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(54) **TRAMPOLINE**

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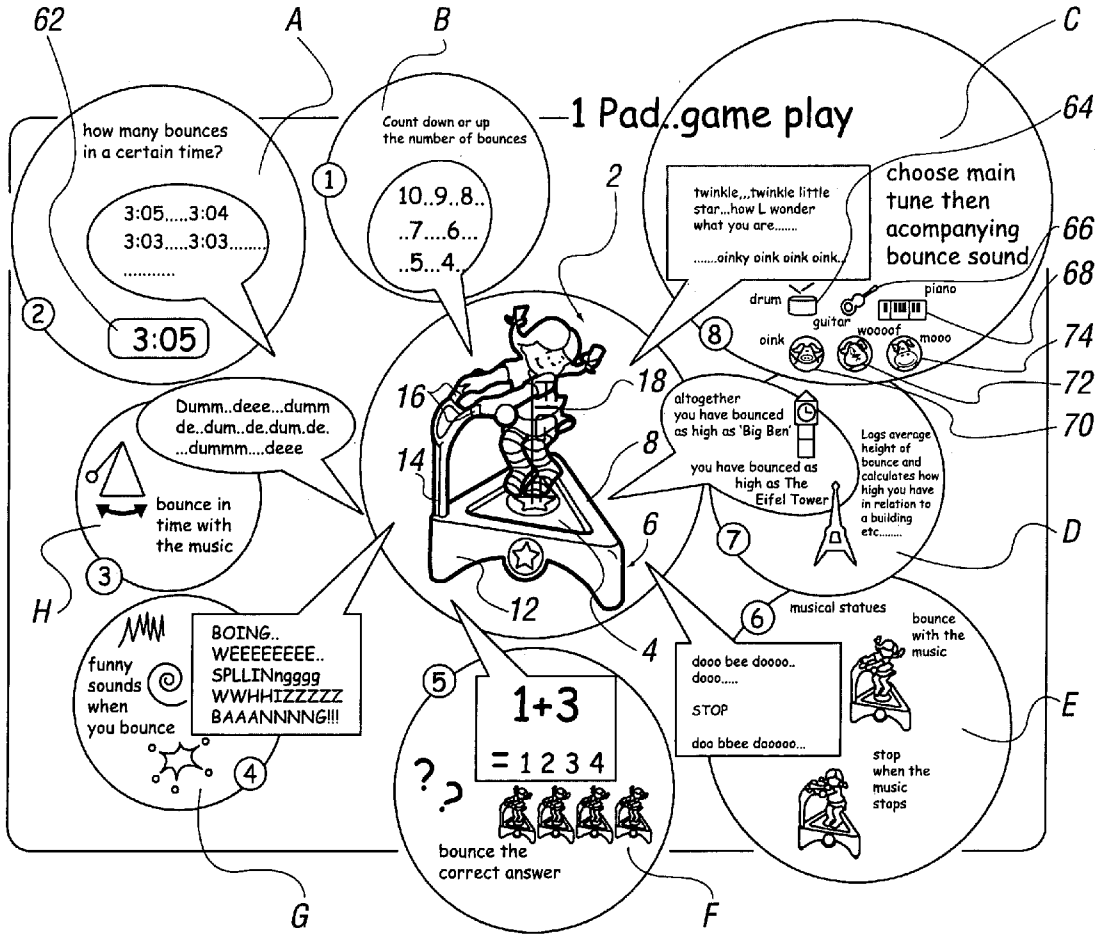
(57) **ABSTRACT**

The invention to which this application relates is a trampoline having a play area on which a person can jump, said area having an elasticity and resilience to act as a trampoline and there is provided as part of the apparatus at least one sensing means to detect the contact of a person on a target portion or portions of the play surface. Activation of the sensing means causes a change in condition in audio and/or visual means provided as part of the apparatus so as to provide a reaction to the contact on the play surface.



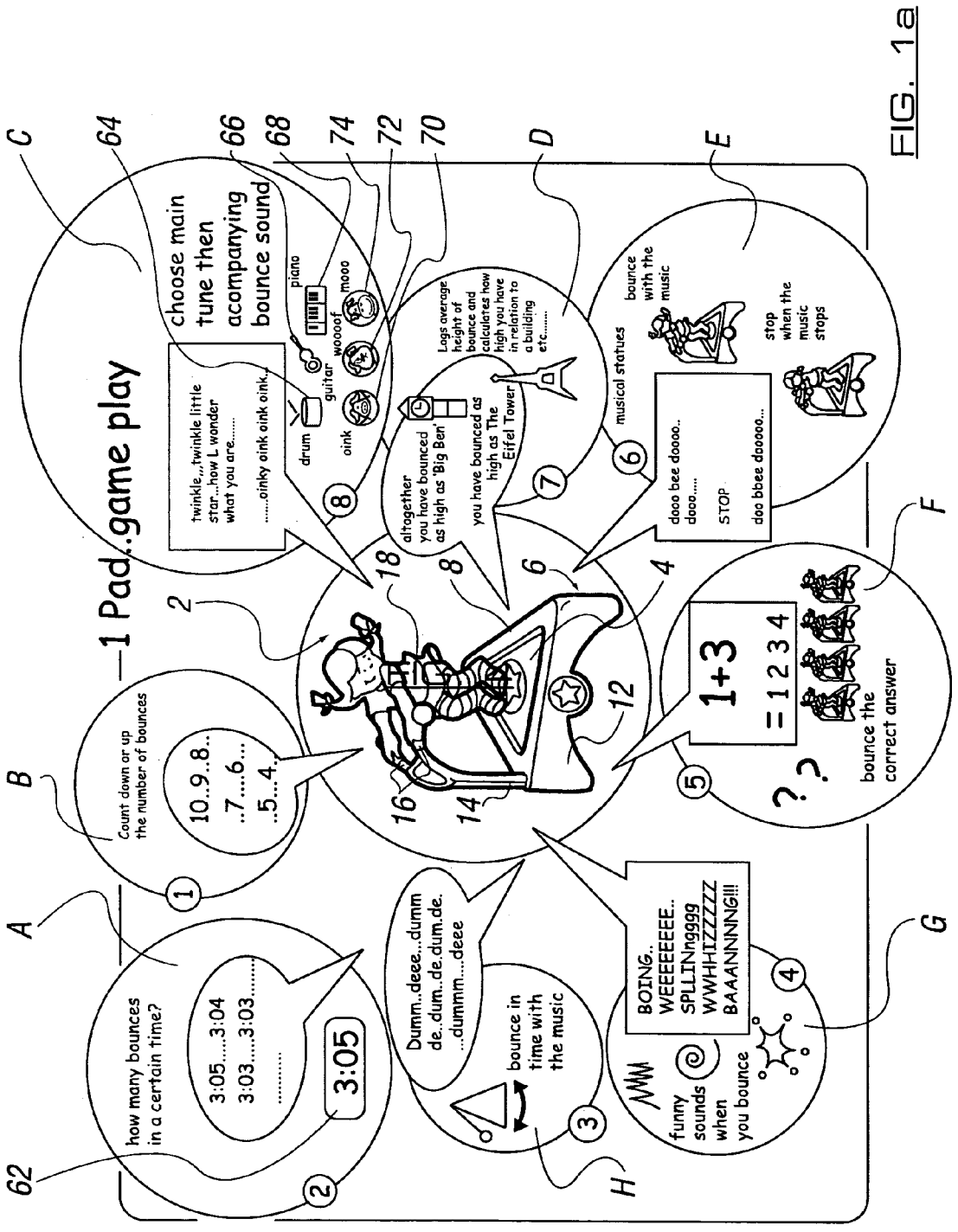

1 Pad..game play
choose main tune then acompanying bounce sound
twinkle,,,twinkle little star...how L wonder what you are.....
.....oinky oink oink oink..
piano
guitar
drum
oink
woooof
mooo
Logs average height of bounce and calculates how high you have in relation to a building etc.....
altogether you have bounced as high as 'Big Ben'
you have bounced as high as The Eifel Tower
musical statues
bounce with the music
stop when the music stops
dooo bee doooo..
dooo.....
STOP
doo bbee dooooo...
Count down or up the number of bounces
10..9..8..
..7....6...
..5...4..
how many bounces in a certain time?
3:05.....3:04
3:03.....3:03.....
3:05
Dumm..deee...dumm
de..dum..de.dum.de.
...dummm....deee
bounce in time with the music
BOING..
WEEEEEEEE..
SPLLINgggg
WWHHIZZZZZZ
BAAANNNNG!!!
funny sounds when you bounce
1+3
= 1 2 3 4
? ?
bounce the correct answer
A
B
C
D
E
F
G
H
62
64
66
68
74
72
70
2
18
8
6
4
12
16
14

