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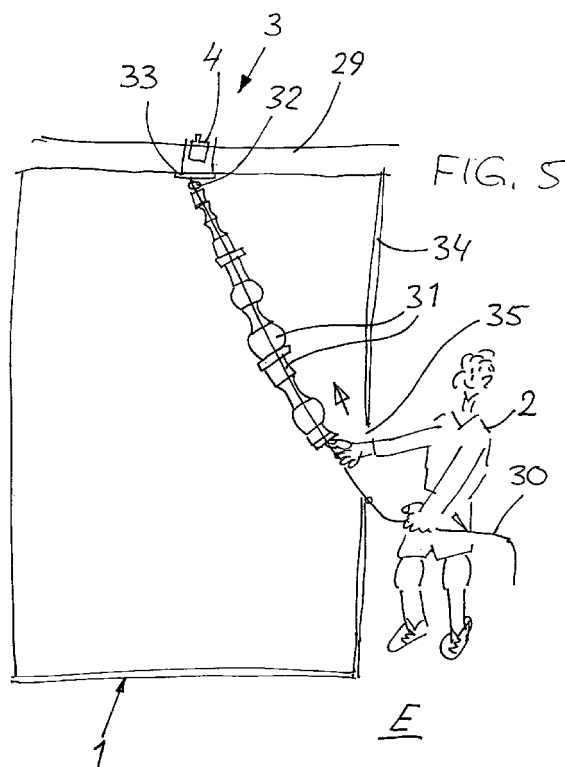
(54) **Control device for solution of tasks**

(57) The invention relates to an arrangement for areas (1) in which means for actuation by persons (2) in a certain way in order to solve a number of problems (E).

A control device (3) incorporated in the aforementioned means for achieving automatic control of the solution of the problems comprises at least one of the following automatically acting control devices:

inductive sensor (4),
capacitive sensor,
magnetic contact,
light relay,
movement detector, and
photocell.

The aforementioned control device (3) is connected to an indicator lamp and a lock for a door in the aforementioned area (1) thereby permitting correct or incorrect to be indicated automatically and the door lock to be unlocked once the right solution has been achieved.



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Description

[0001] The present invention relates to an arrangement in a building in which a number of separate locked rooms is arranged as problem-solving areas, inside which means are arranged for persons to attempt through skill and ability to solve various tasks, which are unfamiliar to the contestant on the circuit in which a number of rooms with doors fitted with locks is present.

[0002] Previously disclosed are various places where skill and ability can be applied to the limit in an attempt to solve various tasks, which may be unfamiliar to the contestant on the circuit, which may be in a locked room, for example, or in another area. Mention may be made of a fort, for example, where the challenge is to find a number of keys after properly performing turns at solving the task, which the contestant has first been allowed to try to fathom out. There are no automatic means present, however, to indicate whether the task has been solved successfully or unsuccessfully, and which causes the door leading to the next room to open or to be opened when the room becomes vacant.

[0003] The principal object of the present invention is thus, in the first instance, to attempt to solve the aforementioned problems by simple but efficiently functioning means.

[0004] The aforementioned object is achieved by means of an arrangement in accordance with the present invention, which is characterized essentially in that automatic means are provided which are so arranged as to indicate whether the task has been solved successfully or unsuccessfully in the room in question, which means are connected to the door lock in question and are so arranged as to cause the door leading to the next room in the circuit to be unlocked or to become unlocked when the next room becomes vacant, after the task has been solved, in conjunction with which the aforementioned means comprise at least one of the following automatically acting control devices:

inductive sensor,
capacitive sensor,
magnetic contact,
light relay,
movement detector, and
photocell.

[0005] An extremely important difference, which is unique in this game variant, is that tasks must be completed before proceeding; i.e. if the problem/task in the room is not completed, the contestant will not be allowed to proceed but must leave via the emergency exit and start again from the beginning. This way of organizing the game gives an entirely different function to the game. American patents 5,762,503 and 5,393,074 are more concerned with rushing through the game and collecting points or with following instructions

and performing difficult tasks, when what needs to be done is clear to the contestants at all times. This is like comparing chess (where the ability to play is decisive) with a combination of memory and playing involving throwing dice and not landing on the wrong square (where chance and memory are decisive). An even better comparison is to compare known variants of an actual adventure data game and the present variant with an actual mystery adventure data game, for example 'Myst'. A central feature of the present variant is that tasks in rooms must be solved without any instructions and without knowing in advance what one is expected to do, and that one must move forward by trial and error, starting again from the beginning most of the time.

[0006] The present invention is described below as a large number of different illustrative embodiments, in conjunction with which reference is made to the drawings, in which:

Fig. 1 shows an illustrative embodiment which involves examining holes;

Fig. 2 shows an illustrative embodiment in which one works with a magnetic effect, and in which parts of the room are shown from different directions;

Fig. 3 shows an example of the application of a photocell;

Fig. 4 shows an example of the use of a movement detector and an inductive sensor;

Fig. 5 shows an example of the application of an inductive sensor;

Fig. 6 shows an example of the application of a photocell;

Fig. 7 shows an example of the application of a light relay;

Fig. 8 shows an application for movement detectors;

Fig. 9 shows an application for a photocell and a movement detector;

Fig. 10 also shows an application for a photocell;

Fig. 11 shows an application for a magnet; and

Fig. 12 shows different views of a room in which an application for a photocell and pole contacts is used.

[0007] An arrangement intended to be applied in areas 1 in which means of a certain kind are arranged in such a way as to be influenced by persons 2 in a particular fashion in order to solve a number of desired problems A-L correctly has a control device 3 which is included in the aforementioned means in order to provide automatic control of how successfully the problems in question are solved. The aforementioned control device comprises at least one of the following automatically acting control devices; an inductive sensor 4, a capacitive sensor 5, a magnetic control 6, a light relay 7, a movement detector 8 and a photocell 9.

[0008] The aforementioned control device 3 is con-

nected to an indicator lamp 10, 11 and to a lock 12 for a door 13 which leads to the aforementioned space 1, thereby permitting correct or incorrect to be indicated automatically and the door lock to be unlocked once the right solution has been achieved.

[0009] The arrangement is preferably inside a building in which several different rooms 1 are arranged as different problem-solving locations.

[0010] Illustrated in Fig. 1 is an example where a number of capacitive sensors 5 is situated behind a sheet 14, 15 which delimits different holes 16-18 in which the persons 2 in question are required to be present ant to touch the sheet 14, 15 directly in line with a sensor 5.

