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(71) Applicant: **CHO, Yufu**
Taichung City (TW)

(72) Inventor: **CHO, Yufu**
Taichung City (TW)

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(74) Representative: **Viering, Jentschura & Partner**
Steinsdorfstrasse 6
80538 München (DE)

(54) **Dart board for any type of darts**

(57) A dart board for safety darts and metal darts includes at least one flexible hole (311) in the target block (30) and at least one through hole (313) is defined in a periphery of the at least one flexible hole (311) so that the flexible hole (311) clamps dart tips of different sizes. A soft member is connected to an underside of the target block (30) so that the tip of the dart may be inserted in the soft member after passed through the flexible hole (311). By this way, the tip of the dart can be protected and the noise can be reduced.

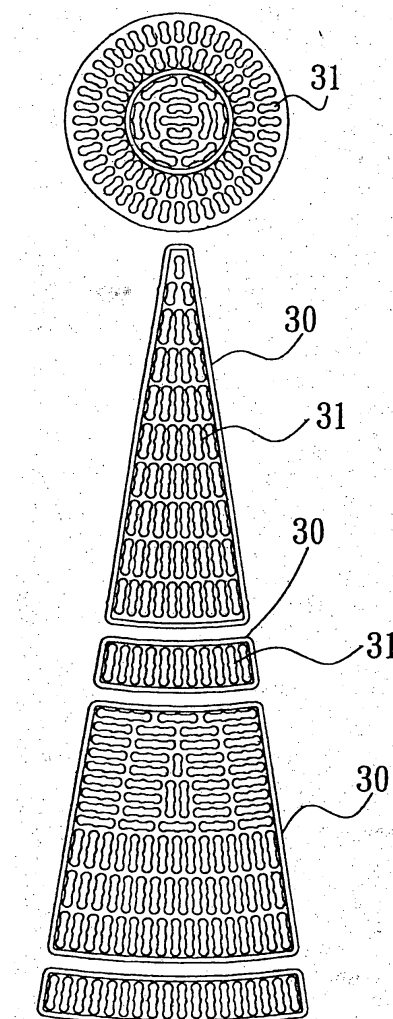


Fig 1

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Description**FIELD OF THE INVENTION**

[0001] The present invention relates to a dart board having at least one flexible hole which is able to adjust the size of the hole so as to clamp the tip of darts with different sizes.

BACKGROUND OF THE INVENTION

[0002] The conventional dart board includes comb-shaped holes which are fixed in size and have no flexibility so that only specific brand of dart that is sold with the dart board is suitable to be cooperated with the dart board. After a period of time of use, when the tips of the darts are worn out or even lost, the users have to purchase the same brand of darts which could not found in the market. If the tip of the dart is too large or small, the dart tip cannot be fixed on the dart board. The scores are not cable to be calculated precisely and the dart could activate the wrong induction parts of other holes nearby and this results wrong scores. Besides, noise could produce because the dart tip cannot be properly clamped by the hole of the dart board. The tip of the dart is possible to be broken when hit on the ground. On the other hand, if the dart tip is clamped by the hole firmly, the user has to pull the dart by force and this reduces the entertainment of the game. The dart tip may be bent or broken during pulling by force. These problems are happened for the electronic dart boards and required to be improved.

[0003] The present invention intends to provide a dart board that has flexible holes for clamping the darts of different sizes and bands so as to resolve the users' confuses. The dart boards increase the precision of the calculation because the darts can be firmly attached on the target blocks. By the way, the darts can be used for a longer period of time.

SUMMARY OF THE INVENTION

[0004] In accordance with one aspect of the present invention, there is provided a dart board that has a target block with at least one flexible hole and at least one through hole is defined in a periphery of the at least one flexible hole so that the flexible hole can be adjusted in sizes to clamp the darts of different sizes and brands. A soft member is connected to an underside of the target block so that the tip of the dart may be inserted in the soft member after passed through the flexible hole.

[0005] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS**[0006]**

Fig. 1 shows a front view of variety of target blocks having flexible holes;
 Fig. 2 shows a front view of the flexible hole and the tip of a dart in the hole;
 Fig. 3 is an enlarged view to show the flexible hole clamping the tip of the dart;
 Fig. 4 is a perspective view to show the target block of the dart board;
 Fig. 5 shows the target block and the frame;
 Fig. 6 shows a cross sectional view of the target block and the darts hitting on the target block;
 Fig. 7A shows a cross sectional view of the target block and the darts hitting on the target block;
 Fig. 7B is a perspective view to show another embodiment of the target block shown in Fig. 7A;
 Fig. 8 shows the guide plate, the frame and the target block;
 Fig. 9 shows the target block and the soft member connected to the target block;
 Fig. 10 shows the target block having the soft member and a dart hits the target block, and
 Fig. 11 shows the connection of the target block and the soft member.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0007] Referring to Fig. 1 which shows a front view of variety of target blocks 30 having flexible slots 31.