FIG. 1a

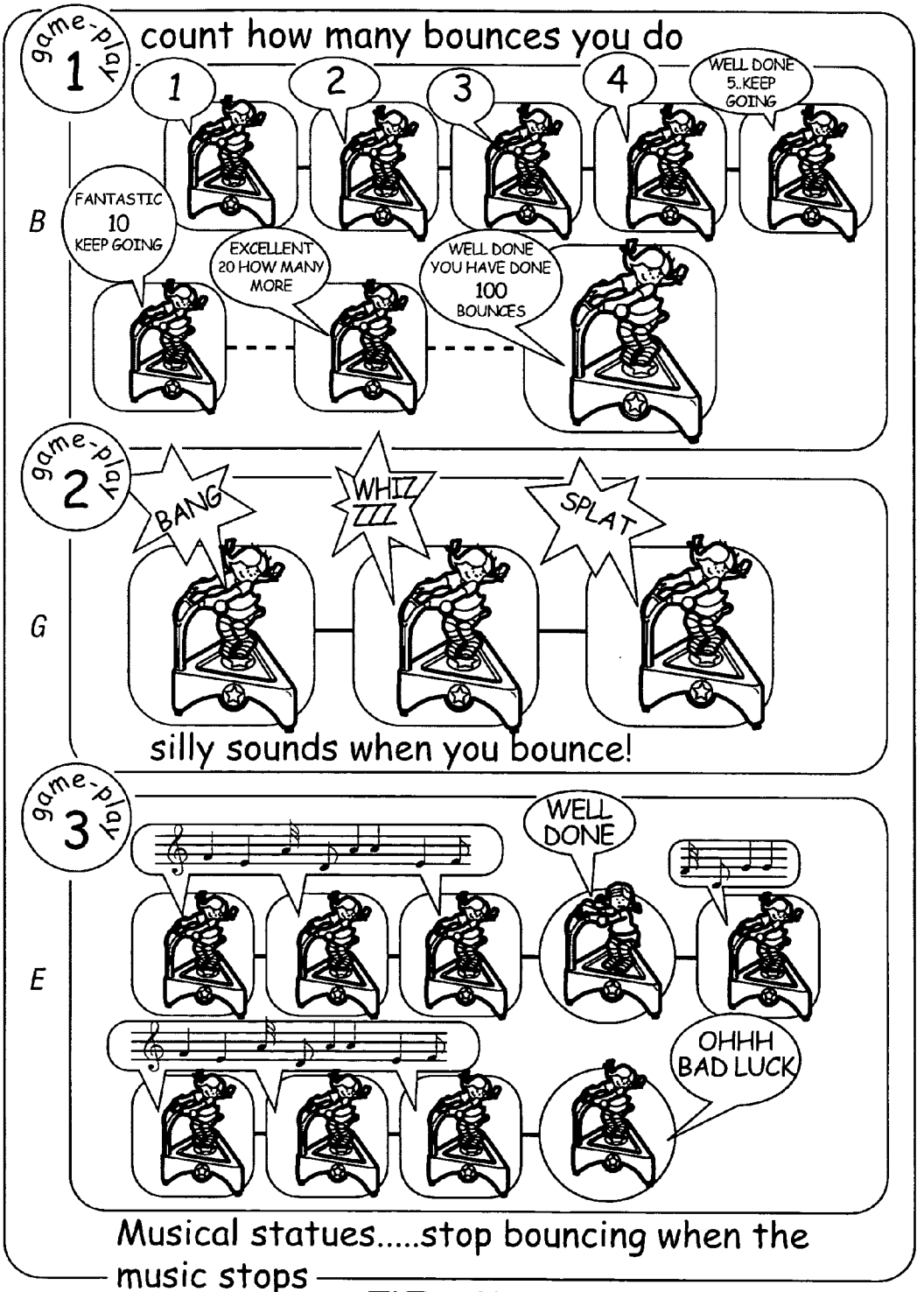

game-play 1
count how many bounces you do
1
2
3
4
WELL DONE 5..KEEP GOING
B
FANTASTIC 10 KEEP GOING
EXCELLENT 20 HOW MANY MORE
WELL DONE YOU HAVE DONE 100 BOUNCES
game-play 2
BANG
WHIZ ZZZ
SPLAT
G
silly sounds when you bounce!
game-play 3
WELL DONE
E
OHHH BAD LUCK
Musical statues.....stop bouncing when the music stops