[0011] In this room, for example, are three large holes 16-18, into which one can crawl. The challenge is to crawl into the right hole. Capacitive sensors are present in one of the holes. The challenge is to find one of these. I.e. to touch the wall where it is located. Kicking or heavy blows will cause a red light to be displayed.

[0012] This room can tempt people to adopt a rough approach, and vibration sensors 19 must accordingly be positioned in the ceiling 20 and walls 21 to cause a red light to be displayed in the event of kicking and heavy blows.

[0013] The use of technology of this kind specifically for the purpose of recording human contact is unique. Positioned between the capacitive sensor 5 and the hand is a sheet of particleboard that is entirely free of holes or similar. A capacitive sensor 5 is normally used to measure fluid levels inside tanks and similar, without the need to make a hole in the tank.

[0014] Illustrated in Fig 3 is a room 1 inside which there is arranged a number of movement detectors 8 so arranged as to sweep above the area 22 in which the persons 2 are required to pass in a labyrinth and, in the event of breaking a beam 23, to indicate transgression, i.e. that the task has not been successfully completed.

[0015] The challenge in this case is to crawl inside a labyrinth that is built with a low height and with movement detectors 8 which sweep above the structure. The contestant encounters letters (or similar) inside the maze, which must be remembered on arriving at the end of the task. On arriving at the end of the task, it is necessary to enter the characters that have been noticed on a board with a series of buttons in order for a green light to be displayed.

[0016] This room is difficult and popular, and several attempts and often a little help in the form of tips are required in order to complete the task successfully. It requires a lot of space and subdued lighting.

[0017] Movement detectors have not previously been used in this way, as a means of checking that the rules of a "game" are being followed.

[0018] Figure 4 illustrates the arrangement in a box 24 of an inductive sensor 25 which, when actuated by a metallic object, is so arranged as to indicate that the task has been solved.

[0019] The challenge in this case is to walk over metal tubes 26 without touching metal plates on the wall 27. The contestant must then move up to the box 24 with the inductive sensor 25 and place a metal object in the middle in order for a green light to be displayed. The movement detector 8 on the return path is intended to prevent the contestant from entering the inductive box by that route, i.e. the wrong way.

[0020] A partition wall 28 is constructed inside the room. A metal structure made of tubes and angle-iron is welded together and then suspended with the help of a steel cable. Metal plates are attached to the sides. Their function is to sense whether the metal structure comes into contact with them. If this is the case, a red light is displayed. This is an example of the application of an inductive sensor in a new area.

[0021] In a further example that is not illustrated here, a movement detector is provided inside a room and is so arranged, in the absence of actuation by movement in the room, as to indicate failure to solve the task.

[0022] The challenge in this case is to move without interruption, for example for one minute. Failure to do so will cause a red light to be displayed.

[0023] This is a highly perplexing room. Here you need clues from previous rooms. For example, the expression "VANU DÅ=60" appears in the room before last, although not as large and visible. In one previous room, for example, it is possible to write "MOVE" in a position that is not readily visible.

[0024] There is nothing to construct here, and the room is empty. The nature of the challenge is simply that there are substantial walls with vibration sensors which cause a red light to be displayed if actuated.

[0025] A movement sensor is used here in the opposite application. It is necessary for the contestant to move in the sensing direction; otherwise, the contestant has failed to meet the challenge and must leave.

[0026] Illustrated in Fig. 5 is the arrangement of an inductive sensor 4 in a ceiling 29 with a rope 30 extending from the aforementioned sensor 4 with a number of movable blocks 31 threaded onto the rope 30, and with a metal ring 32 at the top. The blocks 31 are so arranged as to be caused to be packed together to form a rigid rod, so that the metal ring 32 reaches the sensor 4, which is thereby so arranged as to indicate that the task has been solved correctly.

[0027] The challenge in this case is to stretch the slack rope 30 with the help of the blocks 31 so that it becomes taut. This causes the piece of metal 32 at the top to move up towards a target plate 33 where the inductive sensor 4 is located.

[0028] Clues may be required for this in a previous room.

[0029] A structure in the form of a cage is arranged against a wall 34. The front side has a hole 35, into which the hands can be introduced to perform the task. There must be an inner ceiling, to which the inductive sensor is attached. A hole is drilled in the sheet of parti-

cleboard. The inductive sensor is mounted in this. It is attached to the particleboard on its upper side. Inside this structure is a nylon rope with wooden blocks on the rope, and at the far end is a small piece of metal. The rope is attached to the ceiling with an extra piece of rope, and the other end is secured to the inside of the hole on its lower edge.

[0030] Fig. 6 illustrates how a number of photocell beams 9A from photocells 9 are so arranged as to criss-cross the room and how these are so arranged, in the event of any beam 9A being broken, or in the event of all the beams being broken, as to indicate simultaneously that the task has been solved.

[0031] The challenge in this case is to crawl and climb through the photocell beams 9A without breaking them, or this task can be varied by requiring the contestant to break one or all of the photocell beams simultaneously in order to cause a green light to be displayed. This function can be used if it is wished to have the task in a physically undemanding circuit.

[0032] Meshes are used to protect the photocells 9, so that the guests are unable to gain access to them, and reflectors 36 are built into a frame 37 so that they cannot be removed.

[0033] Fig. 7 illustrates how a light relay 38 is located directly opposite a hole 39 in a box 40, which is covered by a Plexiglass sheet 41 or similar, and which, if completely covered by an object or by parts of the body, is so arranged as to indicate that the task has been correctly solved.

[0034] The challenge in this case is to cover the hole completely, in which the light relay 38 is located.

[0035] The aforementioned box is attached to a wall and must be very stable, since it can be exposed to rough treatment.

[0036] The Plexiglass sheet 41 must be as clear as glass, but with a structure such that it is not possible to see in through it. An incandescent lamp fitting 42 is present above the hole 39. Additional holes 43 without any function may be present to mislead contestants.

[0037] Fig. 8 illustrates the presence of a number of movement detectors 8 in the ceiling in a room, which are so arranged that they sense only a restricted linear area on the floor 44, which is marked out to indicate different areas I, II, III with a number of different colours and/or patterns on them. The areas III which the movement detectors 8 are so arranged as to sense are uniformly coloured, etc.

[0038] The challenge in this case is to pass through a labyrinth of invisible, but sensitive walls. As a help, the floor is painted in three different colours, on two of which it is permissible to move. The third, light grey area is dangerous and shows where the movement detectors in the ceiling have their sensing areas. The contestant moves through the labyrinth as far as a hand in order to cause a green light to be displayed and then continues to the end of the labyrinth and opens the door to the next room. Even when a green light is displayed, it is still

necessary to keep off grey areas until the door has been opened.

