# United States Patent [19]

**Lemelson**

[11] **3,776,552**

[45] **Dec. 4, 1973**


[54] **BOARD GAME APPARATUS**


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[22] Filed: **Jan. 24, 1972**

[21] Appl. No.: **220,160**

[52] **U.S. Cl.** ..... **273/130 R,** 273/136 R, 273/139

[51] **Int. Cl.** ..... **A63f 3/00**

[58] **Field of Search** ..... 273/130, 136



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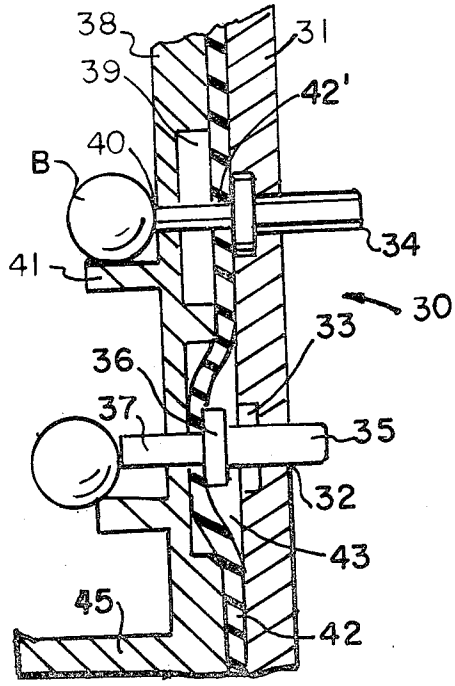
*Primary Examiner*—Delbert B. Lowe



[57] **ABSTRACT**

Game apparatus is provided in which a plurality of pin-like members are moveable through a playing board to effect scoring. Several configurations are provided, each of which utilizes a flexible, rubber-type sheet material to either frictionally retain a moveable member or spring-bias said moveable member so that when the moveable member is moved, it will be returned thereby to a pre-moved location. The constructions provided herein permit the production of a variety of games and game devices at relatively low cost due to the elimination of separate springs and retaining means.