FIG. 1b

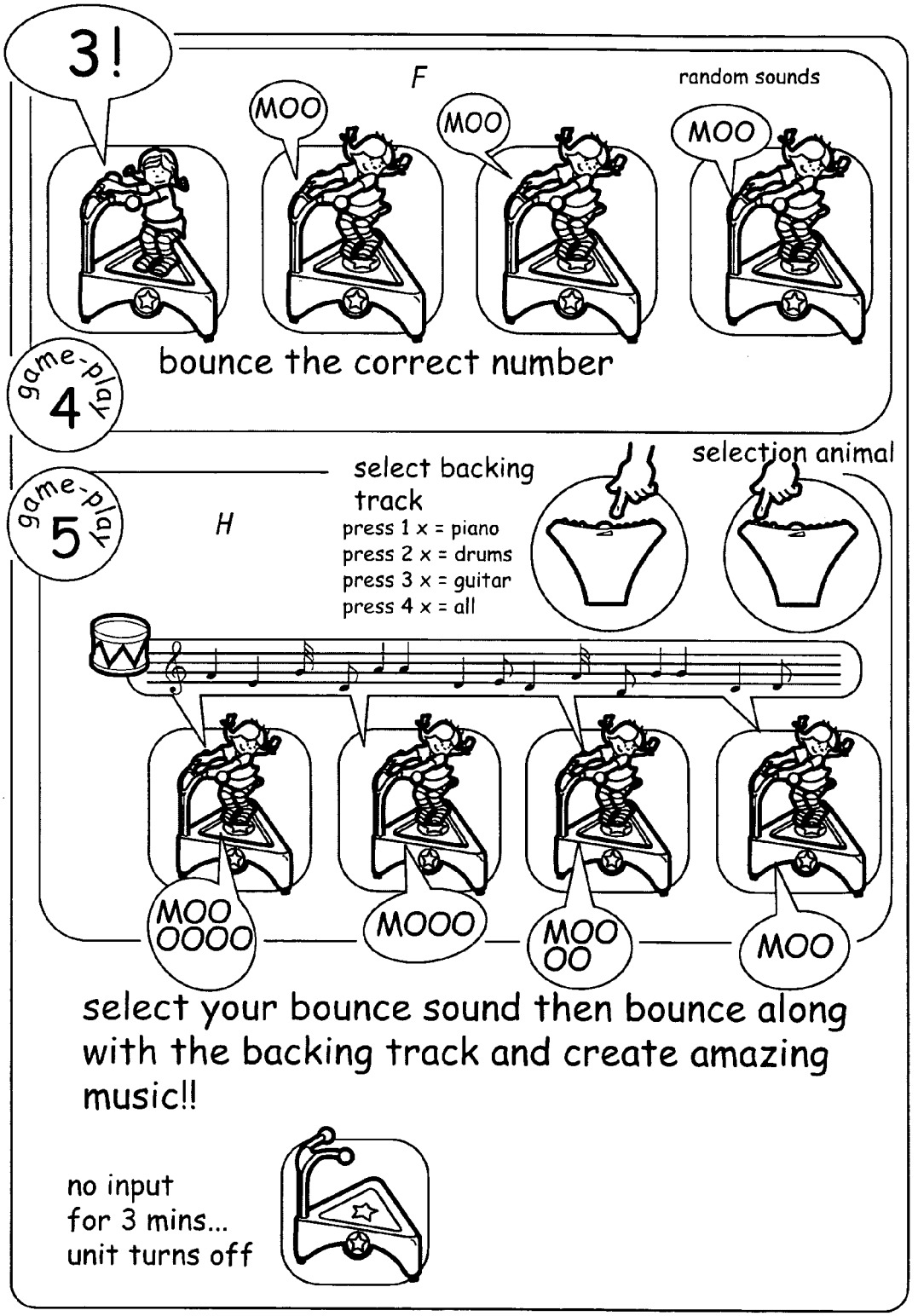

3!
F
random sounds
MOO
MOO
MOO
game-play 4
bounce the correct number
game-play 5
H
select backing track
press 1 x = piano
press 2 x = drums
press 3 x = guitar
press 4 x = all
selection animal
MOO OOOO
MOOO
MOO OO
MOO
select your bounce sound then bounce along with the backing track and create amazing music!!
no input for 3 mins... unit turns off