[0039] This is a really difficult room to appreciate. Its physical appearance may be varied depending on its dimensions and sensitivity.

[0040] For example, four movement detectors 8 have been placed in the ceiling. These are screened and adjusted so that they cover only a single line on the floor. They are screened so that a labyrinth is formed on the floor. These areas are painted grey, for example. The spaces in between can be painted blue and green, for example. A box 40, for example with a hand on it, is mounted on the wall. Behind the hand is a capacitive sensor which causes a green light to be displayed.

[0041] This is also a new way of using capacitive sensors.

[0042] A suspended, tipping and movably mounted wheel 46 and a number of photocells 9 and movement detectors 8 are arranged in the room illustrated in Fig. 9 to monitor the tipping movements of the wheel and a landing platform 47 and to indicate that the task has not been completed successfully if certain tipping values for the wheel 46 and the bench 47, for example, are exceeded.

[0043] Inside the room 1, one person must move around the wheel 46 on the horizontal bars, while a number of other persons hold the wheel steady to prevent it from moving (this causes a red light to be displayed). The target of moving around the wheel is the box 47. If the contestant approaches too closely to the wall, the box 47 will tip slightly and this will cause a red light to be displayed. A green light is obtained by pressing a button 48 on the wall.

[0044] A movement detector 8 on the wheel 46 is directed downwards and causes a red light to be displayed, while the photocell 9 on the wheel 46 is directed downwards to cause a red light to be displayed in the event of excessive movements of the wheel.

[0045] 49 is a weight to keep the box from tipping backwards. 50 is a hinge attached to the box and to the floor. 51 is a photocell which causes a red light to be displayed when the box tips backwards. 8 is a movement detector on the box 47 and is screened and covers the surrounding floor. 9 is a photocell which causes a red light to be displayed if the wheel 46 is rotated. 52 is a link bearing which permits the wheel 46 to rotate and allows the wheel to tip. 53 are rubber bands, which are tensioned to give the wheel 46 a degree of stability.

[0046] Fig. 10 illustrates how an actuating rod 55 extends across a box 54 and is so arranged, under the effect of a force actuation device 56, as to be capable of movement horizontally or at an angle downwards along a slotted groove 57. A photocell 9 is so arranged as to be capable of sensing the angle of the rod 55 and, in the event of a certain predetermined angle being exceeded, of indicating that the task has not been solved successfully.

[0047] The room contains a wooden box 54 with a rod

55 passing through it. The challenge in this case is to move this down at a uniform speed on both sides. An excessively large angle causes a red light to be displayed. A pull switch 58 causes a green light to be displayed. A shock-absorber 56 provides the appropriate resistance.

[0048] Illustrated in Fig. 11 is a number of magnetic contacts 6 arranged along an irregular track 59 on a board 60, and a moving body 65 capable of being actuated by means of a number of ropes 61-64, which body exhibits a magnet 66, is so arranged as to be caused to move along the track 59 by a number of persons controlling movement of the body by pulling on the ropes 61-64 and, once all the magnetic contacts 6 have been passed, as to indicate that the track has been completed.

[0049] Use is made of a round wooden plate 65, for example, to which four ropes 61-64 are attached. The ropes extend as far as the corners of the square "form" in which the round wooden plate is located. A track, on which the start line and finish line are marked, is painted on the bottom of the "form". The challenge in this case is, with the help of the ropes, to move the wooden plate 65 from the start to the finish via the wooden plates. The whole is covered by a Plexiglas sheet 60.

[0050] Fig. 12 shows two arms 68, 69 pivotally mounted inside a box 67, the respective outer ends of which extend out from the box via openings. One arm 68 exhibits a positive pole 70, and a negative pole contact 71 is arranged inside the box 67. The second arm 69 is mounted at right angles to the aforementioned first arm 68 and exhibits a vertical disc 72 at its inner end. A reflector 73 is arranged inside the box, and a photocell 9 is present on the first arm 68. Contact between the poles 70,71 indicates that the task has been completed successfully, but a reflection of the photocell 9 indicates that the task has not been completed successfully.

[0051] Two levers extend from the box. The levers are mounted on hinges. A photocell is mounted on one of the levers, and a wooden plate on the other. If the levers are moved upwards to their full extent at the same time, this will cause a green light to be displayed; otherwise, the photocells will encounter one of the reflectors on the wall behind, and a red light will be displayed.

[0052] There is a window 74 on the top of the box 67.

[0053] Finally, Fig. 2 shows cubes which are "made" for the display of advertisements. The cubes must be placed in the right order with letters facing in the right direction in order to cause a green light to be displayed.

[0054] In a structure, magnetic contacts are built in on the rear side of the hole that is built in at an angle. It is important to be able to open the structure easily at that point, so that access to the contacts is provided in the event of a fault developing in them. The cubes 77 that are constructed must contain magnets 78. These are positioned so that one side of each cube will fit the correct magnetic contact 6 that is located in various positions on the rear of the hole 75 that is built in at an angle.

This ensures that only one cube fits in "its" place. A net 76 collects the cubes in front of this building.

[0055] The invention is not restricted to the illustrative embodiments described above and illustrated in the drawings, but may be varied within the scope of the Patent Claims without departing from the idea of invention.

Claims

1. Arrangement for a building in which a number of separate locked rooms (1) are arranged as problem-solving areas, and inside which means are arranged for persons to attempt through skill and ability to solve various tasks, which are unfamiliar to the contestant on the circuit in which a number of rooms with doors fitted with locks (12) is present, **characterized in that** automatic means are provided which are so arranged as to indicate whether the task has been solved successfully or unsuccessfully in the room (1) in question, which means are connected to the door lock (12) in question and are so arranged as to cause the door leading to the next room in the circuit to be unlocked or to become unlocked when the next room becomes vacant, after the task has been solved, in conjunction with which the aforementioned means comprise at least one of the following automatically acting control devices:

inductive sensor (4),
capacitive sensor (5),
magnetic contact (6),
light relay (7),
movement detector (8), and
photocell (9).

2. Arrangement in accordance with Patent Claim 1, **characterized in that** a number of capacitive sensors (5) is situated behind a sheet (14, 15) in which the persons (2) in question are required to be present and to touch the sheet (14, 15) directly in line with a sensor (5).