[0008] Fig. 2 shows the target block 30 includes flexible slots 31 which is composed of at least one flexible hole 311 which allows the tip of the dart 20 to penetrate therethrough and to clamp the dart 20. At least one through hole 313 is located beside the flexible hole 311 so that the flexible hole 311 can be expanded to clamp the tip of the dart 20 if the dart tip is a larger one. The flexible hole 311 is expanded immediately as shown in dotted lines 312 and clamps the tip of the dart 20. After the dart 20 is pulled out, the flexible hole 311 is shaped as its original shape and size.

[0009] Referring to Fig. 3, the flexible hole 311 includes at least one through hole 313 beside the flexible hole 311 so that the flexible hole 311 can be expanded as shown in dotted lines 312 according to the size of the tip of the dart 20. Therefore, the flexible hole 311 provides different sizes for clamping the tips of different darts 20. The size, number and shape of the flexible hole 311 can be adjusted as needed.

[0010] Referring to Fig. 4, which shows an exploded view of the target block 30 and the flexible slot 31.

[0011] Referring to Fig. 5, which shows the target block 30 is installed in the frame 10.

[0012] Fig. 6 shows the target block 30 received in the corresponding frame 10 and a backing board 33 is con-

nected to the rear side of the flexible slot 31 so as to limit the depth of the dart tip that penetrates in the target block 30. Protrusions 32A extend from the rear side of the target block 30 so as to touch the conductive film 41 to make the CPU work to display the result by way of audio, light, music, LED, LCD, or negative light board.

[0013] Referring to Fig. 7A, the target block 30 is received in the frame 10 and includes target holes 35 defined in a bottom of the flexible hole 311 of the flexible slot 31 so that the dart 20 penetrates the flexible hole 311 and inserted into the target hole 35. The flexible hole 311 flexibly receives the dart 20 and guide the dart tip into the target hole 35. The target hole 35 has fixed size so that the tip of the dart 20 is firmly inserted into the target hole 35. Besides, the bottom of the target hole 35 has an integrated backing board 33 so as to limit the depth that the tip of the dart 20 penetrates into the target block 30. The backing board 33 can be omitted to let the tip of the dart 20 penetrate through the target hole 35. The protrusions 32A touch the conductive film switch 41. The protrusions can be flange-like or post-like protrusions 32B which have the same function as the protrusions 32A to activate the CPU to calculate the scores.

[0014] As shown in Fig. 7B, the flexible hole 311 has at least one through hole 313 on a periphery thereof so as to let the flexible hole 311 to be flexibly adjust the size thereof and to receive the darts 20 of different sizes and to guide the tip of the dart 20 into the target hole 35. The flexible hole 311 may be designed to have no target hole 35 and is able to clamp the tips of the darts 20 of different sizes.

[0015] Referring to Fig. 8, the frame 10 has a guide plate 60 having a plurality of guide holes 63 which can be flexible holes 311. The guide plate 60 is not movable so that the flexible holes 311 can be expanded according to the size of the tip of the dart 20 so as to guide the dart tip to perpendicularly hit the flexible slot 31 of the target block 30. By this way, different darts 20 are able to be cooperated with the dart board and the scores can be precisely calculated. The guide plate 60 is hooked to the frame 10 by at least one hook 61 so that the guide plate 60 is easily and quickly connected to the frame 10. There are a plurality of post-like or flange-like protrusions 32B which has the same function as the protrusions 32A to push the conductive film switch or inductive switch 41 on the backing 50 so as to calculate the scores automatically.

[0016] Referring to Fig. 9, the target block 30 has a plurality of flexible holes 311 on a top thereof and each flexible hole 311 communicates with the target hole 35 which has a solid structure so as to reinforce the structure of the flexible hole 311. The target block 30 has a chamber 371 on the underside thereof and the chamber 371 has a side entrance through which the soft member 301 is inserted. The tip of a dart 20 penetrates through the flexible hole 311 and is inserted in the soft member 301. The target block may also omit the target hole 35 so that the tip of the dart 20 penetrates in the soft mem-

ber 31 after passed through the flexible hole 311.

[0017] Referring to Fig. 10, the target block 30 has a plurality of flexible holes 311 on a top thereof and each flexible hole 311 communicates with the target hole 35 having a fixed size. The target block 30 includes an inner peripheral groove 372 for the soft member 301 engaged therewith. The tip of the dart 20 penetrates through the flexible hole 311 and is inserted in the soft member 301. The inner peripheral groove 372 includes notch 30A1 which receives ridge 30B1 on the backing board 30B. The backing board 30B has at least one protrusion 32A or post 32B to touch the conductive film 41. The present invention may have no target hole 35 and the tip of the dart 20 is inserted in the soft member 31 after passed through the flexible hole 311.

