Jan. 30, 1962 D. COHN 3,019,020

BOWLING GAME

Filed Oct. 20, 1958 2 Sheets-Sheet 1

Fig. 1

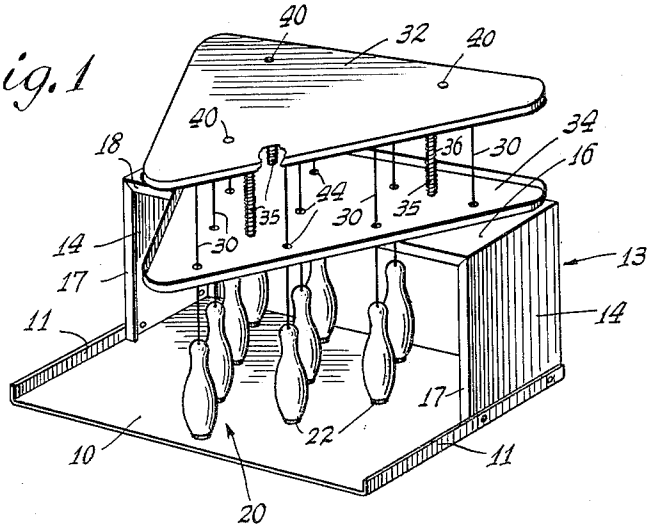


Fig. 2

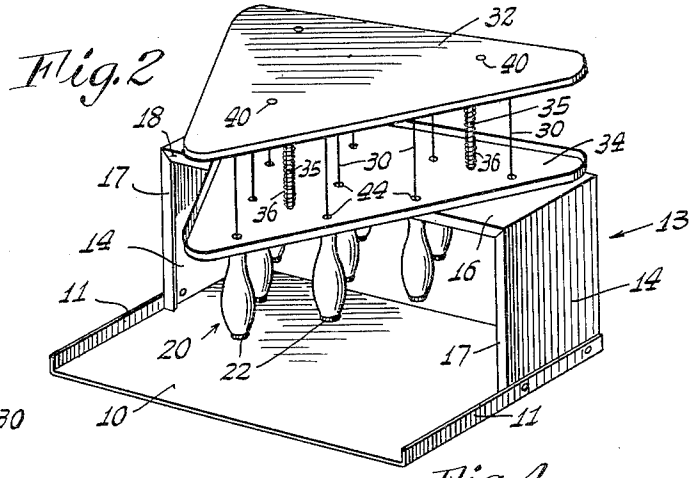


Fig. 3

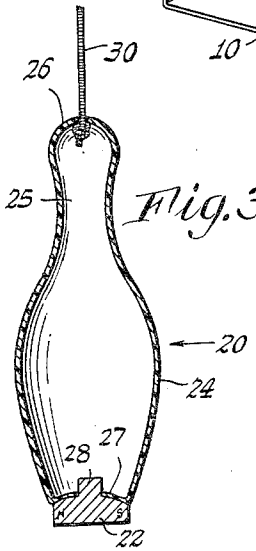
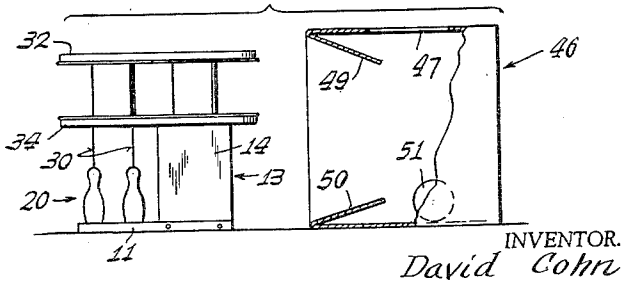