FIG. 1c

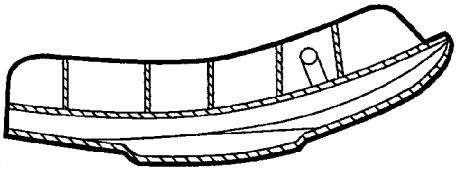


FIG. 2e

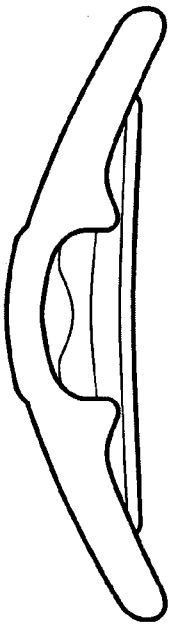


FIG. 2b

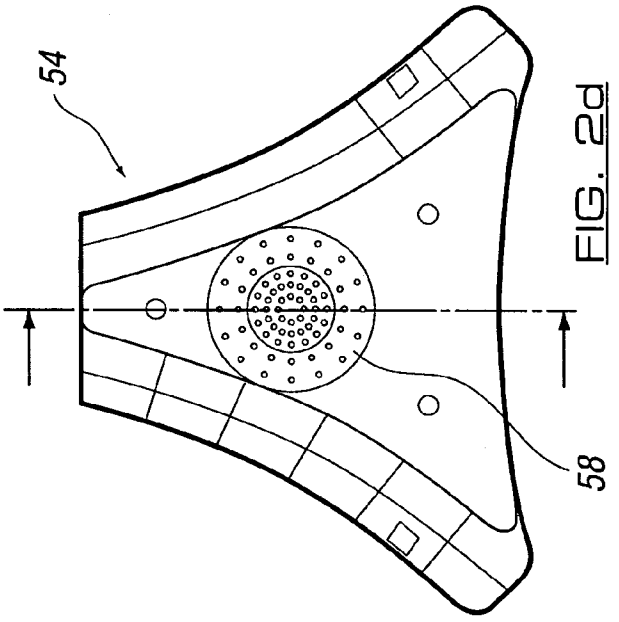


FIG. 2d

FIG. 2a

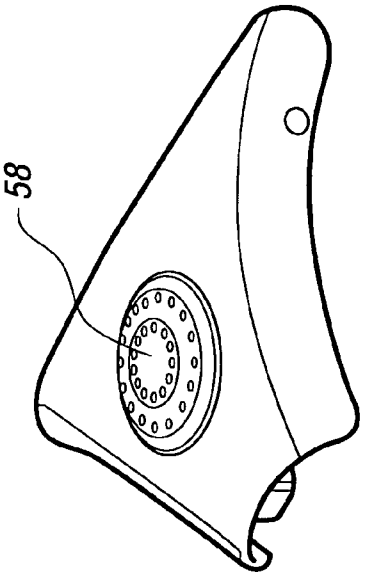


FIG. 2c

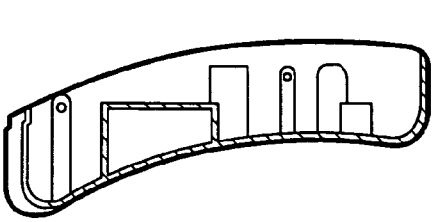


FIG. 3e

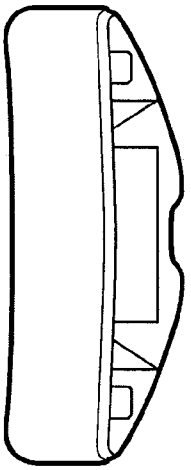


FIG. 3b

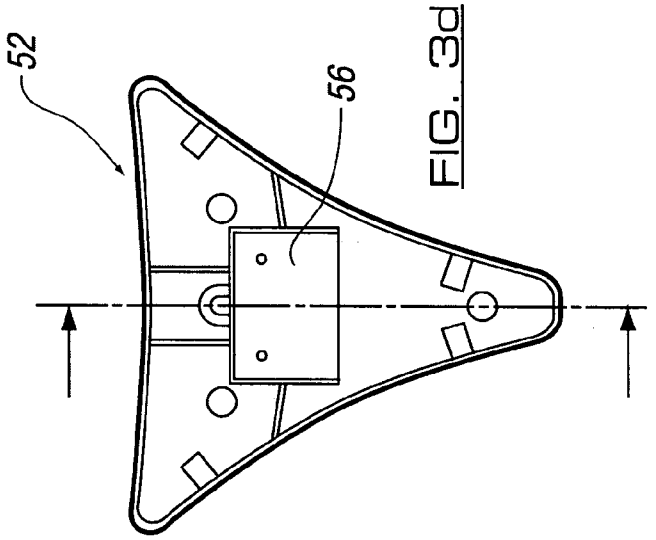


FIG. 3d

FIG. 3a

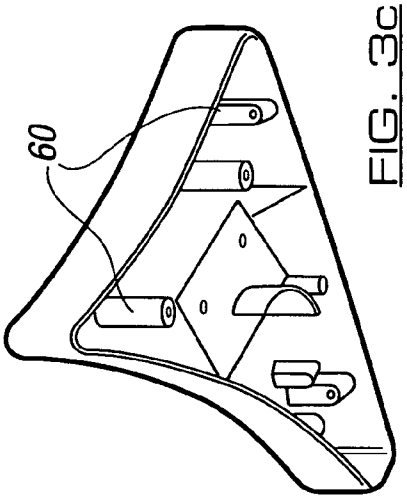


FIG. 3c

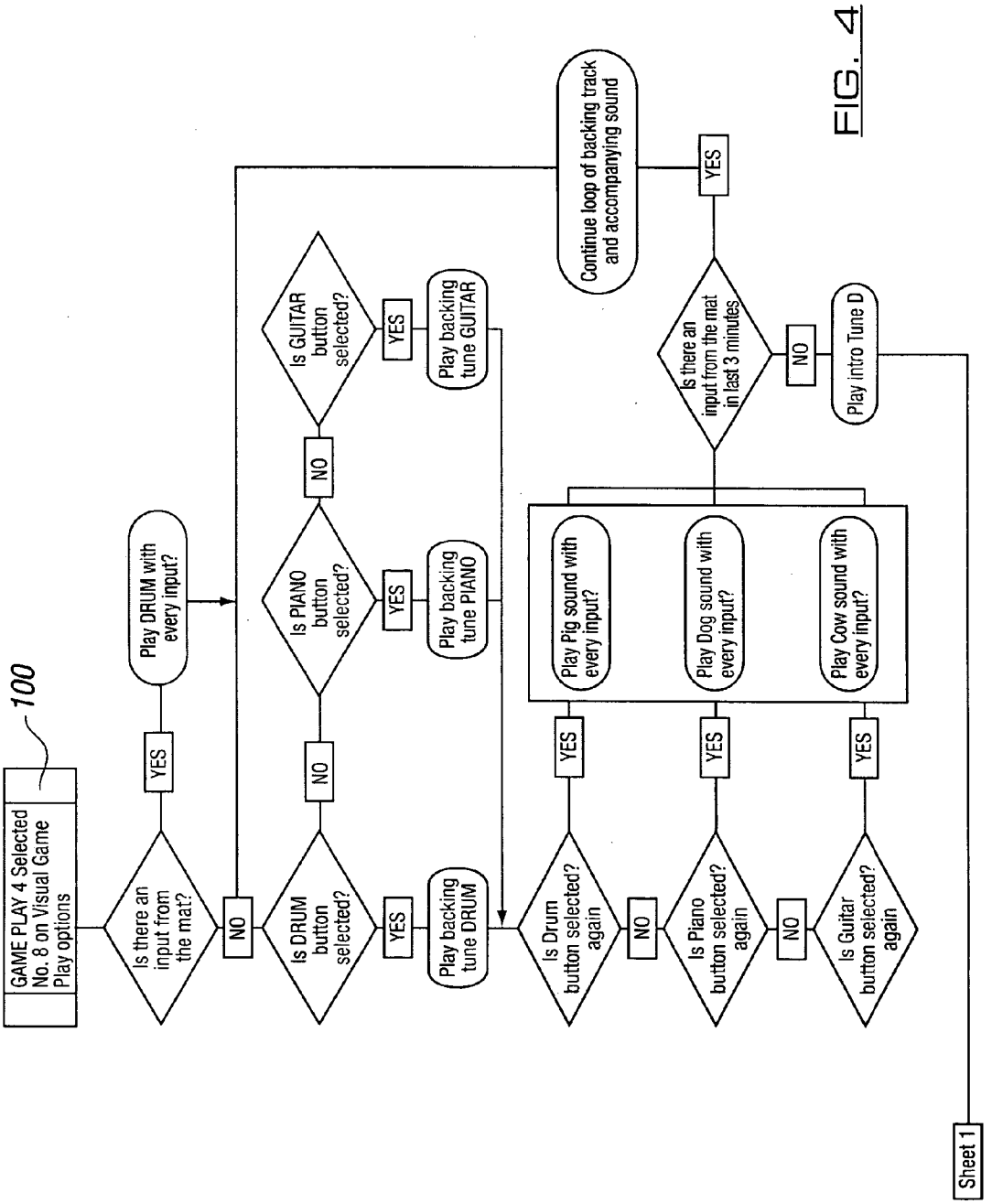

100
GAME PLAY 4 Selected
No. 8 on Visual Game
Play options
Is there an input from the mat?
YES
Play DRUM with every input?
NO
Is DRUM button selected?
YES
Play backing tune DRUM
NO
Is PIANO button selected?
YES
Play backing tune PIANO
NO
Is GUITAR button selected?
YES
Play backing tune GUITAR
Is Drum button selected? again
YES
Play Pig sound with every input?
NO
Is Piano button selected? again
YES
Play Dog sound with every input?
NO
Is Guitar button selected? again
YES
Play Cow sound with every input?
Is there an input from the mat in last 3 minutes
YES
Continue loop of backing track and accompanying sound
NO
Play intro Tune D
Sheet 1

FIG. 4

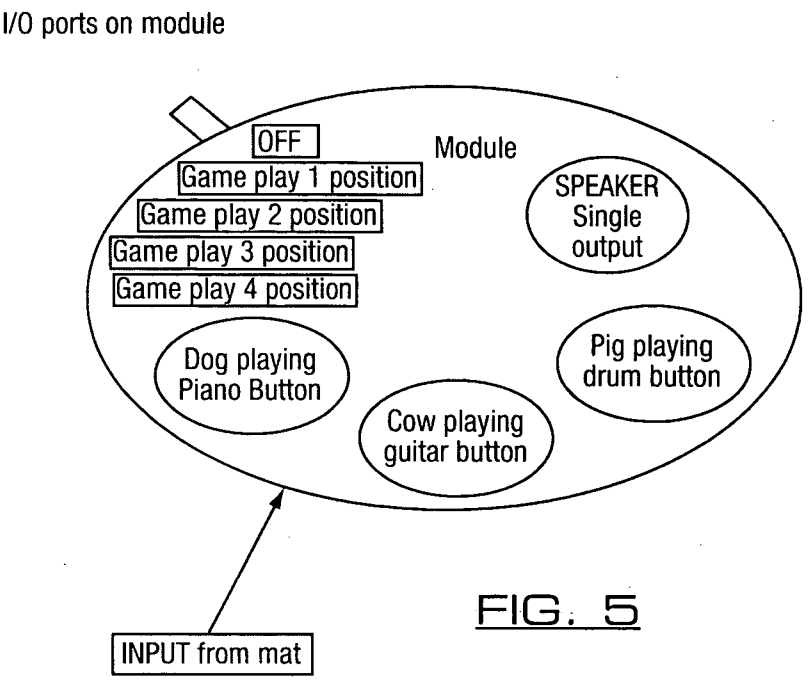

I/O ports on module
OFF
Game play 1 position
Game play 2 position
Game play 3 position
Game play 4 position
Module
SPEAKER
Single
output
Dog playing
Piano Button
Cow playing
guitar button
Pig playing
drum button
INPUT from mat