[0018] Referring to Fig. 11, the target block 30 has a plurality of flexible holes 311 on a top thereof and each flexible hole 311 communicates with the target hole 35 having a fixed size. The top target block 30A includes a ridge 30A2 on a side thereof and the backing board 30B has a recess 373 for receiving the soft member 301. The backing board 30B has a ridge 30B2 which is engaged with another ridge 30A2 on the target block 30. The soft member 301 may have inclined hole 3001 or circular hole 3002, 3003 so as to clamp the tip of the dart 20. From the disclosure in Figs. 9, 10 and 11, the soft member 301 may have different ways of design except for the chamber 371, the inner peripheral groove 372 and the recess 373. The flexible hole 311 may have no target hole 35 so allow the tip of dart 20 directly to be inserted in the soft member 301 via the flexible hole 311.

[0019] The target block has at least one flexible hole at proper position and at least one through hole is located beside the flexible hole so that the dart tips of different sizes can be clamped. The flexible hole has the ability of adjusting the size of the hole so that the darts have no limitation of their brands or sizes. The soft member is located beneath the flexible hole so that the tip of the dart may securely inserted in the soft member. The noise can be reduced and the dart tip can also be protected.

[0020] While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

Claims

1. A dart board comprising:

at least one flexible hole defined in a target block and at least one through hole defined beside a periphery of the at least one flexible hole so that the at least one flexible hole being adapted to clamp dart tips of different sizes.

2. The dart board as claimed in claim 1, wherein the target block has at least one protrusion so as to be adapted to hit a conductive film switch.

3. A dart board comprising: 5
 - a plurality of flexible holes defined in a target block and at least one through hole defined between the flexible holes so as to form a flexible slot which is adapted to clamp dart tips of different sizes. 10

4. The dart board as claimed in claim 3, wherein the target block has at least one protrusion so as to be adapted to hit a conductive film switch. 15

5. The dart board as claimed in claim 1 or 3, wherein a backing board is connected to an underside of the at least one flexible hole. 20

6. The dart board as claimed in claim 1 or 3, further comprising a target hole communicates with an underside of the at least one flexible hole.

7. The dart board as claimed in claim 1 or 3, further comprising a guide plate which has flexible holes. 25

8. A dart board comprising:
 - a target block having at least one flexible hole and at least one soft member connected to a rear side of target block, the at least one soft member adapted to be clamp dart tips of different sizes. 3035

9. The dart board as claimed in claim 8, wherein the at least one soft member has at least one target hole.

10. The dart board as claimed in claim 8, wherein the target block has at least one protrusion for being adapted to touch a conductive film switch. 40

