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

(11) Publication number: **0 105 617**
A2

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **83305109.7**

(51) Int. Cl.³: **A 63 F 7/00**

(22) Date of filing: **02.09.83**

(30) Priority: **04.09.82 GB 8225247**

(43) Date of publication of application:
18.04.84 Bulletin 84/16

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

(71) Applicant: **Thatcher, Irvine Lawrence**
14 Colton road
Shrivenham Swindon Wiltshire(GB)

(72) Inventor: **Thatcher, Irvine Lawrence**
14 Colton road
Shrivenham Swindon Wiltshire(GB)

(74) Representative: **Geering, Keith Edwin et al,**
REDDIE & GROSE 16 Theobalds Road
London WC1X 8PL(GB)

(54) Simulated golf game apparatus.

(57) This invention provides a simulated golf game apparatus comprising a substantially horizontal playing surface (14) having a row of holes therethrough; a pair of laterally spaced inclined rods (24, 26) extending along and above the row from a high end to a low end; means (30) supporting the rods (24,26) at the high end and mounting them (40) at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods (24,26), the holes corresponding to progressively better scores at golf holes in the direction from the low end to the high end of the rods (24,26); means (30) for adjusting the inclination of the rods (24,26) according to the par of the golf hole to be played; and sensing and display (16) means for displaying the par of the golf hole to be played, sensing through which hole in the row a ball has dropped and displaying the players corresponding score for that hole or his aggregate score.

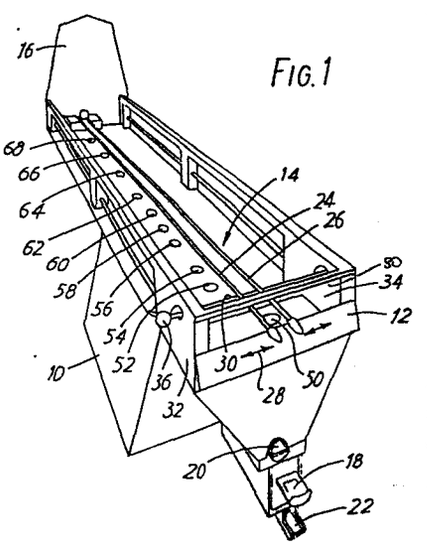


FIG. 1

EP 0 105 617 A2

GAME APPARATUS

This invention relates to apparatus for playing a game which simulates the game of golf.

The functioning of the apparatus is based on the known principal of causing a ball apparently to roll up hill on two rods arranged side by side; at one end the rods are mounted for pivotal movement about substantially vertical axes and are close enough to prevent the ball from falling therebetween, whilst the other ends of the rods can be moved apart and together to control the movement of the ball along the rods. The rods are inclined upwardly from their pivoted ends so that as long as they are parallel, the ball will not travel up the rods, but as the upper ends are moved apart, the ball starts to roll towards them; if the swingable ends are moved too far apart, the ball simply falls between the rods. The skill of using the apparatus is to manipulate the swingable rod ends to cause the ball to move as far as possible along the rods from the pivoted to the swingable ends; the further the ball travels along the rods, the greater the skill exercised by the participant.

The present invention adapts this game principle to simulate the game of golf by providing a simulated golf game apparatus comprising a

substantially horizontal playing surface having a row of holes therethrough; a pair of laterally spaced inclined rods extending along and above the row from a high end to a low end; means supporting the rods at the high end and mounting them at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods, the holes corresponding to progressively better scores at golf holes in the direction from the low end to the high end of the rods; means for adjusting the inclination of the rods according to the par of the golf hole to be played; and sensing and display means for displaying the par of the golf hole to be played, sensing through which hole in the row a ball has dropped and displaying the players corresponding score for that hole or his aggregate score.