**10 Claims, 5 Drawing Figures**



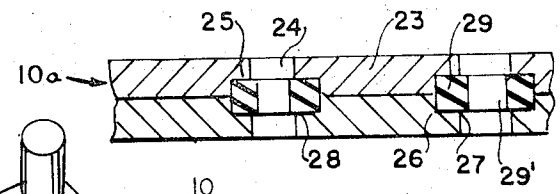



FIG.5

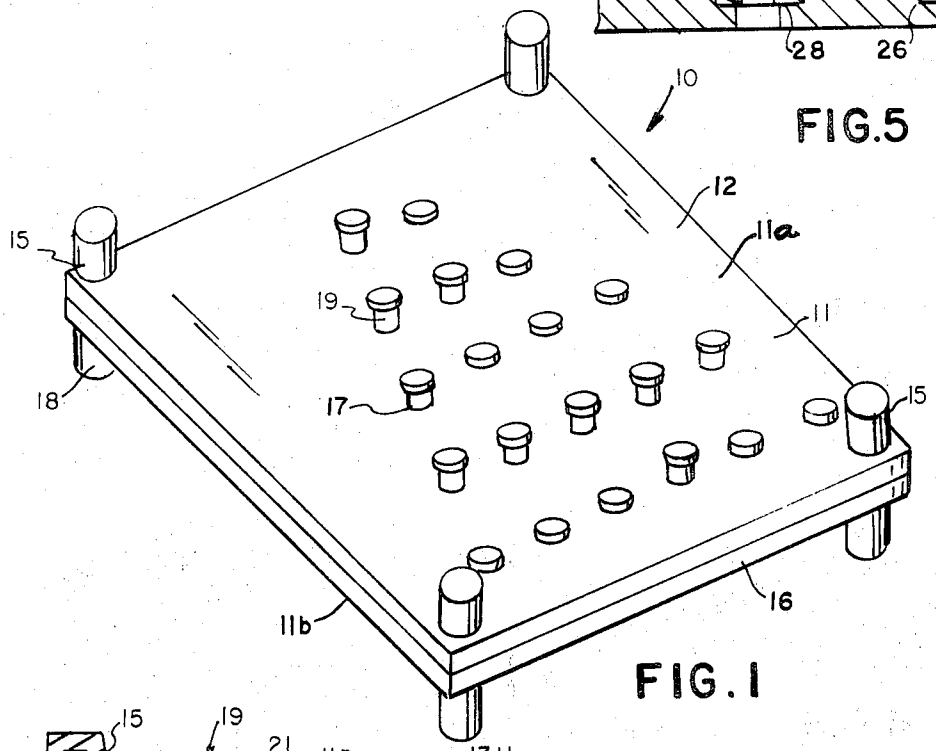



FIG. 1

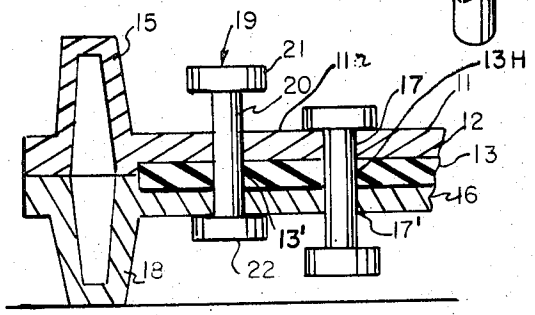



FIG. 2

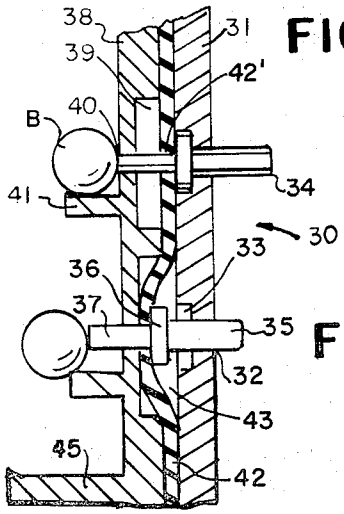



FIG.3

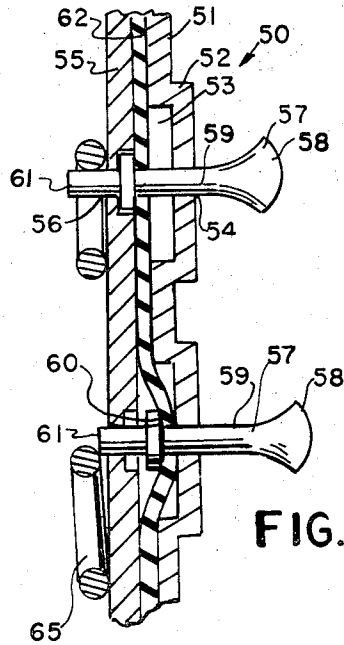



FIG.4

# BOARD GAME APPARATUS

## SUMMARY OF THE INVENTION

This invention relates to a game apparatus employing a plurality of pin-like members which are moveable through a playing board and are either biased in a mono-stable condition to retain them in a premoved condition even though they are moved, or are frictionally supported permitting them to be operated in a bistable mode.

Generally, biased game pieces have required a plurality of springs, including at least one spring for each game piece to bias same. The instant invention employs a sheet of flexible material such as rubber or synthetic rubber or suitable flexible plastic properly disposed between two or more rigid molded members and containing holes therein for accommodating a plurality of pin-like members which extend through openings in the surface materials sandwiching the flexible material therebetween.

Accordingly it is a primary object of this invention to provide new and improved structures in game boards.

Another object is to provide an improved game which may be played by selectively pushing buttons or pins through openings in a board to assume a selected position of two positions.

Another object is to provide novel structures in playing boards employing a plurality of pins which may be moved in either direction to release or engage playing pieces.

With the above and such other objects in view as may hereafter more fully appear in the specification, the invention consists of the novel constructions, combinations and arrangements of parts as illustrated in the accompanying drawings but it is to be understood that changes and modifications may be resorted to which fall within the purview of the claims without deviating from the spirit and scope of the instant invention.