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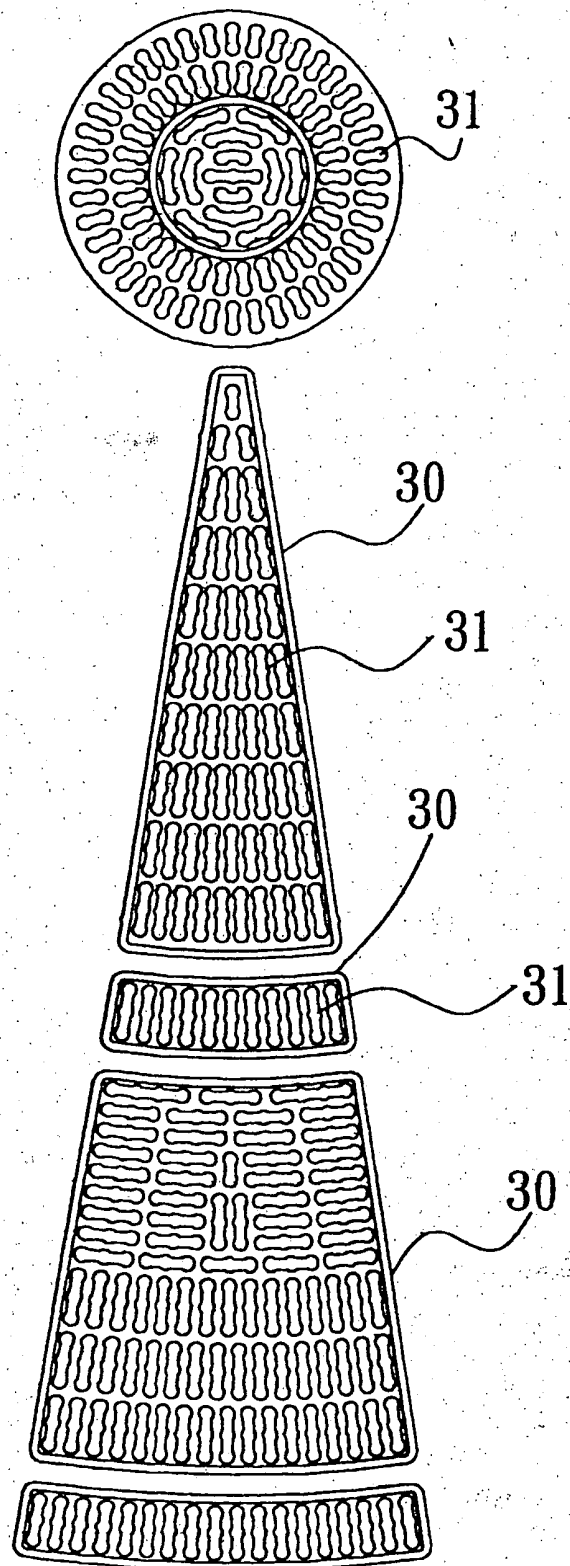
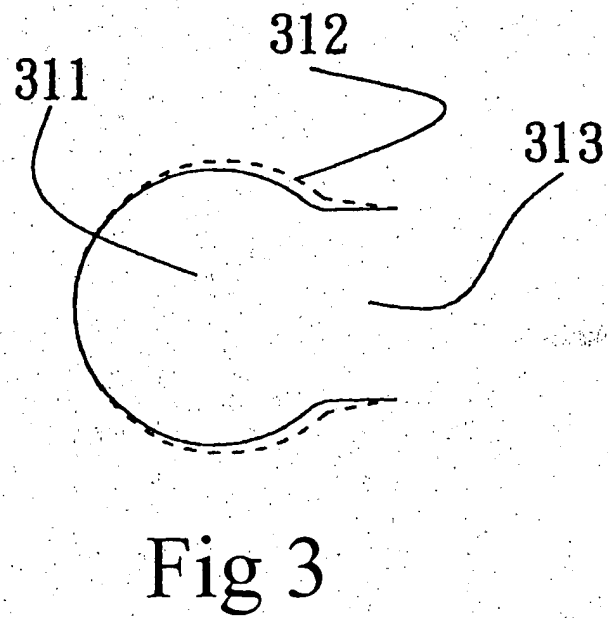
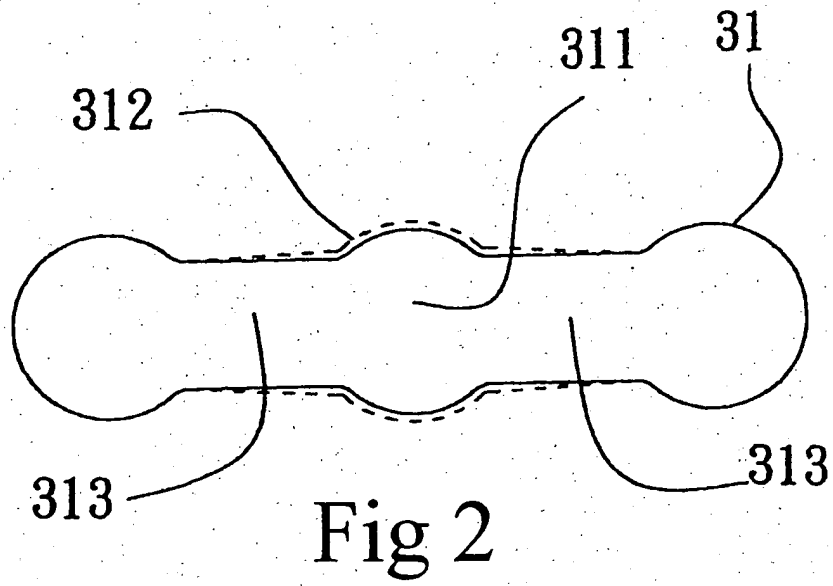