FIG. 5

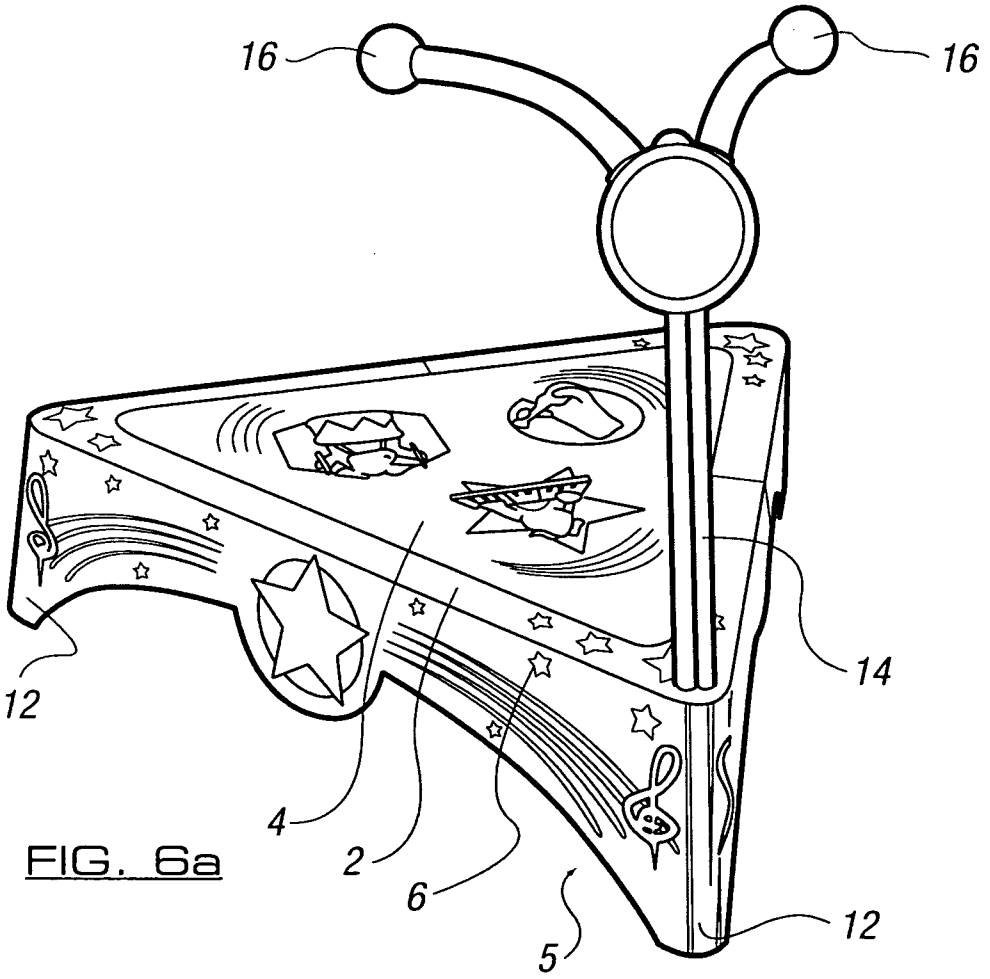

16
16
12
14
4
2
6
5
12

FIG. 6a

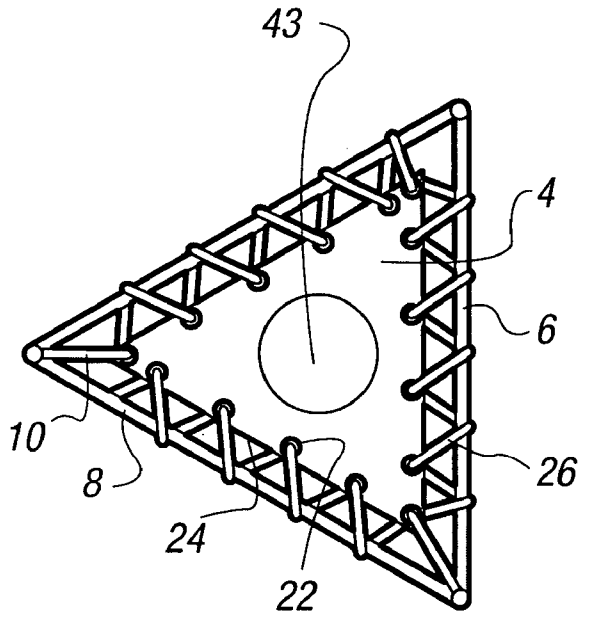


FIG. 6b

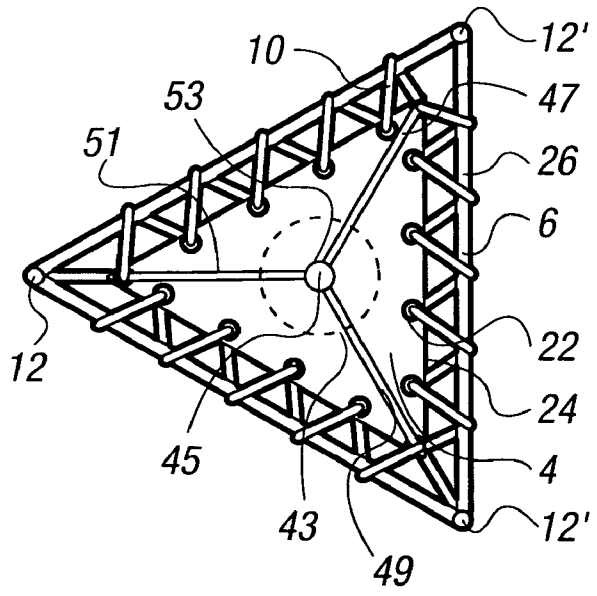


FIG. 6c

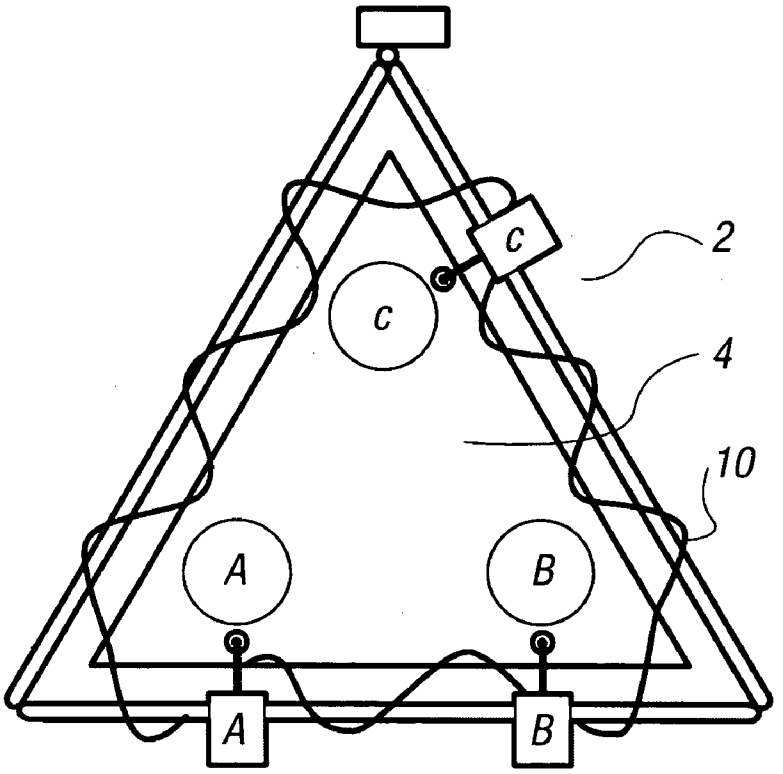


FIG. 7a

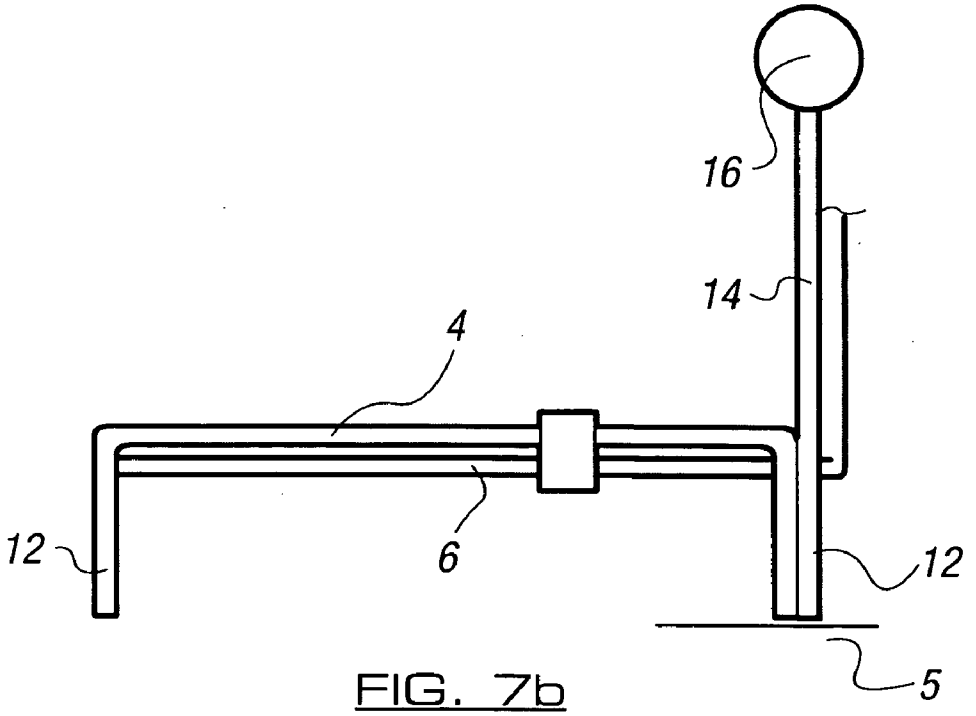


FIG. 7b

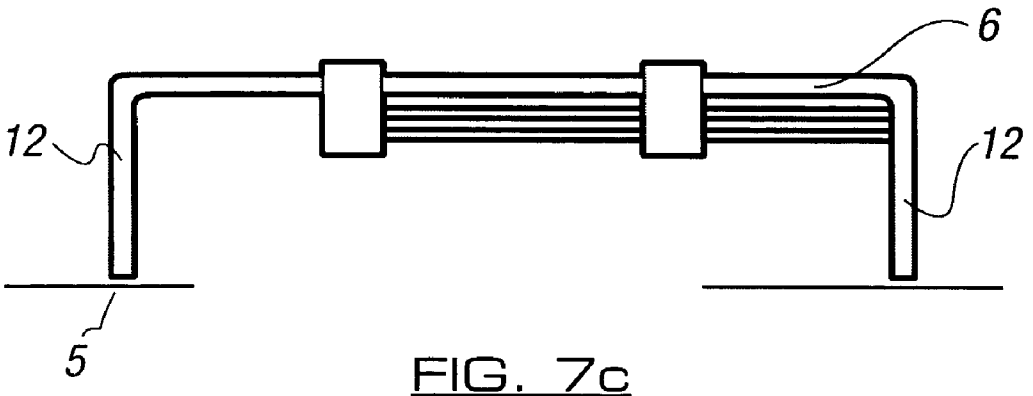


FIG. 7c

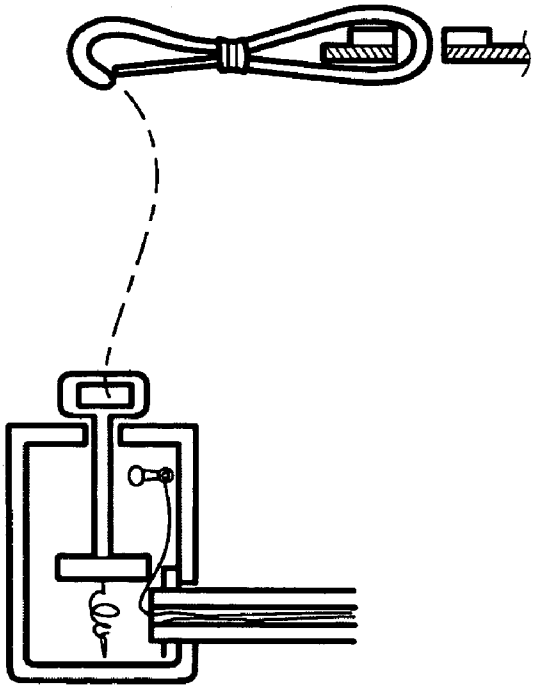


FIG. 7d

TRAMPOLINE

[0001] The present invention relates to a bouncing device, and particularly to a bouncing device in the form of a trampoline.

[0002] Conventionally, trampolines comprise a frame which supports a strong sheet of material therebetween via resilient means in a substantially horizontal orientation, typically in the form of springs or elastic members. The arrangement is such that when a user jumps on an upper surface of the material, the force of the weight of the user on the upper surface causes the springs to expand/elongate and the sheet material flexes, typically in a downwardly direction. The biasing force of the springs to return to their original substantially compressed condition, causes the sheet material to move in an upwardly direction, thereby creating a reactive force in an upwardly direction on the user sufficient to lift the user off the surface of the sheet material and allowing the user to bounce on the upper surface of the material.

[0003] Trampolines are widely used by children and a child will typically bounce up and down on it for a period of time. People also use trampolines for exercising on or for doing somersaults and/or the like. However, conventional trampolines are typically of only limited use and provide only limited interest to a user.

[0004] It is therefore an aim of the present invention to provide a trampoline which increases the interest of a user therein and which allows different games to be played and/or activities to be undertaken as a result of the user bouncing thereon.

[0005] According to a first aspect of the present invention there is provided a trampoline, said trampoline having frame means for supporting via connection means, a play surface a pre-determined distance above a floor surface, the play surface and/or connection means arranged so as to allow a user and/or object to bounce on the same, characterised in that sensing means are associated with the trampoline, such that impact or contact of the user or object on said play surface results in detection of the same by said sensing means and, said detection resulting in activation of audio and/or visual means associated with said trampoline in a predefined manner.

[0006] The activation of the audio and/or visual means typically takes place when the contact or impact exceeds, is between or is at a pre-determined threshold level or range.

[0007] Preferably the position of impact on the play surface by one or more users or objects effects any or any combination of activation of said audio and/or visual means, the volume of said audio once activated, the type or length of audio emitted, the type or length of visual signal, one or more sequences of audio and/or visual means and/or the like. In one embodiment the activation, or type of activation is dependent upon a selection made by the user of the trampoline.

[0008] In one embodiment the play surface can be provided with one or more identified or target portions thereon, the audio and/or visual means being activated on contact and/or impact by the user or object on or in the vicinity of a target portion. The reactive or target portion can be in the centre of the play surface or, if more than one portion is provided, the portions can be adjacent to each other or spaced apart. In addition, the target portion can cover a whole, substantial portion or only part of the play surface as required.