In the drawings:

FIG. **1** is an isometric view of an assembled game employing features of the instant invention;

FIG. **2** is a cross-sectional view of a fragment of a portion of the game board of FIG. **1**;

FIG. **3** is a cross-sectional view of a modified form of a game board employing certain of the structures and materials of the apparatus of FIG. **1**;

FIG. **4** is a modified form of the structure of FIG. **3** shown in cross section;

FIG. **5** is a cross-sectional view of a fragment of a modified form of the FIG. **2** game board.

FIG. **1** shows a game board **10** comprising an assembly **11** of playing board members having playing pieces **19** movably retained in respective holes **17** extending through the board assembly and capable of being selectively pushed downwardly by finger or thumb so that the head **21** of the playing piece **19** abuts the upper surface **11***a* of the playing board as shown in FIG. **2** and the playing piece protrudes downwardly from the opposite surface **11***b* of the board. Depression of a playing piece into the board may be indicative of a game move, cancellation of the playing piece or other game indication.

The game board **10** is composed of upper and lower board sections denoted **12** and **16** shown in FIG. **2** as joined together to provide a cavity **13'** between the two in which is retained a sheet **13** of resilient material such as rubber or flexible plastic containing holes **13H**



through which the shanks **20** of the playing pieces may pass but of such a diameter as to frictionally grip said playing pieces so that they will be retained thereby projected upwardly or pushed downwardly as clearly shown by the two pieces of FIG. **2.**

Other features of the playing board **10** include a plurality of leg portions **15** projecting upwardly from surface **11***a* and further leg portions **18** aligned with the leg portions **15** for supporting the assembly **11** with either surface **11***a* or **11***b* facing upwardly. In a particular game arrangement, the object of the game is to selectively depress the playing pieces **19** such that the player whose turn it is to depress the last remaining piece either wins or loses. When this condition has been attained, depression of the last playing piece will result in setting up the playing board for another round or game. The players merely have to turn the board upside down thereafter to present all playing pieces protruding upwardly from the playing surface which was facing downwardly during the previous game. Accordingly, the legs **15** and **18** disposed at the four corners of the board are all of equal height and such as to dispose the board as shown in FIG. **2** to permit all playing pieces to be completely depressed without interference therewith by the surface on which the board is disposed.

The resilient material **13** disposed between the more rigid upper and lower board sections **12** and **16** may comprise a sheet of elastic rubber or a synthetic polymer such as copolymer ethylene vinyl acetate, styrene butadiene, plasticized polyvinylchloride, low density polyethylene, an ionomer resin or other suitable resin which is placed in the caivty **13'** or the portion thereof defined by the lower board section **16** prior to bonding or otherwise fastening the two board members **12** and **16** together. The resilient material **13** contains a plurality of holes or slits which expand to hole openings therein upon insertion of the shanks **20** of the pins **19** therein with said openings being such as to provide frictional fit with said shanks **20** which preferably slidably engage in the holes or aligned openings **17** and **17'** in the board sections **12** and **16** to permit the pins to be retained either protruding upwardly from the upper surface of the game board **11** or completely depressed into the board as shown at the right in FIG. **2.**

The resilient material **13** may also be cast or molded in situ on either of the two board sections **12** and **16** or therebetween. A so-called two-shot injection molding method may be employed to form the layer **13** in situ on one of the board sections.

The pin-like members **19** and holes into which they are inserted are shown in FIG. **1** as being arranged in a triangular configuration for playing the game wherein a player may depress one or more pieces along the line thereof. Various other board configurations and arrangements are possible with respect to the placement of the playing pieces and it is noted that the board assembly may also have various shapes and have its surface or surfaces shaped other than flat as shown.