Fig 1



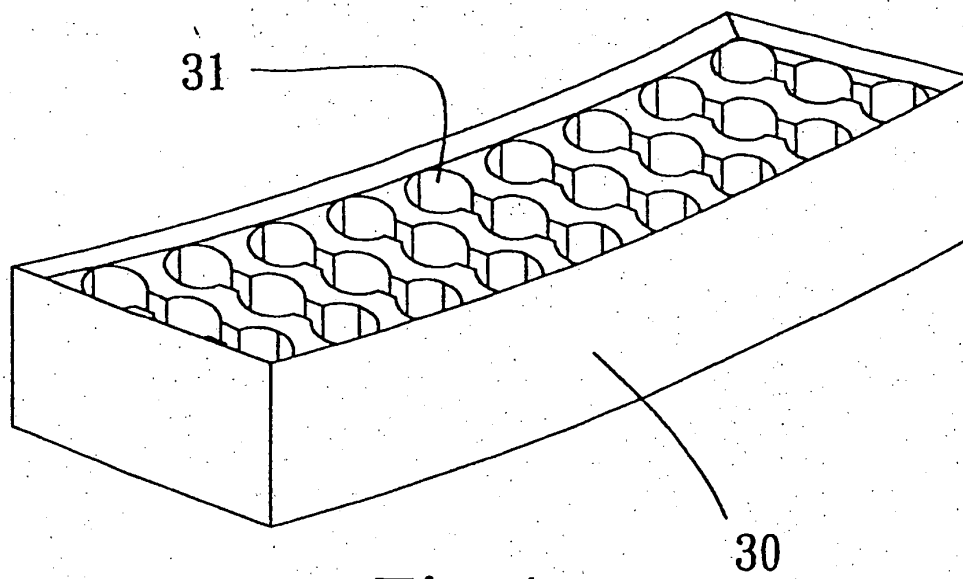


Fig 4

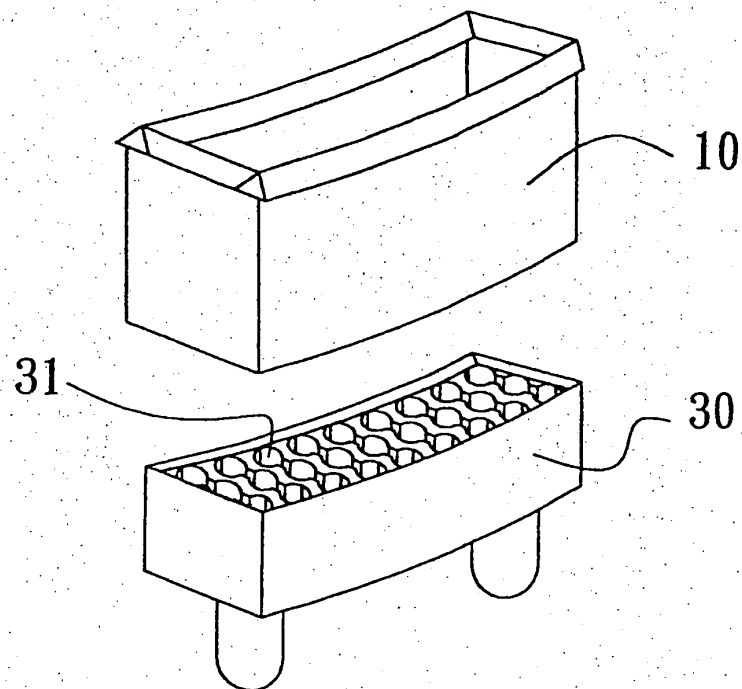


Fig 5