3. Arrangement in accordance with Patent Claim 1, **characterized in that** a number of movement detectors (8) is present in a labyrinth and is so arranged as to sweep above the area in which the persons (2) are required to pass in a labyrinth and, in the event of breaking a beam, to indicate transgression.

4. Arrangement in accordance with Patent Claim 1, **characterized in that** there is arranged in a box (24) an inductive sensor (25) which, when actuated by a metallic object, is so arranged as to indicate that the task has been solved.

5. Arrangement in accordance with Patent Claim 1,

characterized in that a movement detector is provided inside a room and is so arranged, in the absence of actuation by movement, as to indicate failure to solve the task.

6. Arrangement in accordance with Patent Claim 1, **characterized in that** an inductive sensor (4) is arranged in a ceiling (29), and in that a rope (30) extends from the aforementioned sensor (4) with a number of movable blocks (31) threaded onto the rope, and with a metal ring (32) at the top, which blocks are so arranged as to be caused to be packed together so that the metal ring (32) reaches the sensor (4), which is thereby so arranged as to indicate that the task has been solved correctly. 15
7. Arrangement in accordance with Patent Claim 1, **characterized in that** a number of photocell beams (9A) is so arranged as to criss-cross the room, and in that these are so arranged, in the event of any beam (9A) being broken, or in the event of several beams (9A) being broken, as to indicate simultaneously that the task has been solved. 20
8. Arrangement in accordance with Patent Claim 1, **characterized in that** a light relay (38) is located directly opposite a hole (39) covered by a Plexiglass sheet (41) or similar, which, if completely covered, is so arranged as to indicate that the task has been correctly solved. 25 30
9. Arrangement in accordance with Patent Claim 1, **characterized in that** there is present in the ceiling in a room a number of movement detectors (8) so arranged as to sense only a restricted linear area on the floor, in that the floor is marked out to indicate different areas (I-III) with a number of different colours and/or patterns, and in that the areas (III) which the movement detectors (8) are so arranged as to sense are uniformly coloured, etc. 35 40
10. Arrangement in accordance with Patent Claim 1, **characterized in that** a number of photocells (9) and movement detectors (8) is so arranged on a suspended, tipping and movably mounted wheel (46) as to monitor the tipping movements of the wheel and a landing platform (47) and to indicate that the task has not been completed successfully if certain tipping values are exceeded. 45 50
11. Arrangement in accordance with Patent Claim 1, **characterized in that** an actuating rod (55) extends across a box (54) and is so arranged, under the effect of a force actuation device (56), as to be capable of movement along a slotted groove (57), and in that a photocell (9) is so arranged as to be capable of sensing the angle of the rod (55) and, 55

in the event of a certain predetermined angle being exceeded, of indicating that the task has not been solved successfully.

12. Arrangement in accordance with Patent Claim 1, **characterized in that** a number of magnetic contacts (6) is arranged along an irregular track (59) on a board (60), and in that a moving body (65) capable of being actuated by means of a number of ropes (61-64), which body exhibits a magnet (66), is so arranged as to be caused to move along the track (59) and, once all the magnetic contacts (6) have been passed, as to indicate that the track (59) has been completed. 10 15
13. Arrangement in accordance with Patent Claim 1, **characterized in that** two arms (68, 69) pivotally mounted inside a box (67) extend out from the box at their respective outer ends, in that one arm exhibits a positive pole (70) and a photocell (9) inside the box, in that the second arm (69) is mounted at right angles to the aforementioned first arm (68) and exhibits a vertical disc (72) at its inner end, in that a negative pole contact (71) is arranged inside the box (67), and in that a reflector (73) is arranged inside the box (67), whereby contact between the poles (70, 71) indicates that the task has been completed successfully, but a reflection of the photocell (9) indicates that the task has not been completed successfully. 20 25 30

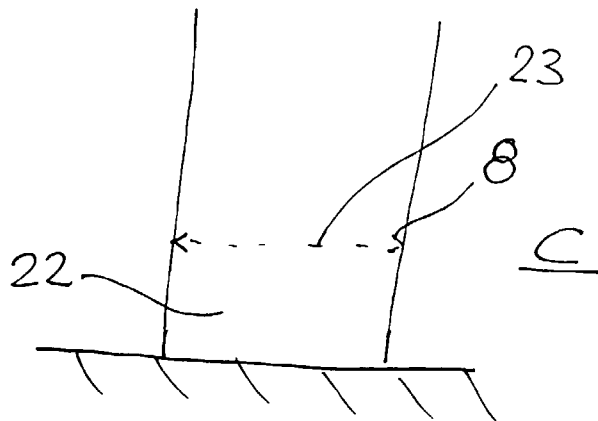


FIG. 3

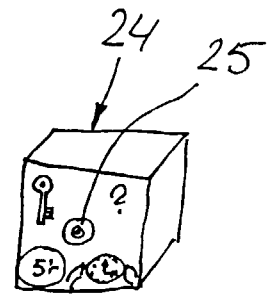
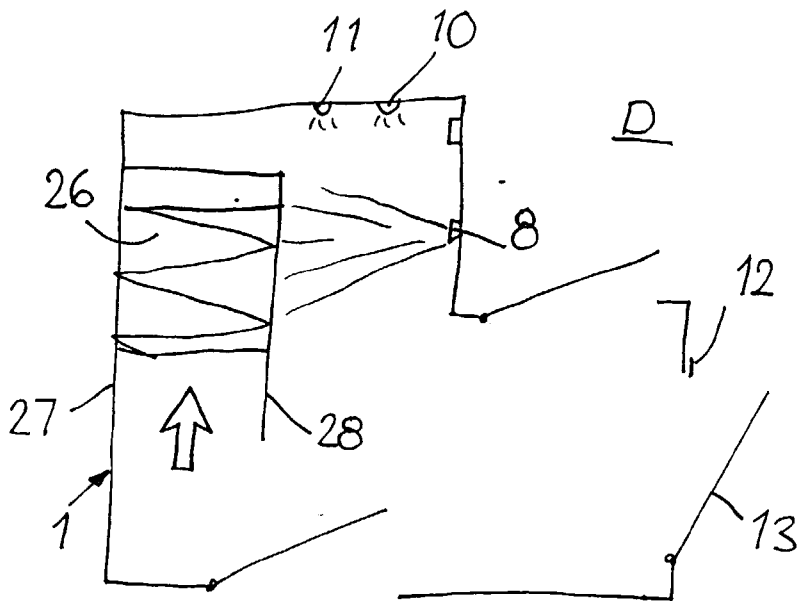
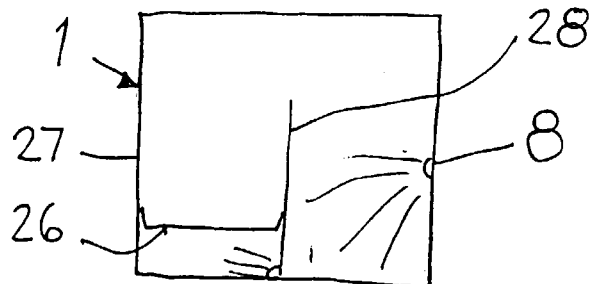


