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(54) **Title:** VISUAL AID HITTING TOOL AND METHODOLOGY FOR BASEBALL, SOFTBALL AND OTHER SPORTS

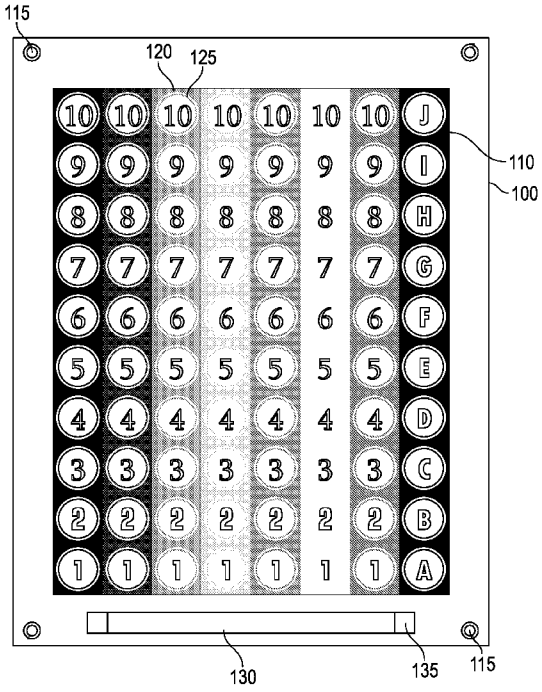

FIG. 1

(57) **Abstract:** A visualization tool with a gridwork aid to better help ball players visualize aspects of the game in practice. A system, device, technique, apparatus, and kit are envisioned that allow a ball player in practice to better visualize placements and positions for a batter to better hit the ball, whether done alone in the privacy of their home or outside, or with others. Plastic, paper and other non-electronic, electronic and smartphone versions of the present invention are implemented to provide improved tools for personal visualization for developing game skills, and recording the batting sessions.

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VISUAL AID HITTING TOOL AND METHODOLOGY FOR BASEBALL, SOFTBALL AND OTHER SPORTS

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present invention claims benefit of priority to U.S. Provisional Patent Application Serial No. 63/105,572, filed October 26, 2020, and entitled "VISUAL AID HITTING TOOL FOR BASEBALL, SOFTBALL AND OTHER SPORTS," the disclosure of which is incorporated by reference herein.

FIELD OF THE INVENTION

[0002] The present invention is directed to improvements in systems, techniques and equipment for helping baseball, softball and other ball players better visualize and perform in a ball game, whether alone or with others.

BACKGROUND OF INVENTION

[0003] Baseball is an institution in America and the national pastime. Since its creation by Abner Doubleday and others around 150 years ago, baseball has become synonymous with America, and countless youth play the sport and aspire to become major league players. The sports arena appeals to many, whether professional or amateur, and playing better is always a goal. From anecdotal techniques to elaborate devices, Americans and now Japanese and other nationalities seek to become better athletes and competitors.

[0004] In baseball, as well as other sports, getting batting practice is necessary to improve performance on the field and in a game. Due to the complicated mechanics of the process and the large number of variables at play, it is difficult for one person by themself to effectively practice. In other words, there must at least be a pitcher and a batter. Pitches can come from the right or left hand, can have spin or no spin, be fast or slow, inside or outside a prescribed strike zone, and so forth. Offering a wealth of variety, baseball is actually quite a complicated game.

[0005] For example, the batter can bat right- or left-handed, and each person has their own style of swing. The batter's head and shoulder angles, stride and leg placement, weight transfer, swing path, extension and follow through are generally unique to each player, making a generic teaching or helping tool or technique difficult. Additionally, the nature of the game makes the better player develop an instinct, e.g., a feeling where a pitch is going. This instinct comes, of course, from practice, and thus tools to improve the visualization of

the game in practice and otherwise, creating the intuition for where a pitch is going and where to swing, are greatly needed.

[0006] There is, therefore, a present need to provide a tool, system, device, methodology and kit to provide an improved hitting tool and technique for baseball, softball and other sports, enabling the user, player or teammate to practice at their own leisure and own volition, on their own or with others, thereby improving their own skillset on or off the field for better performance on the field during games.

[0007] There is also a need that such a tool and technique be simple to use, and also portable, enabling players the mobility to use the components at a variety of locations and in a variety of circumstances. Through use of light-weight components and materials the present invention is quite portable and easy to set up and use.

[0008] There is also a need make the tool and technique as intuitive as possible. Through the use of colors, numbers and straightforward grids, the batter can readily understand the merits and methodology of the instant invention, and quickly make use of the tools and techniques described herein. In short order, the batter can adapt to the intuitive paradigm offered, and thereby increase their skill level in the game.

[0009] There is a further need to record practice sessions and such, as a means for analyzing the mechanics of the batting processes, and overcome erroneous habits. Through use of cameras, used in conjunction with the tools of the present invention, this need is readily met.

[0010] These and other needs of sports adherents and practitioners are met with the instant invention, described in detail hereinbelow.

SUMMARY OF THE PRESENT INVENTION

[0011] The present invention is directed to a visualization tool with a gridwork aid to simulate pitch location and better help ball players visualize aspects of the game in practice. A system, device, technique, apparatus, and kit are envisioned that allow a ball player in practice to better visualize placements and positions for a batter to better hit the ball, whether done alone in the privacy of their home or outside, or with others. Non-electronic and electronic versions of the present invention are implemented to provide improved tools for personal visualization for developing game skills, and recording the batting sessions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] This patent application contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the Office upon request and payment of the necessary fee.

[0013] While the specification concludes with claims particularly pointing out and distinctly claiming the subject matter that is regarded as forming the present invention, it is believed that the invention will be better understood from the following description taken in conjunction with the accompanying DRAWINGS, where like reference numerals designate like structural and other elements, in which:

[0014] FIGURE 1 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary configuration in a first embodiment;

[0015] FIGURE 2 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary configuration in a second embodiment;

[0016] FIGURE 3 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary configuration in a third embodiment;

[0017] FIGURE 4 is a representative view of the visualization grid tool shown in FIGURE 1 in use mounted on a fence;

[0018] FIGURE 5 is a representative view of the visualization grid tool shown in FIGURE 1 in use mounted on a flat surface, such as a wall or mirror;

[0019] FIGURE 6 is a representative view of the visualization grid tool shown in FIGURE 3 displayed on a graph paper sheet in an alternative fourth embodiment;

[0020] FIGURE 7 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary configuration in an alternative fifth embodiment, an electronic version of the embodiment shown in FIGURE 1;

[0021] FIGURE 8 is a view of the visualization grid tool of FIGURE 7 showing interior components of the visualization tool;

[0022] FIGURE 9 is a representative view of a remote control unit for use with the visualization grid tool shown in FIGURE 7;

[0023] FIGURE 10 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary configuration in a sixth embodiment, an electronic version of the embodiment shown in FIGURE 3 and including a visual cue unit;

[0024] FIGURE 11 is a representative view of a remote-control unit used with the visualization grid tool shown in FIGURE 10;

[0025] FIGURE 12 is a representative view of the visual cue unit shown in FIGURE 10 employing the principles of the present invention in an exemplary configuration;

[0026] FIGURE 13 is a representative view of a visualization grid tool employing the principles of the present invention in an exemplary remote-control configuration in a seventh embodiment, employing a smartphone application or other app for remote control of the visualization grid tool shown in FIGURE 7;

[0027] FIGURE 14 is a representative view of a visualization grid system according to the present invention employed by a user in a batting cage using the invention alone;

[0028] FIGURE 15 is a representative view of a visualization grid system pursuant to the teaching of the invention employed by a user in a batting cage using the invention with another positioned to emulate a pitcher;

[0029] FIGURE 16 is a representative view of a visualization grid system according to the teachings pf the instant invention employed by a user in a batting cage using the invention with a coach behind them; and

[0030] FIGURE 17 is a representative view of a visualization grid system pursuant to the principles of the instant invention employed by a user in a batting cage using the invention close up and alongside the batter.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0031] The present invention will now be described more fully hereinafter with reference to the accompanying DRAWINGS, in which preferred embodiments of the invention are shown. It is, of course, understood that this invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that the disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. It is, therefore, to be understood that other embodiments can be utilized, and structural changes can be made without departing from the scope of the present invention.

[0032] As discussed, the present invention is generally directed to a visualization tool and aid to better help ball players better visualize a variety of game parameters for a game during practice, particularly baseball and softball games. Systems, devices, apparatuses, techniques and kits employing the instant invention allow a ball player in practice to better visualize aspects of the game, i.e., their individual placements and positions for hitting a pitched ball.

[0033] With reference now to FIGURE 1 of the DRAWINGS, there is illustrated a representative configuration of a visualization tool aid pursuant to the principles of the present invention in a first embodiment thereof and generally designated by the reference numeral 100, which it should be understood is an example of a currently preferred embodiment. Additional embodiments and exemplary implementations of the current invention are set forth herein. But first, a general outline of the background for usage of the invention and then the various mechanics thereof.

[0034] As discussed, the instant invention is particularly directed to an improved hitting tool for all baseball and softball players, vis-à-vis swings for different pitch locations in and around a strike zone. As discussed, every player has their own unique physical and mental characteristics with regards to swinging a bat at a ball, and the mechanics and styles differ among players. A big advantage of the instant invention is that each player is able to use the apparatuses and methods of the present invention to better learn about the game in their own way.

[0035] There are a variety of key aspects for successfully using the invention, which readily demonstrate the utility of the visualization tool of the present invention. First, the present invention enables one to better visualize the pitch leaving the pitcher's hand and anticipating that pitch, particularly where that pitch might end up. For example, will the location of the

pitch be in the strike or strike/ball area, in the inside/middle/outside area, or the down/middle/up area? With experience, e.g., in using the tool 100 of the instant invention, visualizations of the pitch can be improved.

[0036] Further, regarding the bat/ball contact position, one using the instant invention can also anticipate the spatial location of bat contact from the pitch, e.g., the aforesaid early/late in the zone, inside/middle/outside or down/middle/up area. In other words, where in the volume of space around the batter will the collision of bat and ball occur? Where should that collision occur for peak performance? The instant invention provides a simple and effective tool and solution for a player to determine this location through the improved visualization techniques offered by the instant invention.

[0037] Finally, one using the instant invention can also better visualize and position themselves with regard to the nature or type of pitch, e.g., fastballs, curveballs, change ups, sliders, cutters, etc. In particular, the player can better position their body, stride, feet stances, weight transferences, and swing mechanics. In other words, what can the hitter do to better the odds of a hit or making a solid hit by adjusting the mechanics of their own body? All of these nuances are honed in practice. The instant invention provides a simple and effective tool and solution to determine such facets of play.

[0038] As mentioned, one cannot always be on the field practicing. Further, one may want to practice in privacy without others knowing. One of the great advantages of the instant invention is that the techniques herein allow one to drill or practice without the need or assistance of anyone, even a coach. Of course, the teachings of the present invention can also be employed in conjunction with others, e.g., a parent or coach helping a player, a team, etc. Since much of the ultimate mechanics for being a good player is muscle memory and instinct, the instant invention provides an alternative means to get there per personal preferences.

[0039] As will be discussed in more detail hereinbelow, the techniques for solo or other practice can be performed with a mirror, where the hitter can directly see their own swing in conjunction with the visualization technique tools herein, and where the mechanics of the swing and contact positions can be visualized with a grid and colors, described in more detail hereinbelow, augmenting muscle memory with actual memory also. Naturally, this is a preferred method since the batter can see their swing with their own eyes and make adjustments accordingly. Alternatively, the visualization tool can be mounted on a chain link, wood or other fence, or on a wall surface, or perhaps with the use of a camera or other

recordation device, e.g., mounted on a tripod or otherwise configured. The tools of the instant invention can also be employed within hitting stations during batting practice, and in on deck preparation areas. The adaptability and portability of the present invention are features of the usefulness of the apparatuses and methods to be a better batter.

[0040] Indeed, the ability for a batter to visualize and improve on their batting positions is critical to become a better player. Since everyone has their own respective strengths and weaknesses, it is important to provide a tool that can help everyone to visualize, simulate and fine tune their swings, under a great variety of circumstances, enabling the player to replicate the mechanics of a winning position and swing for every pitch situation that may occur in a game for that player.

[0041] To best practice the mechanics of the instant invention, e.g., in conjunction with the tools described herein, there are different ways to replicate a swing of the bat. Once way is to do a so-called "dry swing," i.e., a full swing without a pitcher or a ball, and thus without any contact whatsoever. This can be performed at full speed, i.e., taking a normal swing, or perhaps in slow motion. The dry swing approach, sans ball and contact, is good at mimicking the full mechanics of the swing itself, focusing on those parameters.

[0042] Another contactless approach is the so-called "freeze at contact" approach, where a full swing is initiated but the batter stops at or near the desired point of contact with the baseball, pauses briefly, and then completes the swing smoothly. This approach is good at visualizing the point of contact, and the mechanics of the swing up to that point. Finally, there is the so-called "aggressive takes" approach, where the hitter does not swing but instead positions themselves for a swing, particularly, positioning their body for the swing, but holds back. The present invention is useful for all of these approaches.

[0043] Of course, there are many different philosophies with hitting, i.e., approaches and mechanics, and no one way to do things for everyone. The tools offered herein and approaches discussed are exemplary of improvements upon the techniques of the past, providing instructions and suggestions for how one can execute their own hits in their own way using the tools described herein.

[0044] For example, for an inside fastball, this needs to be hit earlier in the zone, and the hitter's hands need to get through the zone (almost towards third base for righthanders and first base for lefthanders), all so that the barrel of the bat can be delivered to the thrown baseball. All baseball players know of instances of hitting a ball down the line, getting good

wood on it, but watch the ball hook foul, which becomes a long strike. This hooking shot down the line means the hitter did not stay inside of the ball, but actually hit the outer half of the thrown ball, which provides the aforesaid hook. Using the tools of the instant invention, one can better learn the proper placement of one's hands to avoid this situation.

[0045] Similarly, for an outside fastball, this ball needs to be hit deeper in the zone, i.e., letting the ball travel closer to the catcher before contact with the bat. Doing this, and employing the tools of the invention, the hitter can better hit the ball where it is pitched, and drive the ball. Pitchers often pitch away as a strength, and hitters can learn to use this to their own advantage against them. Letting the ball get deep and keeping the swing short allows the player to see the ball longer and make more powerful contact.

[0046] For example, for righthanded hitters, hitting an outside fastball early and on the top half of the ball, will initiate rolling over to the shortstop, who is usually the best infielder, on outside fastballs is not acceptable and is an easy out. But, allowing the ball to go deeper and then make contact, this does not roll over to the shortstop. This technique, honed by the principles of the present invention, focuses one on making a shorter and more compact swing, allowing hits to center and right field.

[0047] Using the improvements of the present invention, e.g., a visual grid with number and color-coding, one comes to learn verbal (and written) commands. For example, on a 2 ball, no strike count, the phrase "green 5" can be uttered, which correlates directly to various stances and pitch expectations learned through the use of the tools and techniques of the instant invention.

[0048] In this fashion, armed with an expectation, one can visualize the pitcher, the windup and the pitch, the ball in transition, and the hitter then gets ready and loads, with their stride and stance made, "reading" the virtual pitch and pitch location, and then making a dry swing to hit the ball at the aforesaid green 5 position or pitch location. Alternatively, the hitter can freeze/stop at the contact point, complete a slow-motion swing, or instead take the aforementioned aggressive takes for that pitch location.

[0049] Although the present invention has the adaptability for solo usage, another technique for deploying the instant invention is with another person, such as a coach, teammate, parent or other, with proper spacing to avoid injuries. For example, hanging the instant invention in relation to a mirror, and the other person standing behind the hitter, lined up to the grid of the

invention (taped or secured to the mirror) in order to have the hitter view the other as a "pitcher" via the mirror.

[0050] The hitter can then, perhaps responding to commands or instructions, go through the motions to respond to a pitched ball (set, separate, release), e.g., the other person would call out a pitch location, such as green 5, and the hitter would respond to that particular scenario, e.g., with the aforesaid dry swing, freeze/stop at contact, slow motion swing, or aggressive take.

[0051] In view of the intricacies of baseball, and the subtleties and varieties of the mechanics, the visualization tools of the instant invention can be used to analyze a large number of discrete parts of a given swing, starting, as discussed, from the pre-pitch approach, awaiting the throw and preparing for it. There is also the head angle, as well as the load and stride of the torso of the batter. The shoulder angles and front leg positions of the batter also can be analyzed and improved upon, whether live or from a recording.