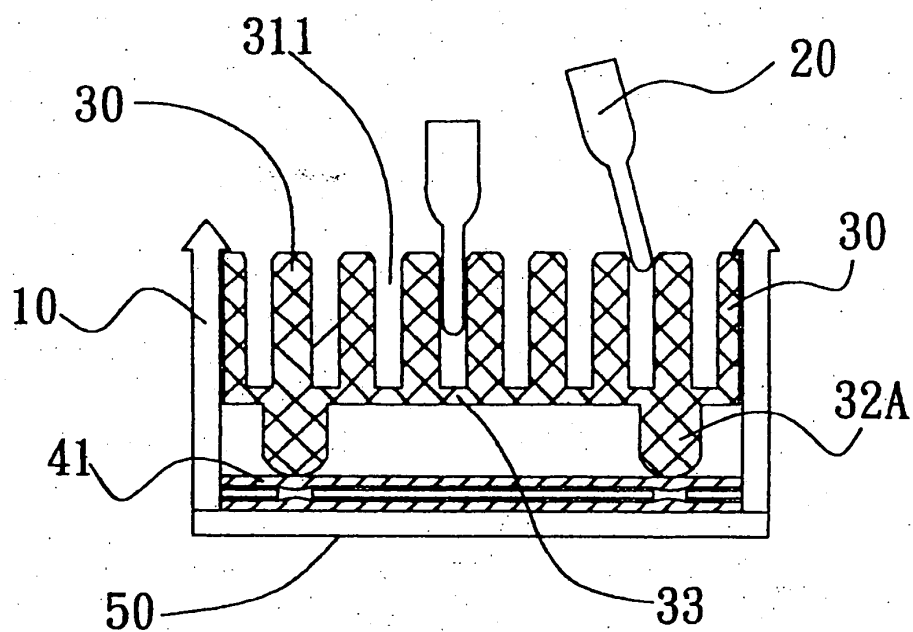


Fig 6

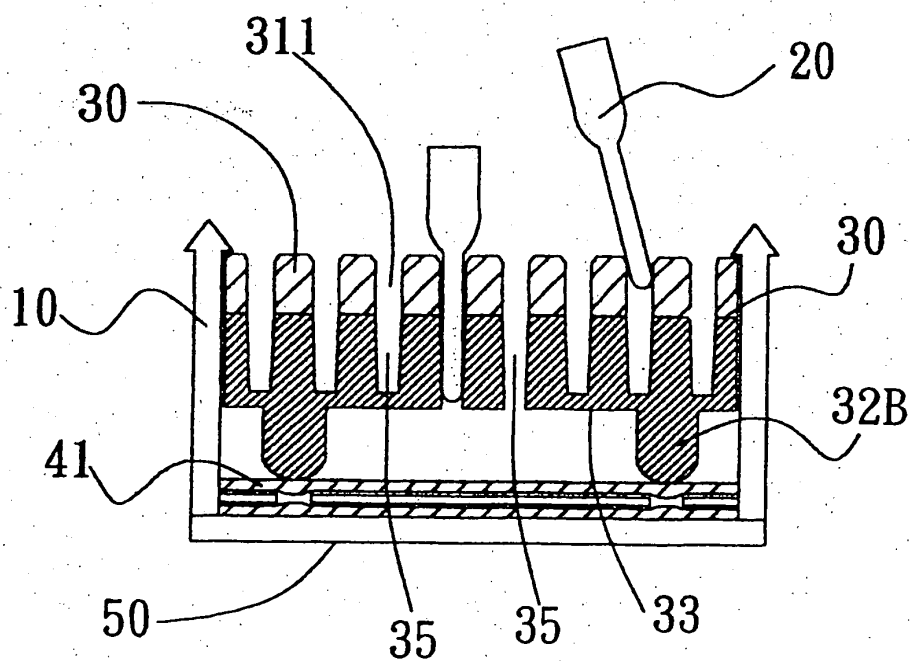


Fig 7A