Fig. 4



INVENTOR.
David Cohn

BY

Munn, Liddy, Daniels & March

ATTORNEYS

Jan. 30, 1962 D. COHN 3,019,020

BOWLING GAME

Filed Oct. 20, 1958 2 Sheets-Sheet 2

Fig. 6

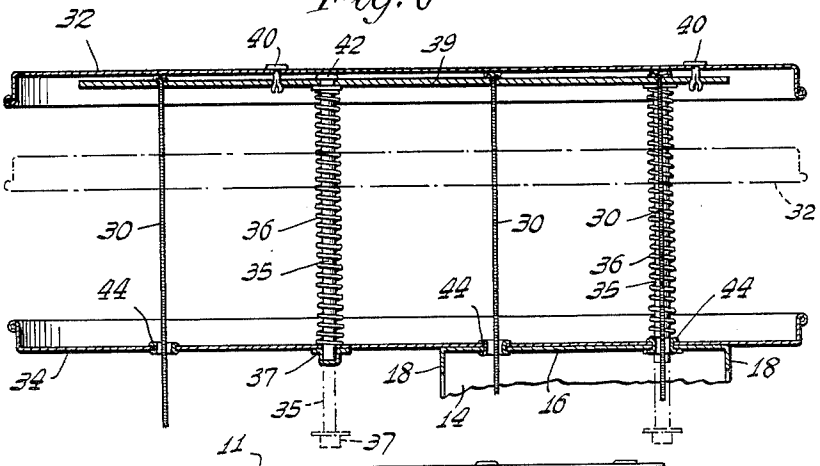
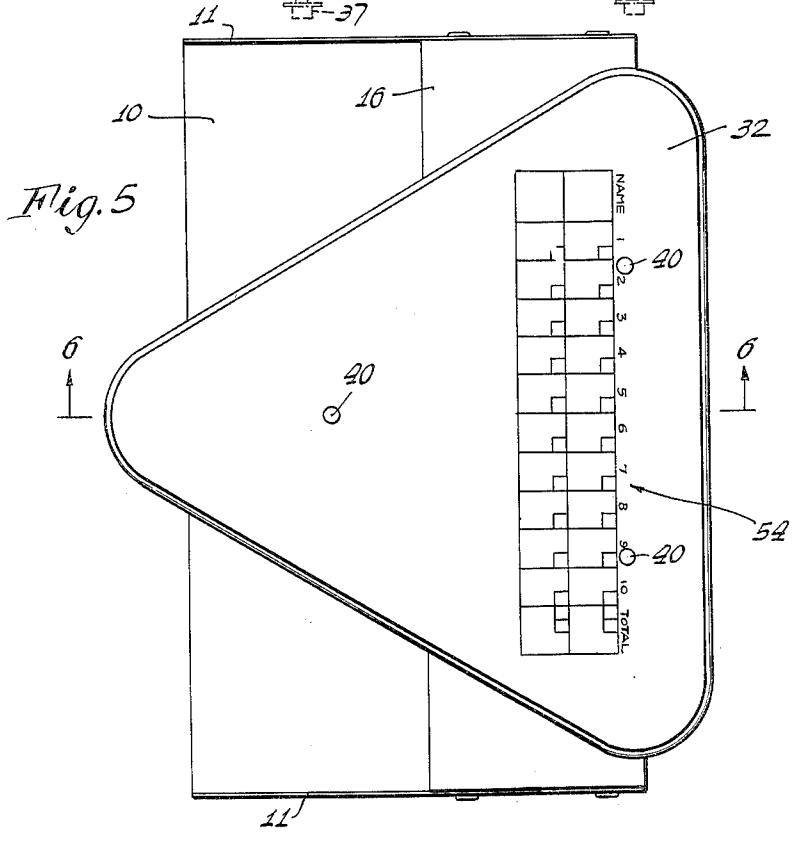


Fig. 5



INVENTOR.
David Cohn

BY

Munn, Liddy, Daniels & March

ATTORNEYS

United States Patent Office 3,019,020 Patented Jan. 30, 1962

3,019,020

BOWLING GAME

David Cohn, 123 Coleridge St., Brooklyn, N.Y.

Filed Oct. 20, 1958, Ser. No. 768,278
4 Claims. (Cl. 273—44)

This invention relates to game devices, and more particularly to a bowling game intended to be played on a large flat surface, such as the floor surface of a room or the like.

An object of the invention is to provide a novel and improved toy bowling game which is especially interesting and calculated to arouse the enthusiasm of youngsters and other persons playing it.

