United States Patent

Kucera

[54] **BLACKJACK OR 21 GAME SIMULATOR**

[72] Inventor: **George F. Kucera,** 3048 Greer Road, Palo Alto, Calif. 94303

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[51] Int. Cl.......................................A63f 3/00
[58] Field of Search ...273/1 R, 130 R, 148 R; 35/8 B

[56]   **References Cited**

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2,204,199   6/1940   Willis...........................35/8 B
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*Primary Examiner*—Anton O. Oechsle
Attorney—Townsend and Townsend

[57]   **ABSTRACT**

A longitudinal indicia bearing scroll having an arbitrarily determined sequence of cards distributed in rows and columns. Opaque sliders are provided so that cards indicated in any row can be revealed sequentially. Slide assemblies are provided to reveal a subsequent or prior row of cards in a column without disturbing any adjacent column. The scroll is mounted on a mechanism which supports the scroll and permits movement of the scroll in the longitudinal direction for positioning of the rows. One or more columns are provided for betting positions, while one column is provided for the dealing position, called the dealer. Each playing position may be played by a different player, or a single player to receive cards as desired until he has a sufficiency or he exceeds 21 for each playing position, and allows the result achieved by each playing position to be compared with the proper dealer's result. The first playing position or column provides the most convenient organization of indicia which permits the splitting of a pair of identically valued cards, although the pair splitting organization may be provided for any playing position. Player or players may "insure," "split," "double-down," "-draw," or "stand," making actual bets or wagers as allowed by the rules of blackjack and as any player desires at the appropriate times for such bets. Instructional or teaching organization and material is provided, on a real-time basis or after-the-fact, as desired and as needed for players of varying levels of proficiency.
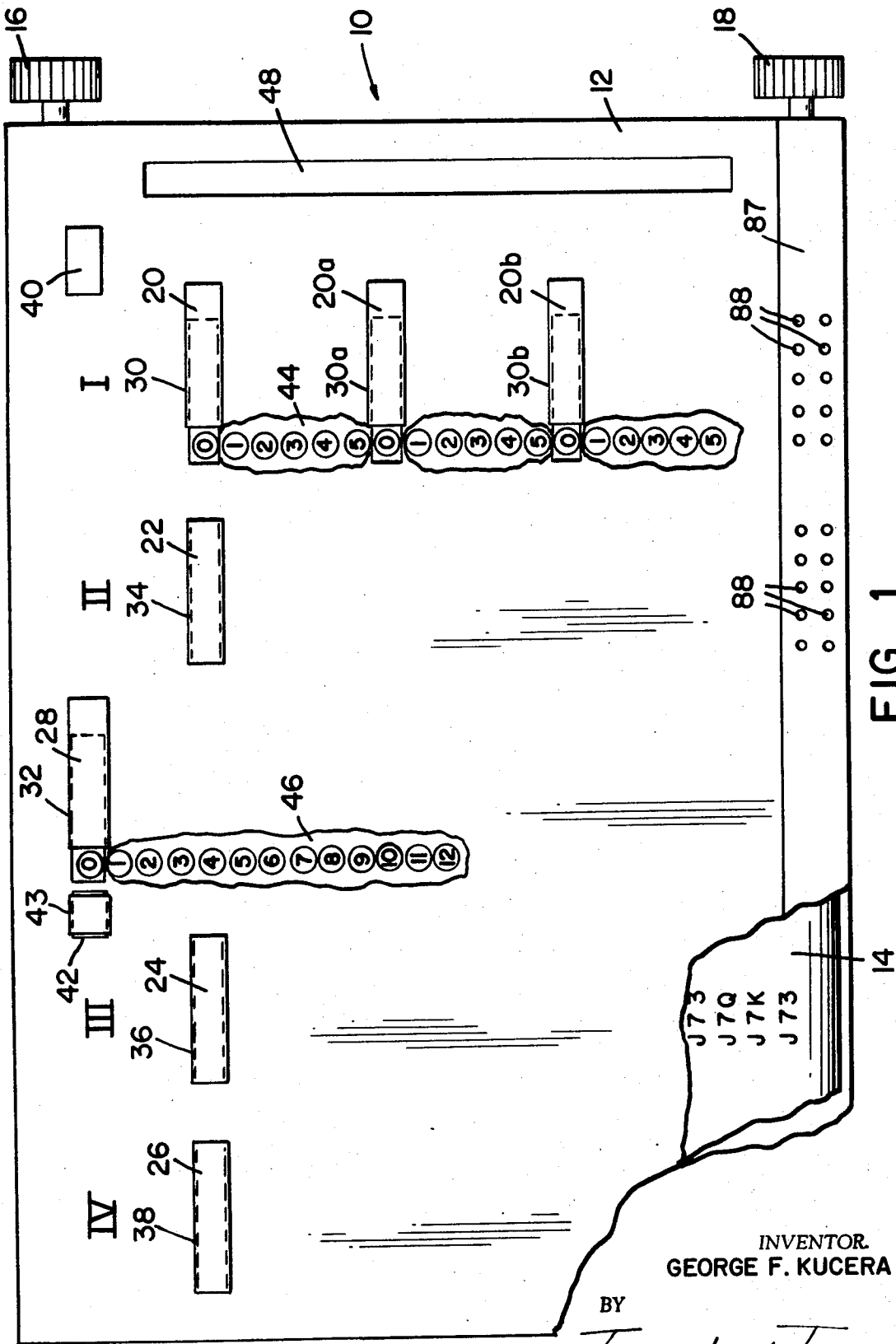
8 Claims, 9 Drawing Figures
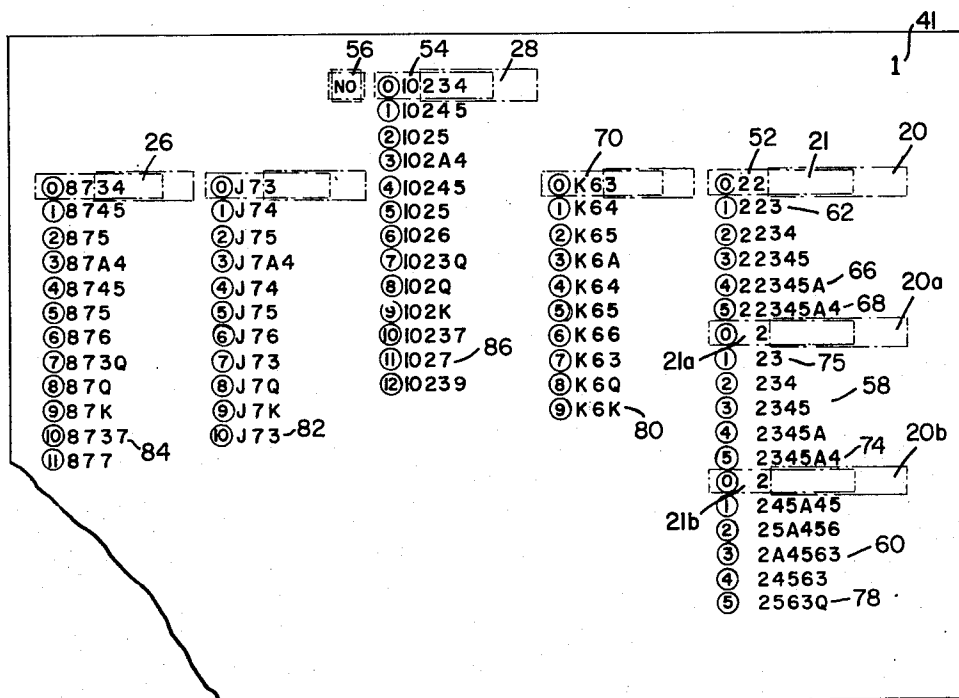
FIG_1