[0052] Further, the weight transfer during a swing is critical with the hips, knees, and back foot interplay, e.g., the back foot can be flat (squash a bug), toe resting on the ground, foot off the ground, and scissor positions.

[0053] Additional swing mechanics involve the position of the hands and elbows vis-à-vis the bat and the torso, and the paths the hands/arms can take during a swing. Similarly, the entire swing path of the body and the launch angle for contact can be studied, as well as swing extension, finish and follow through.

[0054] The tools of the instant invention allow a hitter to better review, study and improve upon discrete aspects of the game, individually and in conjunction with other aspects, e.g., by a learned association and orientation of their actions with the aforesaid tool 100, as well as the other tools and components described hereinbelow. Thus, with the improvement tools of the instant invention, a player can better hit through visualization and repetition.

[0055] With the above background explanation in mind and turning again to the visualization aid 100, there is illustrated a visualization tool or grid thereon, as shown in FIGURE 1 and designated by the reference numeral 110. As illustrated, the grid 110 preferably has multiple colors, preferably arranged in vertical columns in the array, matrix, or grid. In this first embodiment there are 80 discrete cells, cubes or units in the grid 110, each corresponding to a discrete spatial or other pitch location, preferably with each having at least one inscribed circle therein, representing a baseball, softball or other ball.

[0056] In this first embodiment, the grid 110 has ten rows and eight columns, representing the aforesaid 80 total pitch locations. The grid 110 in this embodiment is used with a top ball size of 2.75 inches diameter, i.e., the outer circle diameter of an inscribed circle, which is a representation for a softball size, with another inscribed circle therein for a 2.25-inch ball or inside circle diameter, i.e., a smaller-sized baseball.

[0057] Thus, the visualization tool 100 of the present invention is designed for use with a variety of sized balls, further details of which are described hereinbelow. In particular, the grid 110 is eight ball lengths in each row (horizontal) and ten ball lengths in each column (vertical) in this embodiment, where a given ball within each unit or cell is designated therein by the reference numeral 120, which represents a spatial area for the batter, e.g., the aforesaid green 5 or other pitch location.

[0058] As shown in FIGURE 1, each column and each ball or spatial area 120 therein is preferably color coded, as discussed in more detail hereinbelow, with each ball 120 having a background in white or otherwise in a prominent color for ease of observation. Also, each spatial area has a unique designation, mostly numbers, starting with the number one (1) at the bottom and increasing by one each row until the tenth row and the number ten (10), as illustrated in this embodiment.

[0059] The rightmost column preferably has a letter progression, starting with the letter A at the bottom and increasing by one letter each row until the tenth row and the letter J, the lettering providing additional description nomenclature, discussed in more detail hereinbelow. As seen in the other embodiments hereinbelow, this structure and nomenclature is exemplary, and alternate configurations are set forth below.

[0060] As discussed, each square cell unit 120 has an outer circle diameter therein, i.e., the given ball 120 having the diameter inscribed or fitting into the aforementioned cell or square of the grid 110. Each ball 120 also preferably has column color outer edging, and an inner circle diameter, designated by the reference numeral 125 inscribed therein, with the line representing that diameter being a variable color, discussed hereinbelow.

[0061] As illustrated in this embodiment, each cell unit and each ball 120 therein is preferably separated by the other cell units/balls 120 by about 0.1 inch in this embodiment, i.e., there is a small gap therebetween to better facilitate visualization, where said gap size may vary in other embodiments. It should, of course, be understood that there may be no gap in this embodiment as well.

[0062] Accordingly, with the above in mind, the height and width of all of the balls 120 in this embodiment is eight baseballs wide in each row, or about 22.7 inches, and ten baseballs high, or about 28.4 inches. With the aforesaid spacing between the balls 120, plus preferred margins of about 1 inch left and right, the grid 110 overall dimensions for this first embodiment become about 25 inches wide, by about 35 inches high, with the inclusion of the home plate indicia discussed hereinbelow. Preferably, in one usage of the present invention, the aforedescribed grid 100 is used in a batter's box about 4 foot wide by about 6 foot long, with an inside line 6 inches from the inside of the home plate.

[0063] As shown, the interstitial colors, i.e., the spaces between the cell units and the various balls 120, as well as the color of the aforementioned inner circle diameter 125 therein, vary as per the particular column, e.g., a column of yellow color is shown with white circles or cells therein, i.e., a ball 120 shown in outline in matching color column, or perhaps alternatively outlined in black or dark hue, designating the ball 120, with white color outside the ball 120, constituting the interstitial space between the inscribed ball 120 and the cell or unit of the grid 110.

[0064] Also shown is a yellow inscribed circle within each ball 120, forming an inscribed ball therein, generally designated by the reference numeral 125. As illustrated, each ball 120 and each inscribed ball 125 in each row follow the color scheme for the respective column. It should, of course, be understood that other color schemes and variations of colors are possible and within the ambit of the present invention.

[0065] In this embodiment, the first leftmost column is preferably in the color black, i.e., the background color for the squares or cells of the grid 110 in this column is black. The columnar colors are then preferably followed by dark blue, orange, green, red, yellow, brown and then black again at the opposite edge. It should, of course, be understood that the particular colors selected, as well as their position or ordering in the grid 110, may be modified, with the color black preferred at both ends, i.e., the first and last column.

[0066] As discussed, the balls 120 are preferably vertically color coded for ease of use, i.e., the inner circle diameter or inscribed ball 125 within each ball 120 has the inner circle diameter line therefor of the same color as the column, with the white inner background, as with the outer circle diameter, i.e., the aforementioned color scheme which is useful for easy visual discrimination between the various pitch locations.

[0067] With further reference to FIGURE 1, there is shown a home plate reference, generally designated by the reference numeral 130, generally placed on the visualization aid 100 below the aforesaid grid 110, preferably with a white background bordered in black, and centered and aligned below the grid 110, as illustrated. In this embodiment, the home plate reference 130 shown is preferably 1 inch tall by about 17 inches wide and acts as a visual reference for the actual home plate, i.e., the home plate reference 130 is about six baseballs wide and is the so-called "true zone," mimicking the real thing.

[0068] As a further visual aid, there are two extensions at the ends of the home plate reference 130, of about 1 inch each wide (and tall) and are preferably solid black, generally designated by the reference numeral 135, mimicking the actual home plate edges in a game. Again, the grid 100 here is eight baseballs 120 wide, with the home plate reference 130 with extensions or black corners 135 thereon, all totaling 19 inches, which is the so-called "total zone."

[0069] Thus, for the true zone using the visualization tool 100 of the present invention, with a home plate representation 130 of about 17 inches, this translates to about 6.18 baseballs. So, home plate is approximately covered with six baseballs (6 times 2.75) and the aforesaid preferred spacing of 0.1 inch therebetween (five such spaces) or 17 inches. For the aforementioned total zone, there is the above home plate representation 130 width (17 inches) along with the two black extensions 135, or 19 inches total, which when divided by the baseball size of 2.75 inches, becomes about 6.9090 inches. With the total zone and 0.1 inch ball spacings, the calculation is 8 baseballs by 2.75 inches plus seven 0.1 inch spacings, equals about 22.7 inches of total space for the grid 110, again as per this embodiment.

[0070] In use, the user can instead set the visualization aid 100 up with an actual home plate on the ground, e.g., laid down to set up in a batter's box or other space correctly, allowing the hitter to better visualize the actual game circumstances. In practice, the visualization aid 100 with the grid 110 thereon is placed vertically at a height suitable for the height of the batter/hitter and the type of batting stance for the practice. Preferably, the grid 110 height is 10 baseballs times 2.75 inches (for the baseball size) plus nine 0.1 inch spaces, which translates to about 28.4 inches. In this embodiment, the baseballs at the bottom row of the grid 110 are preferably set at about knee high or about at the top of the shin for the particular user, which is a general recommendation for users of the instant invention, but which can be modified for particular use. Applicant has found that the usage of the ten baseballs vertical measurement means that the invention will work for most age groups, with users growing

with it, i.e., this is a long-term hitting tool. In practice, one can designate the 6 or 8 row pitch location in height, i.e., from the ground, as a strike zone for some hitters, while the 10 baseball height may work for a batter in a different age group, height and stance.

[0071] The present invention is thus advantageous for its flexibility in this regard, enabling all users to adjust the tool 100 per their personal preferences. Further shown are a variety of mounting holes, generally designated by the reference numeral 115, which may include protection means therein to maintain the integrity of the holes 115 is use, such as grommets, described in more detail hereinbelow.

[0072] Further, as discussed, an advantage of the instant invention is its adaptability of use in various environments and circumstances, making the portable visualization tool useful to all baseball players.

[0073] With reference now to FIGURE 2 of the DRAWINGS, there is illustrated an exemplary implementation of an alternate version of the aforesaid visualization tool, generally designated by the reference numeral 200, with an alternate grid, generally designated by the reference numeral 210, in a second embodiment.

[0074] In this alternate configuration, seventy (70) pitch locations are shown in a seven-ball wide or horizontal and ten ball high or vertical configuration, that is otherwise similar to that shown in FIGURE 1. Here, the left to right color configuration is black, blue, green, red, orange, yellow, and black. It should, of course, be understood that the ordering of the colors is preferably done to better help visualization of the grid 210 and better memorize the respective spatial locations designated therein. Also shown are a number of mounting holes 215 for securing the tool 200, as described hereinabove and in more detail hereinbelow.

[0075] For the computations in this embodiment, the true zone (width of white on the home base 230) is 17 inches, with the two extensions 235 of two additional inches. The preferred space is again 0.1 inch. Thus, width is about 25.1 inches (7 balls) and the height is about 35.9 inches (10 balls). Thus, the dimensions of the entire unit 200 is about 28 inches wide by about 42 inches tall, with rounding up. Therefore, the aforesaid true zone is about 4.871 balls wide, which is close to covering the plate 230 width, but instead a five (5) ball wide configuration is employed in this embodiment. With true zone and spacing (four spaces), this amounts to about 17.9 inches. Since 6.19 baseballs is 17 inches, using 6 baseballs and spacing to equal 17 inches is an adequate approximation for the plate coverage.

[0076] For the total zone, this is about 5.428 balls wide, and with spacing this becomes about 25.1 inches of total plate and extensions 240 coverage. So, for the visualization tool 200, there is the 25.1 inches minus 17 inches for home plate 230 minus two extensions 235 of 1 inch each becomes 6.1 inches, which divided by two (each side of the plate 230) is 3.05 inches – on either side of the black extenders 235.

[0077] The home plate 230 configuration is 17 inches and two black extenders 235 at either end, totaling 19 inches. In deployment, the height of the visualization tool 200 should be configured to an appropriate 'strike zone height," which, as discussed, is dependent on the height of the hitter and the type of batting stance. Here, with ten (10) balls, say the softball size of 3.5 inch, plus nine (9) spacings, this translates to about 35.9 inches.

[0078] Thus, at the height of about 35.9 inches, baseballs at the bottom of the grid 210, numbered one (1) and the letter A, will preferably be at the top of the shin. As mentioned, Applicant believes that the use of ten balls vertical works for all age groups, allowing hitters to "grow into" the configuration as they age, providing a hitting tool for all players of all ages. Thus, a 4 or 6 pitch location in height could be a strike zone for most hitters, but could be 8 for older age groups, taller players and stances.

[0079] Turning now to FIGURE 3 of the DRAWINGS, there is illustrated another representative configuration of another visualization aid in a third embodiment, generally designated by the reference numeral 300. As with the first and second embodiments, the visualization aid 300 has a grid, generally designated by the reference numeral 310, within which are a configuration of preferably square units with inscribed balls, each ball generally designated by the reference numeral 320, which is an alternate configuration.

[0080] The grid 310 here preferably also has multiple colors in this third embodiment, but has eight rows and seven columns, representing 56 total pitch locations. The grid 310 in this embodiment is preferably used with a ball size of 3.5 inches diameter, i.e., the outer circle diameter, which is representative for the size of the college size softball, and with a 2.75-inch ball inside circle diameter, i.e., a smaller ball, such as a baseball, as described. In particular, the grid 310 is eight ball lengths in each row (horizontal) and seven ball lengths in each column (vertical) in this embodiment.

[0081] As before, each ball 320 has an outer circle diameter, i.e., the diameter fitting into a square of the grid 310 and each ball 320 in turn has the inner circle diameter line 325 with a variable color, discussed hereinabove and hereinbelow. Further, respective mounting holes

315 are also shown. Also shown is a home plate 330 indicia, with the words "Home Plate" or without, and an extender 335.

[0082] It should be understood that the particular grid configurations 110, 210 and 310 shown in the previous figures are exemplary of currently preferred embodiments of practicing the instant invention. Various alternate configurations, pursuant to the teachings of the present invention, are also envisioned, e.g., variations of grid size, color deployment, gap or spacings, and other features may be modified and be within the spirit of the present invention, as claimed hereinbelow.

[0083] With reference now to FIGURE 4 of the DRAWINGS, there is illustrated an exemplary implementation of the aforesaid visualization tool 100/200/300, generally designated herein by the reference numeral 400, in use, for example, placed on a fence, generally designated by the reference numeral 440, with the exemplary grid 410 depicted, which corresponds to the aforesaid grid 110 described hereinabove. It should, of course, be understood that alternative grids are possible, such as grids 210 and 310.

[0084] To secure the visualization tool 100/200/300 to the fence 440, one can use a variety of affixation means to do so, such as carabiners or rope, generally designated by the reference numeral 445. In this and as noted in the previous embodiments, the visualization tool 100/200/300/400 preferably has a plurality of holes therethrough, where the holes, generally designated by the reference numerals 115/215/315/415, are preferably reinforced, i.e., to prevent wear and tear the holes have a metal or other insert into the holes, e.g., grommets, generally designated by the reference numeral 416. In this fashion, the planar surfaces of the visualization tool 100/200/300/400 can be secured upright at a desired height for use, i.e., positioned to the appropriate height for the batter and their practice. By securing the visualization tool 100/200/300/400 at all four holes 115/215/315/415, the tool is best secured, such as during windy days.

[0085] As mentioned, securement means, such as rope or the equivalent can, of course, be used, along with rivets, carabiners and such for securing and hanging the instant invention on chain link or other type fences 440 at the appropriate height for each user. The rope can be made of a number of materials as is known in the art. Other materials, such as Velcro, can also be employed to secure the tool.

[0086] It should also be understood that the visualization tool 100/200/300/400, as well as those described hereinbelow, can also be propped up with a stand, such as one designed to hold the panels upright, whether inside the home or outside in the elements, i.e., having securing means such as using the aforesaid holes and binding materials. The stand can also be adjustable in height to allow flexibility of use.

[0087] An advantage of using a fence 440 is that a coach or other player can stand behind the fence 440 on the other side from the batter, and emulate a pitcher, i.e., the presence of a person better attunes the batter to the reality of a game simulation. It should also be understood that the other person can pretend to pitch with all of the visual cues provided, e.g., the "pitcher" can wind up and throw, making the requisite movements and actions for a fast ball or any other pitch. In this manner, a pitch location can be called, e.g., Red 6, and the faux pitcher winds up and 'throws" a virtual ball, where the batter reacts accordingly to that pitch. These additional visual and auditory activities further augment the experience and the feel of a real game using the tools of the present invention.

[0088] With reference now to FIGURE 5 of the DRAWINGS, there is illustrated an exemplary implementation of the aforesaid visualization tool 100/200/300, generally designated herein by the reference numeral 500, placed on a flat surface, generally designated by the reference numeral 540 which would be an inside or outside wall of a structure, a mirror or other substantially vertical surface. For example, the tool 100/200/300/500 can be secured to a wall surface 540 by various means, such as hanging from nails, pegs, pins or hooks. In other embodiments, such as for use with mirrors, the aforesaid holes 115/215/315/515 (with or without reinforcements such as grommets) can have suction cups, generally designated by the reference numeral 546, placed through a grommet to secure the tool 100/200/300/500 vertically for use on glass, plastic or other surfaces, as is understood in the art.

[0089] Additionally, or solely, tape and/or other adhesives, generally designated by the reference numeral 547, magnets, pins and other securement means can be employed to hold the tool 100/200/300/500 upright at the appropriate height above the ground surface, as described for use. Of course, the weight of the tool 100/200/300/500 will govern the means of securement.

