at the arrival at the exit 10 of the compartment 13 with the unauthorized person 12 in it, the exit 10 is closed off by rotation of the rotating gate 8 towards the closing position, causing the unauthorized person to be unable to vacate the compartment 13 occupied by him, until the compartment 13 has reached again the entrance side on the public road 4, and there is forced, by the presence of the fixed gate 7 to vacate the compartment occupied by him.

After passing the exit 10 of a compartment occupied unauthorized, the rotating gate 8 returns

in the open position of rest, and in which authorized passers are guided from the entrance 12 located at the public road 4 to the exit 10, and by arriving there may vacate the compartment occupied by them through the exit 10 to the sports-ground or stadium.

Thus solely the compartments are closed off in front of the exit 10, which are taken by unauthorized persons, while authorized persons may pass in a constant stream through the constantly rotating revolving-door undisturbed.

When a passer steps into a compartment, a presence-signal is distributed in a known manner.

The authorization-signal belonging to it, causing the authorized person to be able to pass through the apparatus undisturbed from the entrance 12 to the exit 10, may be called up by the passer, by for instance insertion of a ticket into a ticket-machine (not shown in the drawing).

Except for the embodiment of the application of the invented apparatus for entrance-control for sporting events given by way of example, the apparatus may also be used for any other form of entrance-control.

Claims

1. Apparatus for entrance-control, more in particular for sporting events, such as football matches, characterized in that it comprises a revolving door, provided with a number of partitions fixed onto a central rotating axis, which in pairs enclose compartments and which may be entered or vacated through an entrance or exit, while means are present by which the vacating of a compartment by an unauthorized passer at the exit may be prevented under control of a presence-signal, derived from a sensor, and by which the presence of a passer in a compartment may be detected, and of an authorization-signal, which may be derived from a signal-generator to be controlled by the passer, and located near the entrance or within a compartment.

2. Apparatus according to claim 1, characterized in that the means are formed by a gate or door, which is movable to and fro and more in particular between an open and a closed position rotatable.

3. Apparatus according to claim 2, characterized in that the open position is the position of rest of the gate or door, from which, at the lacking of an authorization-signal for an occupied compartment the gate or door, at the arrival and passage of this compartment, is brought back into a closing position at the exit, adjacent to the course of movement of the compartments, in such a way, that only the compartment taken by the unauthorized passer is

closed off at arrival and passage of the exit and the unauthorized passer is led back to the entrance side, while the authorized passers of the other compartments may leave the compartments undisturbed at arrival at the exit.

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4. Apparatus according to one of the preceding claims, characterized in that at the entrance side a gate is placed, extending radially and being completely or partly in the path of movement of the partitions, and which forms a partition between the entrance to the compartments and an exit from the compartments by the unauthorized passers.

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5. Apparatus according to one of the preceding claims, characterized in that the partitions fixed onto the central rotating axis and a gate are formed by arrays of bars extending horizontally and protruding sideways from the rotating axes or a column, the bars of the gate being movable through between the bars of the partitions.