A further object of the invention is to provide a novel and improved bowling game wherein the pins may be especially quickly set up and retained in position on a base plate, and wherein the said pins when struck by the ball will be automatically removed from the base plate to positions at least partially out of the way of subsequent balls.

An additional object of the invention is to provide a toy bowling game as above set forth, wherein the pins are at all times held captive, both when set up and after being struck and wherein after the pins have been struck they are automatically removed from the base plate on which the rest, and may be later quickly simultaneously replaced thereon by but a single simple movement or operation on the part of the player.

Yet another object of the invention is to provide an improved toy bowling game in accordance with the foregoing, which is constituted to the greatest possible extent as a unitary device or assemblage while still retaining the feature of having separate playing balls, as in regular bowling equipment.

An additional object of the invention is to provide a toy bowling game as outlined above, wherein the balls after being put into play and striking the pins, are collected and held captive in a novel receptacle, facilitating their reuse and further simplifying and making convenient the playing of the game.

Features of the invention include the provision of a novel toy bowling game as characterized, which is competitive in its nature, requires an appreciable amount of skill to play well, is easy to play and to score, and may be played virtually anywhere, indoors and also outdoors.

Still another object of the invention is to provide an improved toy bowling game having the above advantages and which is nevertheless simple in its construction, inexpensive to produce, and durable and practical whereby it will withstand appreciable hard usage without failure.

Other features and advantages will hereinafter appear.

In the drawings accompanying this specification, similar characters of reference are used where possible to indicate like components throughout the several views, in which:

FIGURE 1 is a perspective view of the improved bowling game, with the bowling pins set in place on the baseplate.

FIG. 2 is a view like FIG. 1 but showing the pins as being automatically retracted or removed from the base plate.

FIG. 3 is a vertical, axial sectional view of one of the bowling pins as provided by the invention.

FIG. 4 is a side elevational view of the bowling game, and a view partly in side elevation and partly in vertical section of a novel receptacle for use in playing the game, positioned to receive and hold captive the bowling balls after they have been put into play.

FIG. 5 is a top plan view of the toy bowling game.

FIG. 6 is a vertical sectional view of the upper portion of the game, taken on the line 6—6 of FIG. 5.

Referring first to FIGS. 1 and 2, the improved bowling game of the invention comprises a thin, flat base plate **10** having an extensive upper surface, said base plate being constituted of magnetic sheet metal such as sheet steel, and being preferably provided with a pair of upstanding flanges **11** along its opposite side edges.

In conjunction with the base plate **10** and constituting therewith an enclosure which is open at the front and back there is provided an inverted U-shaped frame **13** formed preferably from a relatively wide strip of sheet metal, said frame having upright members **14** secured to the side flanges **11** of the base plate **10** at the rear portions thereof. The inverted frame **13** has a flat cross member **16** which is disposed above the rear portion of the base plate **10**, in spaced relation therewith For strengthening purposes the uprights **14** and the cross member **16** of the frame **13** are preferably provided with flanges **17** and **18**, as shown. It will be understood that the above described, construction embracing the base plate **10** and the inverted U-shaped frame **13** constitutes an enclosure which is open at both the front and the rear, as clearly seen in FIGS. 1 and 2.

In accordance with the present invention, novel bowling pins **20** are provided, FIGS. 1–3 so arranged that they are attracted to the magnetic base plate **10** and firmly supported thereon in upright positions as shown in FIG. 1. The support of the bowling pins **20** is not dependent on their being placed at certain particular locations on the base plate **10** but instead the said pins will be supported in an upright position at any location on the base plate, where they are placed.

Referring to FIG. 3, this is accomplished by the provision of permanent magnets **22**, constituting the base portions of the bowling pins **20**. Preferably, as illustrated herein, the bowling pins **20** are molded of a plastic material, in the form of hollow bodies having bulbous body portions **24**, reduced neck portions **25** and bulbous tip portions **26** constituting the upper extremities of the pin. At their lower portions, the pins **20** may have transverse bottom walls **27** provided each with a central perforation, and the permanent magnets **22** may have upstanding protuberances **28** adapted to extend into the apertures of the bottom walls **27** for positioning purposes and to aid in the retention of the permanent magnets on the pin body portion. In effecting such retention any suitable adhesive may be employed, or other means, as will be readily understood.