[0009] In one embodiment the one or more reactive portions can be visible to a user on the play surface (i.e. defined by one or more images, shapes, characters, text, icons and/or the like displayed on the play surface), thereby allowing a user to orientate themselves with respect to the reactive or target portions in use. Alternatively, the one or more reactive portions can be hidden to allow the user to selectively or apparently randomly activate the audio and/or visual means.

[0010] In one embodiment there is a plurality of portions and sensing means are associated with each of the target portions. Thus, for example, the sensing means can be provided at or adjacent each of said target portions.

[0011] The trampoline can provide different audio and/or visual responses dependent on which of a plurality of target portions have been impacted on by said user and/or object.

[0012] Preferably the trampoline has control means to allow the audio and/or visual means to be moved between operational and non-operation conditions, to allow the volume of the audio to be adjusted, the type of audio and/or visual means to be adjusted, one or more sequences of audio and/or visual means to be adjusted and/or the like.

[0013] With regard to the type of audio that can be emitted following impact on the play surface of the trampoline, the audio can include the playing of music, abstract noises, sounds, one or more voices and/or the like.

[0014] The visual means can include any or any combination of one or more lights, video images, text and/or the like being displayed on the trampoline.

[0015] The audio and/or visual means can be activated substantially continuously following impact on the play surface, intermittently, in a pre-determined sequence and/or on impact only.

[0016] In one embodiment display means are provided with the trampoline and impact or contact on the play surface can affect one or more characters, images, text and/or the like displayed on the display means.

[0017] Preferably speaker means are provided with the trampoline to allow the audio to be sounded therefrom.

[0018] In a preferred embodiment the trampoline is provided with handle means to allow a user to grip the same when jumping on the play surface of the trampoline. In one embodiment the handle means include at least one elongate portion upstanding from the play surface. Gripping portions can be provided on the handle means, for example so as to depend therefrom in first and second directions.

[0019] Preferably sensing means are provided on or adjacent an underside, rear or lower surface of the trampoline play surface. Impact or contact on an upper or front surface of the play surface typically results in the sensing means creating a signal which activates the audio and/or visual means.

[0020] The sensing means can be in substantially continual contact wit the play surface or can be a spaced

distance from the play surface, such that on deformation of the play surface or connection means, the sensing means are contacted.

[0021] In one example, the sensing means is in the form of pressure detection means which detect when a user or object has jumped or is located on the play surface.

[0022] In one embodiment the sensing means include a switch housing located with respect to the play surface or connection means such that impact or contact on an upper surface of the play surface results in movement of the switch between on and/or off conditions. Thus, in one embodiment, upon every detected or sufficiently large impact the switch is moved to complete an electrical circuit and trigger a signal to signal processing and control means.

[0023] In one embodiment the switch means has a housing which is mounted on or adjacent the underside of the play surface at the location of said target portion. In one embodiment the housing is provided with an electrical lead which reacts to the change in condition of the switch means upon a player impact on the surface and so results in the generation of a signal representing the impact.