FIG. 4



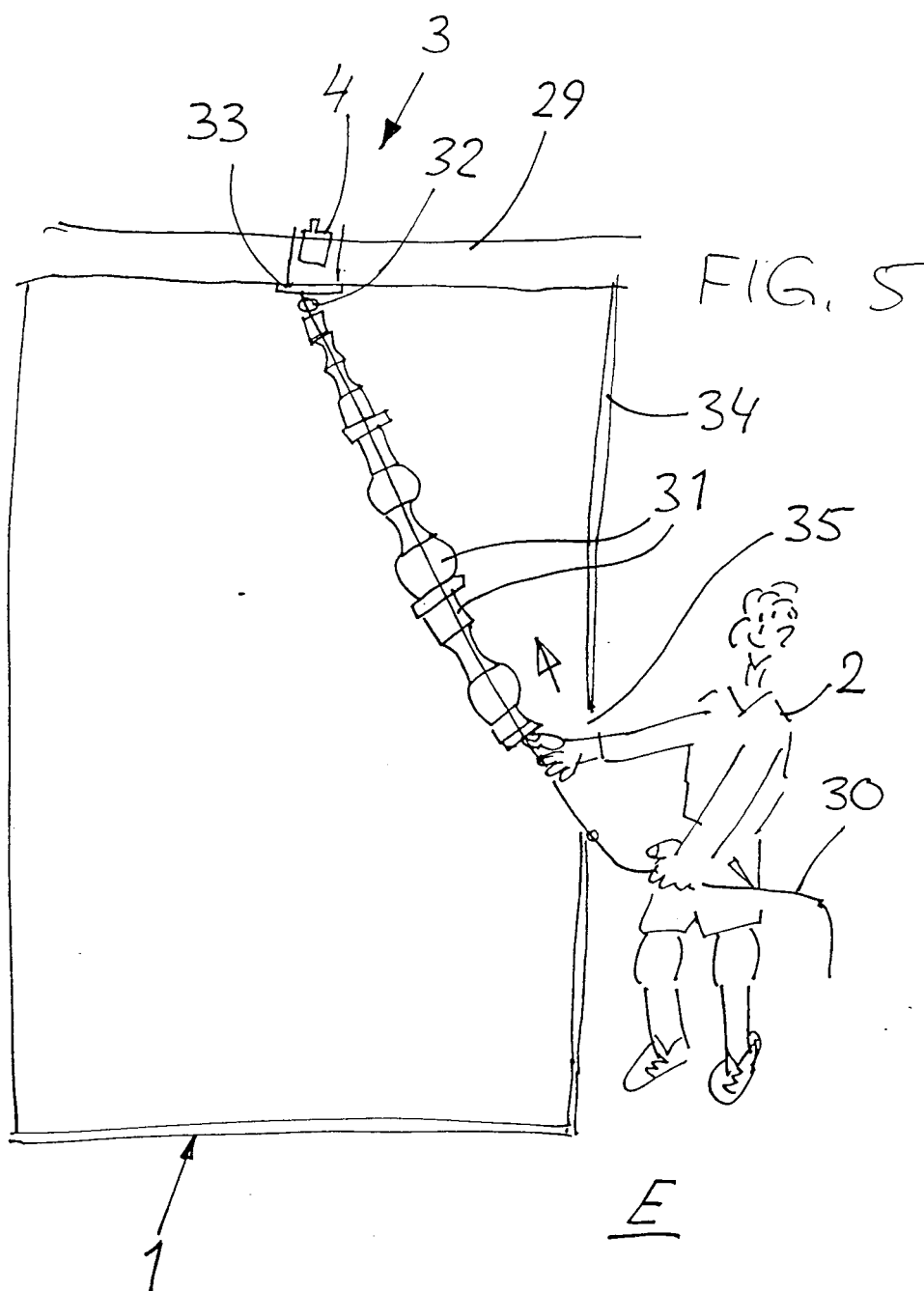


FIG. 6

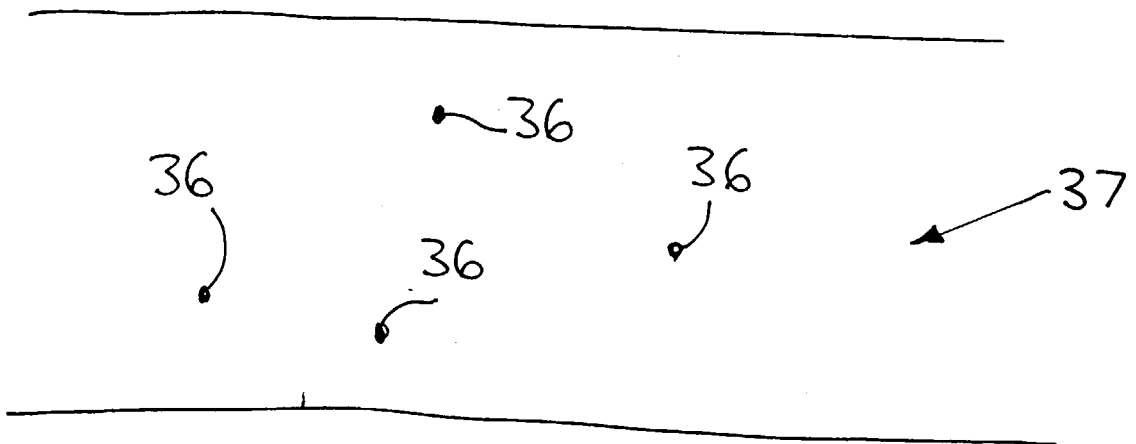
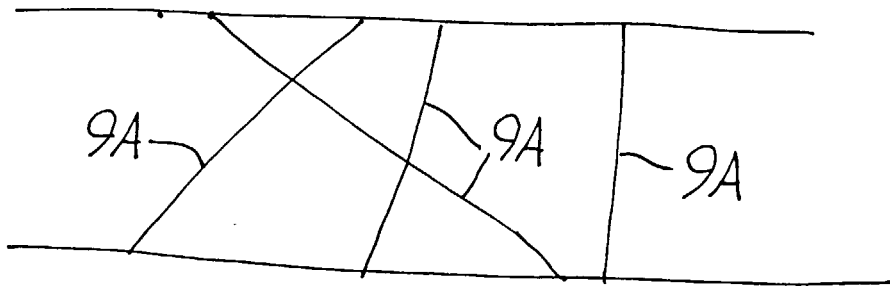