In FIG. **3** is shown a portion of a game apparatus **30** which is composed of an assembly of three sheet-like members denoted **31, 38** and **42.** Members **31** and **38** are laminated or otherwise secured to opposite sides of sheet-like member **42** which is preferably a sheet of rubber, synthetic rubber or suitable flexible plastic such as polybutadiene or ethylene vinyl acetate plastic. Actuator playing members **34** are cylindrically shaped pins having a head **35** and tail portion **37** separated by

a shelf **36**, all preferably of circular or cylindrical shape. The end **37** of the pin **34** extends through a hole **42'** in rubber sheet **42** and then through a second hole **40** in member **38** through which hole **40** it may be slidably actuated. If either or both the playing boards **31** and **38** are opaque, playing pieces such as balls, discs, or otherwise shaped members B may be disposed on respective retainers or shelves **41** secured to or integrally formed with the member **38** in alignment with respective actuators **34.** Thus when an actuator **34** is pushed inwardly by hand, it may be used to cause an object such as a ball B to be pushed off the respective shelf for scoring purposes. In FIG. **3**, the balls pushed off each shelf are either collected on a larger shelf **45** or rolled downwardly thereon and may pass through an opening (not shown) in the playing board to be retained by the person depressing the actuators.

The sheet **42** between members **31** and **38** is mounted so as to normally return to its flat condition after it is depressed by pushing on one of the actuators **34** and thus serves as a spring return means for said actuators.

In FIG. **4**, a construction in a vertical playing board is illustrated which defines a game apparatus **50** containing a plurality of headed pins **57** which may be pulled outwardly from the board for releasing on object held on the tail-end **61** of the pin which projects normally from the blind face of the board. The board is composed of three layers, a first layer **51** of opaque rigid material, an interlayer **62** comprising a sheet of rubber or rubber-like plastic and a third layer **55** sandwiching **62** against member **51.** Each of the actuators **57** is composed of a head **58**, a shank **59** extending from the head to a shelf **60** and an end shank **61** extending from the shelf **60** which normally protrudes beyond the opposite face of board member **55.** When the head portion **58** of the actuator **57** is pulled, the shelf **60** deflects the rubber sheet as shown at the bottom of FIG. **4**, which rubber sheet tends to return to its undeflected state and return the actuator **57** to the position illustrated at the top of FIG. **4.**

In the apparatus shown in FIG. **4**, a ring **65** is shown supported by the end **61** of the upper pin and is released when the pin is pulled as shown at the bottom of FIG. **4.** A game may be provided utilizing the assembly **50** of FIG. **4** which is supported on a base so that it is retained in a vertical attitude as shown in FIG. **4.** The game is played by disposing various objects such as balls with holes in them or the rings **65** illustrated on selected of the protruding ends **61** of the pins **57** by one player, whereby the other player does not know which of the pins contain objects supported on the other side of the board thereby. The player thus operates blind in pulling on certain of the pins with the hope of releasing as many as possible of the objects secured on the blind side of the board from their tenuous hold on the pin ends by retracting said pin ends into the board such that the rings or objects **65** fall downwardly as illustrated at the lower end of FIG. **4.** This is in contradistinction to the technique provided in FIG. **3** wherein balls or other objects are selectively disposed on projections or shelves **41** in alignment with selected of the pins and are pushed thereoff by the selective pushing of pins into the board as illustrated at the lower end of FIG. **3.**

In FIG. **5** is shown another construction in a playing board of the type shown in FIG. **1** which may also be modified to provide playing board structures of the types shown in FIGS. **3** and **4.** The playing board **10***a* is composed of an assembly of components including abutting rigid board members **23** and **26** containing a plurality of pairs of aligned holes denoted respectively **24** and **27** extending from respective countersunk, inwardly facing cavities **25** and **28** each of which is concentric with the holes **24** and **27** in the boards **23** and **26.** Disposed within each of the pairs of aligned cavities **25** and **28** is a respective annular resilient washer **29** having a hole **29'** therethrough which is axially aligned with the holes **24** and **27** in the boards **23** and **26** and preferably of a slightly smaller diameter than said board holes **25** and **28.** The structure found in FIG. **5** may be utilized to serve the same purpose as that shown in FiG. **2**, e.g., - to hold a plurality of pins similar to pins **19** in either a protruding or a totally pushed in condition. In a preferred form of the invention shown in FIG. **5**, the resilient washers **29** may be molded in situ within the countersunk portions of the holes in either of the board portions **23** and **26** which are made of a more rigid material than the resilient material comprising washers or formations **29.** In other words, by forming, for example, board portion **23** by injection molding same of a rigid plastic such as a high impact polystyrene and then disposing the molding within a mold while the countersunk portions **25** form a molding cavity with the mold member and injecting flexible polymeric material such as ethylene vinyl acetate, polybutadiene styrene or other suitable plastic therein, all of the washers **29** may be simultaneously molded and formed in situ against the exposed portions of the already formed board **23**, thus eliminating the need to separately secure separately formed washers within the cavities formed of the countersunk portions of both boards.