[0090] In use, such as with the first embodiment, the batter stands poised next to an actual or replica home plate on the ground, facing the visualization tool 500 as if facing a pitcher. The color-coded grid 510 provides a visual cue regarding the position of the player vis-à-vis the eighty possible pitching locations in this embodiment. In practice, the batter will become familiar with the "feel" and nomenclature of the grid 510 and learn of areas or zones within the grid 510 for their strengths and their weaknesses. Indeed, the grid 510 allows the hitter to see the variety of possible pitches, developing a feel for responding thereto.

[0091] In practice, e.g., with a parent or a coach standing behind or around the hitter, observing the swing et al. from behind the batter, the batter can respond dynamically to the calls of the helper, e.g., Red 6 to indicate a pitch in the middle or Yellow 3 for a low pitch. In time, the hitter will immediately react to a call or their own call if playing alone. Further options, such as randomization, are offered in other embodiments of the present invention, described in more detail hereinbelow.

[0092] With reference now to FIGURE 6 of the DRAWINGS, there is shown another embodiment of the present invention, which is implemented on paper, such as graph or heavy paper, which offers additional deployment means for ease of use, generally designated by the reference numeral 600, with a grid 610 thereon, e.g., one of the aforementioned grids 110/210/310, here grid 610, which is similar to the aforementioned grid 310 shown in FIGURE 3. For example, a light-weight paper version, which can be of the size of the aforesaid visualization tool 100/200/300, and can be secured, taped, pinned, etc. to the side of a wall, glass, plastic or other surface, as described hereinabove in connection with FIGURES 4 and 5 and further hereinbelow.

[0093] An advantage of this embodiment is the ease of writing on the medium, although it should be understood that using a marker or other substances indicia can be made on the embodiment here, e.g., to circle or highlight areas of interest within the grid 610, e.g., with a marker op perhaps in washable ink or pencil. A further discussion of the materials used in the embodiments of the present invention are described hereinbelow.

[0094] Alternatively, the aforesaid grid 610 can be duplicated on another sized paper sheet, e.g., standard 8.5 by 11 inch or other size, and employed as a record. For example, the batter or a coach can record the swings, along with remarks, on one or more paper embodiments 600, providing a record of the batting session. It should, of course, be understood that the paper embodiment can be saved or disposed. It should also be understood that in an alternate

embodiment, the material can be plastic or other such material where the markings can be erased and the sheet reused.

[0095] Further, as a visual aid for this embodiment, the color usages of the various grids 110/210/310 can be indicated on this embodiment in a different manner, e.g., the grid 610 shown in this embodiment can be employed with columnar colors, as shown in FIGURE 6, with a color indicia indicated only at the top and generally designated by the reference numeral 605, i.e., the usage of color is more limited. Thus, the terminology for pitch calling, as discussed hereinabove, can be employed here, such as Red 5.

[0096] With reference now to FIGURE 7 of the DRAWINGS, there is shown an alternate version of the instant invention. In this embodiment, the visualization tool, such as visualization tool 100 above, is not a static placard or panel, but is instead electronic, and generally designated by the reference numeral 700. In particular, the tool 700 is a relatively flat and light-weight panel, e.g., an inch or so thick, enabling the tool 700 to be easily transported and then secured at the appropriate height, as discussed hereinabove.

[0097] As shown, the grid configurations set forth hereinabove in connection with the aforesaid flat embodiments are substantially the same as those described here, such as with the grid configurations and colors employed with the embodiments of FIGURES 1-3 and is generally designated herein by the reference numeral 710, with the aforesaid grid 110 employed here. Further, the aforesaid balls, generally designated by the reference numeral 720, constitute the outer circle diameter of the array or matrix units described hereinabove. Also shown is a representative inner circle diameter, generally designated by the reference numeral 725, and the home plate reference and extenders therefrom, generally designated by the reference numerals 730 and 735, respectively. There is also a power indicator on the main panel, generally designated by the reference numeral 704, which when lit indicates that the unit 700 has power.

[0098] The electronic embodiment preferably has a plurality of lights for lighting the balls 720, illuminating respective ones or groups thereof. For example, if a particular pitch location of the 80 total pitch locations in this embodiment is desired, e.g., the hitter's sweet spot, then one or more LED or other lights behind that respective ball 720 can light up. More particularly, in another embodiment of the present invention, the areas within the outer circle diameter 720, or only the area within the inner or inscribed circle diameter 725 will alight, depending on the size of the ball being used.

[0099] It should thus be understood that with finer degrees of illumination, then a number of discrete lights will be required, e.g., a plurality of lights for the area within the inner circle diameter 725, and another plurality of lights for the area outside of this and within the area of the outer circle diameter 730, with both sets of lights lighting up for use with larger balls. A further plurality of lights may be used to illuminate the remaining interstitial areas outside of the outer circle diameter 720 and within the respective cell or unit of the grid 710.

[00100] As with the visualization tools 100/200/300/400/500 shown hereinabove, this embodiment, as well as those hereinbelow, can also be deployed, as shown in FIGURES 4 and 5 in the field, in the house, or wherever needed using the aforesaid securement means and/or a stand to maintain or prop up the respective visualization tool to the appropriate height to suit the batter or player in question. It should, of course, be understood that the user, swinging a bat, could easily destroy the aforementioned visualization tool 700/800 deployed. Thus, great care and ample room are needed when using the present invention when not in a normal batting practice area, such as a batting cage.

[00101] With reference now to FIGURE 8 of the DRAWINGS, there is shown the visualization tool of FIGURE 7 in cross section, generally designated by the reference numeral 800. It should be understood that the great variety and complexity of lighting the aforesaid grid 710 requires not only computing power to designate only some of the lights, but also illumination power, with the control of particular LEDs or other light bulbs governed by a central processing unit (CPU), generally designated by the reference numeral 801, perhaps along with additional processors and control to handle the variety of instructions and circumstances presented. A memory or other storage device, generally designated by the reference numeral 802, may store patterns therein for particular configurations, e.g., Red 4.

[00102] With further reference to FIGURE 8, Applicant notes that the grid 810 outer surface needs to be made of a material that allows sufficient light to pass, i.e., glass or plastic, therethrough to be seen by the batter and/or others. Thus, a network of lights are underneath the grid 810 and lighting up the respective patterns associated with a respective pitching circumstance, the network or grid of lights being just below the outer surface, generally designated by the reference numeral 803, and thus protected from the elements.

[00103] As discussed, respective lights therein, generally designated by the reference numeral 804, may be LED or any other light bulb that will provide sufficient luminosity. Further, it should be understood that the lighting grid or array 803 may form a matrix of

lights regularly spaced or be formed into local patterns for illumination, e.g., around each respective ball unit 820, the lighting illuminating the respective interior parts, as discussed hereinabove, and not generally.

[00104] Of course, these lights, as well as the electronics of the visualization tool 700/800, must have power, and the present invention has a power supply for electricity connection or plug, generally designated by the reference numeral 750/850.

[00105] It should also be understood that since the instant invention is preferably portable, batteries may, in addition to or alternatively be used in certain circumstances, with the battery compartment generally designated by the reference numeral 752/852, where a number of batteries, such as AA batteries, can be deployed therein, as is understood in the art. In preferred embodiments these connections should be either on the side or on the obverse side to that shown in the figure, i.e., they need not be seen and should not be seen by hitter.

[00106] Additional energy configurations are, of course, considered, e.g., the unit being powered by solar panels and other means, as is practicable.

[00107] With reference now to FIGURE 9 of the DRAWINGS, there is shown a remote control unit or remote, generally designated by the reference numeral 955, which is used in conjunction with the electronic visualization tool 700 described hereinabove. The remote 955, as shown, has a miniature version thereon of the aforesaid grid, generally designated herein by the reference numeral 910, with the rows/columns of balls, generally designated by the reference numeral 920, configured as set forth hereinabove, such as in the grid 710 in FIGURE 7 and other grids described and illustrated.

[00108] As with the correlated visualization tools 700/800, the remote-control unit 955 has circuitry therein to receive and transmit the signals, e.g., radio, infra-red or other transmissions, associated with the grid 710/810 usages of the tools 700/800.

[00109] Also shown on the control unit 955 is a power indicator light, generally designated by the reference numeral 956, which when lit indicates that the remote 955 is on or operational. Also shown is a random button indicator, generally designated by the reference numeral 957, which randomizes the game, i.e., randomizes the pitches between the various 80 total pitch location options in this embodiment. Of course, the hitter/batter can instead focus on particular zones, as described, or other areas of interest, such as their preferred pitches. In this instance, the aforesaid random button indicator 957 is off.

[00110] It should be understood that a user of the remote 955, such as a coach, can designate a particular ball 720 in the grid 710, and in one embodiment press a button corresponding to that ball 720, e.g., with a finger, thereby signaling a pitch to the hitter. The screen of the remote 955 in this embodiment can, therefore, be a touchscreen, and the user thereof can indicate the individual ball 720 areas digitally. Alternatively, a user of the remote 955 can use a stylus or other device, generally designated by the reference numeral 958, to designate a particular ball or balls 720 within the grid 710, which when touched light up on the remote 955 and perhaps also on the grid 710 screen, as described, illuminating the region of interest.

[00111] It should also be understood that a coach or the player themselves can use voice commands, with voice recognition, to indicate a particular pitch location, e.g., red 4, aloud or perhaps quietly to the remote 955 (but sufficiently loud locally for the remote 955 to recognize but not the batter).

[00112] With reference now to FIGURE 10 of the DRAWINGS, there is shown an alternate version of the instant invention, particularly, an alternate electronic version of the instant invention, which offers more enhancements to the game experience. In this embodiment, the visualization tool, similar to visualization tool 700 above, is electronic, and generally designated by the reference numeral 1000.

[00113] As shown, the grid configuration is substantially the same and is generally designated herein by the reference numeral 1010, with the aforesaid balls, generally designated by the reference numeral 1020, which is the outer circle diameter described hereinabove.

[00114] Also shown is a representative inner circle diameter, generally designated by the reference numeral 1025, and the home plate reference and extenders therefrom, generally designated by the reference numerals 1030 and 1035, respectively.

[00115] Also shown is a representative integrated visual control unit, generally designated by the reference numeral 1060, which provides the user with relevant "game" information, described in more detail hereinbelow. In this example, the VCU is shown integrated or capable of integration within the tool 1000.

[00116] In a preferred embodiment of the present invention, however, the visual control unit (VCU) 1060, is separate and placed atop the grid 1010, and is designed to provide a variety of light cues for the batter, e.g., in use with a remote, such as remote 955 shown in FIGURE 9. In this fashion the VCU 1060 can be placed wherever most useful to

the batter or hitter. The VCU 1060 in this embodiment is electronically connected to the aforesaid electronics and power connections within the visualization tool 1000.

[00117] A plurality of LED or other lights, such as described in more detail hereinabove and further hereinbelow, are employed in the VCU 1060 to work in configuration with and in correspondence to action sequences entered. Further description of the aforesaid VCU 1060 is found hereinbelow in connection with FIGURE 12.

[00118] With reference now to FIGURE 11 of the DRAWINGS, there is shown an alternate remote-control unit, generally designated by the reference numeral 1155, which offers more functions and control than the aforementioned remote-control unit 955 shown in FIGURE 9, providing additional functions with the aforesaid VCU 1060. In particular, the remote-control unit 1155 has a power indicator light 1156, and a random or randomness button 1157, as discussed, although configured differently. This embodiment of the remote-control unit 1155, also includes a brightness button, generally designated by the reference numeral 1161, through which the luminosity of the device 1155 can be controlled, as is understood in the art.

[00119] As further shown in FIGURE 11, the remote-control unit 1155 in this embodiment also preferably includes a set button, generally designated by the reference numeral 1162, which indicates that a pitcher set or ready indicator, and preferably lights up in red when the pitcher is ready, an action which correlates with corresponding visual clues and cues from the VCU 1060.

[00120] Also included is a separate button, generally designated by the reference numeral 1163, which visually indicates when the pitcher's hands separate, i.e., the pitch is in process, where a yellow light is preferred for this indicator. The remote-control unit 1155 in this embodiment also includes a release button, generally designated by the reference numeral 1164, which preferably turns green upon the release of the ball, and a take button, generally designated by the reference numeral 1165.

[00121] Thus, the remote-control unit 1155 here has more functionalities and includes the added visual techniques and options provided by the inclusion of the VCU 1060 in this embodiment.

[00122] With reference now to FIGURE 12 of the DRAWINGS, there is shown in more detail another embodiment of a VCU, such as the VCU 1060 described hereinabove, particularly, a portable visual control unit 1260 pursuant to the teachings of the present invention. The VCU 1260 has a power indicator light, generally designated by the reference numeral 1256, and a brightness button, generally designated by the reference numeral 1261,

both of which preferably have on and off settings. A set button, generally designated by the reference numeral 1262, is a pitcher set or ready indicator, and preferably lights up in red when the pitcher is ready.

[00123] Additionally, a separate button, generally designated by the reference numeral 1263, indicates when the pitcher's hands separate, i.e., the pitch is in process, and a yellow light is preferred for this indicator. A release button, generally designated by the reference numeral 1264, preferably turns green upon the release of the ball. Also shown on the visual control unit 1260 is an off-speed button, generally designated by the reference numeral 1266, which preferably lights up yellow to tell the hitter to "stay back, let ball travel or wait." Finally, there is a random or randomness button, generally designated by the reference numeral 1257, which generates random pitches as described.

[00124] As described, in this the VCU 1260 embodiment, the VCU 1260 is shown separate from the aforedescribed visualization tools and constituting an independent unit. As indicated, the VCU 1260 should rest atop or near the visualization tool 1000 to provide the requisite pitching information to the batter, e.g., information which might inform them as to a best stance, posture and position to receive a given pitch.

[00125] Although for simplicity of use, the VCU 1260 should be an integrated component within the visualization tool 1000, as shown and described in connection with FIGURE 10, the VCU 1260 can also be used separately, e.g., positioned in a variety of other places in this embodiment. Further the VCU 1260 can be sold separately, with the interconnectivity of the components being preconfigured for later insertion, e.g., the visualization tool 1000 can be sold with an available slot for the VCU 1260 to fit into both physically and electronically, as is understood in the art.

[00126] So, the VCUs 1060 and 1260, as shown and described, convey visual (and auditory) information to the batter. Thus, a coach or teammate or parent holding the remote-control unit 1155 can indicate a pitch location, transmit that, and the pitching information would then start, lighting up the VCU s appropriate for a pitcher gearing up for a given pitch, e.g., a fastball. This information is soon followed by the pitch location, which would light up the designated area in question. As with the earlier embodiments described hereinabove, all of these visual cues would soon become second nature to a regular user of the present invention, with the various slues and cues given instantly recognizable to the batter, who, in tum, would develop muscle and mental memory for each reaction.

[00127] With reference now to FIGURE 13 of the DRAWINGS, there is shown yet another alternate version of the instant invention, configured with ten rows and eight

columns, as described in more detail hereinabove. In this embodiment, the aforementioned remote-control unit is not a discrete apparatus, but integrated into an application or app on a cell or smart phone, generally designated by the reference numeral 1370, which can be used used in conjunction with the visualization tools described hereinabove, such as visualization tools 700 and 1000. In particular, the phone 1370 has a program or app thereon, which displays the aforementioned miniature version of the aforesaid grid, generally designated herein by the reference numeral 1310, with the rows/columns of balls, generally designated by the reference numeral 1320, such as configured as in the grid 110 in FIGURE 1.

[00128] Just as the aforesaid remote-control units 955 and 1155 are in wireless communication with the respective visualization tools, so, too, is the app stored within the memory of the smartphone 1370.

[00129] As shown, the smartphone 1370 can call up the aforesaid app and display the program within a window, generally designated by the reference numeral 1375. Further, just as the visualization tool 1000 has a visual control unit, with the additional information and functions pertaining to the pitcher and pitch locations, so does the phone grid 1310 corresponding thereto, with some of the operational features corresponding thereto.

[00130] These operational features include a power indicator light, generally designated by the reference numeral 1356, a brightness button, generally designated by the reference numeral 1361, a set button, generally designated by the reference numeral 1362, a separate button, generally designated by the reference numeral 1363, a release button, generally designated by the reference numeral 1364, and a take button, generally designated by the reference numeral 1365. In other words, the smartphone 1370 preferably duplicates all of these functions, and preserves them together, such as via a recording of the batter with all of these stats associated along with a timeline.

[00131] The smartphone 1370 in this embodiment, taking advantage of the various aforementioned features, also has a record button, generally designated by the reference numeral 1371, a pause button, generally designated by the reference numeral 1372, and a stop button, generally designated by the reference numeral 1373.