By the provision of the novel bowling pins **20** having light, hollow plastic bodies and relatively heavy permanent magnet base portions **22** the pins will be firmly held in upright positions on the base plate **10** when properly placed thereon. However, should the bowling pins be struck or jarred appreciably, they will be readily dislodged from the base plate **10**, either falling over or leaving the base plate entirely.

Further, in accordance with this invention, novel means are provided by which the bowling pins **20** after having been struck by a bowling ball, are lifted entirely from the base plate **10** automatically, so as to be removed at least to a great extent from the field of play. The bowling pins **20** may be automatically lifted upward after being struck and suspended above the base plate **10** to completely clear subsequent bowling balls, or they may be lifted a lesser distance so as to enable only the lower portions thereof to be disposed in the path of subsequent balls.

In accomplishing such automatic removal of the bowling pins **20** from the base plate **10** the pins are provided with elastic strings **30**, in accordance with the invention, such strings being secured to the bulbous tip portions **26** of the bowling pins and being also fastened to a triangular-shaped reset part or plate **32** which is mounted above the

base plate 10 so as to be vertically movable with respect thereto between predetermined limits. As shown, ten of the bowling pins 20 are suspended from the reset plate 32 so as to form the usual well-known triangle composed of four pins on a side. Each of the elastic strings 30 is so constituted and has a length that when slightly extended, as by experiencing the weight of one of the bowling pins 20, it will suspend such pin above the base plate 10 in spaced relation thereto. The spacing thus established between ths suspended bowling pin 20 and base plate 10 may be greater than the diameter of the bowling balls; or it may be slightly less than the diameter of a bowling ball, in which case any suspended pins which are in the path of a ball will be struck by the same and may swing about its suspension while at the same time offering relatively little resistance to continued movement of the ball. Depending on the size of the bowling pins and the spacing between them, such a suspended struck pin when swinging may strike adjoining pins which are still held firmly by the base plate. Or, they may clear such adjoining pins, thereby to make more difficult the securing of higher scores after an initial hit by a ball.

The above organization, as provided by the invention, results in a number of desirable features and advantages. For one thing it enables all of the bowling pins after they have been struck to be quickly and easily, accurately replaced on the base plate 10 by a single simple operation on the part of the player, without requiring any skill or care whatsoever. This will be brought out in detail further below. Also, by the provision of the elastic strings 30, the bowling pins 20 when struck may be automatically removed and lifted from the base plate 10, so as to be out of the way of subsequent balls which are put into play. Additionally, the pins 20 will at all times be held captive, and are not loose so that they will be prevented from becoming misplaced or lost, or getting underfoot where they may cause an accident to a person walking and unaware of their presence.

By the present invention the reset plate 32 is movably mounted on the inverted U-shape frame 13 and a guide means is provided through which the elastic strings 30 pass, thereby to facilitate the accurate positioning of the bowling pins on the base plate 10 at the time that the pins are being reset. The said guide means comprises a triangular guide plate 34 having generally the same outline and size as the reset plate 32. The guide plate 34 is disposed below the reset plate 32 and connected to the latter by the plurality of plunger rods 35 and helical compression springs 36 carried by said rods. The springs 36 are disposed between the reset and guide plates and at their ends they may engage the said plates, thereby to yieldably hold the reset plate in a raised position. The plunger rods 35 extend downward through suitably spaced openings in the guide plate 34, as shown in FIG. 6, and have abutment shoulders 37 on their lower extremities to hold the rods captive in the guide plate. Preferably, as shown in FIG. 6, the reset plate includes a sub-plate 39 which is disposed under the reset plate in closely spaced relation thereto and fastened by means of suitable rivets 40. The plunger rods 35 have heads 42 which are held captive between the reset plate 32 and the sub-plate 39, as shown. Also, the elastic cords 30 may advantageously pass through the sub-plate 39 and be secured between the latter and the reset plate 32, as by the use of suitable knots or the like. The guide plate 34 has a plurality of openings and eyelets or anti-abrasion bushings 44 disposed in said openings, through which the elastic strings 30 pass. Several of such eyelets 44 may be utilized to secure the guide plate 34 to the cross member 16 of the inverted U-shaped frame 13, as seen in FIG. 6.