FIG_2

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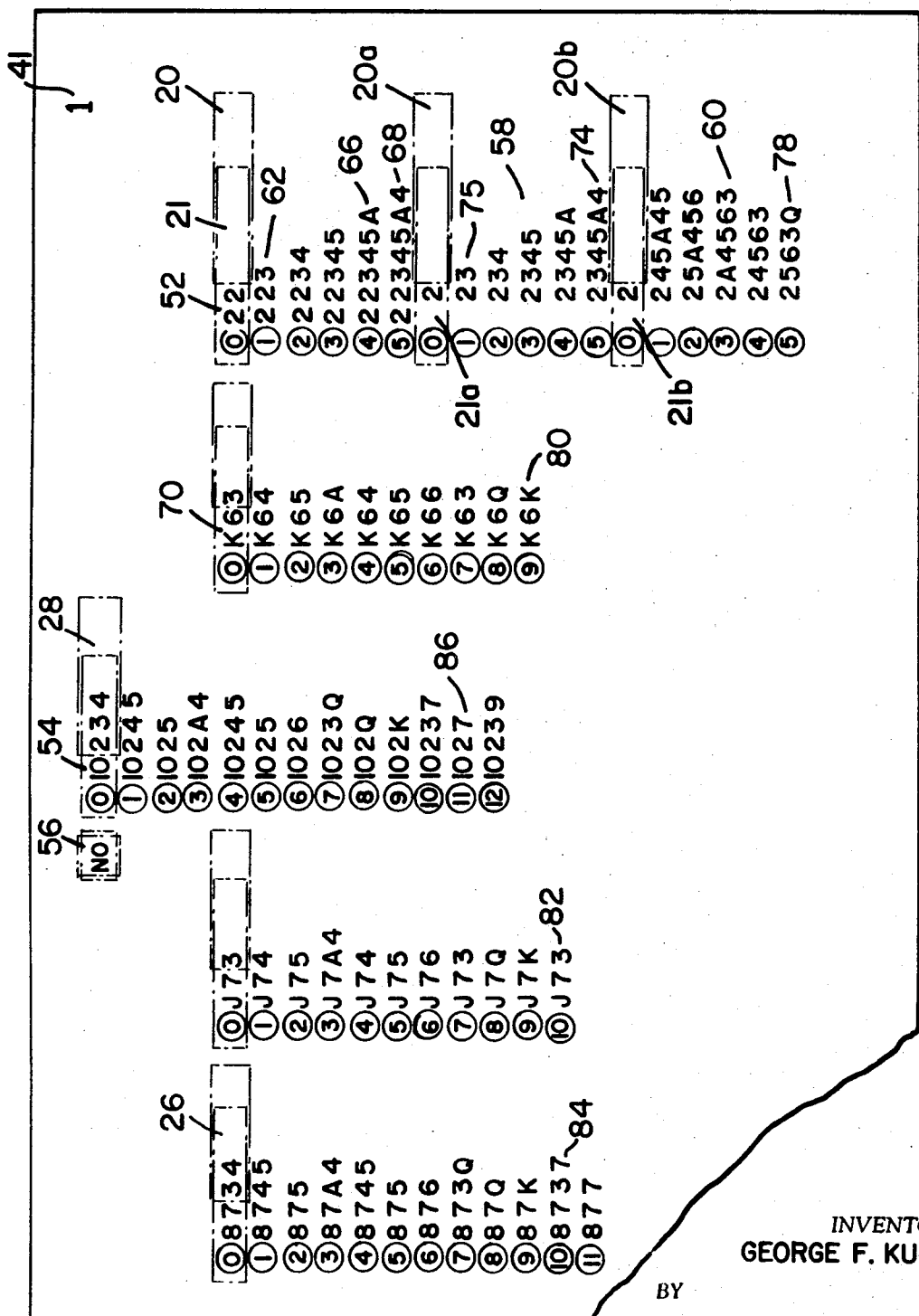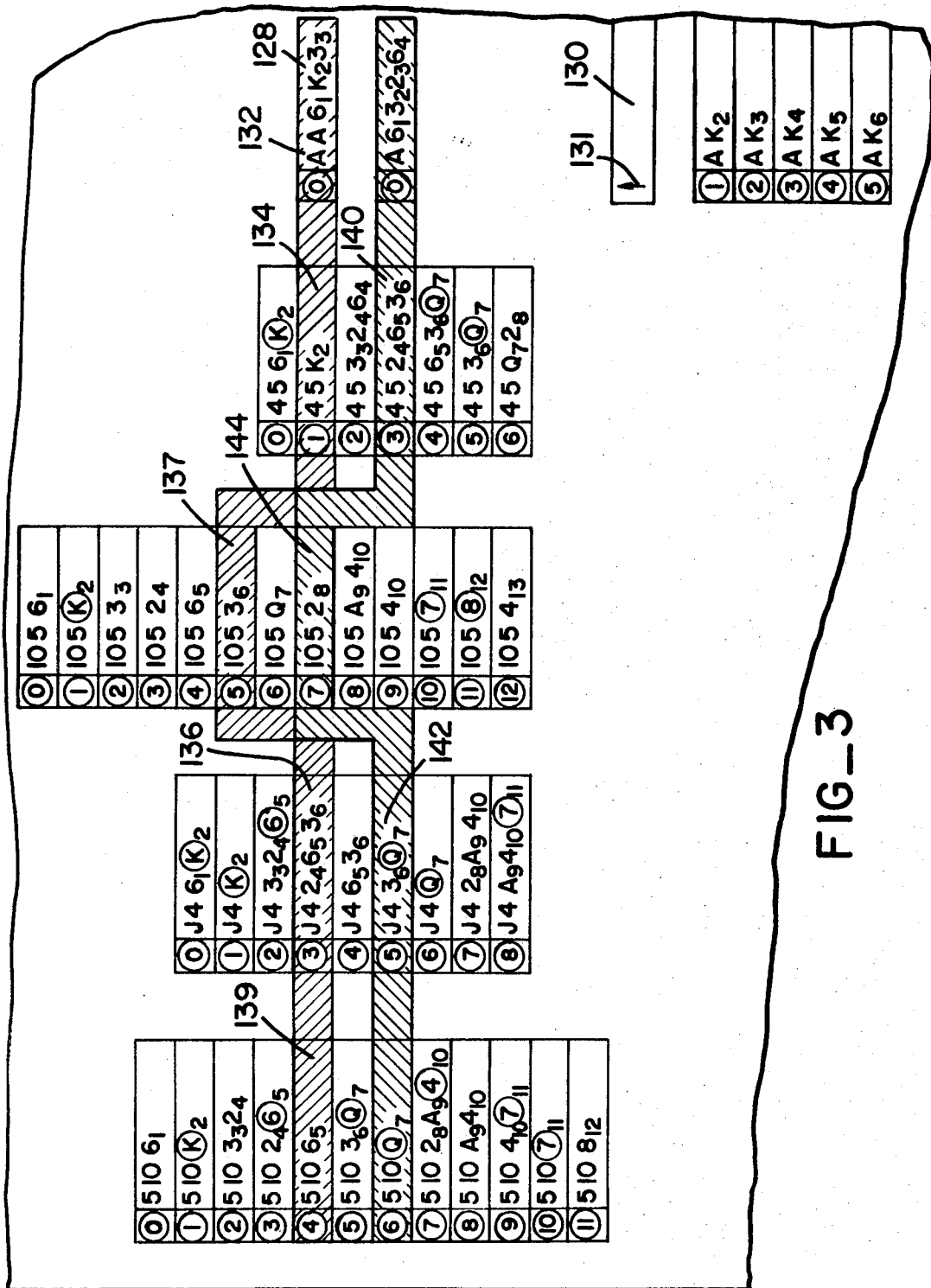GEORGE F. KUCERA

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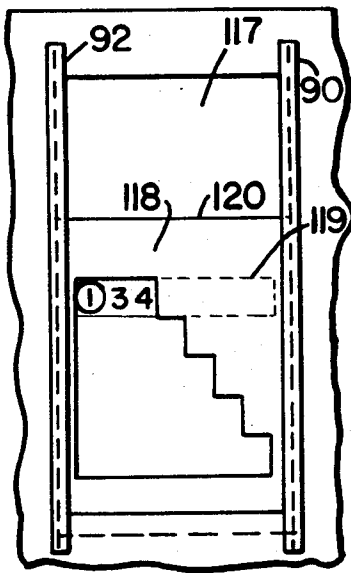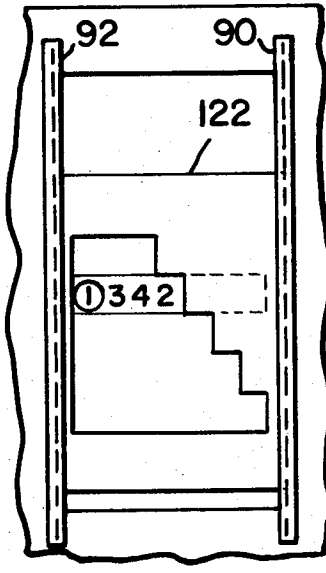*Townsend and Townsend*

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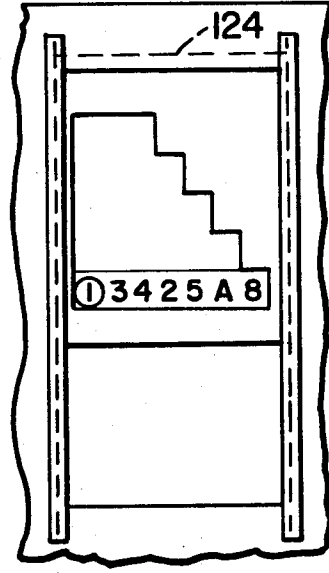FIG_3

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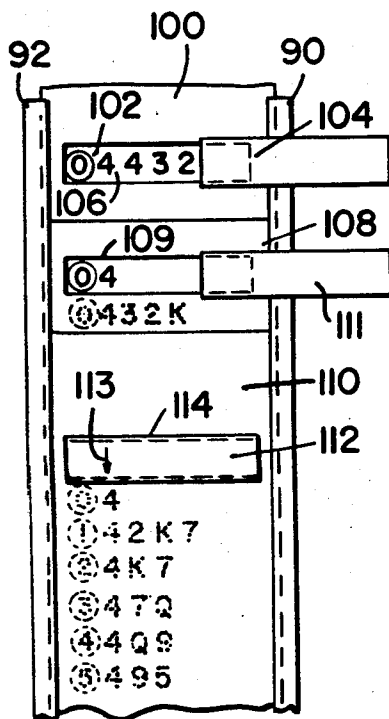BY