[00132] With the pitches being thrown, the various sensors collect the data about the swing of the batter, for example, sensors 1480 and 1481 deployed on the bat, as well as the particular pitch being reacted to, e.g., the pitch location lit up on the grid or called out.

[00133] In other words, using the smartphone 1370 embodiment (or the other embodiments of the instant invention), the metrics for the mechanics of the particular swing can be recorded and studied later for improvements. For example, later on a computer

display, a user, coach or other can visualize the player movements correlating to a particular pitch, vis-à-vis a particular pitch location in the grid, and note improvements on the swing, stance and other metrics from this collected data, which is wirelessly transmitted from the sensors to the computer or communicate with a DrySwings Smart phone app or another app to track the swing paths to particular pitch locations.

[00134] It should also be understood that the principles of the present invention can also be extended to the virtual realm, with a batter/hitter suited up with a variety of sensors in a virtual environment, with pitches being thrown at them. A virtual headset, such as an Oculus or other three-dimensional renderer, would portray the situation or circumstances surrounding the hitter and visually portray various aspects of the game, which would be in real time.

[00135] Thus, in this embodiment, the player or hitter would suit up, as in an elaborate video game, and enter the rendered game world with a variety of sensors and other measurement apparatus to calibrate the game and keep tracks of the metrics of play. The entire mechanics of the batting practice could be recorded, rendered and available for playback.

[00136] As discussed, the present invention in its various embodiments can be practiced simply, e.g., by hanging the visualization tool on a fence or surface, as shown in FIGURES 4 and 5, respectively. The hitter or batter, with adequate spacing, e.g., within a size of a batting cage or so, and an actual home plate laid down as if on the field, the hitter can step up as if in a game. Visualizing the pitcher, stepping on a mound, on the rubber, with catcher's signals, the pitcher winds up and completes the pitch, the hitter can determine a pitch location from among the aforementioned plurality of possible pitch locations in a variety of ways.

[00137] First, a coach, teammate or other player, a parent (or the hitter themselves) can provide a verbal command or cue from the pitcher location, and the hitter makes the requisite swing for that cue. Alternatively, for example, with the graph paper embodiment shown in FIGURE 6, a physical written indicia of the pitch location can be provided, e.g., a helper can display the grid 100/200/300 with a particular ball 120/220/320 marked. In other words, the helper does a pitch count for the hitter. Alternatively, the hitter can determine their own pitch locations dynamically.

[00138] Turning now to exemplary usages of the tools, methodologies and principles of the present invention in a variety of settings, as illustrated in the following Figures.

[00139] With reference to FIGURE 14 of the DRAWINGS, there is shown an exemplary solo usage of the instant invention, e.g., the visualization tool 100 of FIGURE 1, generally designated herein by the reference numeral 1400.

[00140] As discussed, one of the virtues of the present invention is the option to use the invention personally, perhaps outside of the view of others. Here, the batter is shown within a batting cage, generally designated by the reference numeral 1442. Also shown is the visualization tool 1400 of the invention, with the grid 1410 and home plate reference 1430 thereon, as described. Further, the visualization tool 1400 is secured to a wall of the batting cage 1442, as shown, e.g., using a carabiner, rope, clip, etc., as noted.

[00141] To further visualize the experience of batting, the batter may employ an actual home base, generally designated by the reference numeral 1432. Additional indicators, such as the stripes or other physical indicia may further augment the experience with the visualization tool 1400. As shown, the batter is prepared to swing, and may employ any or all of the aforesaid swings in an effort to improve their game.

[00142] It should be understood that the aforesaid electronic versions of the visualization tool, with the lights, randomizer and other aspects would provide even more dimensions to the experience.

[00143] With reference to FIGURE 15 of the DRAWINGS, there is shown another exemplary usage of the instant invention, here with another person to assist or help in the visualization and experience. As shown in FIGURE 15, a batter can be in a batting cage 1542, which can be fully or partially enclosed, as is understood in the art. The batter can position themselves relative to the visualization tool 1500 and an actual home plate 1532. The batter here is also gearing up a swing and is getting visual cues from a helper outside of the cage 1542, but visible through the mesh.

[00144] As shown, this helper is pretending to be a pitcher, particularly a picture emulating a particular pitch being delivered and indicative of a particular placement in the gridwork 1510 of the tool 1500, as described. It should, of course, be understood that the helper can provide audio and visual clues reminiscent of a pitcher. In any event, the visceral experience of the tool 1500 with the additional stimuli of the home plate 1532, pitcher and other aspects makes the situation more real.

[00145] It should be understood that with the usage of the electronic versions described in detail hereinabove, the faux pitcher, armed with a remote control 855/955/1155 or perhaps the smartphone 1370, can emulate a given pitch and provide, by hitting buttons on the remote control or phone, the related visual cues for same, which can be displayed on a visual control

unit 1160/1260, as described, for the batter. In addition, particular grids in the grid work 1510 may light up (as the bulbs 804 in matrix 803) as well to provide further visual feedback, and perhaps auditory feedback as well, e.g., a bell or other auditory indicator may ring.

[00146] With reference to FIGURE 16 of the DRAWINGS, there is shown a further exemplary usage of the instant invention. As shown, the batter is positioned within a batting cage 1642 or other enclosure, aligned to face the visualization tool 1600, as with above embodiments shown in FIGURE 14 and 15. The helper here, however, is positioned behind the batter within the batting cage 1642 for example. In this position, the helper can call out particular pitches and observe the batter's reactions to each called pitch. Similarly, with the electronic versions, the helper, by virtue of the remotes and VCUs and phones described, can also provide visual clue to the batter, and observe the batter's various reactions.

[00147] Likewise, the above position is useful for mirror work, with the teammate/parent standing behind the hitter and lined up with the grid. The helper would then observe the batter in their motions of swinging. Similarly, the helper could, for example with a mirror usage, emulate a pitcher's movements, as described in FIGURE 15.

[00148] Finally, and with reference to FIGURE 17 of the DRAWINGS, there is shown yet another exemplary usage of the instant invention with the assistance of a helper. As shown, the batter is again positioned within a batting cage 1742 or other structure in relation to the visualization tool 1700 and the grid 1710 thereon. Also shown is the optional home plate 1732. Here the helper is directly facing the batter as they swing. In this position, the helper can observe the various facets of the swing close up and personal. Of course, the helper should be outside of the arc of the bat swing of the batter for safety.

[00149] It should be understood that there are numerous possible usages of the tools of the instant invention, from various positions and angles, allowing a helper to finetune the swing and other positionings of the batter. The above examples are exemplary of the multitude of possibilities by virtue of the instant invention.

[00150] It should also be understood that multiple batters with multiple visualization tool systems, whether analog or digital, can be employed side by side, with multiple hitters practicing and perhaps all working on the same pitch locations together, e.g., with a common coach.

[00151] As for materials, it should be understood that the visualization tool 100 is preferably a vinyl banner. For example, in one preferred embodiment a waterproof 13oz nylon reinforced vinyl banner is used for indoor and outdoor use. The banner or tool 100 should be lightweight and rollable for ease of transport as well as shipping. As such, the tool

100 can be sold with hem and grommets for the holes 115. Carabiners and suction cups 546 may also be sold with the banner or tool, thereby providing the variety of surfaces for affixation, as described hereinabove. The material in the banner thus has excellent strength and durability characteristics, particularly regarding the heat and dirt that often occurs around a baseball diamond. For the grid 110, this is printed onto the banner or tool 100 with indelible inks, with any rollup preferably having the grid 110 and the inks thereon deployed on the inside of the roll, protected. The plastic material can be white, clear or other useful color.

[00152] In another embodiment, the grid 110 for the banner or tool 100 is instead printed on a metal surface. This embodiment offers more durability, but less rollability than the more flexible plastic version. Indoor usage seems to be more suited to a metallic version since this could be mounted in a particular place for general use.

[00153] For paper embodiments, such as described hereinabove, this is a cost-effective production but limited in usage. As with metal, but for different reasons, this embodiment is better suited to indoor usages outside of the elements.

[00154] As discussed, for each of the above materials embodiments, holes 115 provide means for securing the tool 100 to various surfaces. For the more flexible embodiments, paper and plastic, the rolled-up tools 100 can be placed in a protective tube, canvas bag or other securement. The hard plastic or metal versions that are not rollable need to be secured vertically or flat in a manner to avoid warping or bending.

[00155] For each of the electronic components described herein there are similar warnings and constraints, as well as additional ones to befit the dangers of electricity.

[00156] In one embodiment of the electrical version described hereinabove, e.g., unit 700, the grid 710 can be any of the grids 110/210/310 or other grids, with the same configurations and colors. The unit can be powered by electricity, via a plug, or be battery operated. All lighting is preferably LED wiring, with sufficient bulbs or light sources to illuminate the respective pitch locations individually within the grids. As such, there should be a plastic or PVC box at the bottom of the unit 700 to safely house the battery 752 and/or electrical power supply plug-ins 750. As such, a tool 700 unit for sale should include an electrical plug-in cable.

[00157] The above embodiment can also include sensors for the batter, particularly two sensors for the bat. One sensor is positioned along the knob of the bat adjacent the hand placement of the batter, generally designated by the reference numeral 1480 in FIGURE 14, and another sensor is placed on the barrel of the bat, which would sense the swing motion of

the bat, generally designated by the reference numeral 1481 in FIGURE 14. It should be understood that the data provided by the measurement of these sensors could aid in adjusting the batter's swing, whether the angle, the power or other aspect.

[00158] In another embodiment of the above embodiment, there is included the requisite software, e.g., the DrySwings StrikeZone or other like software, which can easily be downloaded onto a smartphone (or a computer), e.g., via a QR code which, upon scanning, would connect the smartphone, e.g., of a helper, to the various equipment, as described.

[00159] So, by way of further example, a smartphone 1370 operator, such as the aforesaid coach/teammate/parent, can watch the batter or hitter, as illustrated in FIGURES 14-17 described hereinabove, and upon the batter starting the hitting process and loading to swing, as shown in the figures, the smartphone 1370 operator/helper would select a pitch location on the smartphone app 1375, as shown in FIGURE 13. Since the smartphone 1370 is connected wirelessly, e.g., using Blue-Tooth or other interconnectivity protocols, to the visual cue unit 1060 and the tool 1000 along with each of the units within the grid 1010, lighting up the indicated units for the particular pitch location called or chosen on the app. The batter then would react in accordance with the pitch locations lighting up and execute a chosen type of swing.

[00160] With further regard to the aforesaid sensors 1480 and 1481, illustrated in FIGURE 14, these also preferably connect via Blue-tooth, and sync with the aforementioned DrySwings StrikeZone software and app o the smartphone 1370. For the sensor 1481 along the barrel of the bat, which is the preferred point of contact, aka the sweet spot of the bat, and the shaft sensor 1480, both are preferably secured to the bat by a wraparound or circular connection, as shown. By thus allowing the sensors to truly follow the bat path and convey the experienced data to the app on the phone or mobile device 1370, including bat path, launch angle, bat speed, and other metrics. As mentioned, this data enables coaches and players to analyze swings based on these metrics as correlated to the various pitch locations.

[00161] It should also be understood that the smartphone 1370 app can also record the swings with video, whether on the phone itself or through a connected camera, e.g., using Blue-tooth interconnectivity. Also, the camera or video can be stabilized by use of an optional tripod or by being held by a helper.

[00162] Finally, it should be understood that the principles of the present invention, although described herein in connection with various forms of baseball, a preferred embodiment, can also be employed in other sports that require practicing body movements to accomplish, whether or not employing an instrument, i.e., a cricket bat used by a batman, and

sports such as basketball, where particular movements, e.g., free throws, can be analyzed using the techniques set forth herein, with the aforesaid grids posed where a basket would be. Using the tools and principles of the instant invention, players of all sorts can practice with confidence and through the color-coding and numbering employed, as well as recording, rendering and playback, carefully study the metrics of their actions, whether a swing or other movement.

[00163] The previous descriptions are of preferred embodiments for implementing the invention, and the scope of the invention should not necessarily be limited by these descriptions. It should be understood that all articles, references and citations recited herein are expressly incorporated by reference in their entirety. The scope of the current invention is defined by the following claims.

THE CLAIMS

What is claimed is:

1. A visualization tool comprising:

a portable surface with a grid thereon,

wherein said grid has a plurality of pitch locations thereon, said plurality of pitch locations arranged in a plurality of rows and a plurality of columns,

a given pitch location being defined by a particular row and a particular column within said grid, and

wherein said pitch locations are color coded;

a home plate indicia, said home plate indicia placed along a lower portion of said portable surface and below said grid, when vertically aligned,

wherein said home plate indicia is representative of an actual home plate,

whereby said visualization tool, when vertically aligned, provides a visualization aid to a player in practice.

2. The visualization tool according to claim 1, wherein said portable surface comprises a plastic material.

3. The visualization tool according to claim 3, wherein said plastic is vinyl.

4. The visualization tool according to claim 1, wherein said portable surface comprises a paper material.

5. The visualization tool according to claim 1, wherein said grid has a configuration selected from the group consisting of ten rows and eight columns, ten rows and seven columns, and eight rows and seven columns.

6. The visualization tool according to claim 1, wherein said home plate indicia comprises extenders.

7. The visualization tool according to claim 1, further comprising an affixation, said affixation selected from the group consisting of clips, holes, carabiners, tape, glue, adhesives, Velcro and combinations thereof,

whereby the visualization tool is secured to other media in an upright position for use.

8. The visualization tool according to claim 1, wherein each said pitch location in said grid has a circle subscribed therein, said circle representing a ball size.

9. The visualization tool according to claim 8, wherein each said circle in each said pitch location in said grid has a smaller circle subscribed therein, said smaller circle representing a ball size.

10. A visualization tool comprising:

a substantially planar box having a substantially planar surface with a grid thereon, respective positions within said grid corresponding to discrete pitch locations, a given pitch location being defined by a particular row and a particular column within said grid; and

a plurality of lights within said box and under said grid, at least one respective light correlated to each of said discrete pitch locations within said grid,

wherein a given light within said plurality of lights, upon activation, lights up said given pitch location, providing a visual cue to a user of said visualization tool,

whereby said visualization tool, when vertically aligned, provides a visualization aid to a user in practice.

11. The visualization tool according to claim 10, further comprising, on said substantially planar surface, a home plate indicia, said home plate indicia placed along a lower portion of said substantially planar surface and below said grid, when vertically aligned.

12. The visualization tool according to claim 11, wherein said home plate indicia comprises extenders.

13. The visualization tool according to claim 10, wherein said grid has a configuration selected from the group consisting of ten rows and eight columns, ten rows and seven columns, and eight rows and seven columns.

14. The visualization tool according to claim 10, further comprising an affixation, said affixation selected from the group consisting of clips, holes, carabiners, tape, glue, adhesives, Velcro and combinations thereof,

whereby the visualization tool is secured to other media in an upright position for use.

15. The visualization tool according to claim 10, wherein said plurality of lights are arranged in an array of bulbs.

16. The visualization tool according to claim 15, wherein each bulb is an LED.

17. The visualization tool according to claim 10, wherein each said pitch location in said grid has a circle subscribed therein, said circle representing a ball size, at least one bulb in said array illuminating said circle.

18. The visualization tool according to claim 17, wherein each said circle in each said pitch location in said grid has a smaller circle subscribed therein, said smaller circle representing a ball size, at least one bulb in said array illuminating said smaller circle.

19. The visualization tool according to claim 18, wherein a plurality of bulbs illuminate said circle and said smaller circle.

20. The visualization tool according to claim 10, further comprising:

a remote, said remote comprising a version of said grid on a screen, said remote in wireless communication said grid and said corresponding discrete pitch locations,

whereby another person can control said visualization tool remotely through a plurality of command buttons.

21. The visualization tool according to claim 20, wherein said command buttons are selected from the group consisting of power, brightness, set, separate, release, take, random and combinations thereof.

22. The visualization tool according to claim 10, further comprising:

a visual cue unit, said visual cue unit comprising a number of visual cues for a user of said visualization tool,

wherein said visual cues are selected from the group consisting of power, brightness, set, separate, release, off-speed, random and combinations thereof.

23. The visualization tool according to claim 10, further comprising:

a smartphone app, said smartphone app comprising a version of said grid on a screen, said smartphone app in wireless communication said grid and said corresponding discrete pitch locations,

whereby another person can control said visualization tool remotely through a plurality of command buttons,

wherein said command buttons are selected from the group consisting of power, brightness, set, separate, release, take, random, record, pause, stop and combinations thereof.