It will now be understood that by the above organization the bowling pins 20 may be suspended above the base plate 10 with their upper extremities in engagement with the lower surface of the guide plate 34, as seen in FIG. 2. When the pins are so suspended they may be spaced from the base plate 10 either by a distance greater than the diameter of a bowling ball or else a distance slightly less than such a diameter.

In accordance with the invention, when it is desired to reset the entire group of bowling pins 20, it is merely necessary for the operator or player to depress the reset plate 32. This is made possible by the movable mounting of such plate as provided by the plunger rods 35, and by the resiliency of the springs 36 which yield in response to downward pressure on the reset plate. The bowling pins 20 will all be simultaneously lowered until the permanent magnet base portions 22 thereof come into engagement with the base plate 10. The said magnets will then attract the base plate, pulling the bowling pins downward and causing them to be firmly held and supported in an upright position on the base. Upon release of pressure on the reset plate 32 the latter will again shift upward until halted by engagement of the abutment shoulders 37 on the plunger pins 35 with the underside of the guide plate 34. However, since the permanent magnets 32 are much stronger than the elastic strings, the bowling pins 20 will remain in their proper positions on the base plate 10, and the elastic strings will stretch as the reset plate 32 is released.

The game is now in readiness for the players to put the bowling balls in action. When a ball is thrown and strikes one or several bowling pins 20 the said pins will be dislodged from the base plate 10 and due to the continuing upward influence exerted by the elastic strings 30, the struck pins will be raised from the surface of the base plate and held suspended immediately below the guide plate 34, as shown in FIG. 2. When all of the pins have been struck, or when the player has thrown his allotted number of balls the task of resetting the bowling pins may be easily accomplished, by merely depressing the reset plate 32 as will be now understood.

Also, in accordance with the present invention a novel receptacle 46 is provided to receive the balls which have been put into play after they pass through the enclosure constituted of the base plate 10 and the inverted U-shaped frame 13. Referring to FIG. 4, the receptacle 46 may be constituted as a cardboard box having a size suitable for receiving and storing the game assemblage shown in FIGS. 1 and 2.

The box 46 may have an opening 47 in its top, large enough to pass a player's hand when he is holding one of the bowling balls. Also, the box 46 has an open front, and is provided with inturned, angularly extended flaps 49 and 50 which are so arranged that they will hold captive the bowling balls 51 which are made to enter the receptacle 46. Such balls may then be conveniently removed by the players, for subsequent use. By the provision of the receptacle 46 the bowling balls 51 are prevented from straying or becoming lost, or getting underfoot whereby may cause an accident.

As shown in FIG. 5, the reset plate 32 may be provided with suitable indicia as in the form of a scoring table or chart 54 adapted to be marked by chalk or suitable equivalent means, whereby the players may keep track of their individual scores, just as with regular bowling games.

It will be understood that there has thus been provided in accordance with the invention a novel and improved toy bowling game having many features by which the interest and enthusiasm of the players will be aroused and held. The game is competitive in its nature, involves a certain amount of skill to play well, and is easy to play and to score. At all times the bowling pins will be held captive, and may be easily and quickly reset by a single operation on the part of a player, without requiring the usual care in place the pins exactly in the required triangular configuration. The bowling pins will be kept from straying or becoming lost, and will not be likely to get underfoot. The bowling game is constituted to

the greatest possible extent as the unitary device. It is durable and practical, relatively simple and inexpensive to manufacture, and may be played anywhere, either indoors or outdoors.

Variations and modifications may be made within the scope of the claims, and portions of the improvements may be used without others.