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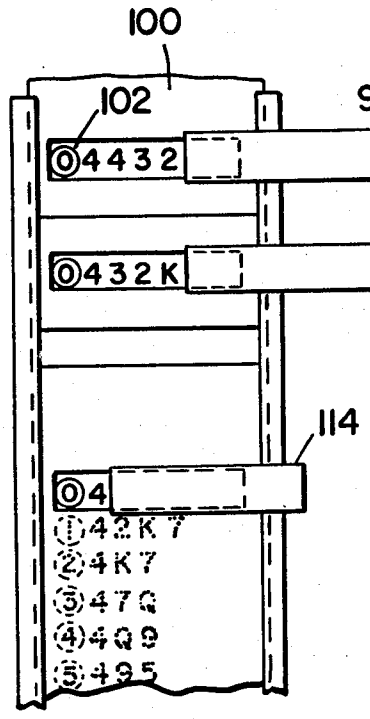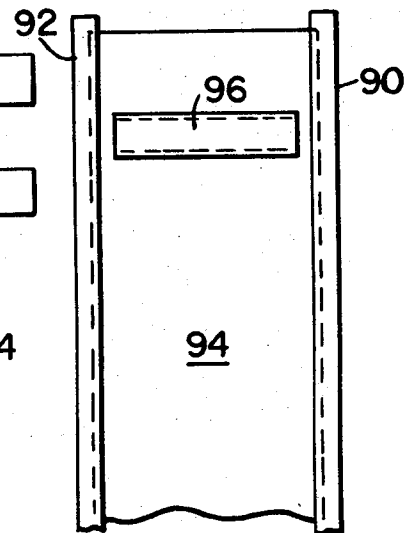
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FIG_4A

FIG_4B

FIG_4C

FIG_5A

FIG_5B

FIG_6

INVENTOR.
GEORGE F. KUCERA

BY

Townsend and Townsend

ATTORNEYS

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BLACKJACK OR 21 GAME SIMULATOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

Board-type card games which may be played by one or more players are well known and extremely popular. Such games simulating Contract Bridge, for instance, have found wide use, both for enjoyment and for education. The bridge games permit a player to make his own initial decision and then check it against the decision of a more experienced player. Methods have been devised whereby the individual can also bid and then compare his bid to the bid recommended by the expert. The more sophisticated games of this type provide the instructional or teaching aspect on a "real-time" basis, rather than after completion of the play.

While blackjack or 21 is widely played both for amusement and for money, in casinos and in the home, there have been no blackjack simulating board-type games, probably because of the complexity in simulating such a game in all its aspects. The possibilities of having a plurality of players, each player being able to make independent decisions which affect the cards which subsequent players will obtain, requires an elaborate organization. In order to be practical, any board-type simulator must be fairly simple, have simple mechanisms which will withstand rugged treatment, provide a player with conditions closely approximating those which are found under normal play and, when possible, permit a player to obtain experience from the simulator, which can be translated into actual play at a casino with live players and a live "house" dealer.

2. Description of the Prior Art

Numerous board-type games have been patented with a variety of mechanisms and for a variety of different card games. See, for example, U. S. Pat. No. 3,201,122, which is concerned with solitary gin rummy, and U. S. Pat. Nos. 2,896,951, 2,395,087 and 2,300,737 concerned with other card games. This list is intended to be illustrative and not exhaustive of the various board-type card games.

SUMMARY OF THE INVENTION

A board-type blackjack or 21 game simulator is provided whereby one or more betting players and a dealing player (dealer) may play the game. A scroll is provided having a plurality of indicia organized in rows which are arranged longitudinally in columns. By movement of the scroll, the lateral slide, and the vertical slide assembly, singly or in combination, each player is afforded an opportunity to select his playing strategy and to stand or draw cards in accordance with a predetermined arbitrary order by movement of the scroll or slides or slide assemblies. In this manner, the game of blackjack is closely simulated, whereby the player or players may optionally choose the playing strategy and the cards desired and as many cards as he desires until he has a sufficiency of cards or he busts by exceeding 21, and then compares his results with the dealer's results. The authenticity of the play is precisely the same as with a live dealer and live players at any casino.

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DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of one form of the present invention with portions broken away to reveal internal details.

FIGS. 2 and 3 are drawings of facsimiles of fragments of an indicia bearing scroll for use in the device of FIG. 1. FIG. FIGS. 4A,4B and 4C on the one hand, and FIG 6 on the other, are plan views of alternative slide members for use with the device of FIG. 1; and

FIGS. 5A and 5B is a plan view of a slide member for splitting pairs.

DETAILED

The board-type game of this invention can provide for leisure-type enjoyment, teaching, practice, competitive play, demonstration of probabilities, and evaluation of playing and betting systems. The game provides for any number of players, normally from one to six, and a dealer. The board game permits each player to see only those cards which he draws and the dealer's up card, and to make alternative choices as he desires. These choices include insurance, pair splitting, doubling down, drawing one or more cards; or standing, as these opportunities present themselves during the play. In addition, instruction can be provided, during the play of a hand or immediately after completion of the play of a hand. The instructions can indicate the options available to the player at the beginning of the play of a hand and the new options that reveal themselves as the hand is being played, in the light of cards that have previously been played and in accordance with the laws of probability.

The card distribution can be completely arbitrary, as in any real casino game. Alternatively, the cards may be arranged in a particular manner in order to provide specific playing and betting situations to furnish training to the serious student of the game, along with appropriate commentary and instruction. In some portions of the world all cards are dealt face up to the player(s), and this mode may be used in programming this invention. The dealer always is dealt one of his two cards face down.

The game permits each hand (or position at the table) to be played independently, with the player normally being unaware of more than one of the dealer's cards or the hole cards of the other hands. In addition, subject to certain limitations, more than one series of hands may be played, so that the player can practice memorizing the earlier cards and their effect on his subsequent choices in splitting, doubling down, drawing or holding, as these potential choices occur.

Turning now to consideration of FIG. 1, the board game has a housing 10 with an opaque top plate 12. Mounted under the plate 12 is a scroll or tape 14, which can be partially seen at the broken away portion. While the plate 12 in FIG. 1 is designed for four players and a dealer, as already indicated, fewer or more players are possible with appropriate plates and tapes to match. However, increasing numbers of players will require wider tapes or split tapes, with the resulting increase in the size of the housing. To the extent that the housing should be small for convenient carrying, for example, while traveling, the size of the housing should be limited by being not more than about 10 to 12 inches in

its largest dimension. Otherwise, any size housing may be employed with concommitant increase in the number of players and information provided on the scroll.

The tape 14 is mounted on rollers, not shown, which are controlled by knobs 16 and 18. For purposes of this discussion, it will be assumed that the roll of the tape 14 is mounted on the roller attached to knob 18; a portion of the tape is connected to the roller controlled by knob 16 and the advance is upwards, turning of knob 16 drawing the roll of tape 14 toward it. When the roll is completed, it can be returned to its original orientation by turning knob 18 in the opposite direction of knob 16. Also, during play, the tape can be moved backwards and forwards by means of the knobs 16 and 18. Knob 16 may be provided with a spacing mechanism, so as to retractably engage a pawl or other stopping mechanism, to position the tape a fixed distance for each turn. The distancing mechanism is not essential, but is convenient in assuring that the tape is positioned in accordance with the various openings provided on the platform 12.

Mounted on the platform 12 are a plurality of lateral slides 20, 20a, 20b, 22, 24, 26 and 28 covering windows 30, 30a, 30b, 34, 36, 38 and 32 respectively. The horizontal or lateral slides are mounted on runners which have a plurality of spaced indentations, which provide a flexible barrier for movement of the slide one card or indicia width. The slide moves one card width and then engages an indentation to reveal only one card at a time. The movement can be repeated so as to disclose each card in turn individually. This allows the player to expose only one card and, therefore, in essence to be drawing a card, and be able to make his decision, whether to draw another card, prior to seeing the next card. Other mechanisms can be employed for disclosing cards individually such as individual windows, individual vertical slides—to be discussed subsequently—etc. In the first column, there are three lateral slides 20, 20a, and 20b. The three slides and their companion openings 30, 30a, and 30by represent one method of affording a player who receives a pair of numerically identical cards as his two original down or holes cards, hereinafter referred to as a numerically identical pair, to elect to either play those two cards or to split the numerically identical cards. If he plays them as with any two cards, he has the usual options-stand, draw, etc. If he elects to split, he in effect forms two hands from the original one hand.

Each of the split cards is the nucleus of a new hand and the betting is now on two hands. The dealer will, when the hand is split, deal additional cards to each of the split cards. The method of dealing the additional cards may vary from casino to casino, but all methods can be handled in this invention. Normally the player would place a second bet on the second hand formed by the splitting and the dealer would deal each half of the split hand an additional card face down, the original numerically identical pair now being face up on the table. Now the player plays one hand to completion before he begins play to the second hand of the split pair.

For convenience sake, pair splitting is best restricted to the first position. It can be handled in any other position but at the cost of more space on the scroll, without any compensating advantages. Also, there are several modes in this invention for mechanically handling the pair splitting procedure, and they include the method of FIG. 1 and the method of FIG. 3, as shown for the first position. If a single player is playing all available positions, one or more, it makes no difference to him where the pair occurs, position I or position III, for instance, from a statistical or probabilities viewpoint. If more than one player is playing, then periodically the players change their positions so that all have an opportunity to encounter possible splits. Pairs that can and should be split occur perhaps once in 20–30 hands, on the average, but since they have a place in the game, they are provided for.