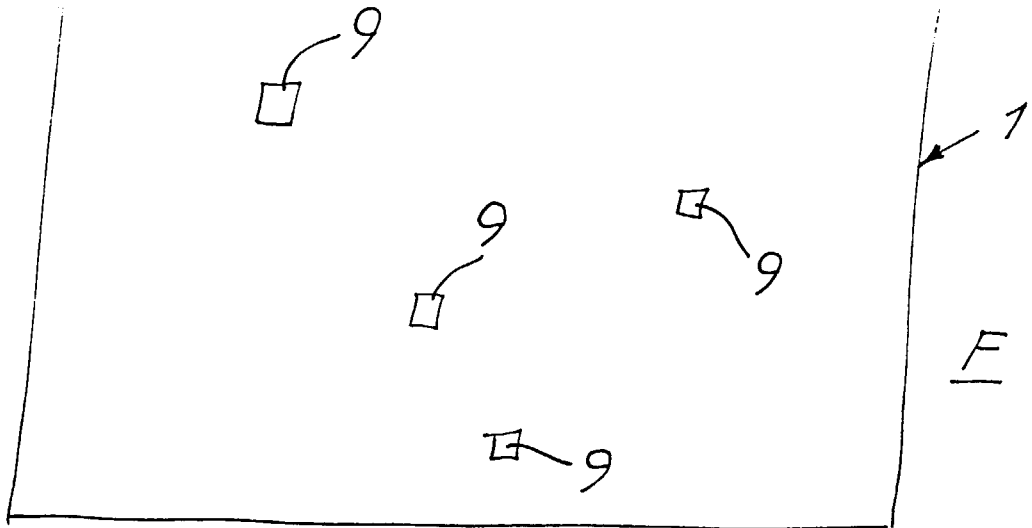
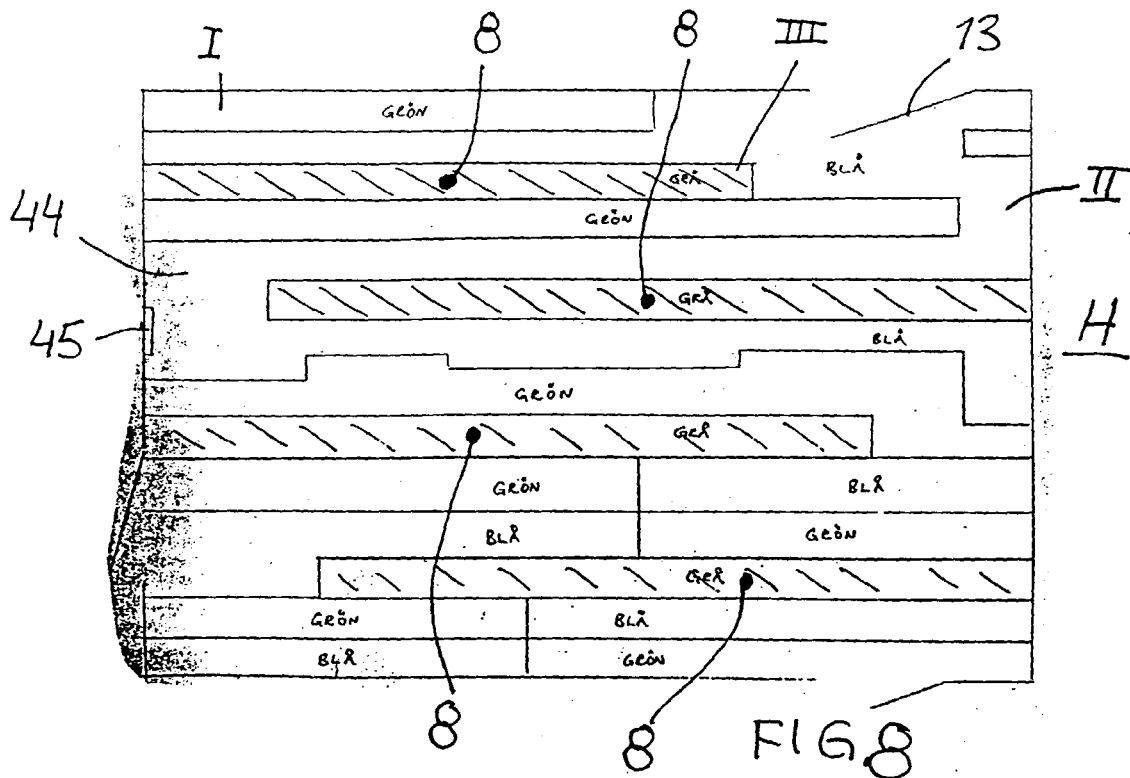
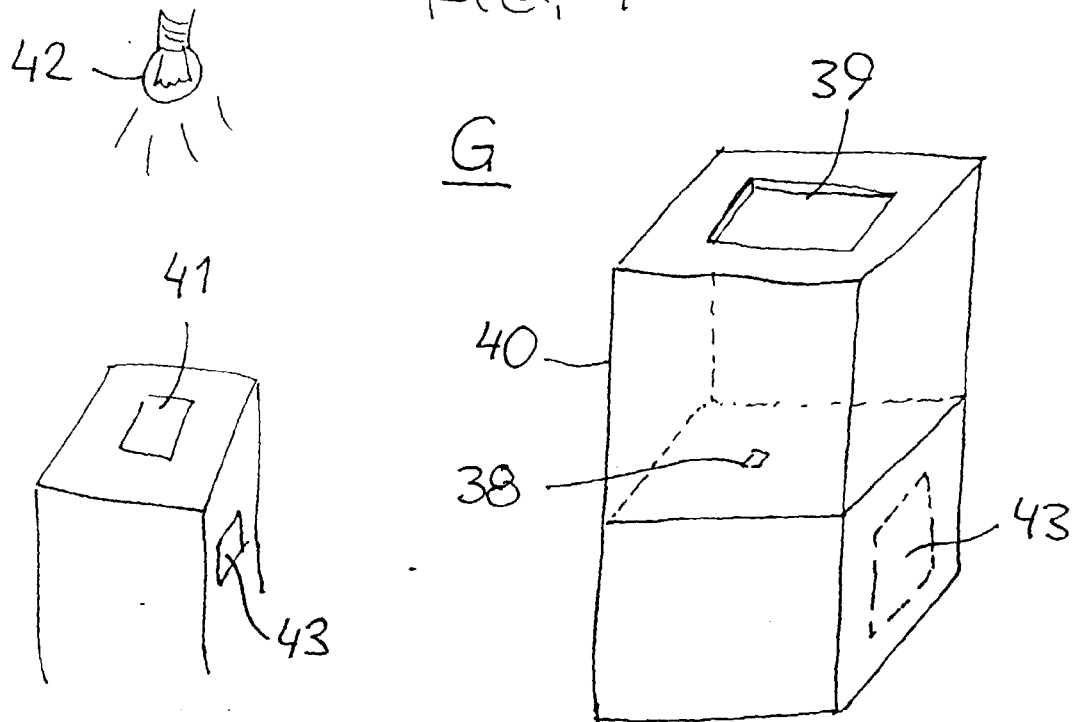