The sensing and display means will preferably be programmed to provide a golf game of a predetermined number (e.g. 9 or 18) golf holes in a predetermined sequence of pars corresponding to a sequence typical for a golf course; a given apparatus may have a plurality of different such programmes, which follow in a fixed sequence or which may be selected from by the player. The apparatus preferably

includes means for indicating, or preventing play, if the inclination of the rods does not correspond to the displayed par of the hole to be played. The apparatus is preferably coin-operated to initially release a ball and then to retain the ball on completion of a game of a predetermined number of golf holes; the rods may be restrained automatically on completion of the game and released on coin-operated commencement of the next game.

The rod inclination may be adjusted according to par by vertical adjustment of either end of the rods, preferably the high end. There may also be adjustment of rod inclination to alter the degree of difficulty of the game; this may also be by vertical adjustment of either end of the rods, preferably the low end. The invention also provides a simulated golf game apparatus comprising a substantially horizontal playing surface having a row of holes therethrough; a pair of laterally spaced inclined rods extending along and above the row from a high end to a low end; means supporting the rods at the high end and mounting them at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods, the holes corresponding to progressively

better scores at golf holes in the direction from the low end to the high end of the rods; and means for adjusting vertically the high end of the rods and means for adjusting vertically the low end of the rods, one said vertical adjustment being according to the par of the golf hole to be played and the other according to the degree of difficulty desired.

Each of the row of holes preferably leads to a passage for return of the ball for further play. In the apparatus having said sensing and display means, electrical/electronic sensing apparatus (e.g. micro-switches, photosensitive cells) may sense the hole into which the ball falls and/or movement of the ball along a passage and effect a count to give the score obtained. Generally contact of the ball with a stop at the pivoted rod end will trigger a count of one, further counts in play of a golf hole being added to this.

In one arrangement, each hole of the row has a pipe extending downwardly therefrom, all but one leading to a common passage for return of the ball to a collection tray, and each pipe is associated with a sensor device for counting. A hole below the swingable rod ends represents a score of 1, the next hole a score of 2, the next hole a score of 3, and so on up to a score of 9. The excepted hole mentioned above represents a bunker and results, as will be explained, in the addition of two penalty strokes. The pipe

leading from the bunker hole leads to a different passage and/or collecting tray.

An embodiment of the apparatus according to the invention will now be described, by way of example, with reference to the accompanying drawings, wherein:-

FIGURE 1 is a diagrammatic perspective view of the apparatus;

FIGURE 2 is a diagrammatic perspective view of the mounting for the pivoted ends of the rods of the apparatus of Fig.1;

FIGURE 3 is a schematic diagram in sectional side elevation showing scoring and display means for the apparatus; and

FIGURE 4 shows a diagramatic representation of rod restraining means for the apparatus.

Referring to Fig.1 the apparatus comprises a stand 10 supporting a play table 12 with a play surface 14 which may be a green cloth material. At the rear end there is a display panel 16, whilst at the front end there are a coin insertion mechanism 18 and ball retrieval trays 20 and 22. Rods 24 and 26 extend from lower, pivoted ends at the rear to upper, swingable ends at the front. At the front end, the swingable ends of rods 24 and 26 are supported by a support bar 30 so that they can be slid together and apart as indicated by the arrows 28. The support bar 30 passes through slots in a pair of side blocks 32

and 34 and has handles 36 on the ends thereof. The slots in the blocks 32 are shaped as shown at 38 in Fig.3, and each slot has three bar-receiving pockets 38A, 38B and 38C at different heights from the table 12 so that the inclination of the rods 24 and 26 can be varied by movement of bar 30 from one pocket to another.

Referring to Fig.2, at the rear end of the machine is an adjustable mounting block 40 which pivotally supports the rods 24 and 26 about vertical axes 42 and 44. The block 40 carries a ball stop 46 against which the ball rests at the commencement of each play or "hole".