The dealer's window 32 is arbitrarily offset from the player's windows 30, 34, 36, and 38 to provide a physical and psychological distinction between the players and the dealer. Of course, the dealer's window could be on the same line as the other windows, or above or below, or even on a separate tape in a separate housing. The latter possibility exists by virtue of the fact that the Dealer draws last and that he must stand on a 17 or better count and draw on anything less.

A window 40 is provided which indicates the particular deal in the sequence of deals on the tape, for example, by an arabic number and further serves to aid in positioning the tape, so as to be in the proper position for beginning a particular deal. An additional window 42 is provided which has an opaque door 43. When the up (visible) card of the dealer has the value of 10 or is an ace, the scroll will indicate, under the window 42, whether the dealer has 21. The purpose of this will be discussed subsequently.

Associated with each column of indicia is a column of row numbers 44 and 46 (only two columns being shown) which serve as row indicators. The row indicator numbers can be printed on the top plate 12 or printed on the tape, so as to be obscured by the slides depending on the mode being used. In the first position, column, I, there may be one, two or three sets of numbers for row indicators, so as to indicate the proper row for the first position player, who plays a pair of numerically identical cards or splits the pair to provide two new hands to be played. The dealer's column of numbers 46 indicates the plurality of rows of cards which are present in the dealer's column. Optionally, a long rectangular covered opening 48 may be provided, which can be used at the end of the play of the hand to indicate the order of the cards utilized in that particular deal. If desired, and the next deal will be based on the cards remaining from those in the deck which have been played in the prior deal, the window can be opened incremently, so as to reveal only those cards which have been played. If a particular system is being utilized and being taught by commentary, such as card counting of key cards, then opening 48 can be utilized to indicate the precise cards played in the very last series of hands, or the key cards, aces, 10 value cards, etc., played from the beginning of the use of that deck and shuffle.

When several decks are used, as they are in some casinos, then it is more difficult to remember all key cards and opening 48 can serve as a reminder or check on the student's count during progress of a given series of deals. As a further aid, opening 48 can show the last card utilized in the previous series of hands, pursuant to

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correct play of that series or pursuant to the particular system of play being taught or the system which is the basis of the programming of that particular scroll. Thus the student can correct his count before beginning the next series of hands. This makes it entirely feasible to program 20–30 consecutive hands (or more) using one deck, or up to four decks, regardless of how or whether the student actually plays a particular series by a system. Opening 48 can have a slide that closes the opening so that student may refer to the information in the opening to jog his memory or to check his count or to see with which card the next deal will begin.

In order to provide the opportunity to simulate a blackjack game, whereby the player can play the cards in the same manner as at a game table, a programmed tape is employed. Illustrative organizations of cards are provided in FIGS. 2 and 3. The tape would be in color-black for spades and clubs, and red for hearts and diamonds-and the actual card suit symbols in their appropriate color would accompany the numerical designator, or the Ace, King, Queen or Jack designator. Although such realism is not fundamental to the principle of this invention, it tends further to simulate the game as it is played in casinos. The basis for the organization will be considered first.

The order of the cards can be truly abritrary, except for the minor exception previously noted. That is, pair splitting opportunities will be limited to the first position since to do otherwise would unnecessarily expand the numbers of rows in subsequent columns without compensating benefits. Thus in dealing the cards, one or more decks, to develop the random and arbitrary hands to be put on a program, if any pair (numerically identical) falls into any column other than column I, that pair is simply exchanged with column I, if that column does not have a similarly numerically identical pair. Any second such pair is simply folded back into the deck and two additional cards dealt. Exceptions could be made with ten value cards which no major system recommends splitting. Also, there is the case of a pair of 5's which are never split. Since the situation is not frequent, it can be handled very well in position I, and, importantly, doing so does not deprive a player of encountering and mastering splits, and the probabilities of the game are not changed in any way. Of course, the deck may be arranged on purpose in any fashion calculated to teach the student how to handle particular card combinations, in the nature of repetitive drills with instant commentary-or by self-correcting techniques in the arrangement of the scroll material and the several openings. If a misplay is made by the student, he perceives it immediately when he tries to play the next hand. This self-correcting feature and mode is shown in FIG. 3.

Assuming a particular order of cards, and four players and a dealer, the first 10 cards would be distributed in the five columns in the same manner as if they were dealt out one at a time. That is, the first and sixth cards would appear in the first column, the second and seventh in the second column and so on. In each column, the first two cards in each row will be the player's down or hole cards. In the United States it is the custom to deal these first two cards to each player face down: subsequent cards are drawn face up, except in splits. In other parts of the world it is sometimes the custom to deal all the player cards face up, including the original two. In all cases the dealer is always dealt one card up and one card down.

In the first column, the first card in a card row after the two original hole cards, in the first and succeeding rows, will be the eleventh card.

In FIG. 2, the cards in the first column are arranged so that a card is chosen by moving the tape forward one row. This particular organization is limited to the first column, if it is desired that the hand in column I persist after it is completed. Whatever row is played in column I, the proper row will be in position in column II, under the window 34, when play to column I is completed, provided no pair splitting takes place in column I. Additional cards are provided in each succeeding row of the first column until the total is 21 or bust. The player can draw one card at a time, as he sees fit, and may stop at any time and need not draw to 21 or bust. The player may stand-draw no cards-or he may draw.

There are certain rules and limitations imposed by the casinos, and there are other rules and limitations imposed by common sense and the laws of probability. Casinos regulate what combinations may be split, for instance, and what combinations the player can double down on. Not all casinos enact the same rules and regulations, however. The subject device can be programmed to accord with any particular set of rules and regulations the player desires to play against, so that his experience on this board game would be directly applicable.

In FIG. 2 the player of column I, seeing the dealer's 10 card 54 showing, would draw (if he decided not to split) four cards 66, giving him a total of 17-the Ace counting the optional count of one. Experience, most systems, and the laws of probability dictate that he stand on the "hard" 17.

A count is hard when the Ace must be counted as one point to keep the hand from exceeding 21, or busting. That is, you cannot count the Ace as 11 points without busting. If you can count the Ace as 11 points without exceeding a 21 count, you have a "soft" hand. In this instance most players would not stand on a 16 count (three card draw) and would not draw to the hard 17 count. The draw would improve the hand 68 in this case, but blackjack is very much a game that must pay attention to probabilities and drawing to a hard 17 count will lose more times than it will win. Practically, one should never stand on an 11 count or less since no draw can bust that count. The rules also do not allow a player to draw to a bust hand, one that already exceeds a 21 count, since there can be no utility to such futile procedure.

Assume in FIG. 2 that the player draws four cards 66, the 3, the 4, the 5, and the Ace-total hard 17. To do that he advanced the tape four rows, a row at a time, with the lateral slide 20 in the extreme open position since the lateral slide is not being used as a card selector in this mode and in this column. Thus the player of column II (same player or a different player) is ready to play that hand. First he moves the lateral slide 22 to reveal the row number and the two cards dealt to him face down. He will see row number 4 and K, 6, 70. Had the player of column I drawn five cards 68, then player of column II would view row 5 and K, 6. Thus, column II automatically has the proper card row positioned in

its window whenever player I stands or busts (provided player I does not split-special case occurring about once in 20–25 or so hands to be discussed later).

Player It sees the row number (which row number depends on what player I did) and K, 6. He sees K, 6 in every case, as he must, since those were the cards dealt to him originally and no action or lack of action by player I can change that! However, should he decide to draw to the K, 6 the card he will obtain as his third card is directly dependent on what player I has done in column I. If player I drew four cards only, player II will draw the 4 as his third card; if player I drew five cards, then player II will draw the 5 as his third card. Should player I incorrectly draw only three cards, then player II will draw the Ace as his third card.

The third column in the mode is not keyed to the second column automatically; it is keyed manually by the player of column III. Player III notes the row number showing in column II, which number is the same as that showing in column III when the lateral slide is moved to reveal the row number and the two original down or hole cards dealt to position III. Again, such hole cards are fixed and do not depend on any action or lack thereof by players I and II. But what the third card player III will draw, if he decides to draw, is directly dependent on the previous actions taken by players I and II. To the row numbers showing in column II, player III adds the number of cards drawn by player II. If player II drew one card, the tape is advanced one row; if two cards are drawn, advance the tape two rows; and so on. This manually places the proper card row of column II in a proper position to be played.

In FIG. 2 this will require advancing the tape one position from row 4 to row 5, since player I should have drawn four cards (since he did not split in this example() and player II should draw to a 16 count (K, 6) and he would draw the 4 and stand on the 20 count. Player III sees J, 7 in any case, but his proper position is row 5. He should stand on the 17 count, and player IV is ready to play position IV. Player IV opens the slide to show the row number and the two hole cards dealt player IV. The row number is 5, the same as position III. The cards dealt are 8, 7. Since position III drew no cards, the tape is not advanced. The positioning is automatic for the next position any time the prior position stands. Position IV should draw and receives the 5 for a count of 20.

The dealers position is similarly manually keyed, if position IV draws. In this case the row number showing is 5. Since position IV drew one card, the tape is advanced one position until dealers row number shows 6. Now the dealers hand is exposed and it is seen that dealer has a count of 18, the exposed 10, the two hole card and the 6 drawn. The dealer has no choice and must draw to 16 or less and stand on 16 or better (hard or soft 17 at most casinos).

To recap: position I stood on 17 and loses to dealer's 18; position II stood on 20 and wins: position III stood on 17 and loses; position IV stood on 20 and wins-two positions won and two lost.