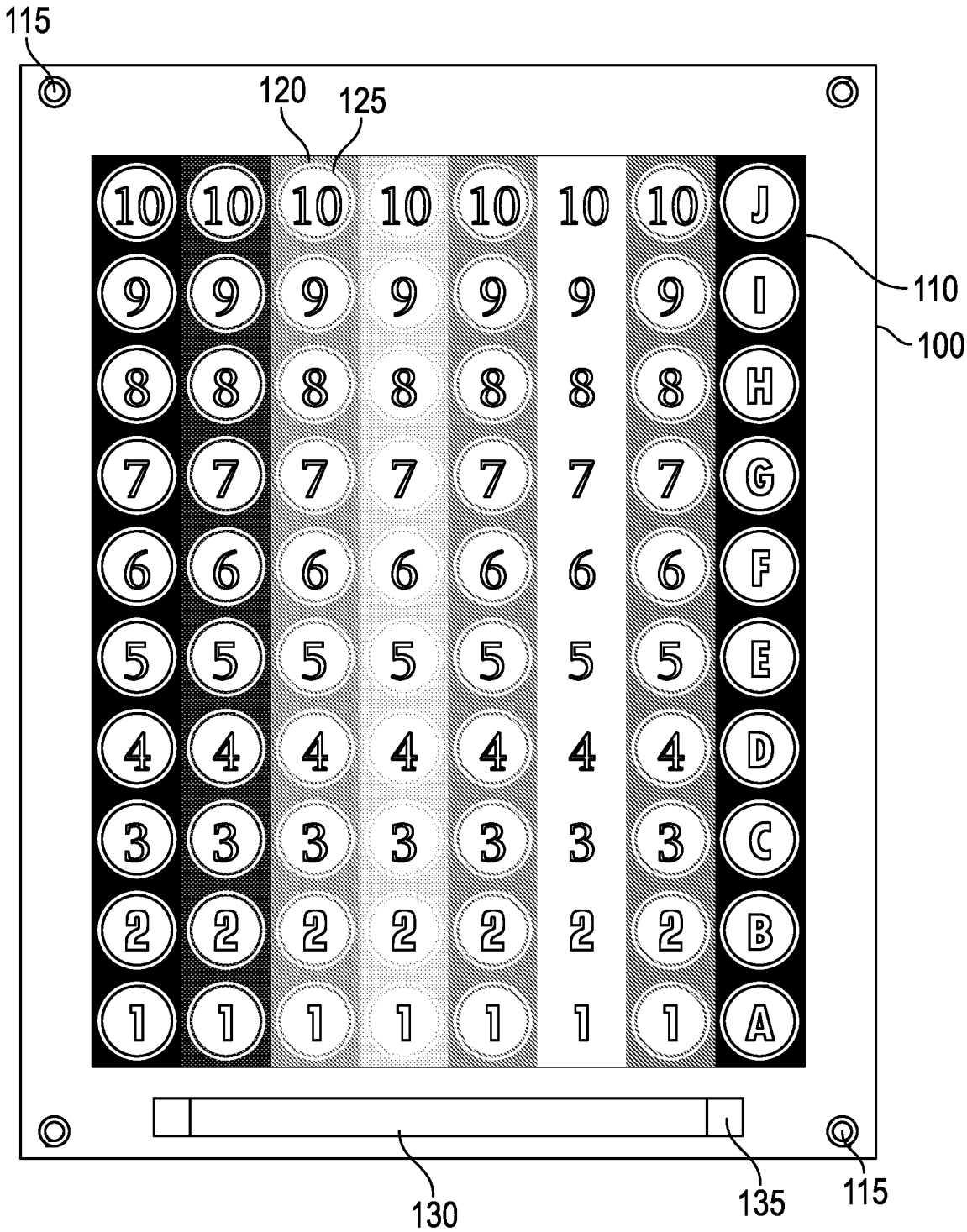

FIG. 1

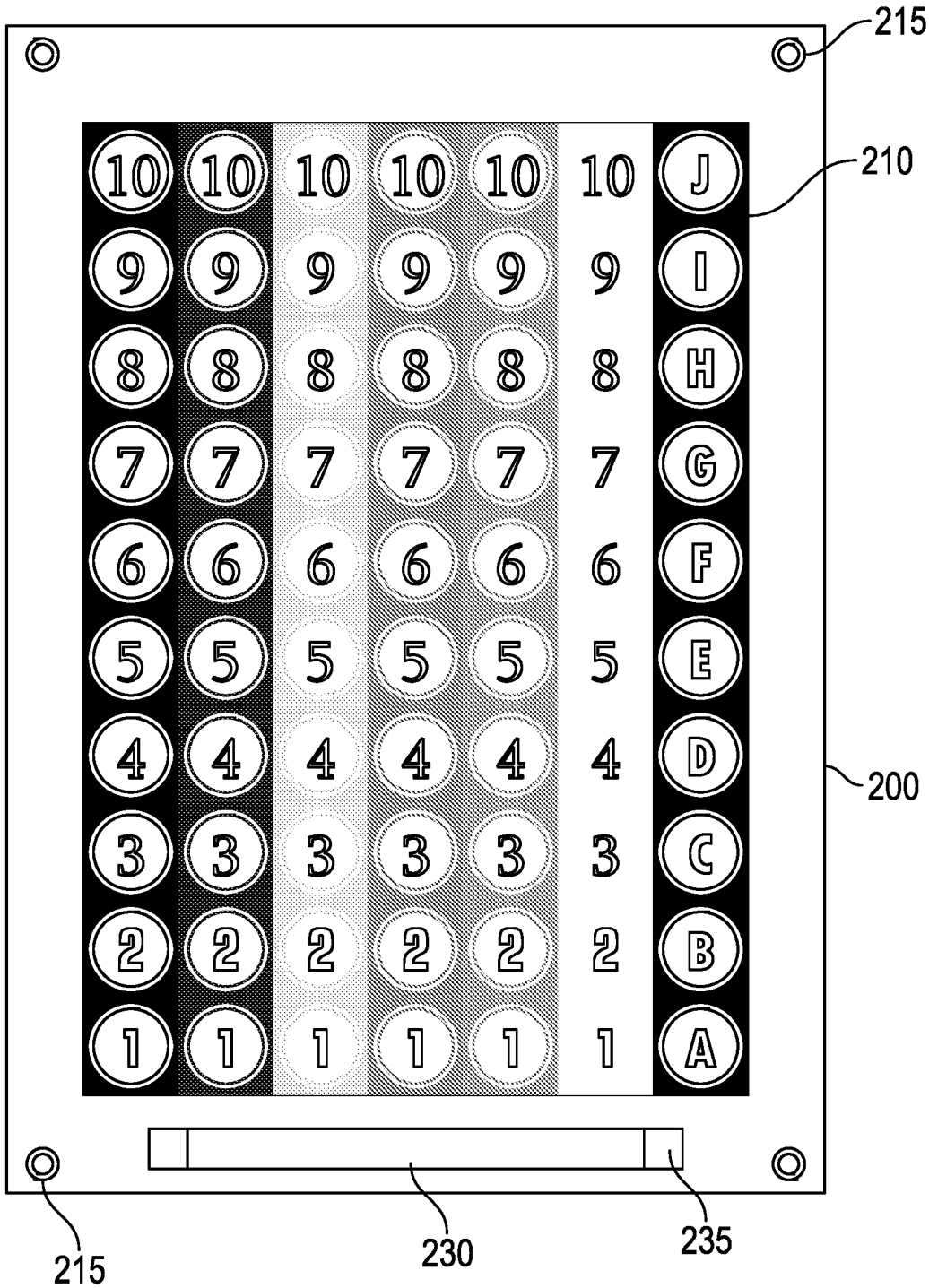
215
210
200
10 10 10 10 10 10 J
9 9 9 9 9 9 I
8 8 8 8 8 8 H
7 7 7 7 7 7 G
6 6 6 6 6 6 F
5 5 5 5 5 5 E
4 4 4 4 4 4 D
3 3 3 3 3 3 C
2 2 2 2 2 2 B
1 1 1 1 1 1 A
215
230
235

FIG. 2

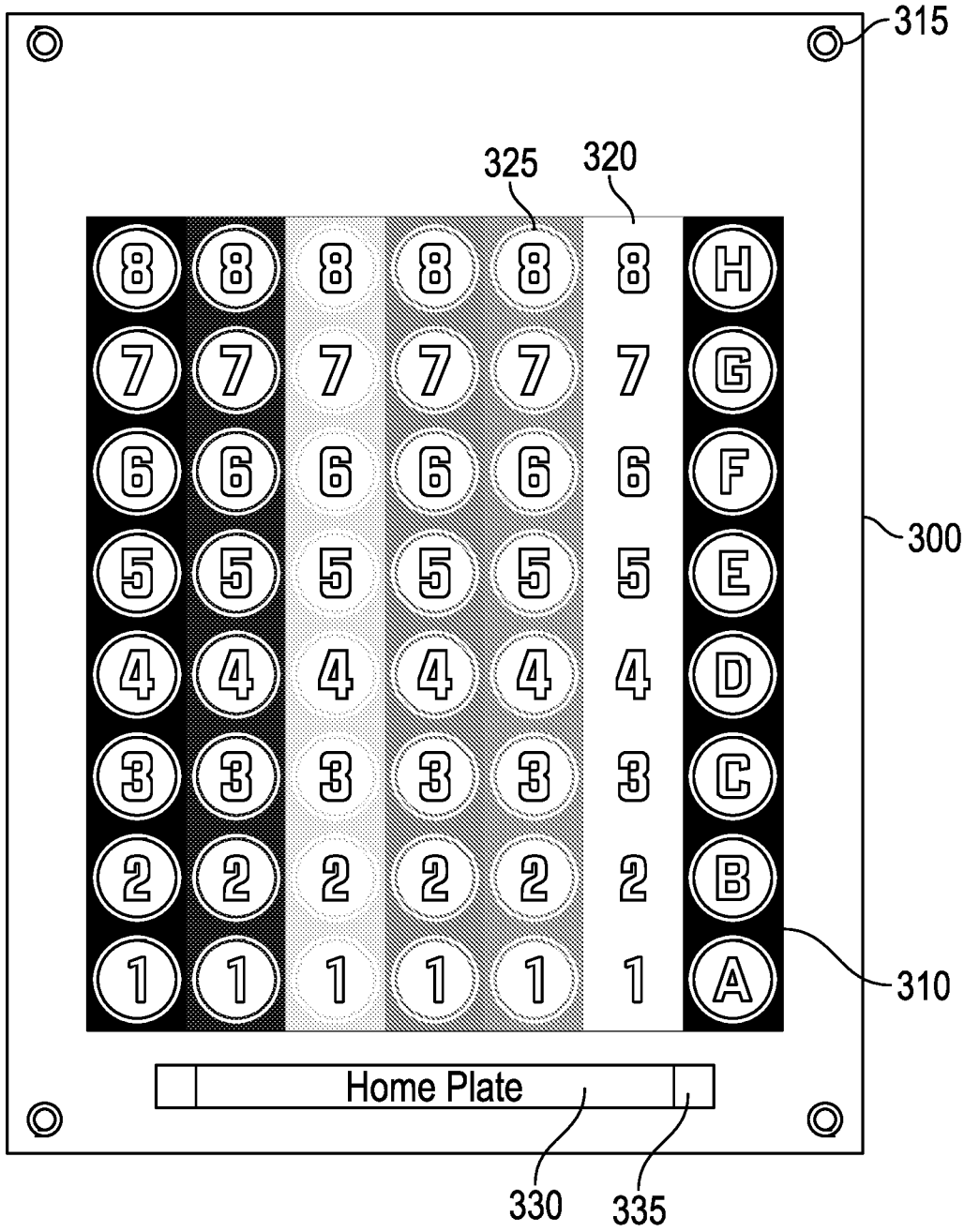
315
325
320
8 8 8 8 8 8 H
7 7 7 7 7 7 G
6 6 6 6 6 6 F
5 5 5 5 5 5 E
4 4 4 4 4 4 D
3 3 3 3 3 3 C
2 2 2 2 2 2 B
1 1 1 1 1 1 A
300
310
Home Plate
330
335

FIG. 3

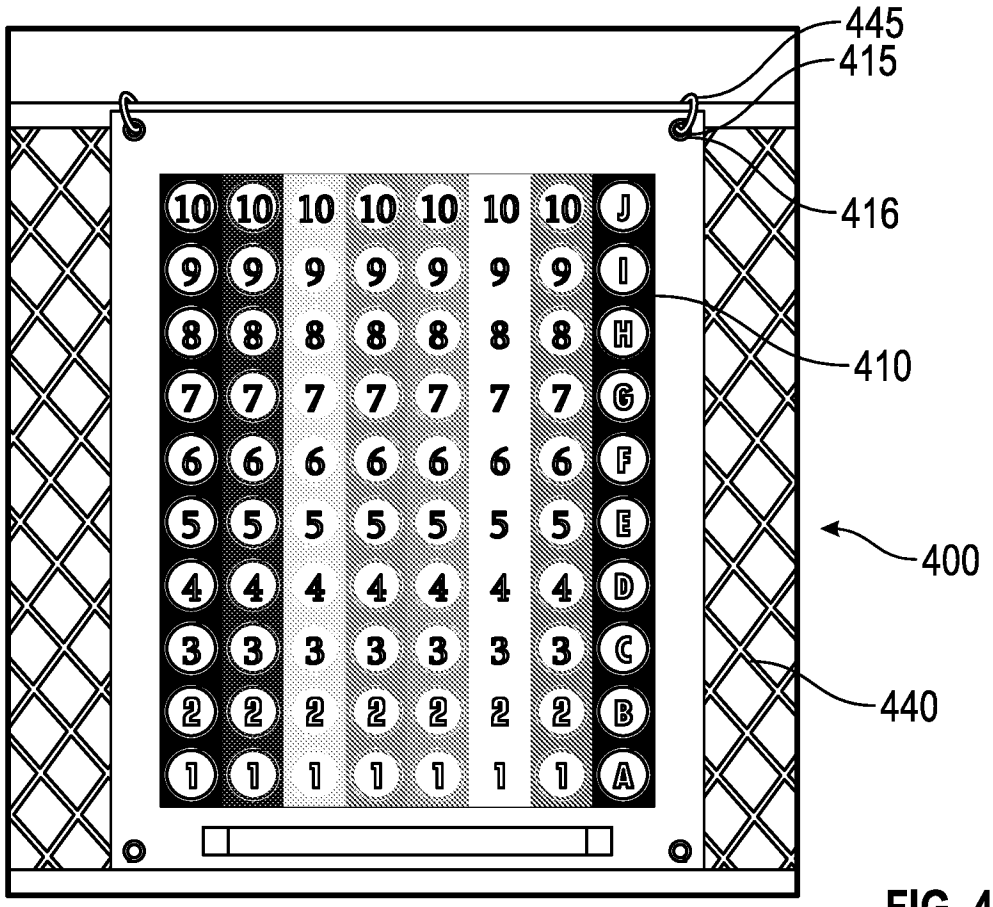
445
415
416
410
400
440
10 10 10 10 10 10 10 J
9 9 9 9 9 9 9 I
8 8 8 8 8 8 8 H
7 7 7 7 7 7 7 G
6 6 6 6 6 6 6 F
5 5 5 5 5 5 5 E
4 4 4 4 4 4 4 D
3 3 3 3 3 3 3 C
2 2 2 2 2 2 2 B
1 1 1 1 1 1 1 A