The play table 12 has a row of apertures therein through which the ball can pass, and referring to Figs.1 and 3 together, and starting from the front end of the machine, the first hole 50 lies in front of the support bar 30 and represents a "hole in one". The next hole 52 which is to the other side of the support bar 30 represents a "hole in two", the next hole 54 is the "par 3" hole, the next hole 56 is the "par 4" hole, the next hole 58 is the "par 5" hole, and the next holes 60, 62, 64 and 66 represent holes in six, seven, eight and nine respectively. The last hole 68 represents a bunker.

To use the apparatus a ball, which may be a golf ball, is placed on the rods 24 and 26 so that it rolls to the rear end of the rods and stops against the stop 46. The player then manipulates the

swingable ends of the rods 24 and 26 as indicated by arrows 28 to endeavour to cause the ball to roll as far along the rods 24 and 26 in the forwards direction as possible and if possible to reach the hole 50; when the ball is over the hole 50, or any other hole into which it is desired that the ball be dropped, the player can part the rods to allow the ball to fall into the appropriate hole. Of course, in practice the ball will tend to fall between the rods and into a hole nearer the rear of the machine than desired.

The inclination of the rods, which determines the difficulty of play and therefore the difficuly of the "golf course" being played on the machine, can be adjusted by adjustment of the block 40 at the rear of the machine. In Fig.2 the height adjustment of mounting block 40 is made by turning knob 85 which is connected by spindle 87 to cam plates 89. These may be smooth to provide gradual variation of height or they may be notched to provide set height positions. Whilst the operating mechanism for the height adjustment 85,87,89 is shown at the rear of the table in this example, it could equally well be located at the front of the table and operated by suitable linkages. Similarly, the height adjustment could be made by other suitable means, e.g. a small electrical motor and cam assembly.

The three positions 38A, 38B and 38C for the support bar 30 are selectable depending on whether a par 3, par 4 or par 5 hole is being played. As the

par 3 hole 54 is near the front of the machine, it will be necessary to have the rods inclined at a shallow angle when playing a par 3 hole and therefore the position 38A is used. Similarly, position 38B is used when playing a par 4 hole, and the position 38C is used when playing a par 5 hole.

The apparatus is coin operated, and is electronically controlled for the playing of a pre-set number of holes, e.g. 9 or 18. The participant inserts the coin or coins in the mechanism 18 and operates the mechanism, and this results in the delivery of a ball to tray 22. The user then places the ball on the rods 24 and 26, whilst holding the rods together, so that the ball runs down the rods to the stop 46. The participant selects the degree of difficulty of the course by setting the height of the block 40. The display panel 16 will indicate whether the machine is ready for play and whether the first hole is par 3, par 4 or par 5. If the bar 30 is not on the correct position there will be an audible warning to this effect and there will also be a visual warning on the display 16. The machine will not function until the support bar 30 is placed in the correct pocket.

Placement of the bar in the correct pocket results in the making of pressure contact in an electrical circuit, the contact being a pressure sensor in the pocket, which results in the display panel 16

indicating that the apparatus is now ready for the play of the first hole. In Fig.3, the electrical connections between the pockets 38A and 38C and the display panel 16 are indicated by numeral 70. When the machine is thus correctly set, indication lights on the surface 14 indicate the hole which is being played, e.g. if the hole being played is par 4, then indication lights at the side of hole 56 are illuminated. The player will score par 4 if the ball passes through hole 56.

With the machine thus set, the player then manipulates the rods 24 and 26 as described to cause the ball to roll along the rods 26 from the rear to the front of the machine, endeavouring to have the ball drop in a hole which is as close to the front of the machine as possible. How far he can make the ball travel will depend upon his skill. The first touch of the ball on the stop 46 causes emission of an electrical signal into a memory which retains the count of one, indicating one stroke or the drive in the game of golf and this count of one will be added to the recorded score of strokes for the hole depending upon which hole the ball passes through. The machine can be set so that a score of one will be recorded and added to the socre if the ball rolls back along the rods and strikes the stop. If the ball passes through hole 50, then no additional strokes are added to the count and the score of one is recorded for that