Note that in this version all the hands do not persist during play of the several hands, and each hands total must be recorded before play to the next hand is begun. However, the hands will persist if, beginning with the second position, the proper row number is located by

means of the vertical slide assemblies rather than by tape movement (see FIG. 6). Although the four completed hands using vertical slide assemblies will not be in a straight line across the board, as were the openings when the hands began, they will all be visible at completion of play. Prior to beginning the next deal, and after all bets are settled, the vertical sliding assemblies are moved to the normal straight line across position, the tape advanced to clear old indicia and to bring the new indicia into position. All lateral slides, except position I, are returned to the closed position before advancing tape for the next series.

In the following version, the splitting of a numerically identical pair in the first position is a special case. Such a pair exists in FIG. 2 is the first position—2, 2. Assume the player I desired to split the pair of 2's 52. First, to play hands 58 and 60, the lateral slider 20 is closed, lateral slider 20a is opened full width, and lateral slider 20b is opened to reveal only the row number and one card. That card will be one of the split pair. The other card of the split pair is, of course, visible in the wide open opening 21a made by opening slide 20a full width. Now a second card is dealt to the first 2 by advancing the tape. The 3 appears to provide a 2 and 3, 75.

Some casinos now deal the next card to the other split card, but some complete the deal to the first split card before dealing to the second split card. The latter method will be demonstrated here; the former procedure is demonstrated in FIG. 3. Drawing again is achieved by advancing the tape. The 4 appears. Next card by tape advance is the 5. Count is 14. Against dealers 10 card showing you should draw. Advance the tape-draw the Ace. Count is now a hard 15. You should draw again—the 4. Count is now hard 19 in hand 74 and you should stand.

You have drawn five cards and the row number 5 will be visible in both window 21a and 21b. However, only the single card, the other half of the split pair of 2's, is visible in window 20b since the lateral slide 20b was opened only two spaces at the time the pair was split. Whatever number of cards are drawn to the first split card, the second split card will be automatically properly positioned to play to. To draw to the second split card, open the lateral slider 20b one position at a time until a sufficiency of cards is drawn. Draw the 5, then the 6, then the 3. Total is 16. Against the dealer's 10 card showing you should draw again. The Q is drawn for a busted hand 78.

Now position II must be played. Open slide 22 sufficiently to expose the row number and the two hole cards. The row number will, of course, be 5, since five cards were drawn to the first card of the split pair opening 21a. Also four cards were drawn to the second card of the split pair and it is this draw that must be manually keyed to position 2, or opening 34. Therefore, advance the tape four rows until row 9 shows in opening 34; or, if it is desired to have the hands persist, drop the vertical slide assembly of position II until row number 9 is located in opening 34. Now draw any cards desired, one at a time, by movement of the lateral slide assembly until a sufficiency is obtained. Hereinafter the procedure is as previously described.

As before, position II has been dealt the K, 6. However, now the next card is the K and the hand 80 in position II busts. Position III still stands on J, 7, 82 and

position IV now is still on row number **10** (since that was the row position of position III carried over from position II, and position III did not draw). Position IV draws the 3 to the dealt cards, the 8, 7, and stands on a value of 18, **84**.

Dealer plays on position **11, 86**. He was dealt the 10 up and the 2 down. He must draw and he draws the 7— total count 19.

Recap: first position, first split-19 and a tie or push; first position, second split-bust and a loser; second position-a bust and and a loser; third position-17 and loses to dealers 19; fourth position-18 and loses to dealers 19. Net result—four loses, no wins, one tie.

Each row, except rows where the next card to be drawn is drawn by means of advancing the tape, as in the first position in FIG. **2**, is complete in having a value of 21 or greater, for the ultimate choice and discretion of the player. For advanced players these rows would be considered complete (and could be so programmed) when the system being taught demanded a stand on some lesser number, say on a 12 count when the dealer has a 5 exposed and there is no good count on the cards up to that point to dictate another course of action.

After the two hole cards originally dealt, each row begins with the next successive card and continues with the succeeding cards until a value of 21 or greater is achieved. Each row thereafter starts with the next card in the abritrary order of the deal, as if no cards were taken in the previous row. Similarly, Columns III and IV and the dealer's column begin with the eleventh card in the first row as the card following the two hole cards, the twelfth card in the second row, resignated ①, the thirteenth card in the third row ②, and so on. In FIG. **2**, the first row in Column IV, designated as ⓪, has both the eleventh and twelfth card. The second row designated as ①, has the twelfth and thirteenth card, and so on. Neither row has any additional cards since the row totals 21 or more.

The particular organization can be described by a mathematical formulation. Assume m columns, indicating m-1 players and a dealer. Each column will be designated as m^i, wherein i is an integer of from 1 to m. Further assume a series of n indicia, wherein each indicia and the order in which the indicia are chosen is designated as n^k, wherein k is an integer of from 1 to $n;$ k equal to one (n^1) indicates the first card in the order, while when k equals 10 (n^{10}), it is the tenth card in the order, etc. The fixed pair in each column m^i will have as the first card n^i and as the second card n^{m+1}. That is, in each column, the first card n^k will have k equal i (n^i) and the second card of the fixed pair will have k equal $m + 1$ (n^{m+1}). For example, the second column of a five column game will have as the first card of the fixed pair, the second card in the arbitrary order ($K=i=2$) and as the second card of the fixed pair the seventh card in the arbitrary order($k=m+i=7$).

Except for splitting pairs, the first column in certain modes need have only one row, with capability of drawing cards to 21 or bust. Therefore, since this is the simpliest situation it will be described. However, the column may have as many rows as the number of cards which may be drawn, as illustrated in FIG. **2**, position I, non-split position. The first column will have as many additional cards as required, so that when adding the value of the last card to the value of the previous cards,

the total equals or exceeds **21**. As already indicated, one could choose any number in the range of 12 to 21, e.g. 17, 18 or 19, which was considered appropriate. The third card in the row of the first column, assuming the hole cards have a value of less than 21, will be the indicia (n^k), where k equals $2m + 1$ (n^{2m+1}). The fourth and succeeding cards in the row, as required, will have k equal $2m + 2$, $2m + 3$, and so

The second column will have as the two hole cards k = 2 and $m + 2$ (n^2 and n^{+2}). The third card in the first row of the second column will have k equal $2m + 1$. The third card in the second row of the second column will have k equal $2m + 2$; the third card in the third row of the second column will have k equal $2m + 3$. Each succeeding card after the third card in each row will have k equal to one greater than the card preceding it in that row. Continuing with the first row of the second column, the third card in the first row will have $k = 2m + 2$ and so one. Similarly, if one went to the fourth row of the second column, the third card would have k equal $2m + 4$, the fourth card would have k equal $2m + 5$, and so on. The total number of rows in the second column and in the succeeding columns will be equal to the highest value of k in any preceding column less $2m$. That is, if in the first column of a five column game, one could draw five cards, therefore, k equals 15, then the second column would have to have six rows, i.e., $K-2m + 1$. Similarly, if the highest k value in the second column was 18, the third column would have to have nine rows, $k-2m + 1$. This is true for each succeeding column, including the dealers column.

When in the first column the hole cards are a numerically identical pair of cards, then additional rows are provided in the first column. The first row of the split pair need be only one row. It will have as its first card, $k = 1$. The second card, however, will be $k = 2m + 1$. The third card will be $2m + 2$, and so forth.

For the second card of the split pair, a series of rows are required in this mode. The only difference between this column of rows and the second column, is that the second card in each row is treated in the same manner as the third card in each row of the second and succeeding columns. That is, in the column formed by the second card of succeeding rows, each card has a k value higher than the second card in the row above it. The third and succeeding cards in each row have a k value, one higher than the k value of the immediately preceding card in the same row. Whether the pair of numerically identical cards are split or not, the rule still remains that the number of rows in the next column, Column II, is equal to the highest k value appearing in Column I.

Assuming a game is to be played, all the lateral slides are initially closed and window **40** is open. The knob **16** is turned rolling the tape **14** until a number appears in window **40**. In FIG. **2**, the number **41** appears as 1 and this would be the first deal to be played. Lateral slide **20** is moved over two spaces to disclose a pair of deuces, **52**. Lateral slide **28** is moved over one space to disclose the 10, **54**, of the dealer. Since in a normal blackjack game all of the other cards remain covered, those lateral slides remain closed, so that the first player in unaware of any cards other than his hole cards and the dealers up card.

The numbers designating the rows such as the columns of numbers 44 and 56 of FIG. 1, can either be printed on the tape or can be affixed to the plate 12, depending on the particular use it is intended for and the particular physical mode selected. When the number appears in window 40, the various rows will be positioned appropriately in accordance with the numbers on the plate. In FIG. 2, however, if the vertical slide assemblies are fixed,rather than capable of moving vertically, it is necessary that the rows be printed on the tape and be associated with the particular row on the tape.

In the subject deal, the dealer has a 10, 54 uncovered. If the dealer has an ace as his face down card, which is covered, the dealer would have 21 and win against all other players, except those which have 21 for their hole cards, in which case there is a tie or push. It is frequently permitted at game tables, that a player may take insurance against the dealer's having a "natural" 21. Therefore, with an ace as the dealer's up card the dealer may ask if anyone wishes to take insurance by paying the necessary money (one-half the bet on the table). A player can either pay or not pay as he pleases. Once payment has been made, the window cover 44 is opened and a yes or no appears.