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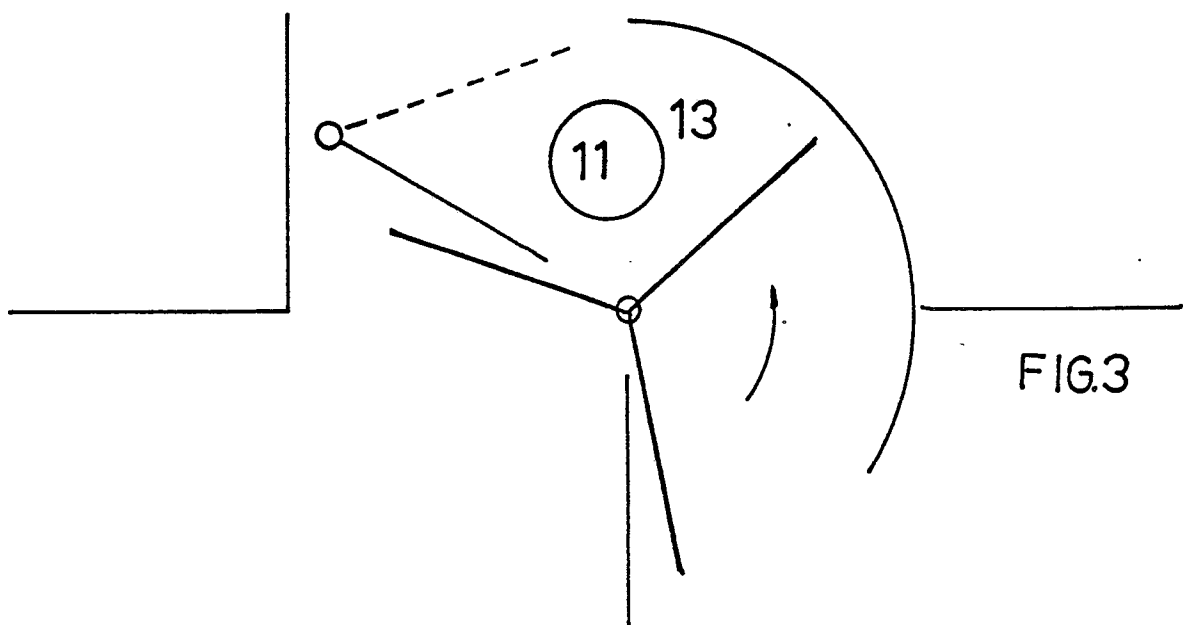
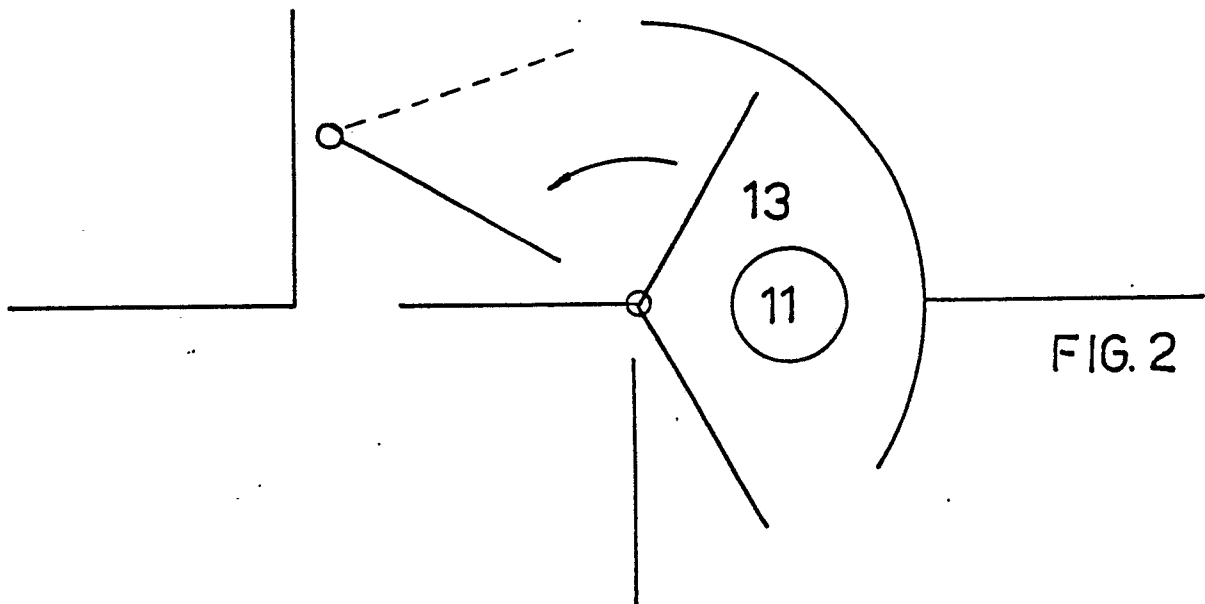
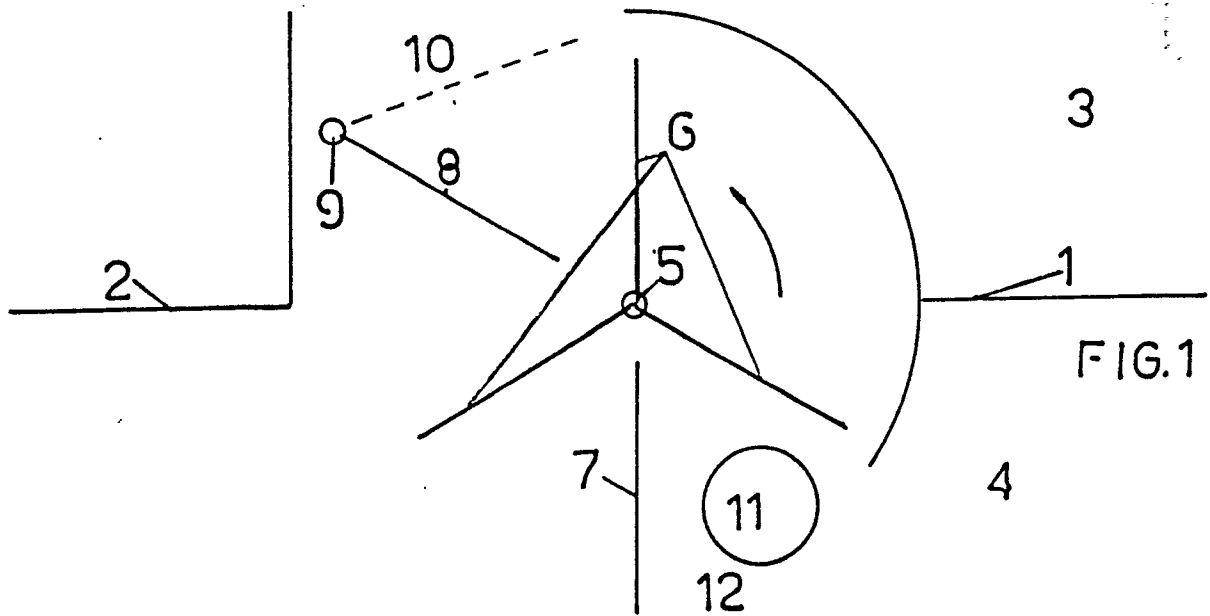
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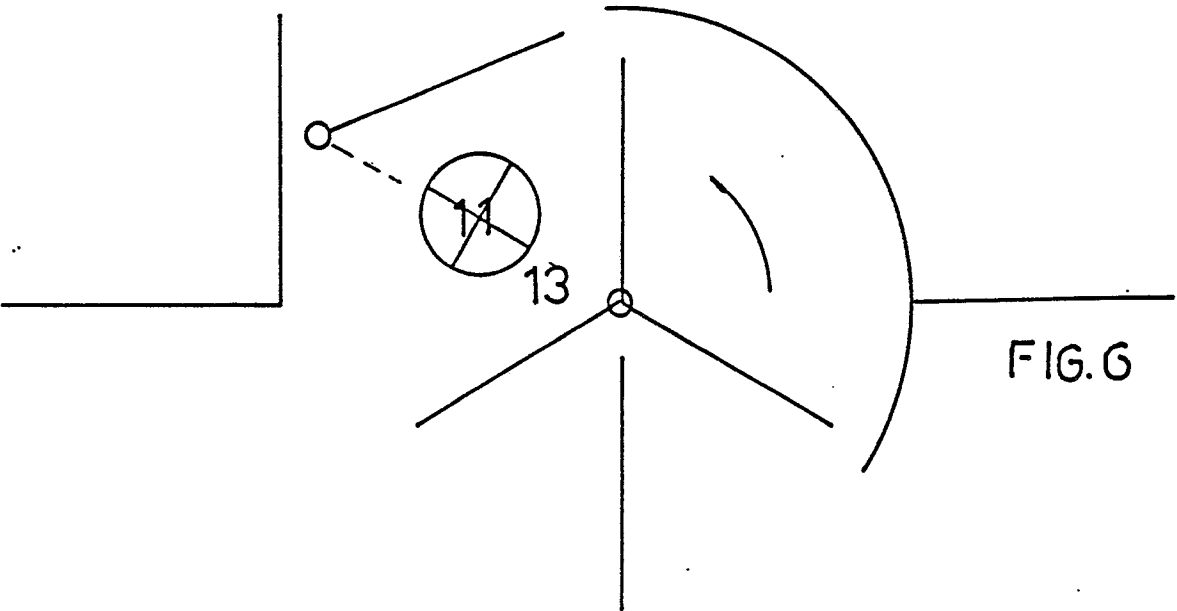