FIG. 4

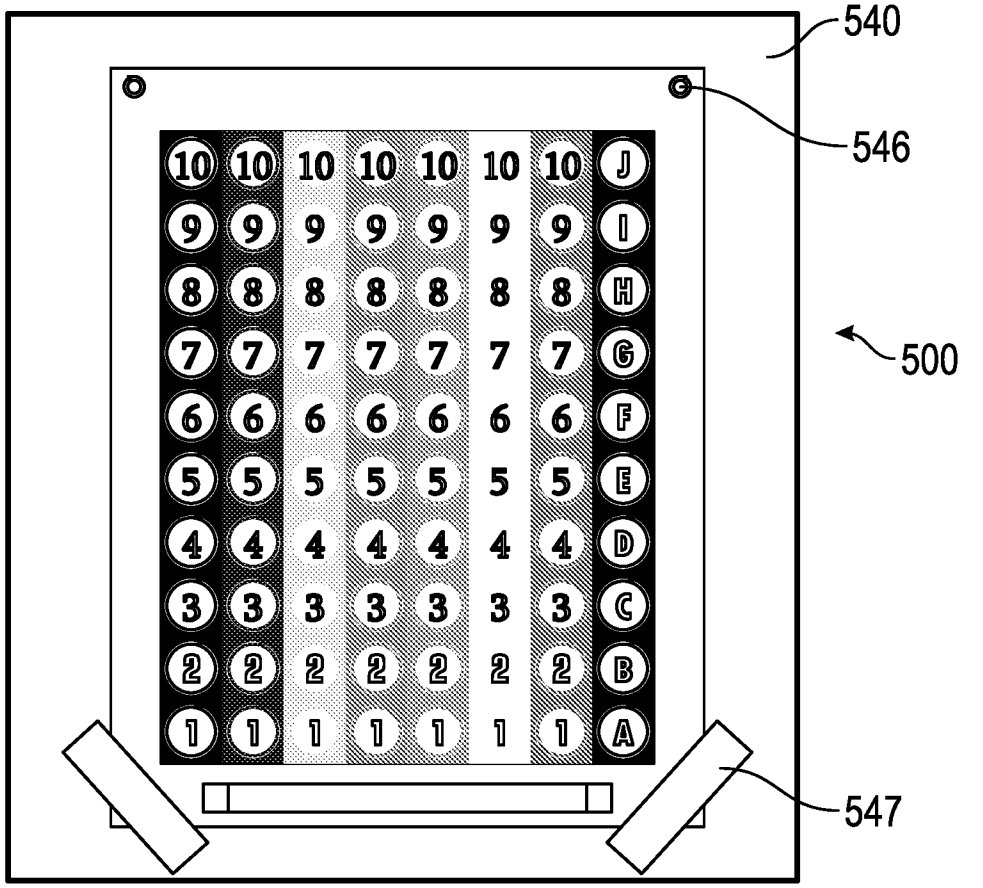
540
546
500
547
10 10 10 10 10 10 10 J
9 9 9 9 9 9 9 I
8 8 8 8 8 8 8 H
7 7 7 7 7 7 7 G
6 6 6 6 6 6 6 F
5 5 5 5 5 5 5 E
4 4 4 4 4 4 4 D
3 3 3 3 3 3 3 C
2 2 2 2 2 2 2 B
1 1 1 1 1 1 1 A

FIG. 5

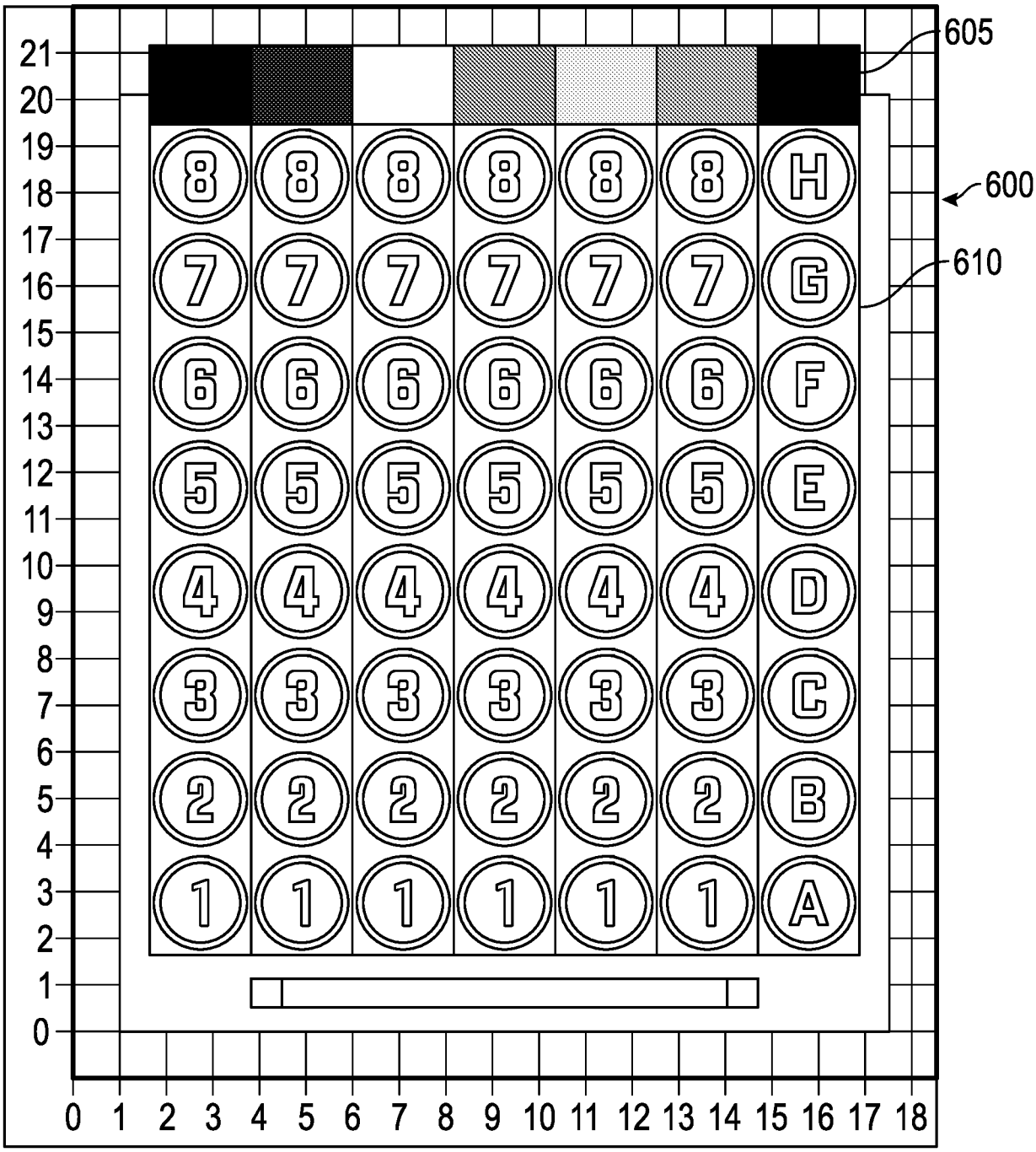
605
600
610
8 8 8 8 8 8 H
7 7 7 7 7 7 G
6 6 6 6 6 6 F
5 5 5 5 5 5 E
4 4 4 4 4 4 D
3 3 3 3 3 3 C
2 2 2 2 2 2 B
1 1 1 1 1 1 A
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