In the present instance, a "No" 56 is seen in the window, since the dealer does not have a natural or blackjack, as it is called. Obviously, if a "Yes" appeared in the window, there would be no point in any of the players taking cards beyond the hole cards, since they would all loose automatically, except for ties. The tape would then be rolled to the next deal without any further playing of that deal. If the dealer does have a natural, any insurance bets are paid off two-to-one; if he does not, the dealer collects the insurance bets and play proceeds as usual. A dealer blackjack wins all the usual bets, but ties A player's natural.

Some comment is in order in connection with the physical parameters involved in handling the special case of splitting two hole cards that are numerically identical. FIG. 2 and FIG. 3 represent two possible methods. Using the flexibility provided by the combination of scroll movement, lateral slide movement, and vertical slide assembly movement, combined with the single, double or triple openings possible in any column, many permutations are available to handle this special case in any column.

In order to keep a running record of wins and losses, in betting units or simply by hands, a peg board 87 may be provided at the bottom portion of the plate 12. The peg board may have a series of holes 88 for pegs of varying colors representing different bet values. The player or players could begin play with a fixed amount, make wagers and pay the dealer when he lost and collect from the dealer's kitty when he won. Or, counters could be provided to record players wins and losses as the play progresses through a series of hands.

Successful and winning blackjack strategy requires not only good playing technique but enlightened betting technique. Bets must be increased (before play to a hand begins) when the deck contains a preponderance of cards favorable to the player and decreased in size per bet when unfavorable. Therefore, the running record of the status of the deck is important in assessing progress in learning play and betting in blackjack. This is the reasoning behind the real-time teaching advantages of this invention and the other features such as the list of cards found under the rectangular opening 48, to assist the player in developing powers of memory of key cards played or remaining to be played. And, this is the value of a commentary stating the what and why of any given situation at the time the player is playing that situation or immediately after he has played it. The openings 30, 34, 36, and 38 may be utilized for this purpose with the lateral slides wide open.

The commentary on any given situation can be very short and terse. For instance, assume that the hole cards are 8, 3 versus a dealer's exposed 10 card. Assume further that you draw, get a Q and your 21 beats the dealer's eventual 20. You had $10 on the line and feel good until you read the commentary at conclusion of the deal, as follows:

"WITH 8, 3 DOUBLE DOWN—"

"Odds greatly your favor"

indicating the player hand kicked away $10 because he forgot to double down with this holding. With constant reminders of this type, good technique becomes second nature. Another feature of this invention is the self-correcting or "error-flaging" mode, as shown in FIG. 3. In this mode if the first position is played correctly, then the next position will automatically have the correct row under the closed lateral slider; if played incorrectly, (such as standing when another card draw is the proper play) then the correct row of the next position must be moved into position by tape movement or by vertical slide assembly movement.

The above play has been described utilizing primarily lateral slides which could be moved stepwise to reveal one card at a time. While this is a convenient structure from a simplicity standpoint, it suffers from the deficiency that as it is moved stepwise to uncover each card in sequence, it requires space to accomodate the extremity of the slide member. A board of seven positions would be very wide, although a board of three or four positions can be accomodated easily.

FIG. 4. shows a stepped slide 118 that also reveals the cards in a row sequentially, but whose motion is in the up or down direction where space is not nearly as critical. The step slide 118 would ride over an opaque plate 117 in grooves 90 and 92 having a window 119 and the window 119 positioned at the proper row. The slide 118 would initially reveal the first and second cards as indicated in FIG. 4A. The position of the slide 120 as indicated in FIG. 4A would be the minimum area revealed by this particular version of the slide (it could, for instance, be designed to reveal only the row number first, and then the row number plus the first two cards at the next step, or vice versa).

By moving the slide upward (it can also be designed to move downward) to position 122 as indicated in FIG. 4B, the two hole cards, as well as an additional card, would be revealed with the stepped slide 118 being at the second step. Finally, as in FIG. 4C, the stepped slide 118 is moved to the position 124, where the two hole cards and four additional cards are revealed. By having five steps, six cards can be revealed, there being as many steps as required, each step after the first being increased by the width needed to depict a card on the scroll.

13

14

Other variations of the lateral slide to eliminate the space consuming problem previously mentioned include designing the lateral slide in an accordion fashion, so that it folds up on itself and consumes no additional space as it is moved stepwise laterally, or breaking up the lateral slide into six or seven individual slides that cover the opening and as each of the segments is moved it will uncover a section of the opening equal to the width of the slide, which width is designed to be the width needed to depict a card on the scroll, and which movement of such slide segments are in the downward direction (or in the upward direction, if desired).

In addition, another version would contemplate projection of the scroll indicia onto a ground glass top by use of a light source and appropriate screening, baffles, circuit and switches, and power source. Scroll indicia arrangement in rows, columns, etc. would be essentially unchanged, but the scroll material and the indicia would be of such type as to allow projection onto the ground glass top, or top of such other material as would allow such projection.

The vertical slide assembly device is provided to permit the tape to remain stationary, while at the same time being able to select a particular row of indicia in a particular column. This device is needed, if there are to be more than two player columns and it is desired that the results of play of all positions persist through completion of dealer play (this device is not needed for the projection version, nor are any openings, lateral sliders, etc.).

Turning to FIG. 6, two runners 90 and 92 are provided affixed to the top plate 12 having grooves for an opaque plate 94 to ride up and down. The space between the runners 90 and 92 is a rectangular opening which is completely covered by the opaque plate 94, irrespective of the position of the opaque plate. In the opaque plate 94 is a window 96 having a mechanism similar to the lateral slider or the vertical slider of FIG. 4, the purpose of which is the same-to expose cards in sequence. The opaque plate 94 moves up and down on its runners and directly over the tape and the window 96 is positioned in accordance with the appropriate row. The slider (whatever version) is then used to reveal one card at a time in the row selected.

A variation of the vertical slide assembly of FIG. 6, is the assembly shown in FIG. 5. It can be used as another method of pair splitting, primarily in the first position. The opaque plate is divided into three parts as shown in FIG. 5A. The upper part 100 is fixed in position (or is moved to its uppermost extremity) and has a window 102 and a slider 104. The card designations 106 are the rows previously discussed and are in in one horizontal line, being revealed incrementally one at a time by use of any one of the sliders previously discussed.

Below the first and top part 100 is a second middle part 108 in direct contact with the first part and having the same construction as the first part. It is disengageably attached to the first part. It also has a window 109 and a slider 111. Below part two is the third part 110, disengageably attached to the second part. This third part also has a window 112 and a slider 114. This particular window and slider being spaced a greater distance from the second window 109 than is the second window 109 from the first window 102. The second part 108 and the third part 110 can ride up and down in the runners 90 and 92.

At beginning of play, all parts 100, 108, and 110 are at their topmost position and attached to each other (not separated). All sliders are closed. With the tape in position, open slider 104 to reveal the two hole cards, 4, 4. If the player does not desire to split he simply stand or draws. Here he would not stand on an 8 count so he would draw by using the slider and would draw the 3. Still another draw would bring the 2. He might stand or draw at this point, depending on the dealer's up card. Assume he stands having drawn two cards—the 3 and 2. Now position (column) No. II must be manually keyed to the results of the play position (column) No. I. Since two cards were drawn, either the tape must be advanced two rows or the vertical slide assembly of position II must be adjusted until row two of column II appears in the column II window, which has been opened enough to expose the two hole cards of that position. Now play continues, as previously described. If the tape is used to expose the proper card row number in the second and subsequent columns, the results will not persist; if the vertical slide assemblies are used, the hands will persist. They will not, however, remain in the straight line, as at the beginning of play of that deal.

Now suppose the player desires to split the pair of 4's. First he closes slider 104. Now he opens slider 111 two positions (equivalent to space occupied by the card row number designator and the space occupied by the card row number designator and the space occupied by the first card in that row). Do the same with slider 114. The space he views in the first opening will have a ⓪4; opening 112 will have an arrow 113 pointing downward, reminding the player to move the third part down. Movement of one position brings into view in the opening of the third part the row designator, ⓪, and the place) until row 3 appears in opening 112. He will see ③ 4. Moving slide 114 over one notch obtains for the of the dealer in dealing him his second card to his first split 4. It is the 3. (We will again assume that the dealer completes play to the first 4 before he deals any cards to the second 4. The other manner of play is just as easily handled). The player now has his normal compliment of two cards and can double down, stand, or draw. He will draw by moving the slider 111 another notch. He draws the 2 and he will not stand on the 9 count. He next draws the K and he will stand on the 19 count.

He has drawn three cards to the first split 4. So move part 110 downward (leaving part 108 stationary and in place) until row 3 appears in opening 112. He will see 4. Moving slide 114 over one notch obtains for the second split 4, its second card, the 7. The player should double down and draw one card. He does so and obtains the Q, for a count of 21. The keying to the next column requires that column II begin with row No. 5, since the first split 4 took three cards and the second two cards-total 5. If the vertical slide assemblies are used subsequently, all hands persist, including the two split draw hands.