hole and the machine resets itself for the next hole play. Referring to Fig.3, it can be seen that the holes 50 to 66 communicate by short pipes with a common return tube 72 along which the ball rolls in falling to collection tray 22. Associated with each of the pipes 52 to 66 are respective sensors or detectors 52A, 54A and 56A, located slightly downstream of the position where the ball falls into the pipe 72 from the appropriate hole. Downstream of the pipe which connects hole 50 to pipe 72 is a reset sensor 50A which resets the machine for play of the next hole. Therefore, if the ball falls through hole 52, in passing sensor 52A a further count of one is recorded in the memory before the reset sensor 50A is actuated by the movement of the ball, and a score of two is displayed on the display panel 16 for the hole played. If on the other hand the ball falls through hole 60, in addition to a score of one which has been recorded by contact with stop 46, further counts are recorded by the ball passing detectors 60A, 58A, 56A, 54A and 52A and a further five is recorded on the count giving a score of six for the hole. Alternatively, a sensor could be provided in each hole, each sensor giving a signal corresponding to the count for that particular hole. When the machine is reset after the play of each hole, the display 16 will indicate the par for the next hole, and the player must position the bar 30 accordingly.

The machine is also provided with suitable control to ensure that the ball is not returned to the tray 22 after the last hole has been played, and the machine is not reuseable until further coins have been inserted. No score will be recorded unless the ball strikes the stop 46 to record the first stroke of the play of each hole. The hole 68 which represents a bunker simply scores an extra stroke and delivers the ball on tray 20 for repositioning on the rods, but the machine is not reset for the play of the next hole until the ball strikes the stop 46 again. Therefore, if a player drops the ball in the bunker hole, two strokes are added to his score for the play of the hole in question.

It is preferable to provide the apparatus with means for restraining the rods 24,26 when the game is not being played. This minimises the risk of damage by children, vandals and passers-by. One example of such a restraining device is illustrated in Fig.4 wherein a notched plate 75 is held behind the front panel 12 and is raised up automatically at the end of each "round" (after the last hole has been played) to restrain the lateral swing 28 of the rods 24,26 by trapping them against the front cross bar 80 of the apparatus.

Whilst the particular embodiment has been illustrated as having rectilinear rods 24,26, in an

alternative embodiment according to the invention the rods could both have cranked portions, e.g. over the "bunker hole" 68, which would make the game more difficult. Similarly it is possible to provide an apparatus having curved rods provided that these rods can co-operate to provide a track for the ball.

Whilst the apparatus has been described by way of example above as operating with a single ball which is reused for successive plays, the apparatus could equally be provided with a plurality of balls, e.g. one for each golf hole to be played. Thus, instead of a single ball which is released by coin operated mechanism and returned for reuse after play of each golf hole other than the last in the game, a full complement of balls (one for each golf hole in the game) may be released initially with each being retained after completion of the play for which it is used.

C L A I M S:

1. A simulated golf game apparatus comprising a substantially horizontal playing surface having a row of holes therethrough; a pair of laterally spaced inclined rods extending along and above the row from a high end to a low end; means supporting the rods at the high end and mounting them at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods, the holes corresponding to progressively better scores at golf holes in the direction from the low end to the high end of the rods; means for adjusting vertically the high end of the rods and means for adjusting vertically the low end of the rods, one said vertical adjustment being according to the par of the golf hole to be played and the other according to the degree of difficulty desired; and sensing and display means for displaying the par of the golf hole to be played, sensing through which hole in the row a ball has dropped and displaying the players corresponding score for that hole or his aggregate score.

2. A simulated golf game apparatus comprising a substantially horizontal playing surface having a row of holes therethrough; a pair of laterally spaced inclined rods extending along and above the row from a high end to a low end; means supporting the rods at the high end and mounting them at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods, the holes corresponding to progressively better scores at golf holes in the direction from the low end to the high end of the rods; means for adjusting

the inclination of the rods according to the par of the golf hole to be played; and sensing and display means for displaying the par of the golf hole to be played, sensing through which hole in the row a ball has dropped and displaying the players corresponding score for that hole or his aggregate score.