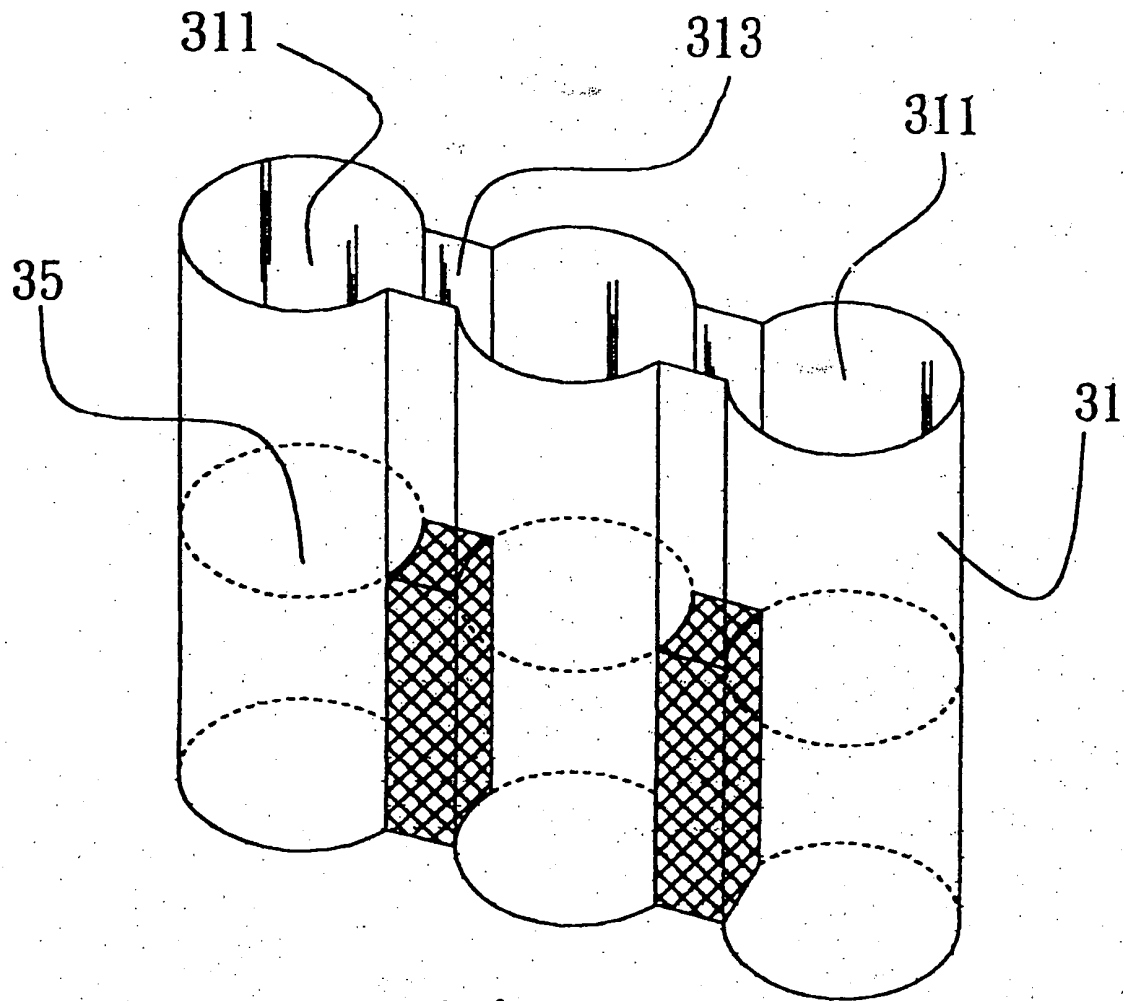


Fig 7B

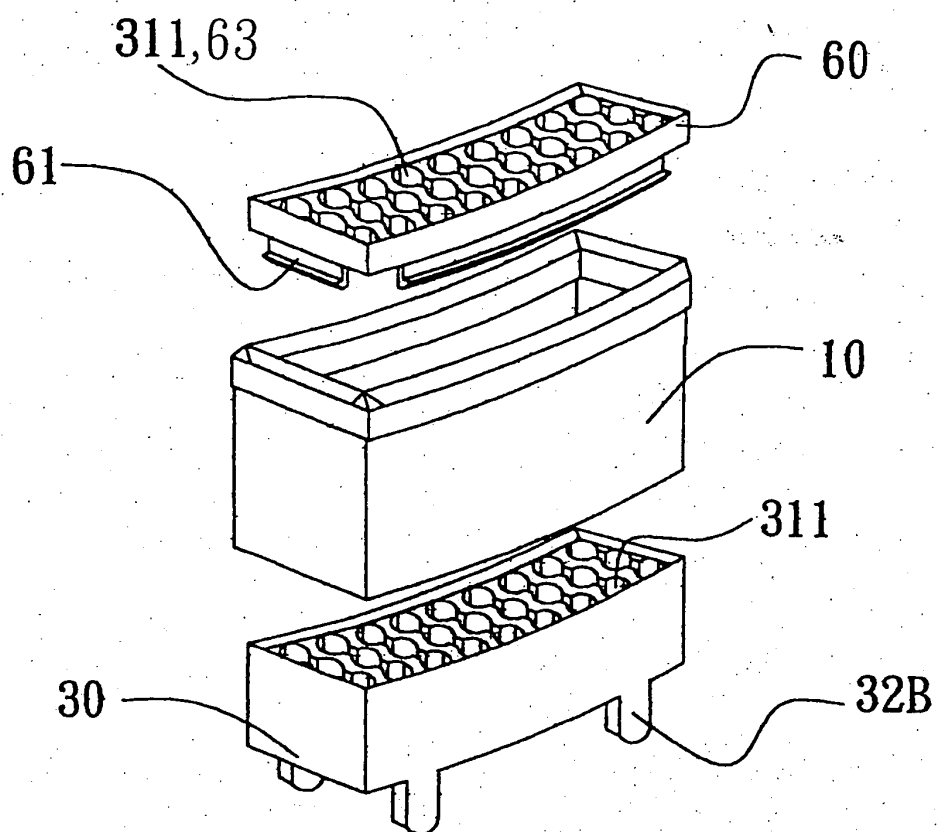


Fig 8

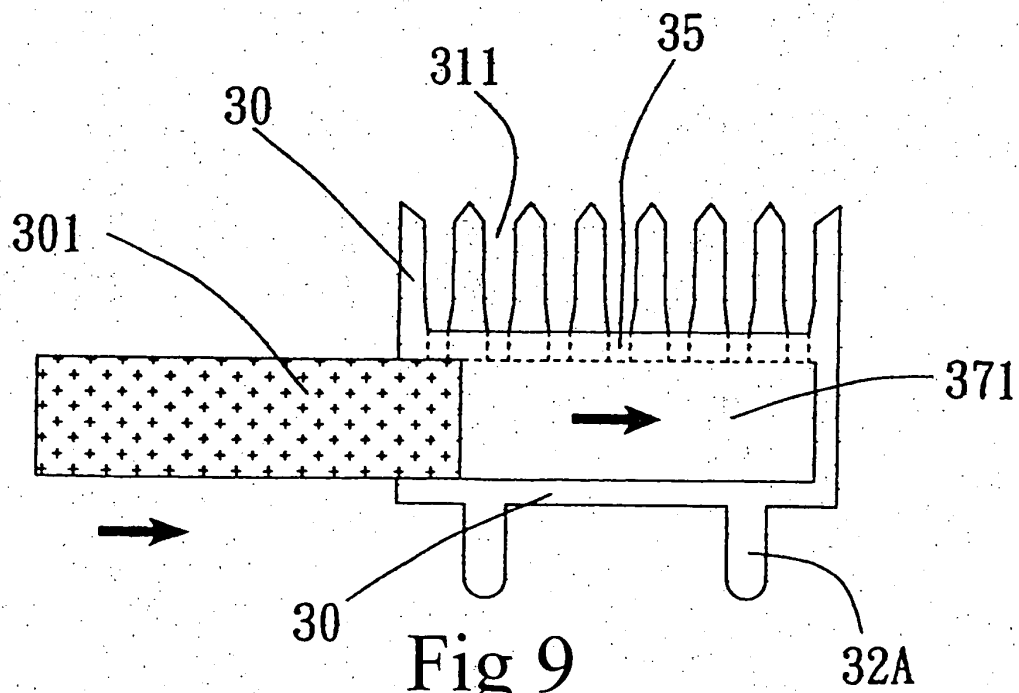