The distance between the opening in part 1, 102 and the opening in part 2, 109 is any convenient distance of about twice the height of the openings. This distance is primarily dictated by manufacturing considerations, since for strength reasons it is not desirable to have a large opening too near the edge of the material. The scroll programming would accomodate to whatever the

distance selected. The distance between opening in part No. 2, **109** and opening in part No. 3, **112** is more critical. It must be a minimum distance such that if the first split card draws the maximum number of cards, usually about five cards, so that part No. **3** must be lowered until card row **5** appears in the opening, the first notations applicable to the second split card, ⓪ 4, in this case will not be exposed as the part **3** is so lowered. Revealing such notions does no harm but could be confusing.

Many variations of the several modes are contemplated. For example, in employing the board game as a teaching device, it may be valuable to have an immediate indication of the correctness of the player's decision (splitting, drawing, standing, etc.) on one hand before he commences the play of the next hand. Such visual indication can be achieved by appropriate organization of the various columns and the rows of cards in each column. One can provide an arrangement of the windows in each column so that they are in a straight line across the board (the dealer's window is the usual couple of spaces above this line). The windows have the usual lateral slides to reveal card row numbers and hold cards dealt to the position. However, the windows could be fixed, rather than, as usual, being set in a movable vertical slide assembly.

Assume for the moment that the windows are fixed in all the player positions and the dealer position, and that position No. I has a second part, similar in makeup to part No. 3 in FIG. 5. This second part has a window, some distance below the fixed window, with its horizontal slider. The exact distance the second window is below the first is not crucial, but it should be below the first window a distance of at least six times the vertical height of the windows-or six rows. The second part is disengageable from the first about one row below the first window and the second part may slide downward one row at a time to a maximum distance of about five rows-or six. This split arrangement in the first column is to handle pair splitting, of course.

Now, the card rows are usually arranged in each column so that the zero position, or the position that has the zero in the card row number designator, is under the window when the window is at its uppermost position. See FIG. 2 for example. That arrangement allows any position to draw the first card that the dealer deals after the basic hands are dealt (assume for third position, for instance, that positions I and II stood and drew no cards to their original two cards). This flexibility is needed in this situation, since it is not known what the player might do and there is no assurance that he will play the position correctly. And, he must be allowed to be able to play it as he likes, even improperly. However, here we are demonstrating a teaching situation and the player will not be allowed to play the hand improperly. If he does so, his mistake will be evident to him when he tries to play the next hand.

With immoveable windows (in the vertical direction) he will find it impossible to play the next hand (without moving the tape) and hence must go back and play the hand properly. Proper play of position No. I will find the window in column No. II properly positioned over the correct card row number (because the scroll is programmed that way), and proper play of position No. II

will find window No. III similarly properly positioned, and so on through and including the dealer's position.

It is not necessary that the windows be fixed. They may be in a vertical slide assembly in all positions beyond the first so that the player may take action different than the normal action, fully aware that he is not following recommended play. In such case the windows would be placed in a straight line not at the uppermost position possible, but at some middle position, since the player taking action different from recommenced action may find he has to move the slide assembly containing the window up in some cases and down in others to find the card row number corresponding to his particular play. It is not desirable to move the tape after the first position has been played or the several completely played hands will not persist.

FIG. 3 depicts play of four hands against the dealer and it is assumed that the windows over hands **128**, **134**, **137** (dealer's) **136**, and **139** are arranged in a straight line for the four player positions, with the dealer position window elevated two rows or spaces. There is a pair splitting assembly in position No. **1**, and it incorporates a window **130** to handle the second card of the split pair. The other positions, including the dealer position, have their windows in vertical sliding assemblies. All windows have horizontal sliders or sliders that do the same function-allow cards to be drawn one at a time.

Proceeding with play of the cards dealt in FIG. **3**, it is noted the dealer has a 10 card as his up card (the slide being opened only one space to show that up card, and the dealer's slide being designed slightly differently for this particular, so as not to indicate the row number designator when the up card is visible). This is so the player has no indication how many cards should have been drawn by the time the dealer is ready to play. All other player position sliders are closed.

Open the slider over hand **128** to reveal the card row designator (always ⓪ in this first position), and the two hole cards **132**—two 18, Aces should always be split if the casino rules allow. Let us assume the player erroneously tries to play the Aces by drawing to them instead of splitting. He moves the slider and draws a **6**. He has a soft 18 (one Ace counted as 11) or a hard eight (both Aces counted as 1). Against the 10 card up, player should draw. He draws a K. The count is now a hard 18 (aces as 1) and the player should stand on a hard 19, as contrasted with a soft 18.

The player drew two cards—the 6 and the K. If this were the correct play, then the next window should show the card row designator as **2**. The slider of column **2** is opened to see the designator and the two down cards. The designator is **1** and the cards are the **4** and **5**. Position No. I was played incorrectly!

Assume a double error, the player does not split, as he should, but he compounds that error by standing on a soft 18 (drawing only the 6). Now position No. II window is correctly positioned on **1**, but after drawing one card to the 4 and the 5 in position II to stand on 19, he will note that the window in position III should be on **2**, but it is on **3**. So the error eventually surfaces, and the necessary corrections have to be made in the prior positions. If an ace were showing, the dealer would offer insurance, but that aspect is not treated here in FIG. 3 since the procedure is as previously treated in

FIG. 2. If the player cannot understand his error, he refers to the commentary.

Now the hand will be played properly from the beginning by splitting the Aces as the player should have. The slider over the first hand **128** is left as is, opened to reveal the row designator and the two Aces. Then the slider covering opening **130** is likewise opened an equivalent distance. Until the tape is moved, nothing will show in opening **130** except an arrow **131** indicating the direction of movement of the tape. The tape is moved upward, as the arrow indicates, until (two spaces in FIG. 3) A, 6, is seen in hand **128** and A, K, in opening **130**. The 6 represents the first card dealt to the first split Ace and the K represents the next card in sequence and the first card dealt to the second Ace. One hand has become two hands and will be played as two separate hands.

Additional wagers were made at the time the player indicated his desire to split by turning over the two Aces. Thus FIG. 3 illustrates the mode of dealing a card to each of the split pair cards, before playing the first split card to completion. In this mode the second mode card in the dealer's undealt deck always goes to the second split card, regardless of what is done on the first split card. (In any splitting procedure, the player must draw at least one card to each of the split pair cards, represented here by the 6 and the K). After the player has the required two hole cards, he may double down, draw, strand, etc.

Note the subscript 1 to the 6 dealt the first Ace. This simply shows that it is the first card dealt after the original hole cards were dealt. Note that the second card dealt, the K, has a 2 subscript. Such subscripts are for the convenience of the player in counting the cards dealt. The player has to stand or draw on A, 6—a soft 17. He draws by moving the slider one space and draws the 3—a soft 20. He will stand on this. Now since two cards were drawn to the first Ace, the keying number for the second Ace is 2. Drop the detachable bottom half of the first position assembly (which contains window130) until ② is visible in window **130**. You are now ready to play the hand with a second split card. Had you stood (improperly) on the soft 17 in the hand above, the correct row designator for the hand below would be①;had you drawn three cards, it would have been③. As it happens, it would make no difference in the play of this particular holding, A, K, since you will stand on 21 in any event and the next card in the un-dealt deck is of no concern to you holding a count of 21. However, any holding totaling less than a hard 17 or a soft 18 requires a draw and the potential cards, the 2, the 6, etc., next to be dealt would have to be made available to the second split card also, as they are to the first. Technically, the 2 and the 6 available to be drawn in the hand **128** holding the first split Ace could be dispensed with, since the correct play is to stand on A, 6, 3—**soft** 20. But they give the student an opportunity to go wrong, and may be considered a teaching aide.

Column No. II is now to be played. The correct play of the split pair consumed three cards—6, 3, K— and thus the window over the hand **134**, when opened three spaces, should reveal③,4,5. It does, since the row **140** will have moved up to replace hand **134**, when the tape was advanced two rows in splitting the pair in the first column. Of course, each of the other columns II and

IV, as well as the dealer's column will have a two row advance simultaneously. Player will draw to 4, 5, and will draw in succession, the 2, the 6, and if he elects to draw to the 17 count, will draw the 6-busting. Correct technique demands a stand on 17 and if he does stand, properly, then the next position, Column III Should show⑤, J, 4 when the slider is opened. Row 5, **142** moved up into position under the window, when the tape was advanced two rows in splitting the Aces in Column No. I. It does show J, 4, indicating the previous hand was played properly. Drawing to J, 4 brings the 3—count 17, on which the player stands. Now the last player column should be on ⑥5, 10 when its slider is opened. It is and a draw is indicated. The Q is drawn, busting the hand.

The Dealer's opening should be on 10, 5, 2, when the slider is opened wide (remember that the dealer has no discretion and must stand on 17 or better so actually his slider, when it is his turn to draw, can be opened wide, rather than one space at a time). However, until it is the dealer's turn, it is permitted to see only his up card. The result of proper play will be all hands visible (persisting) in a straight line, with Dealer's hand elevated. Bets can now be paid or collected.

Special designations, some in color, could be provided. Thus each card indicia can be printed on the scroll in the characteristic playing card rectangular shape, with both the numerical value of the card thereon, as well as the suit (spades, hearts, diamonds, clubs). A hold card could be shaded or otherwise distinctively marked to distinguish them from cards drawn in the play; drawn cards could carry subscripts to assist the player in keeping up with total number of cards drawn at any point in the play (this is important, since keying is at times dependent on the number of cards drawn up to that moment), the count of the hand at any time can be indicated in the windows as another subscript; bust cards could be circled; and similar coding and notions to assist the player, especially for the beginner or inexperienced player.