3. A simulated golf game apparatus comprising a substantially horizontal playing surface having a row of holes therethrough; a pair of laterally spaced inclined rods extending along and above the row from a high end to a low end; means supporting the rods at the high end and mounting them at the low end so that they provide a track for supporting a ball to roll therealong and so that they can be moved relatively angularly apart about the lower end to cause such a ball to roll from the low towards the high end and to drop from between the rods, the holes corresponding to progressively better scores at golf holes in the direction from the low end to the high end of the rods; and means for adjusting vertically the high end of the rods and means for adjusting vertically the low end of the rods, one said vertical adjustment being according to the par of the golf hole to be played and the other accoding to the degree of difficulty desired.

4. Apparatus according to claim 1 or 2 including means indicating, or preventing play, if the inclination of the rods does not correspond to the displayed par of the hole to be played.

5. Apparatus according to any preceding claim including means for restraining the rods against relative movement when the apparatus is not in use.

6. Apparatus according to any preceding claim wherein at least one rod is non-rectilinear.

7. Apparatus according to any preceding claim which is coin-operated to initially release a ball and then to retain the ball on completion of a game of a predetermined number of golf holes.

8. Apparatus according to claims 6 and 7 wherein the rods are restrained automatically on completion of the game and released on coin-operated commencement of the next game.