FIG. 6

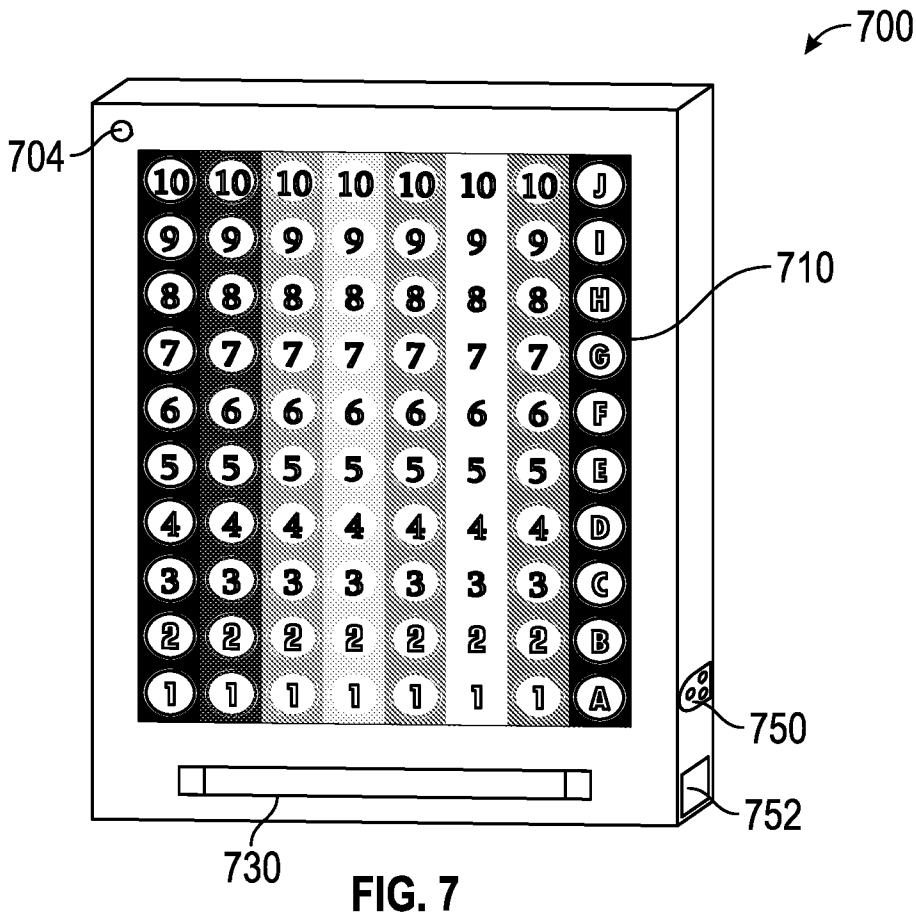

FIG. 7

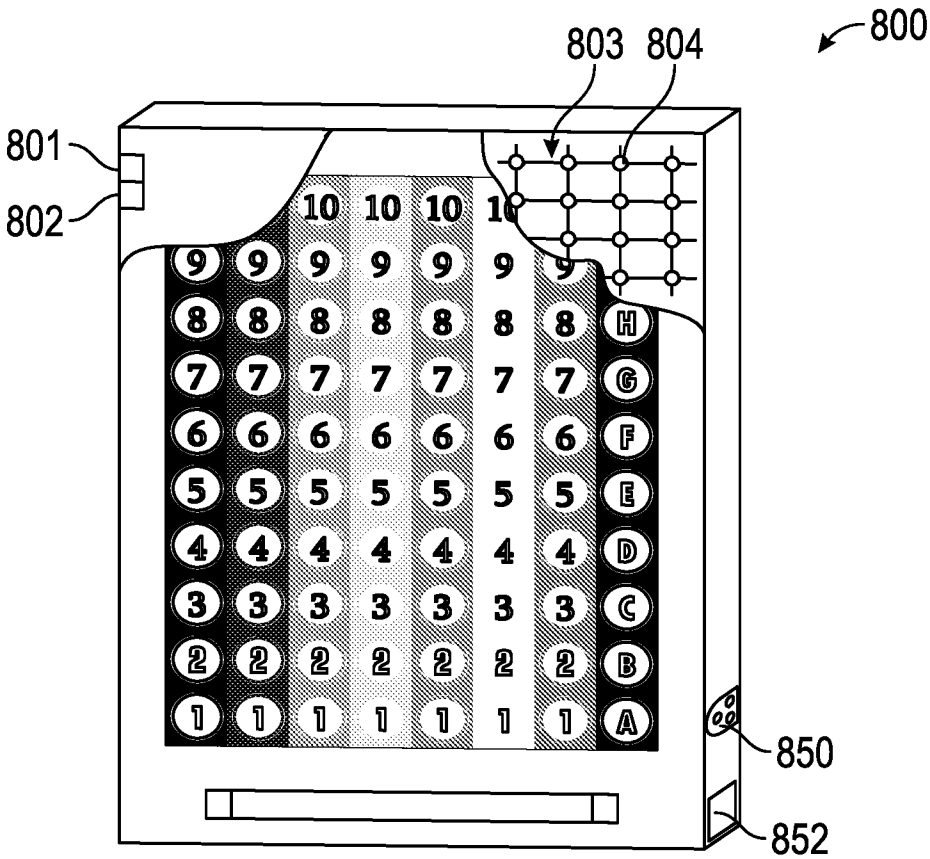

FIG. 8

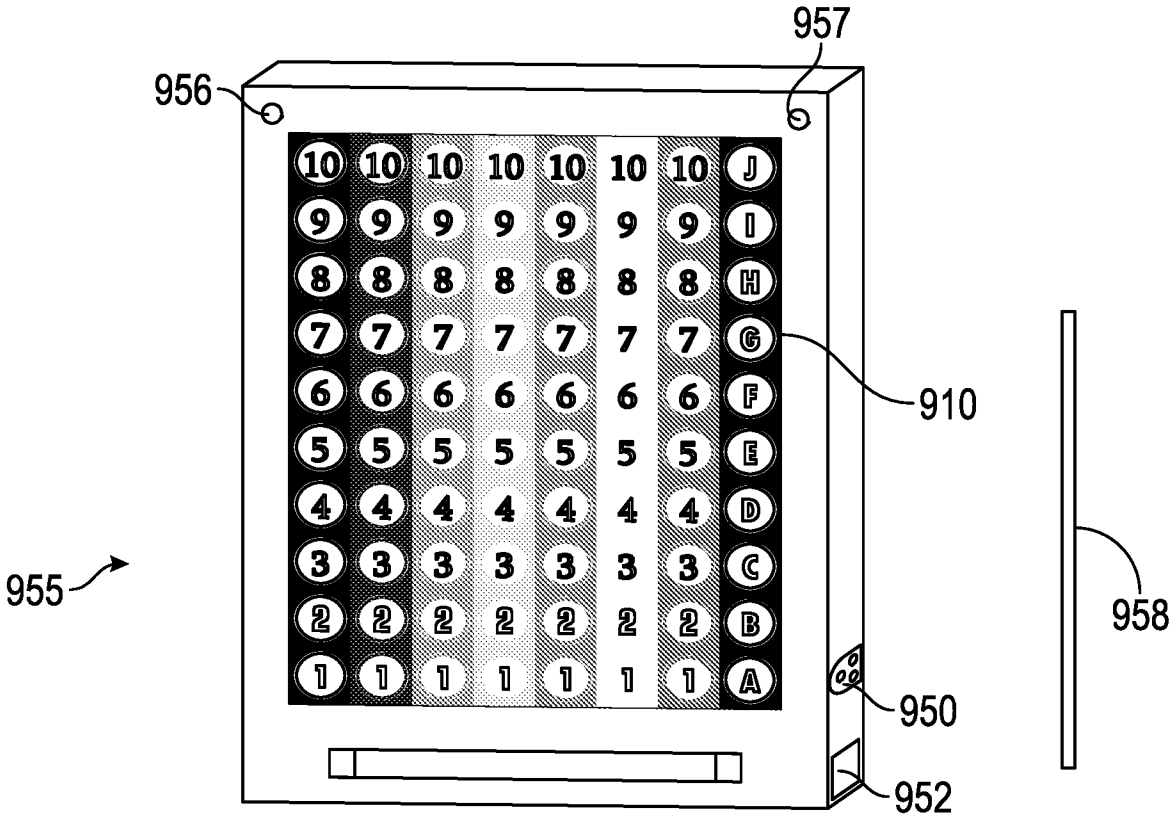

FIG. 9

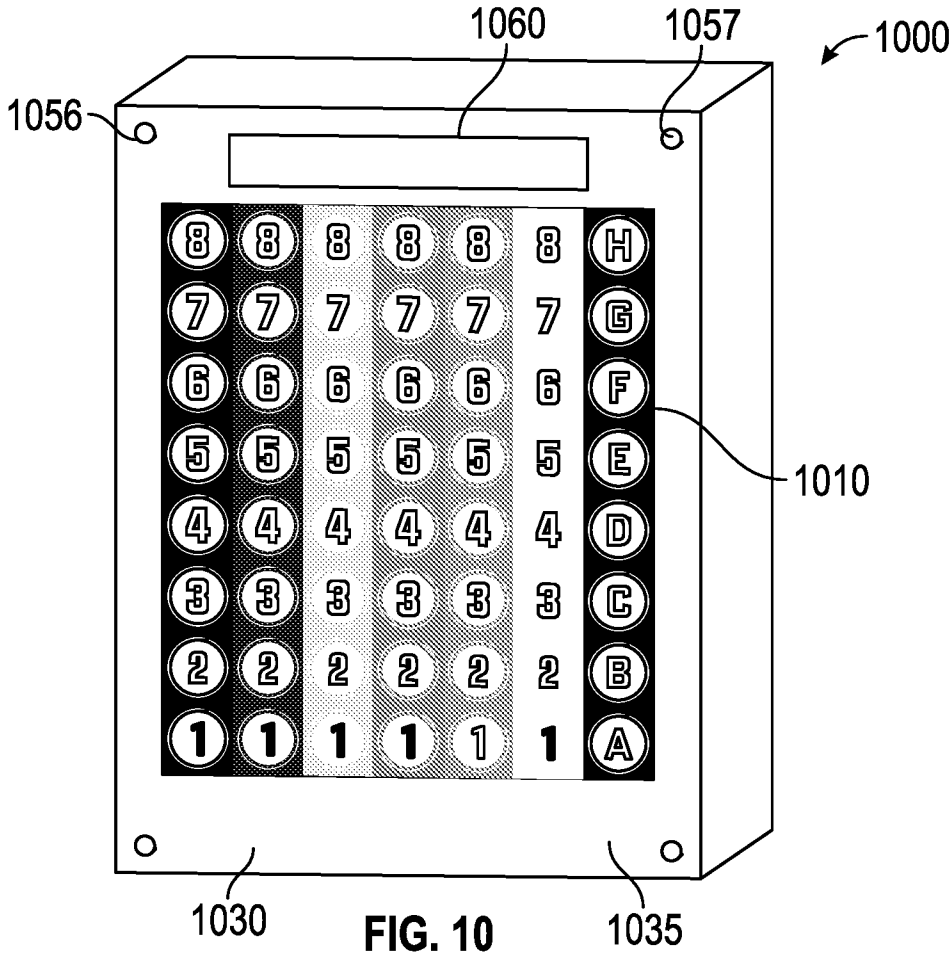

FIG. 10

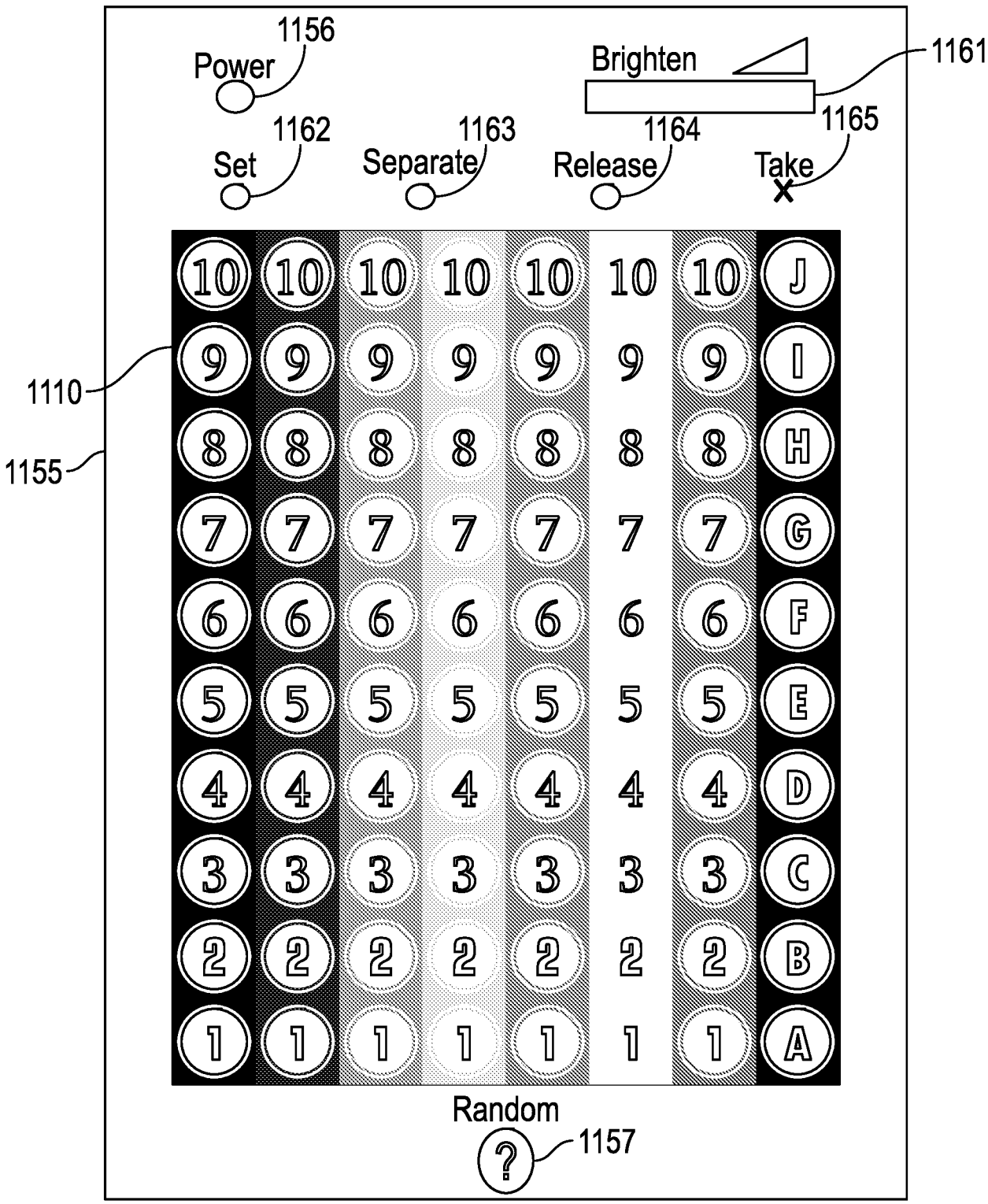
1156
Power
Brighten
1161
1162
Set
1163
Separate
1164
Release
1165
Take
1110
1155
10 10 10 10 10 10 10 J
9 9 9 9 9 9 9 I
8 8 8 8 8 8 8 H
7 7 7 7 7 7 7 G
6 6 6 6 6 6 6 F
5 5 5 5 5 5 5 E
4 4 4 4 4 4 4 D
3 3 3 3 3 3 3 C
2 2 2 2 2 2 2 B
1 1 1 1 1 1 1 A
Random
?
1157

FIG. 11

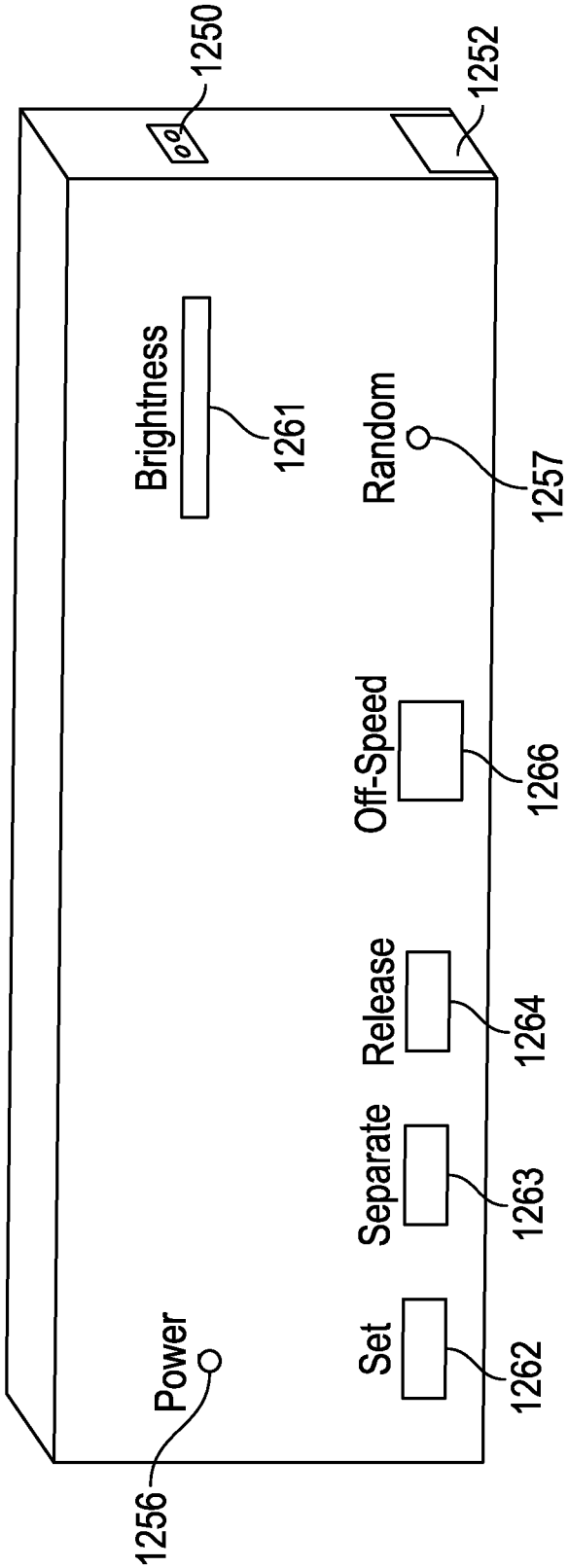
1250
1252
Brightness
1261
Random
1257
Off-Speed
1266
Release
1264
Separate
1263
Set
1262
Power
1256
1260

FIG. 12

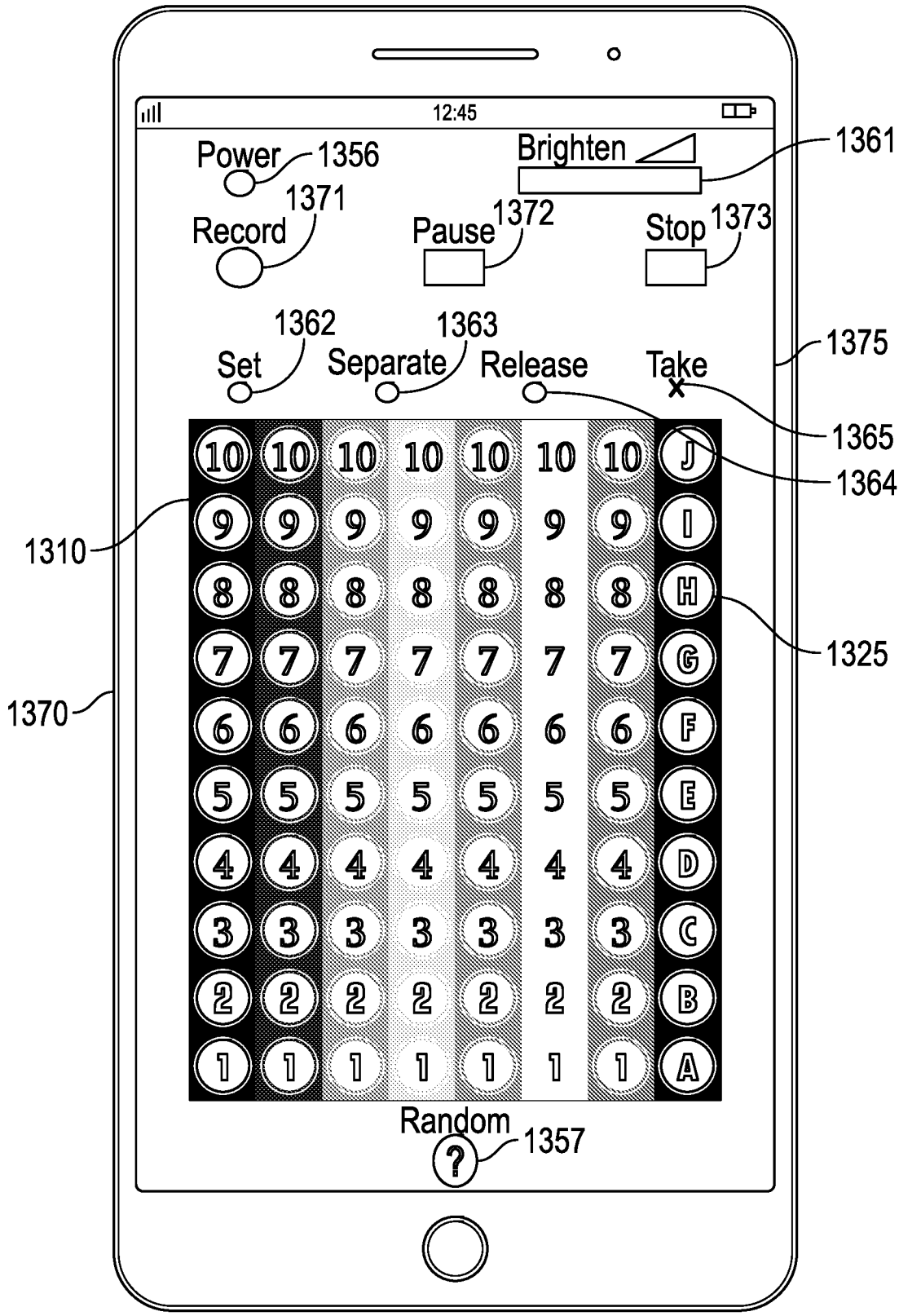
12:45
Power
1356
Brighten
1361
1371
Record
Pause
1372
Stop
1373
1362
Set
1363
Separate
Release
Take
1375
1365
1364
1310
1370
1325
10 10 10 10 10 10 10 J
9 9 9 9 9 9 9 I
8 8 8 8 8 8 8 H
7 7 7 7 7 7 7 G
6 6 6 6 6 6 6 F
5 5 5 5 5 5 5 E
4 4 4 4 4 4 4 D
3 3 3 3 3 3 3 C
2 2 2 2 2 2 2 B
1 1 1 1 1 1 1 A
Random
1357
?