Fig 9

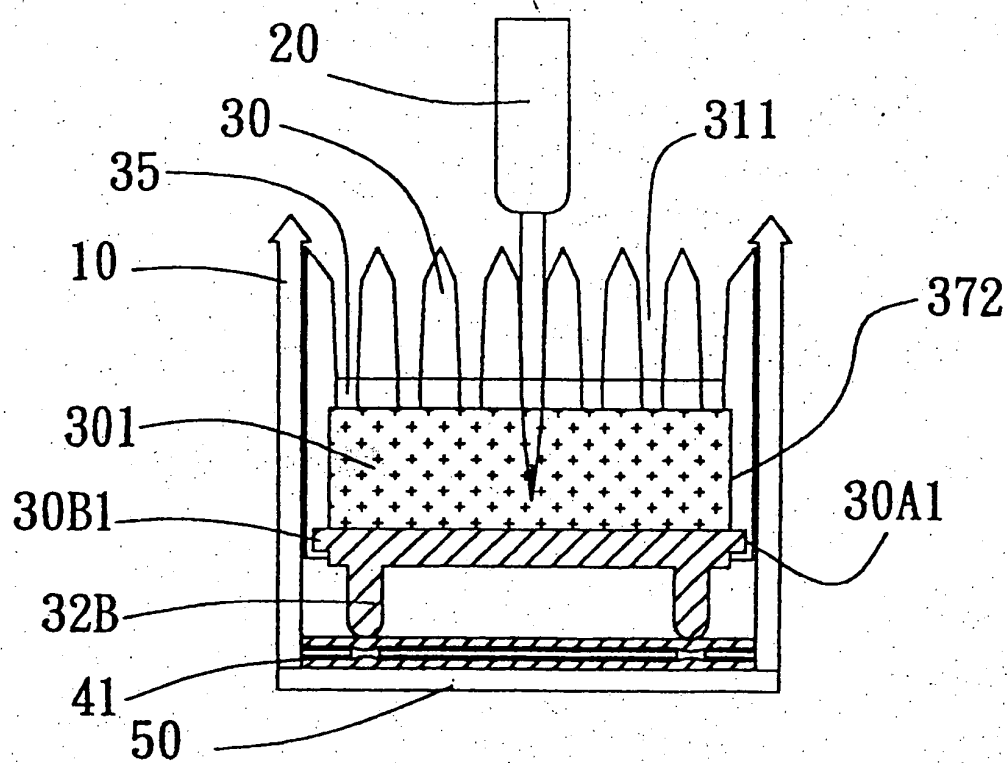


Fig 10

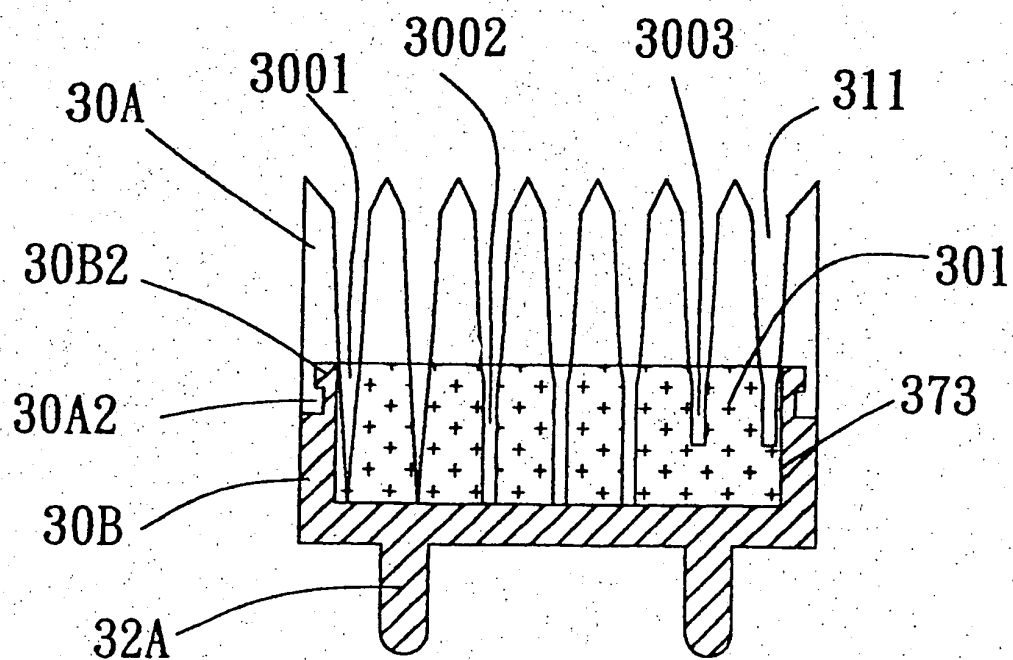


Fig 11