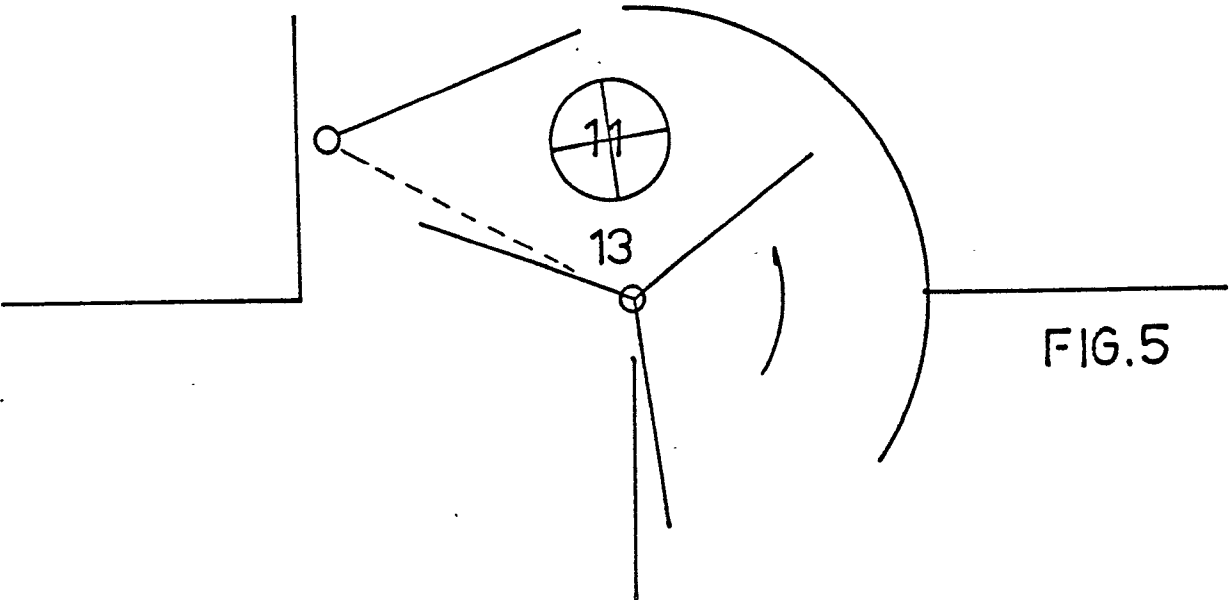
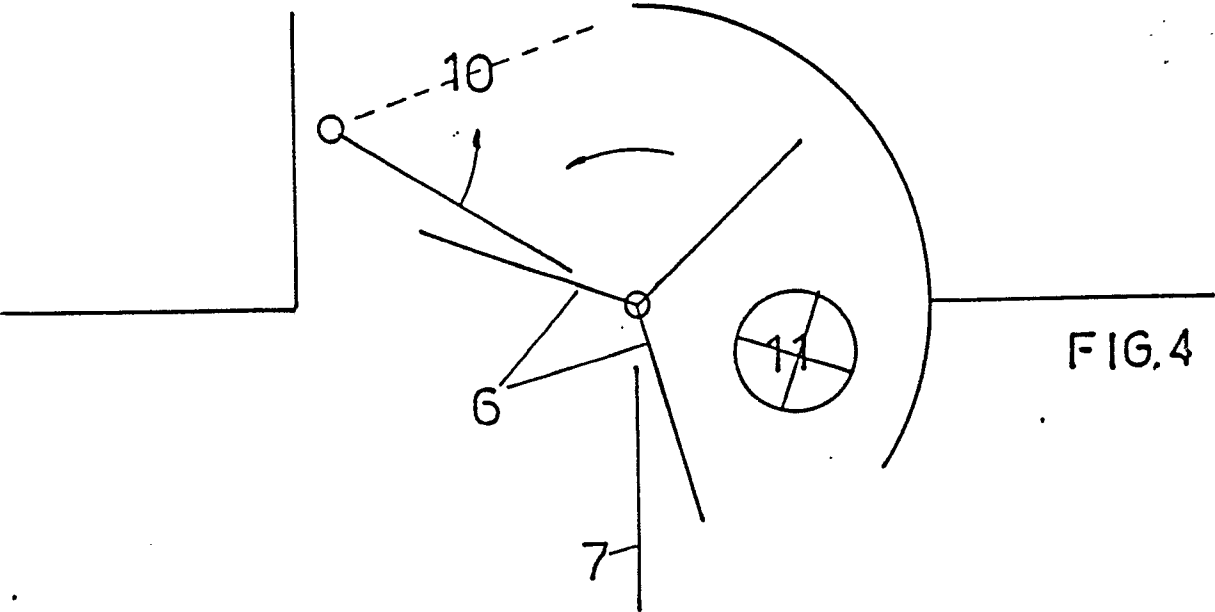
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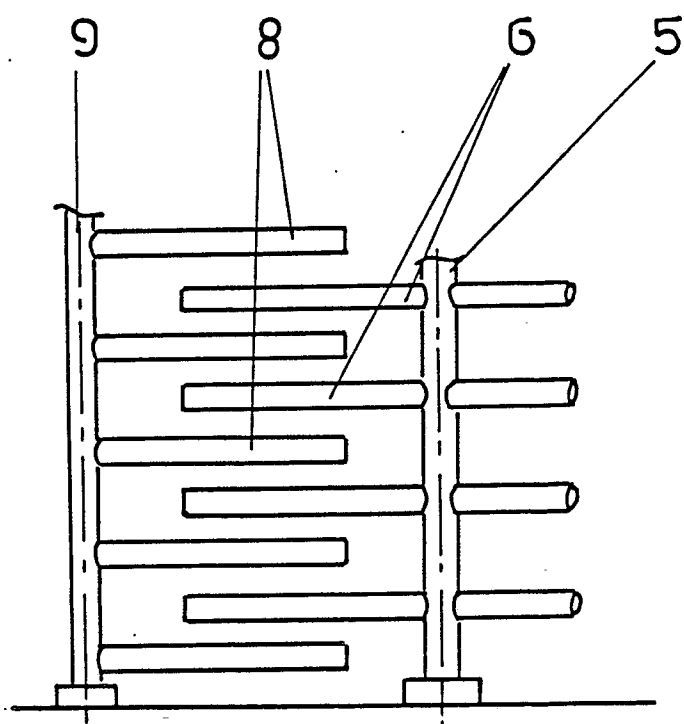


FIG. 7



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.5)
Y	DE-B-2 427 359 (S. LAGARRIGUE) * Col. 3, l. 39 - col. 4, l. 30; f. 1 *	1-3	E 06 B 11/08
Y	EP-A-0 259 522 (BOON EDAM B.V.) * Claim 1 *	1-3	
A	FR-A-2 262 355 (A. DEGAIE) * P. 1, l. 12-33; p. 1, l. 35 - p. 2, l. 5; f. 2 *	1,2	
A	DE-A-2 631 211 (METALLBAU SERIOT) * P. 3,4; f. 1,2 *	5	
A	DE-A-2 004 165 (COMPAGNIE DES COMPTEURS) -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E 06 B E 05 G G 07 F G 07 B G 07 C
Place of search		Date of completion of the search	Examiner
THE HAGUE		12-01-1990	VERVEER D.
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			