I claim:

1. A toy bowling game comprising a flat substantially rectangular shaped metal base plate of magnetic material having an extensive upper surface, said base plate having upstanding flanges integral with the opposite side edges thereof, an inverted U-shaped frame extending over said base plate in spaced relation thereto and having the lower opposite edges thereof secured to the flanges on said base plate, a substantially triangular shaped guide plate having relatively spaced openings therein mounted on said U-shaped frame, a supporting member positioned above said guide plate and spaced therefrom, said supporting member being mounted for movement relative to said base plate, spring means positioned intermediate of said guide plate and said supporting member for normally urging said supporting member away from said base plate, a bowling pin carried by said supporting member and having a permanent magnet provided with north and south poles disposed at its base to enable the pin to be attracted to and supported on said base plate in upright position, an elastic string secured to the bowling pin and to said supporting member to position the bowling pin whereby the latter is lowered at a predetermined location on said base plate, said string having a length and strength such that when only slightly extended it will maintain the bowling pin raised above and out of contact with said base plate and when more fully extended will permit the magnet on the bowling pin to contact the metal base plate, said pin being supported thereby in upright position on said base plate when said supporting member is depressed toward said base plate and said magnet resisting removal of the pin from the base plate by said string when said supporting member is returned to its original position, and said spring means urging said supporting member to automatically return and retain it in normal spaced relation above said base plate.

2. The invention as defined in claim 1, in which the said supporting member has a horizontally extending reset part mounted thereon, and in which there is means for mounting said reset part on said supporting member for vertical movement with respect to said base whereby the reset part when depressed lowers the bowling pin onto the base to enable the magnetic attraction of the said permanent magnet to secure and hold the pin on said base, said reset part when raised after being so depressed causing the elastic string to be elongated and stretched.

3. The invention as defined in claim 2, in which there is a spring means yieldably holding the said reset part in a raised position wherein the elastic string is appreciably stretched at the time that the pin is being held to the base by the magnet.

4. A toy bowling game comprising a flat substantially rectangular shaped metal base plate having an extensive upper surface, said base plate having upstanding flanges integral with the opposite side edges thereof, an inverted U-shaped frame extending over said base plate in spaced relation thereto and having the lower opposite edges thereof in engagement with said flanges and secured to said base plate, a substantially triangular shaped guide plate having relatively spaced openings therein mounted on said U-shaped frame, a supporting member positioned above said guide plate and spaced therefrom, said supporting member being mounted for movement relative to said base plate, spring means positioned intermediate of said guide plate and said supporting member for normally urging said supporting member away from said base plate, a bowling pin carried by said supporting member, magnetic means for attracting the pin to the base plate to enable the pin to be supported on said base plate in upright position, an elastic string secured to the bowling pin and to said supporting member to position the bowling pin whereby the latter is lowered at a predetermined location on said base plate, said string having a length and strength such that when only slightly extended it will maintain the bowling pin raised above and out of contact with said base plate and when more fully extended will permit the base of the bowling pin to contact the metal base plate, said pin being supported thereby in upright position on said base plate when said supporting member is depressed toward said base plate and said magnetic means resisting removal of the pin from the base plate by said string when said supporting member is returned to its original position, and said spring means urging said supporting member to automatically return and retain it in normal spaced relation above said base plate.

References Cited in the file of this patent

UNITED STATES PATENTS

1,058,062	Jaufroid	Apr. 8, 1918
1,291,427	Cumming	Jan. 14, 1919
1,896,383	White	Feb. 7, 1933
1,913,673	Igou	June 13, 1933
2,217,063	Lloyd	Oct. 8, 1940
2,327,350	Hartwig	Aug. 24, 1943
2,348,540	Hedenskoog	May 9, 1944
2,361,482	Laferriere	Oct. 31, 1944
2,453,610	Willard	Nov. 9, 1948
2,512,516	Bluford	June 20, 1950
2,809,038	Scheidemantel	Oct. 8, 1957
2,815,954	Zuercher	Dec. 10, 1957
2,819,902	Dicker	Jan. 14, 1958
2,878,021	Lippert	Mar. 17, 1959
2,900,188	Lemon	Aug. 18, 1959

FOREIGN PATENTS

571,565	France	Feb. 4, 1924