FIG. 7



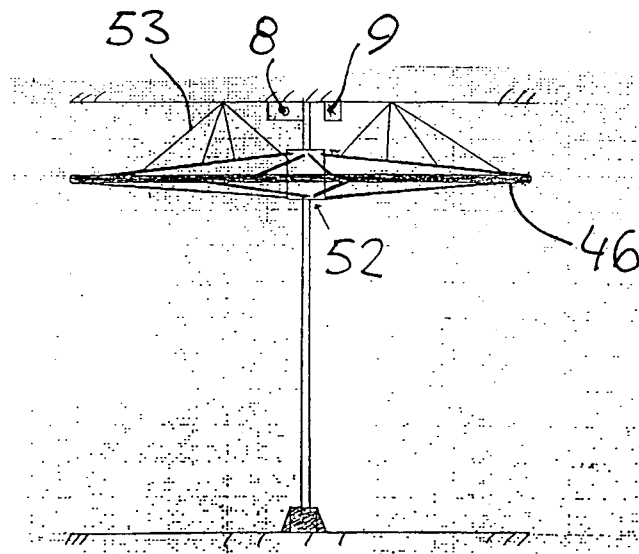
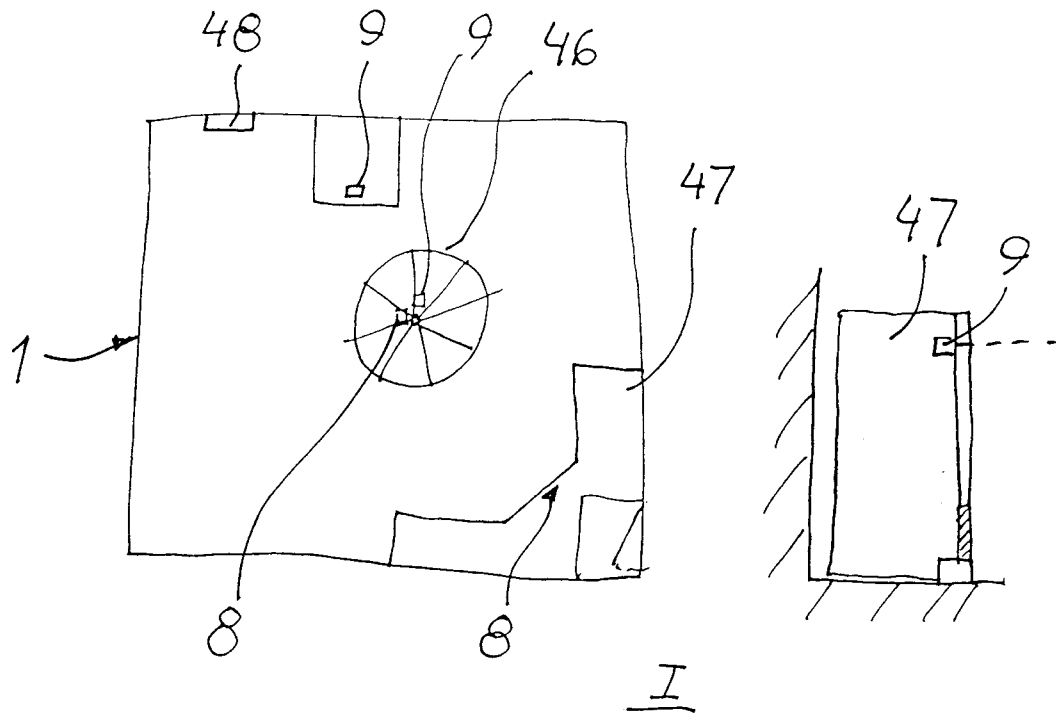


FIG. 9

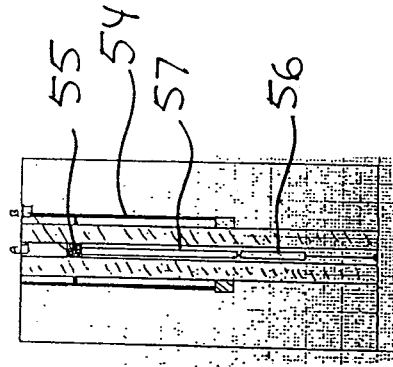
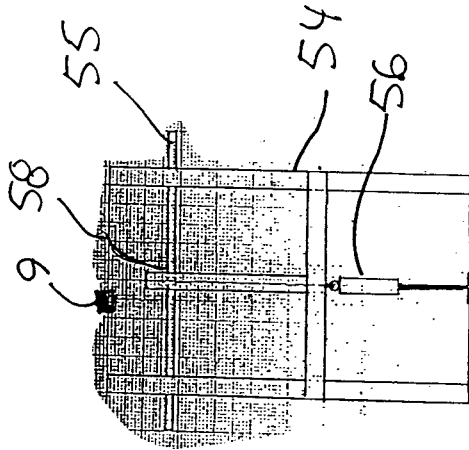