0105617

FIG. 1

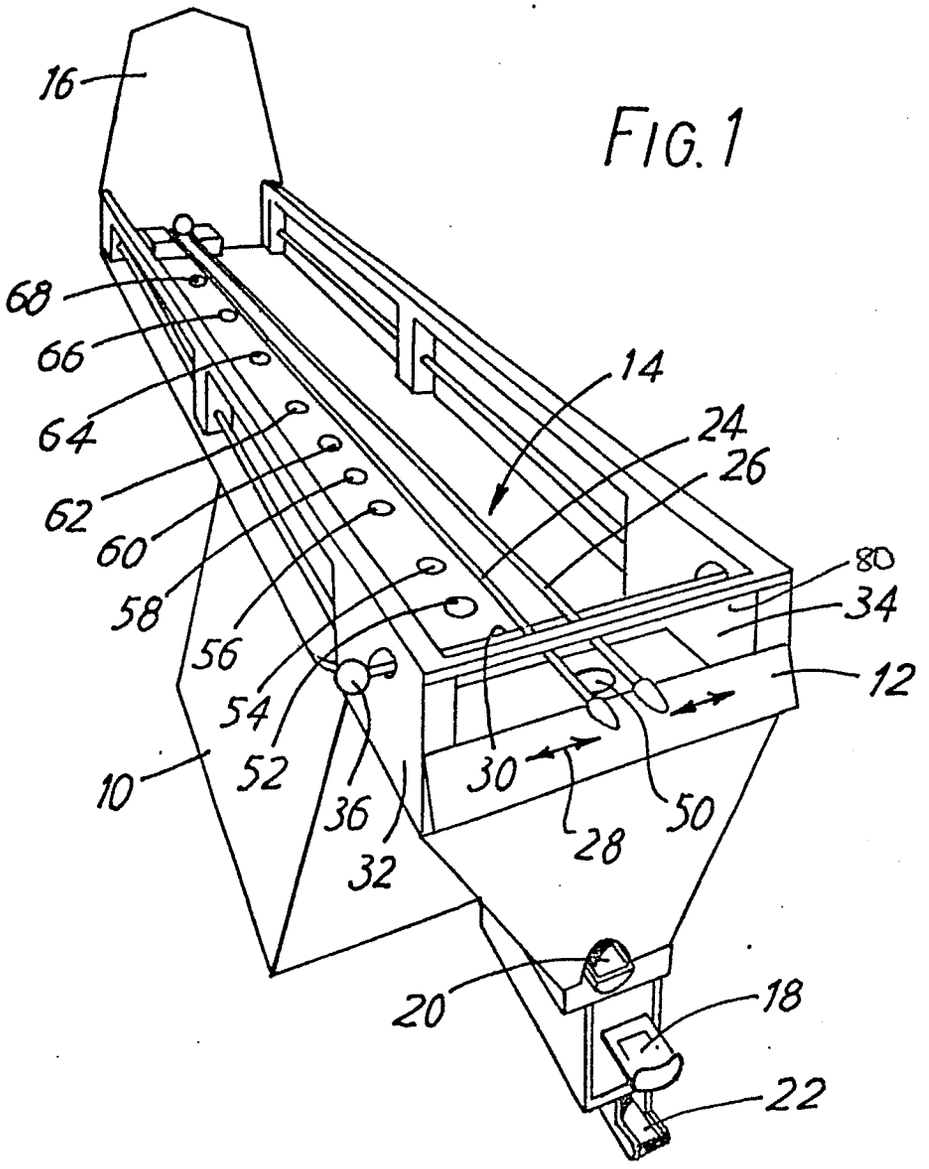
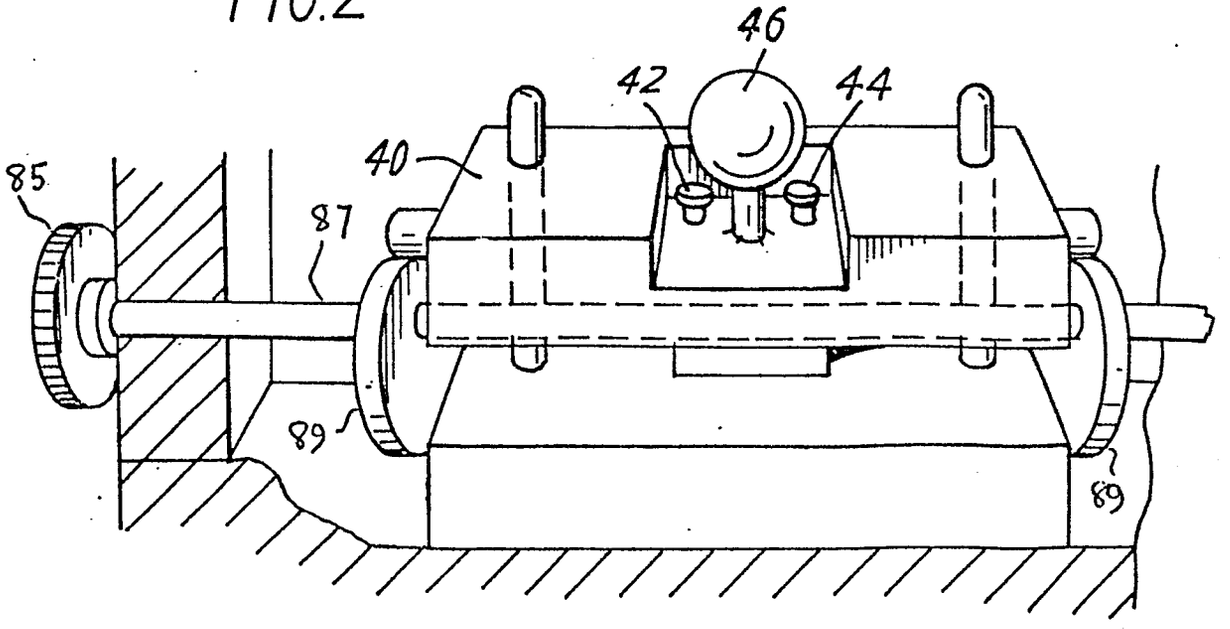


FIG. 2



0105617

FIG. 3.