[0024] In one embodiment the sensing means are provided in or associated with the connection means.

[0025] The impact or contact of a user on the upper surface of the play surface and the positioning of the sensing means is selected so that a "normal" bounce impact is typically of such a force, in such a pre-determined manner, for a period of time sufficient to activate the sensing means. In one embodiment the sensing means is positioned at a distance offset from the underside of the play surface such that a positive impact force is required to activate the sensing means.

[0026] The advantage of the trampoline of the present invention is that it increases the enjoyment and interest of a user, particularly if the user is a child.

[0027] Typically the play surface is surrounded by a padding material which typically masks the connecting means between the play surface and the frame and therefore provides protection to the user.

[0028] Preferably the switch includes a movable member which moves following impact on the play surface, movement of said movable member initiating an electrical signal in electrical circuitry which activates said audio and/or visual means.

[0029] According to a second aspect of the present invention there is provided a trampoline, said trampoline including a play surface formed from substantially flexible material on which a user or object can bounce in use, the play surface being suspended a pre-determined distance above a floor surface between frame means via resilient biasing means, the resilient biasing means and the play surface being arranged such that when a load is applied to the play surface via a user or object in the form of a bounce, the play surface flexes and the resilient biasing means extend in length from a first substantially compressed condition to a second extended or substantially tensioned condition, the biasing force of the resilient biasing means being such that as it returns to the first substantially compressed condition, this creates a reactive force on the play surface sufficient to push the user or object a spaced distance apart from the play surface, characterised in that impact or contact of the user or object on the play surface is detected by sensing means which activates audio and/or visual means associated with the trampoline in a pre-defined manner.

[0030] Embodiments of the present invention will now be described with reference to the accompanying figures, wherein:

[0031] **FIGS. 1***a-c* show the use of the trampoline of the invention with examples of different games which can be selected to be displayed;

[0032] **FIG. 2***a-2c* illustrate various views of a cover plate of the control means in one embodiment;

[0033] **FIGS. 3***a-3c* illustrate various views of the housing of the control means for connection with the cover plate shown in **FIGS. 2***a-2c*;

[0034] **FIG. 4** is a flow diagram illustrating an example of an audio mode of the present invention in one embodiment;

[0035] **FIG. 5** illustrates the input/output ports on the control means in onc embodiment;

[0036] **FIGS. 6***a-c* illustrate views of the trampoline apparatus in one embodiment of the invention; and

[0037] **FIG. 7***a-c* show views of the trampoline in accordance with a further embodiment of the invention.

[0038] Referring firstly to the **FIGS. 6***a-c*, there is illustrated a trampoline **2** according to one embodiment of the present invention which has audio means associated therewith to allow audio to be sounded in response to a user impacting with a surface of the trampoline.

[0039] The trampoline **2** includes a play surface **4** which is supported in a required orientation a pre-determined distance above a floor surface **5** between frame means **6**. The play surface **4** is typically provided in a substantially horizontal orientation, although the invention would still function if the play surface was provided at any angle, such as in a vertical orientation and objects were thrown at the play surface for example.

[0040] The frame means **6** in this example is substantially triangular in shape but it will be appreciated that the frame means/trampoline can be provided in any required shape and/or design. It has an upper surface **8** which has connection means **10** for connecting the play surface **4** thereto and support legs **12** for supporting the upper surface, and thus the play surface, above the floor surface on which the frame means is placed. Handle means in the form of upright frame members **14** and gripping portions **16** are provided to allow a user to grip the same when they are using the trampoline. However, the handle means could be removed or, if provided, the user can use the trampoline without gripping the same if required.

[0041] The play surface **4** is typically formed from a material which flexes upon a user jumping or impacting on an upper surface thereof. The material is substantially the same shape as the shape of the upper frame surface **8** and is attached thereto by connection means **10**.

[0042] The connection means **10** includes eyelets surrounding apertures **22** provided adjacent peripheral edge **24** of play surface **4**. The apertures **22** are provided at spaced distances apart on the play surface. A connection member in

the form of resilient or elasticated member **26** passes through the apertures **22** to join the same to the frame.

[**0043**] **FIG. 6***b* illustrates a plan view from above, with the handle portions removed for illustrative purposes, and shows the location of the target portion **43** which is located on the play surface to indicate where the player should jump on the play surface to be able to register an impact when playing a game.

[**0044**] **FIG. 6***c* is a plan view of the underside of the play surface and indicates the location of a switch detection means **45**, the housing of which is located to the underside of the play surface **4**, under the target portion **43** and typically offset a distance from the play surface underside so as to avoid the occurrence of false detections by the switch means when the player is simply standing on the play surface.

[**0045**] In operation the play surface **4** is positioned on the frame **6** by the connection means **10**. The switch means **45** housing is suspended in position via elasticated ropes **47**, **49**, typically attached to the spacer units between the frame legs **12**'. The switch means also includes switch cord **51** which passes from the housing **53** to the other frame leg **12**. The switch cord is moved when an impact is detected at the housing and this movement causes the completion of an electrical circuit to the control means **54** on the handle **14** such that an electrical signal is generated each time an impact is registered. When the impact force is removed, the cord returns to a first state where no electrical signal is generated.

[**0046**] Turning now to a further embodiment of the invention as shown in **FIGS. 7***a-e* the same reference numerals as shown in **FIGS. 6***a-c* are used for common features. However in this embodiment the impact sensing means are provided at a plurality of location on the play surface to match a series of target portions on the same.

[**0047**] A description of one type of sensing means as used in **FIGS. 7***a-e* is now described. The sensing means are each joined to a hook or locking member **28**, as shown in **FIGS. 7***d* and **7***e*. Hook **28** engages an outer portion **30** in the form of ring member **32** of a movable member **34** provided in a trigger housing **36**. The trigger housing **36** allows movement of the play surface **4**, as a result of a user jumping thereon, to be transmitted to electronic circuitry provided with the trampoline, thereby allowing activation of the audio means.

[**0048**] More specifically, trigger housing **36** includes switch means in the form of a leaf switch **38**. A plate member **40** is provided on movable member **34** adjacent an opposite end to ring member **32** and, as a user impacts play surface **4**, the said surface moves in a downwardly direction, thereby placing the elasticated member **26** and hook **28** under tension. This causes ring member **32** to be pulled in a direction outwardly of trigger housing **36**. Movable member **34** also moves outwardly of trigger housing **36** through aperture **42** in housing **36** causing plate member **40** to contact leaf switch **38** and move an electrical circuit associated therewith to an "on" condition. Resilient biasing means in the form of a spring **44** connects plate member **40** to an inner surface **46** of trigger housing **36** opposite to the surface of housing **36** defining aperture **42**. Once the weight of the user has been lifted from the play surface **4** (i.e. during a jump), the biasing effect of spring **44** moves plate member **40** towards surface **46**, thereby releasing contact of member **40** with the leaf switch **38** and moving the electrical circuit associated therewith to an "off" condition.

[**0049**] Electrical wiring **48** joins leaf switch **38** to electronic control means **54** provided on the handle means. A channel in the form of tubing **52** forming part of the frame means or associated therewith houses the wiring **48** between the trigger housing **36** and the control means **54**.

[**0050**] In which ever embodiment, electronic control means **54** includes a housing **52**, shown in **FIGS. 3***a-3e*, with a cover portion **50**, shown in **FIGS. 2***a-2e*, for attachment thereto. A speaker **56** is located in housing **52** adjacent a plurality of apertures **58** provided in cover portion **50**, thereby allowing generated audio to be sounded from the control means **54**. Microprocessing means and memory means in the form of an electronic chip are typically provided in the electronic circuitry located in control means **54** to allow electrical signals transmitted via wiring **48** to be converted into required audio signals.