FIG. 10 J

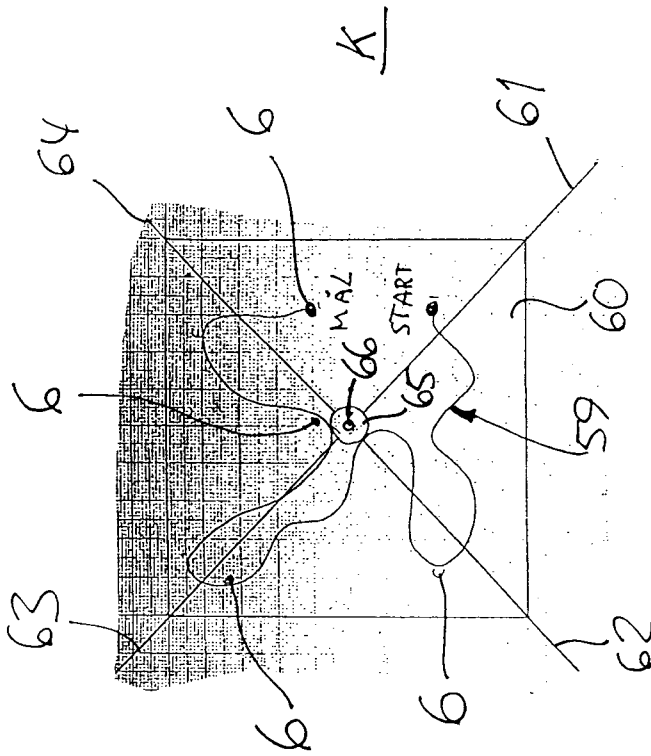
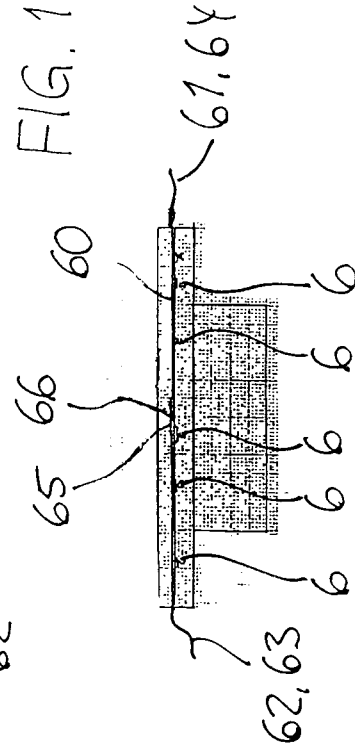


FIG. 11



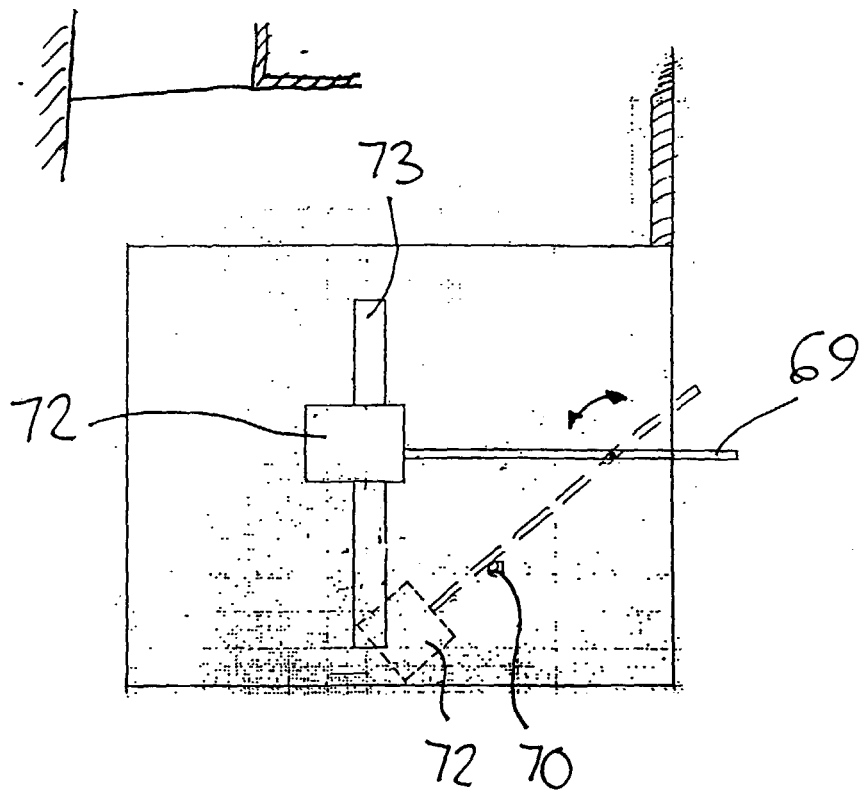
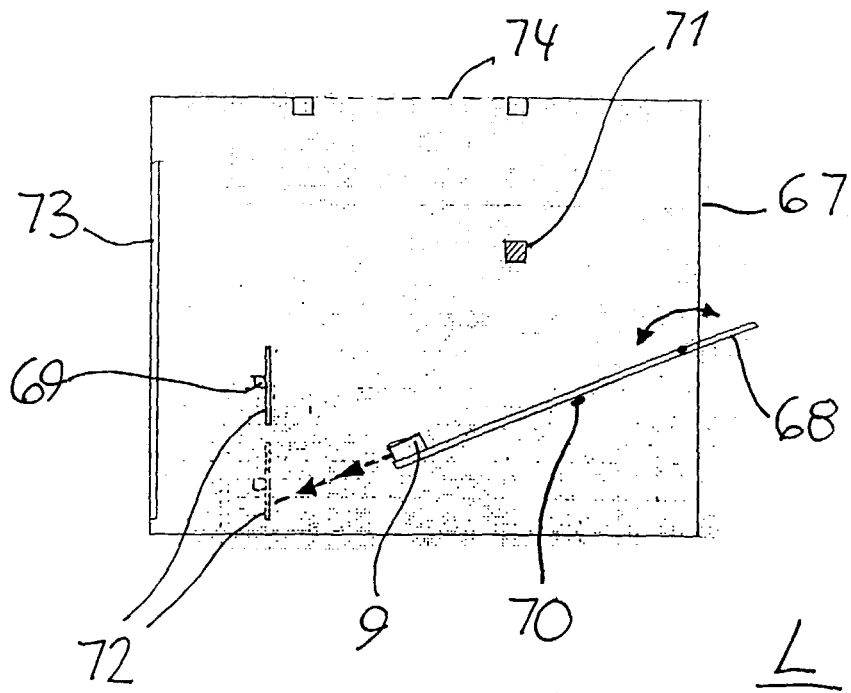


FIG. 12