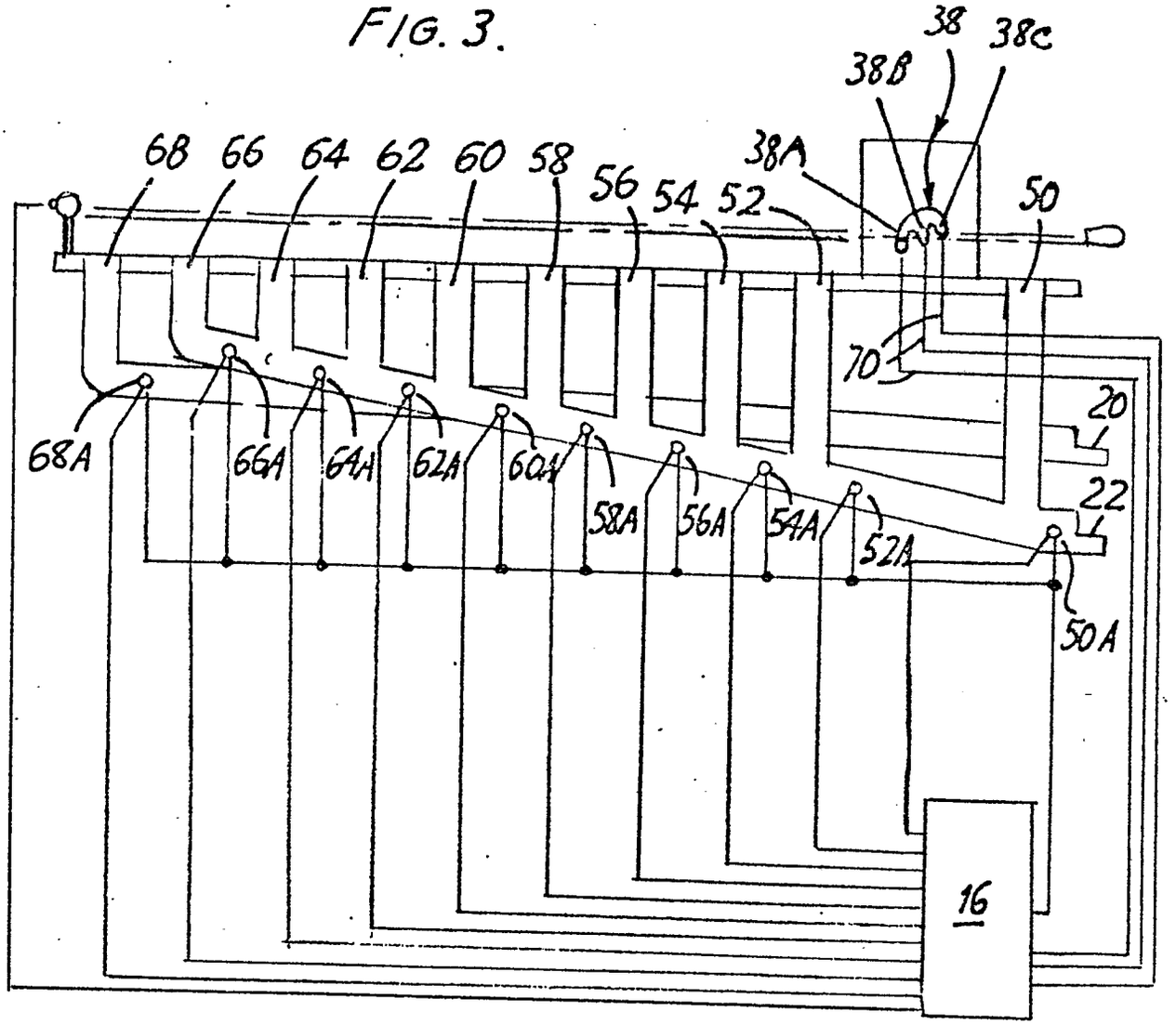


FIG. 4