I claim:

**1.** A game apparatus comprising:

a game board made of a plurality of different materials including a first layer of rigid material and a flexible material disposed against said rigid material, a plurality of holes extending through said layer of rigid material in alignment with said flexible material,

a plurality of game playing actuators assembled with said board and each being longitudinally moveable through a hole in said rigid material,

each actuator protruding from opposite surfaces of said playing board and being in contact with said flexible material so that movement of the actuator in at least one direction through the playing board will deform the flexible material in a manner to provide a biasing force by said flexible material on the actuator in a direction opposite to the initial direction of movement of the actuator,

there being at least one playing piece operatively located with respect to one of said actuators to be moved for scoring when said one actuator is moved longitudinally by hand through said board from a first position towards which it is biased by said flexible material whereby a score is effected upon the movement of the playing piece by the actuator.

**2.** A game apparatus in accordance with claim **1** wherein the actuators normally protrude and are outwardly biased from a first side of the playing board and said playing piece is predeterminately located in alignment with the actuator adjacent the other side of the

playing board to be moved upon movement of the actuator through the playing board.

**3.** A game apparatus in accordance with claim **2** wherein the playing piece is a small object such as a ball, means for removably retaining said playing piece in alignment with one of various actuators assembled with said board and out of view of the player located on the opposite side of the board.

**4.** A game apparatus in accordance with claim **3** wherein said playing piece retaining means comprises a shelf located beneath said actuator and operable to retain a playing piece on its upper surface in a location such that when the actuator is longitudinally pushed through the board it will engage and push the playing piece off said shelf.

**5.** A game apparatus in accordance with claim **1** wherein said playing piece is a small ring and said actuators normally project from both surfaces of said playing board permitting said ring to be hung from a selected actuator out of view of the person playing the game from the opposite surface of the board, the actuators being moveable through the board by means of a pulling action a sufficient degree to permit the actuator to retract into the board and to permit the ring-shaped playing piece held by an actuator to fall thereoff when said actuator is pulled into the playing board.

**6.** A game apparatus in accordance with claim **1** wherein said flexible material comprises a sheet of rubber-like material adhered to said layer of rigid material and having a plurality of holes therethrough including at least one hole in alignment with each of the holes in said rigid material, each of said actuators having a shelf portion protruding laterally outwardly therefrom and engaging said flexible material in the area of its hole through which the actuator extends whereby said flexible material may serve as a means for biasing the actuator towards a home location.

**7.** A game apparatus in accordance with claim **1** wherein said rigid and said flexible materials are shaped to permit deflection of said flexible material in the area thereof engaged by an actuator when a force is applied to said actuator and said actuator is longitudinally moved through said board whereby, when the force is released the deflected flexible material will be restored to its condition before deflection and will return the actuator to its location before said force was applied thereto.

**8.** A game apparatus in accordance with claim **7** wherein each actuator normally protrudes from one surface of the board and is projectable from the other surface when a force is applied thereto and retaining means for disposing at least one playing piece adjacent one side of the board in alignment with each of the aligned holes of the board so as to be movable when the actuator disposed in said holes is moved to remove it from its retained location for scoring purposes.

**9.** A game apparatus in accordance with claim **8** wherein said retaining means for each playing piece comprises a shelf disposed behind said board and wherein the configuration of the actuators is such as to permit them to be longitudinally moved to push a playing piece disposed on a shelf and aligned therewith off the shelf.

**10.** A game apparatus in accordance with claim **8** wherein the playing pieces have holes in them and the actuators have end portions normally protruding.

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