Many variations exist with this board game, depending on the experience level of the player or players, whether teaching and learning is the objective, or practice, or relaxation, or competition with one or more other players, both playing on the same board or each having an identical board and program and competing players, on the same board-one playing the right side and one the left-play one, or more, identical hands, betting against each other as well as against the dealer. Each player plays simultaneously and neither has any advantage over the other, but each can play the hand or hands as he desires, one splitting while the other draws, etc.

Each deal can be a new fresh, random deal, or, the next deal begin with what would have been the next card had the hands been played properly. The variation in the total number of cards used in playing, for example, four hands, is from 0 to perhaps 4 with proper play versus improper play, since many plus-minus situations develop. For instance, proper play of a given four hands may use up the exact number of cards as improper play, but no two positions might be played identically, or several hands might be played identically with the total discrepancy in the last hand and the dealer's hand.

In any event the following deal of the next four hands uses up nine down cards (eight of the player's and one of the Dealer's). The only card of these nine cards that it is important not to have seen in the previous deal is the dealer's hole card, and this card is, or can be made to be, the 10th card dealt. Thus unless improper play results in a difference of no more than nine cards as compared to proper play, no special information is made available to the player in the play of the subsequent deal, if a card is used in the next deal that the player also used in the previous deal. Thus the general rule that the next and following deal will begin with the card following the card that was last utilized in the previous deal, assuming proper play. It is only necessary to be sure the player has a means of checking this information and it can be checked by reference to opening 48, FIG. 1.

Special designation could be provided where a card results in a bust, that card could be circled, 142. The row that is the proper row for the theory could be provided with a distinctive background, 144. Other special treatments may also recommend themselves, as showing the count of player's hand during play.

Many variations exist as well as optional additions or combinations in coordination with the board game. If desired, after the first deal, the second deal can be based on the same deck continuing from the first deal. However, the permutations and combinations become unnecessarily large if one is to provide in the second deal for all the possible variations which have occurred in the first deal. Therefore, the second deal will normally be limited to the cards remaining in the deck assuming correct play to the first deal and those cards played can be shown in the area under the door 48 prior to beginning the next deal. Instruction in card memory and card counting can be provided as the deal progresses. Several decks can be used, if desired. This is an ideal arrangement for the persisting, correcting mode, FIG. 3.

The teaching aspect of this board game cannot be overemphasized. The most effective teaching and learning takes place when the students mistakes are pointed out to him immediately. As has been demonstrated in FIG. 3, there is a version that is self-correcting. In order versions the player plays the hand as he sees fit and then consults a commentary to learn how he could have played more intelligently. The commentary could be on a tape or record, keyed to the series, deal and hand. It could be in an accompanying pamphlet, suitably keyed. It could be on an auxiliary scroll or tape on top of and at the top or bottom of the board. With its own take-up and pay-out spools and its own opening, and keyed to follow the play of each and every hand. Also the openings 30, 34, 36, and 38 can be utilized for commentary about the hand that was last played there. After all four hands are played in FIG. 2, for instance, and all bets are settled, the tape is advanced to a point where commentary appears in opening 30. This will be far enough along on the tape to clear all indicia in all positions for the preceeding four hands. The other three openings are then lined up with opening 30 and their commentary will appear. Example:

Do not split deuces against any UP card greater than 7
See TABLE A in the TEXT

Of course, all sliders would be opened (position I in FIG. 2 is normally in the open position-except on splits). After the commentary is absorbed, by the player, and the slides are returned to the normal position for each slider, the tape would be advanced to the next deal and the next series of hands played. The commentary can also teach and comment on card counting, an absolute necessity, if the best odds at blackjack are to be realized in the wagering and in the play. Drills can be programmed to teach counting, which is simply a matter of being told what to count, practice in counting accurately and rapidly, and, importantly, what to do with and how to use the information so obtained.

All bets/wagers allowed and provided for at the casinos are provided for on this board game and under realistic and authentic conditions. These include splitting numerically identical pairs (limited to position I for convenience), insurance bets, double down bets, stand, and draw. Different casinos have different rules and tapes would be programmed to correspond to the method the student desires to learn and practice. For instance, blackjack in Las Vegas differs in some major aspects from blackjack in the Reno-Lake Tahoe area.

Various mechanical aides can be provided to assist the player to achieve the highest proficiency. These include mechanical counters to count 10s, aces, 5s, etc. These would be used to record those cards while at the same time the student tries to remember key cards. The counters are a reference to check the student until he obtains the necessary accuracy and speed. For non-persisting versions, counters can record the results of each hand, as played, for later comparison with the dealer. Records can keep track of the wagers, as made on each hand and for what purpose, e.g., double down versus a simple draw, draw versus a stand, split versus a draw. In such instances the recorders function as the watchdog dealer and the player commits himself by recording what he wagers and on what action.

A master text, with charts, tables, probabilities, and application of the major, proven theories of betting and playing to blackjack can be keyed to the play through one or more of the commentary techniques.

The scroll may be modified so as to be capable of projection and be used in teaching blackjack or analyzing blackjack for a number of people. Alternatively, the indicia and commentary can be set forth in braille so as to be useful for blind people as a means for amusement.

What is claimed is:

1. Apparatus for simulating a card game, such as blackjack or 21, of the type played by a dealing player and at least one betting player, and wherein the dealing player and each betting player initially receive two cards and are afforded the option to draw additional cards as they occur in random sequence from a deck of cards;

said apparatus comprising:

1. an elongate sheet having a longitudinal dimension and a transverse dimension;

a. said sheet bearing indicia symbolizing playing cards having numerical values of 2 and 10 and aces having optional values of 1 or 11;

b. said indicia being organized in an arbitrary predetermined sequential order, each indicia being designated individually as n^i, wherein i is a positive integer of from 1 to n, and indicates the position of the indicia in the sequential order;

c. said indicia being arranged in a plurality of transversely extending rows, said rows being arranged in m longitudinally extending columns, where each column corresponds to a player except one column which corresponds to the dealer;

d. each of said columns being designated as m^k where k is a positive integer of from 1 to m and indicates the order in which a column is played;

e. each of said rows having a fixed pair of first and second juxtaposed indicia representing the covered cards for the players, and in the dealer's column, one covered card and one uncovered card for the dealer, the first indicia in each row of column m^k is n^k and the second indicia is n^{m+k};

f. in any column, if a value of a fixed pair is 21, there is only one row and no additional indicia;

in all other columns:

g. In each row, additional indicia laterally spaced from said fixed pair representing potential draw cards, the total number of additional indicia being limited to the last indicia which results in a maximum total numerical value of the indicia in the row of at least 12; 48 12; 49

H. In the first row of each column, the third indicia being $N 2m+1$ and in each successive row of each column, third indicia in the immediately preceding row;

i. any Any additional indicia in each row having i values 1 greater than the immediately preceding indicia in that row;

J. In the first column, M^1, there is one row having said first and second juxtaposed indicia, and such succeeding indicia, so that the total value of the row is at least 12;

K. In the second and succeeding columns, the number of rows being equal to one greater than the highest i value of an indicia appearing in a prior column less $2m$;

2. an opaque plate having at least m transversely spaced opening disposed to reveal respectively one row of indicia from each of said columns;

3. means for supporting said elongate sheet beneath said plate, said supporting means including means for advancing said sheet longitudinally of said plate; and

4. movable means for obscuring said openings and revealing said indicia successively.

2. An apparatus according to claim 1, wherein the total number of additional indicia is limited to the last indicia which results in a maximum total numerical value of the indicia in the row of at least 21.

3. In combination with an apparatus according to claim 1, means for recording the transfer of counters in accordance with a player's winning or losing in relationship to the dealer.

4. An apparatus according to claim 1, wherein said opaque plate has an opening over each column of indicia large enough to reveal all of the rows of indicia, mounted on said opaque plate, in vertical slideable attachment over each of said openings, an opaque vertical slide means large enough to maintain said opening totally obscured, except for a window in said slide means, and mounted on said vertical slide means, horizontal slide means for obscuring said window.

5. An apparatus according to claim 1, wherein on said sheet in said first column, where said first and second indicia represent common playing cards, a second row having as its first indicia, said first indicia of said fixed pair, and having as its second indicia the indicia n^{2m+1}, and additional indicia following in the arbitrary determined sequential order;

and a third row, having as its first indicia, the second indicia of the fixed pair and as its second indicia the indicia following successively the last indicia of said second row, any additional indicia following successively said second indicia of said third row; and

additional rows, arranged in a column under said third row, equal to one greater than the number of additional indicia present in said second row, wherein the second indicia in each succeeding row after said third row is one higher in the sequential order than the second indicia in the prior row and any additional indicia in each row are successively higher than the prior indicia in that row; and an additional opening in said plate juxtaposed to reveal said third or successive rows.

6. An apparatus according to claim 5, wherein said second indicia of said third row is n^{2m+2} and any additional indicia on said second row follows successively according to the sequential order.

7. An apparatus according to claim 1, wherein said movable means for obscuring said openings and revealing said indicia incrementally comprises a slideably engaged opaque plate having a stepped opening, in each step diminishes in length by about an indicia width and has a height equal to the height of said opening.

8. An apparatus according to claim 1, wherein associated with each indicia is a subscript indicating the indicia position in the sequential order.

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