FIG. 13

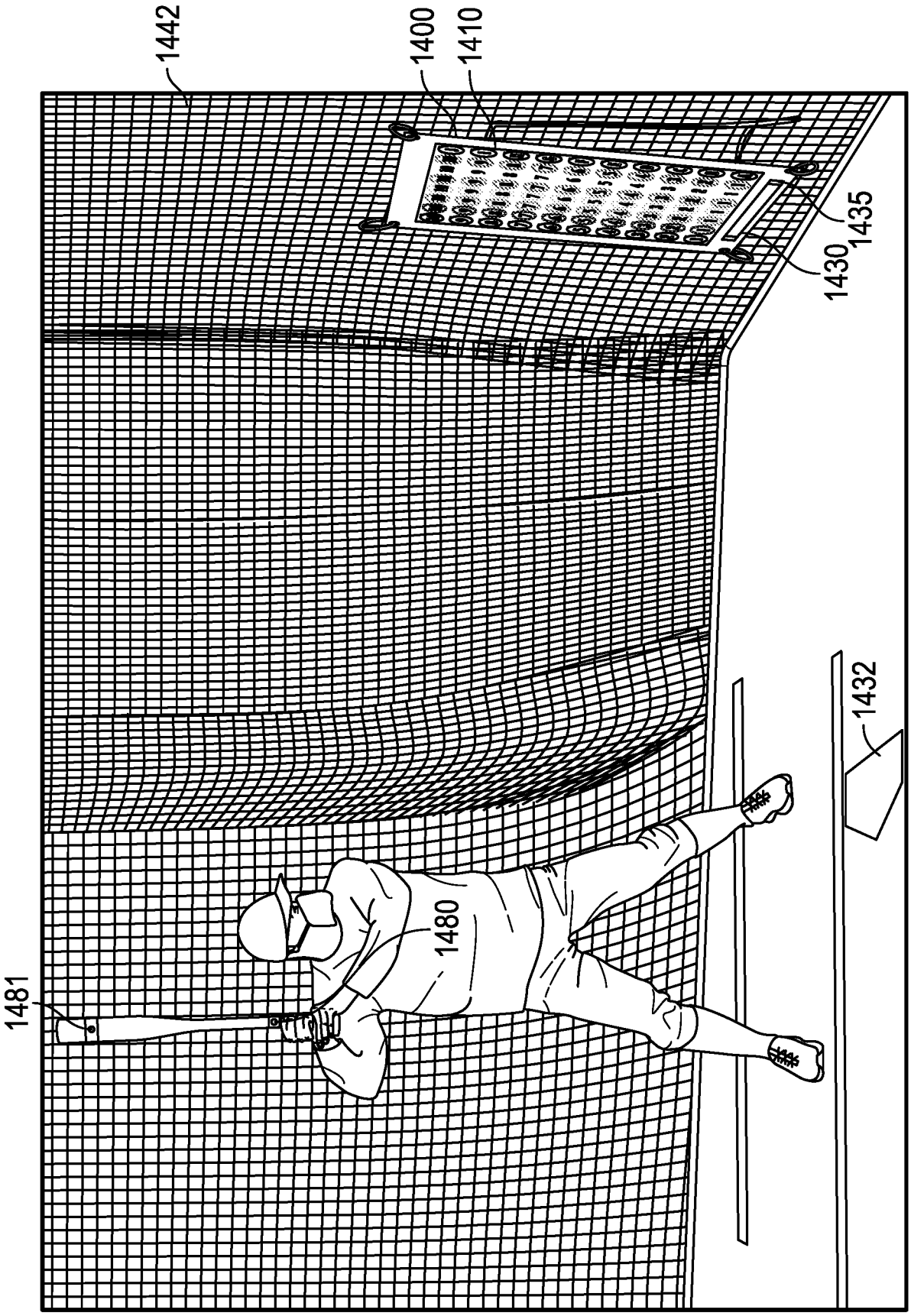

FIG. 14

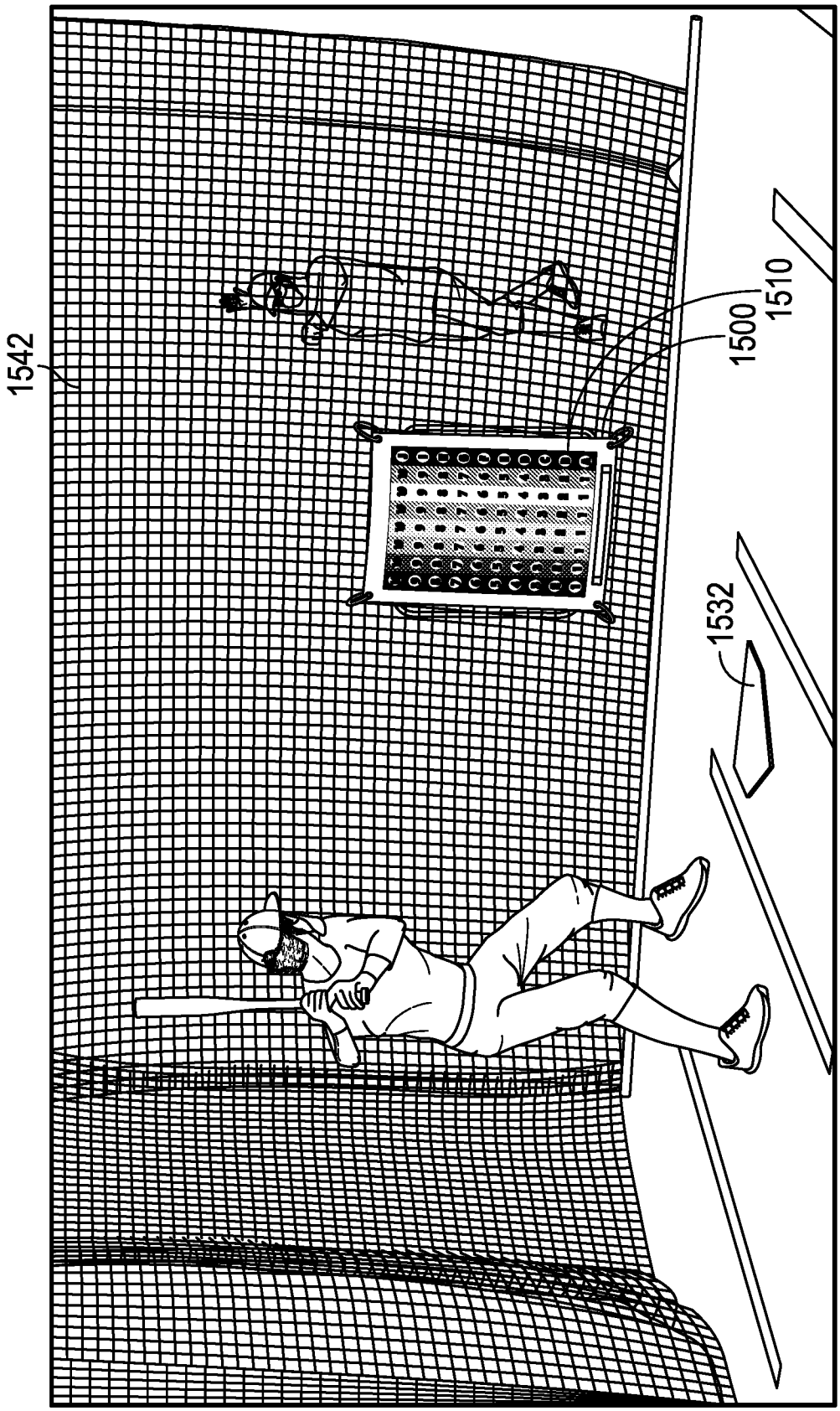

FIG. 15

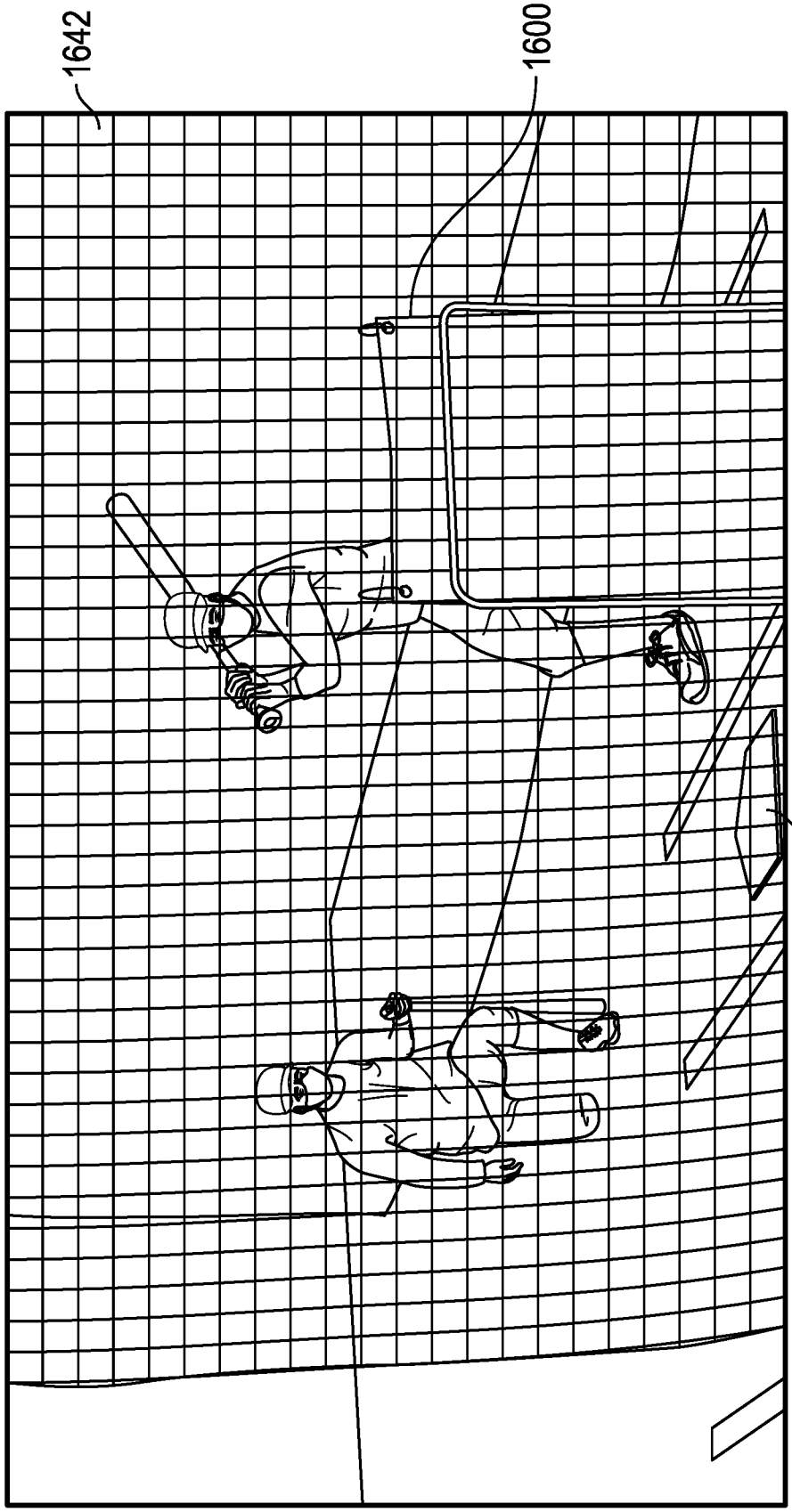

FIG. 16

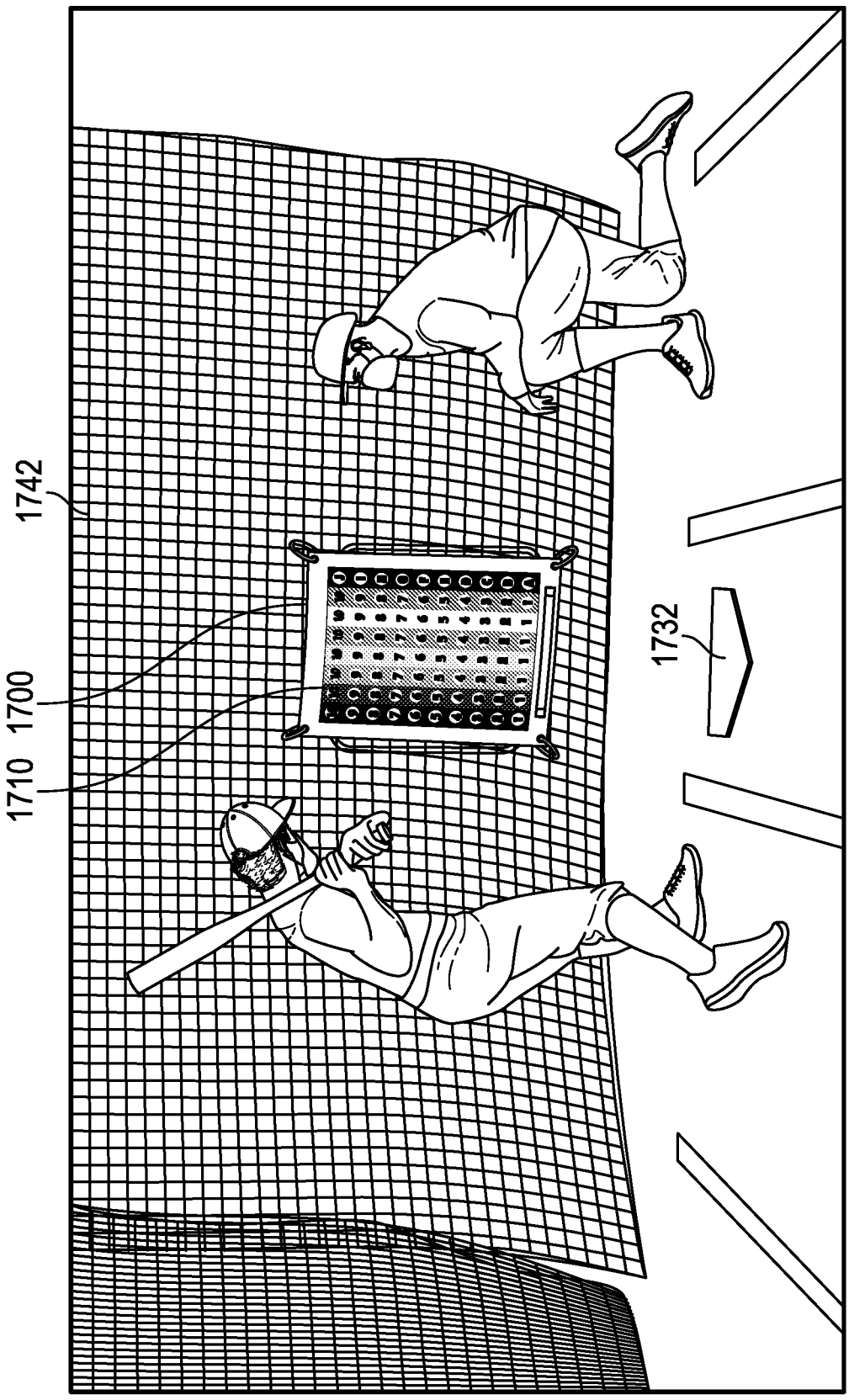

FIG. 17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 21/53402

A. CLASSIFICATION OF SUBJECT MATTER

IPC - A63B 63/00, A63B 69/00 (2022.01)

CPC - A63B 63/00, A63B 69/0002, A63B 2069/0008, A63B 2071/0694, A63B 69/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 6,878,078 B2 to ('Swanson') 12 April 2005 (12.04.2005). Entire document, especially FIG 1; col 3 ln 42-44, col 4 ln 13-20, ln 27-29, ln 42-44, col 5 ln 31, ln 46, col 6 ln 20-27, ln 33-35, ln 39-40, ln 51-53	1-3, 5-6 and 7 -- 4 and 8-9
X -- Y	US 2005/0085321 A1 to ('Diveglio') 21 April 2005 (21.04.2005). Entire document, especially FIGs 1 and 4; para [0026], [0028], [0033], [0035], [0041]-[0043]	10-12, 13-16, and 22 -- 17-21 and 23
Y	US 2002/0142162 A1 to ('Davis') 3 October 2002 (03.10.2002). Entire document, especially, para [0005], [0014]	4
Y	US 5,746,671 A to ('Ritchie') 5 May 1998 (05.05.1998). Enitre document, especially, FIG 1; col 2 ln 17-18, col 3 ln 18-21	8-9 and 17-19
Y	US 2015/0084513 A1 to (Anthony et al.) 26 March 2015 (26.03.2015). Entire document, especially FIGs 4A and 4B; para [0027], [0032]-[0033], [0036], [0051]	20-21 and 23

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"D" document cited by the applicant in the international application
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
14 February 2022	MAR 01 2022
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Kari Rodriquez Telephone No. PCT Helpdesk: 571-272-4300

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 21/53402

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I: Claims 1-9 directed to a visualization tool comprising a portable surface with color coded pitch locations and a home plate indicia. (Fig. 1-3)

Group II: Claims 10-23 directed to a visualization tool comprising a plurality of lights. (Fig. 7-10)

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

-*-Continued in Supplemental Box-*-

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 21/53402

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	DrySwings Strike Zone: Hitting Visual Aid-Baseball/Softball to (DrySwings VisualAid - Strike Zone) 25 May 2021 (25.05.2021). Entire video, https://www.youtube.com/watch?v=zbMZaSsMNkM	1-9
A	US 4,254,952 A to (Playter, Jr) 10 March 1981 (10.03.1981). Entire document	1-9
A	US 2011/0003653 A1 to (Stemle) 6 January 2011 (06.01.2011). Entire document	1-23
A	US 2017/0080316 A1 to (Torres) 23 March 2017 (23.03.2017). Entire document	1-23
A	US 9,089,751 B1 to (Torres) 28 July 2015 (28.07.2015). Entire document	1-23

-*-Box III - Observations where unity of invention is lacking-*-

SPECIAL TECHNICAL FEATURES

The invention of Group I includes the special technical feature of a visualization tool comprising: a portable surface with color coded pitch locations and a home plate indicia, said home plate indicia placed along a lower portion of said portable surface and below said grid, when vertically aligned, wherein said home plate indicia is representative of an actual home plate, not required by the claims of Group II.

The invention of Group II includes the special technical feature of a visualization tool comprising: a plurality of lights within the tool, at least one respective light correlated to each of a discrete pitch locations within a grid, and wherein a given light within said plurality of lights, upon activation, lights up said given pitch location, providing a visual cue to a user of said visualization tool, not required by the claims of Group I.

COMMON TECHNICAL FEATURES

Groups I and II share the common technical features of A visualization tool comprising: a surface with a grid thereon, wherein said grid has a plurality of pitch locations thereon, said plurality of pitch locations arranged in a plurality of rows and a plurality of columns, a given pitch location being defined by a particular row and a particular column within said grid, and; whereby said visualization tool, when vertically aligned, provides a visualization aid to a user in practice.

However, this shared technical feature does not represent a contribution over prior art as being anticipated by US 6,878,078 B2 to 'Swanson', which Swanson discloses a visualization tool (see fig 1) comprising: a surface with a grid thereon (20-fig 1; "pitching target 20" col 5 ln 31), wherein said grid has a plurality of pitch locations thereon (21,22,23, and 24-fig 1; "baseball pitching target 20 including the strike zone indicia squares 21, 22, and 23 and the border squares 24 around the strike zone" col 6 ln 33-35), said plurality of pitch locations arranged in a plurality of rows and a plurality of columns (see fig 1, "One column of four squares forms the inside third of the strike zone 22 for a right-handed batter, one column of four squares forms the outside third of the strike zone 21 for a right-handed batter, and one row of three squares forms the bottom section of the strike zone 23" col 6 ln 23-27), a given pitch location being defined by a particular row and a particular column within said grid (see fig 1, each square 21, 22, 23, and 24 is defined by its particular row and column), and wherein said home plate indicia is representative of an actual home plate (see fig 1, home plate 40 is representative of an actual home plate).

As the common technical features were known in the art at the time of the invention, these cannot be considered special technical feature that would otherwise unify the groups.

Therefore, Groups I-II lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.