[**0051**] Cover portion **50** can be connected to housing **52** by any conventional means but in this example portion **50** is secured using a plurality of fixing screws located through apertures **60** in housing **52**. The housing **52** and cover portion **50** can be provided in any required shape and/or design and can be formed from any suitable material.

[**0052**] In use, a user jumps on the play surface **4** of the trampoline and this jumping causes electrical signals to be transmitted from the trigger housing **36** to the electronic control means **54** for audio to be generated. Examples of how the audio means can be used to increase the interest of a user in the toy are illustrated in **FIGS. 1***a-c*. For example, timing means **62** can be provided which allows a user to count how many times they can bounce on the play surface in a pre-determined period of time, as shown by game reference 'A'. The display screen of the timing means can display the time and/or the number of bounces/jumps detected on the play surface in the time period. The audio could also sound the number of bounces/jumps detected during said time period. The pre-determined period of time can be set by the user and/or the manufacturer and different levels of difficulty can be provided as required.

[**0053**] Game reference 'B' illustrates an example where the number of bounces are counted and sounded to a user as and when impact of the user on the play surface is detected.

[**0054**] Game reference 'C' illustrates how a tune can be played, such as "twinkle, twinkle little star" upon detection of one or more impacts of the user on the play surface **4**. Other noises, tunes and/or sounds can be requested as required, such as drum noise **64**, guitar sound **66**, piano sound **68**, pig sound **70**, dog sound **72**, or cow sound **74**.

[**0055**] Game reference 'D' illustrates how the detection of a pre-determined number of bounces on the play surface **4** results in facts being read out via electronic control means **50**, such as "altogether you have jumped as high as Big Ben". The control means **50** logs the average height of a bounce and calculates the total height achieved based on the number of jumps/impacts detectcd on play surface **4**.

[**0056**] Game reference 'E' illustrates how music statues can be played such that a user is required to jump to the

music and stop when the music stops. One or more games with sets of rules could be based around this example.

[0057] Game Reference 'F' illustrates how questions, such as sums, can be asked via the control means **50** and the user has to bounce on play surface **4** a required number of times corresponding to the answer of the sum. The control means **50** can then sound a "correctly " or "incorrect" sound depending on whether the user has undertaken the correct number of bounces corresponding to the answer of the sum.

[0058] Game reference 'G' illustrates how abstract or funny noises can be sounded upon detection of impact of the user of play surface **4**.

[0059] Game reference 'H' illustrates how a background sound or music can be produced and the user has to jump in time to the sounds or music.

[0060] It will be appreciated that the above illustrations of game references A-H are only a few examples of a large number of possible examples in which the detection of a player's impact on the play surface can be used to allow the playing of a game, to set targets to be achieved and also allow audio to be used in association with the trampoline. It will also be appreciated that visual means can be provided in conjunction with the audio means or separate thereto to further increase the appeal of the trampoline to a user.

[0061] The control means **50** can be provided with a display screen or other control buttons to allow a menu of possible games to be played using the trampoline. A detailed example of the steps involved in a game is illustrated in **FIG. 4**. In this embodiment, the play surface is divided into different areas or portions, such that impact by the user on a particular area or portion of play surface **4** results in a different audio response generated compared to impact on a different area of portion of play surface **4**. This can be achieved by the trigger housing adjacent the particular area on which impact is detected signalling to the control means a unique or pre-determined signal. Alternatively, other sensing means can be attached to portions of the play surface to allow activation of audio upon detection of impact.

[0062] Although the above examples relate to a trampoline for use by children, the trampoline of the present invention could also be used by adults, such as for use as an exercise trampoline. Exercises which the user is required to perform can be sounded by way of spoken instructions via the speaker means or illustrated via a display screen associated with the control means.

[0063] Alternatively, music can be played upon impact of the user on the play surface during exercise and/or the like.

1. A trampoline, said trampoline having frame means for supporting via connection means, a play surface a pre-determined distance above a floor surface, the play surface and/or connection means arranged so as to allow a user and/or object to bounce on the same, characterised in that sensing means are associated with the trampoline, such that impact or contact of the user or object on said play surface results in detection of the same by said sensing means and, said detection resulting in activation of audio and/or visual means associated with said trampoline in a predefined manner.

2. A trampoline according to claim 1 characterised in that the audio and/or visual means are activated when the impact or contact detected on the play surface exceeds a pre-determined threshold value or range.

3. A trampoline according to claim 1 characterised in that the position of impact on the play surface by the user or object affects any or any combination of activation of said audio and/or visual means, the volume of said audio once activated, the type or length of audio emitted, the type or length of visual signal, one or more sequences of audio and/or visual means.

4. A trampoline according to claim 1 characterised in that the effect of activation of said audio and/or visual means is dependent upon a selection made by the user of the trampoline from a range of selectable audio and/or video options.

5. A trampoline according to claim 1 characterised in that the play surface is provided with one or more target portions thereon, and the audio and/or visual means are activated on contact and/or impact by the user or object on or in the vicinity of a target portion.

6. A trampoline according to claim 5 characterised in that a target portion is provided in the centre of the play surface.

7. A trampoline according to claim 5 characterised in that more than one target portion is provided and said target portions are provided adjacent each other or a spaced apart to each other.

8. A trampoline according to claim 5 characterised in that the one or more target portions are visible to a user on the play surface.

9. A trampoline according to claim 5 characterised in that sensing means are associated with said one or more target portions.

10. A trampoline according to claim 5 characterised in that different audio and/or visual responses are activated depending on which target portion has been impacted by a user and/or object of a plurality of possible target portions.

11. A trampoline according to claim 1, characterised in that control means are provided to allow any or any combination of the audio and/or visual means to be moved between operational and non-operational conditions, the volume of the audio to be adjusted, the type of audio and/or visual means to be adjusted and/or one or more sequences of audio and/or visual means to be adjusted.

12. A trampoline according to claim 1 characterised in that display means are provided with the trampoline and impact on the play surface affects one or more characters, images or text displayed on the display means.

13. A trampoline according to claim 1 characterised in that the trampoline is provided with handle means to allow a user to grip the same when jumping on the play surface of the trampoline.

14. A trampoline according to claim 1 characterised in that the sensing means are provided on or adjacent an underside or lower surface of the play surface and impact of the user or object on an upper surface of the play surface results in activation of the audio and/or visual means.

15. A trampoline according to claim 1 characterised in that the sensing means are in substantially continual contact with the play surface or connection means in use.

16. A trampoline according to claim 1 characterised in that the sensing means are arranged a spaced distance from the play surface or connection means and said play surface and connection means contacts said sensing means following an impact on the play surface by a user and/or object.

17. A trampoline according to claim 1 characterised in that the sensing means is in the form of pressure detection means which detect when a user or object has jumped or is located on the play surface.

18. A trampoline according to claim 1 characterised in that the sensing means include a switch located with respect to the play surface or connection means, such that impact or contact on an upper surface of the play surface results in movement of the switch between on and/or off conditions.

19. A trampoline according to claim 18 charactetised in that the switch is moved to complete an electrical circuit and trigger a signal to signal processing and control means.

20. A trampoline according to claim 18 characterised in that the switch includes a movable member which moves following impact on the play surface, movement of said movable member initiating an electrical signal in electrical circuitry which activates said audio and/or visual means.

21. A trampoline, said trampoline including a play surface formed from substantially flexible material on which a user or object can bounce in use, the play surface being suspended a pre-determined distance above a floor surface between frame means via resilient biasing means, the resilient biasing means and the play surface being arranged such that when a load is applied to the play surface via a user or object in the form of a bounce, the play surface flexes and the resilient biasing means extend in length from a first substantially compressed condition to a second extended or substantially tensioned condition, the biasing force of the resilient biasing means being such that as it returns to the first substantially compressed condition, this creates a reactive force on the play surface sufficient to push the user or object a spaced distance apart from the play surface, characterised in that impact or contact of the user or object on the play surface is detected by sensing means which activates audio and/or visual means associated with the trampoline in a pre-defined manner.

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