Description of the table game "Royal 31":

Royal 31 is a table game dealt from a shoe with six standard decks of playing cards. Seven betting areas are provided on the layouts being designed.

To play, one must make two equal amount bets. One bet is a Poker bet and the other is a Point bet.

The Poker bet is not lost and begins to pay when a players hand is a pair of Jacks or better at end of play. Payout schedule enclosed.

The Point bet pays 1 to 1 when a players hand has a point total of 29, 30 or 31 points and the player has finished taking cards, any other point total and player loses the Point Bet.

Card point values are valued the same as in Black Jack except for the ten card which has a zero point value.

Aces = 1 or 11 points
Jacks, Queens and Kings = 10 points
2 thru 9 = Face value (Twos = 2 points, Threes = 3 points, Fours = 4 points, Fives = 5 points, Sixes = 6 points, Sevens = 7 points, Eights = 8 points and Nines = 9 points)
Tens = 0(zero) points

Note: Any time a players hand exceeds 31 points the player automatically loses all bets and the hand is over.

Players may double down their Point bet at any time, thereby receiving one final card.
The Point bet and Double down bet are paid 1 to 1 when a hands point value is 29 or 30 points after doubling down. Point bet and Double Down bet are paid 3 to 2 when a hands point value is 31 points after doubling down. Any other point value, other than 29, 30 or 31, and the player loses both Point bet and Double Down bet, although, a Poker bet may still be paid as long as the players hand does not exceed 31 points.

A player starts a hand being dealt three cards. Player may elect to stand on first three cards or player may continue taking cards as long as the hands point value does not exceed 31 points. Until a players hand attains a Point value of 29, 30 or 31 and or a Poker hand of Jacks or better , the player will logically keep taking cards until a Point bet or Poker bet is made or the player busts his hand by exceeding 31points.

Note: Dealer does not receive any cards.

When I originally applied for the patent, this game was designed to be dealt as a single deck game. The patent covers multiple deck play, however, the suggested odds in the patent are for single deck, whereas, the game now is designed for multiple deck play (Six decks). The odds I'm submitting with this application are based on multiple deck play as opposed to the odds suggested in the patent for single deck play.

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Procedures of Play for Royal 31:

Six standard decks of playing cards are dealt out of a shoe face up. Players don't touch cards.

To begin play, six standard decks of cards are shuffled together and offered to a player for a cut. Dealer should leave approximately one and a half decks behind cut card. Cards are then put into a shoe and a card burn is done.

Players wishing to play shall place an equal amount Poker bet and Point bet in designated betting areas. Cards are then dealt one at a time to each spot being played starting on the Dealers left and proceeding in a clockwise fashion until each player has three cards. Note: This is very similar to dealing Black Jack except the players start with three cards and the Dealer does not deal himself any cards.

Once initial three cards are dealt to each player the Dealer will react to the player on his far left by delivering card(s) one at a time until the player is satisfied with the hand, or the player's hand exceeds 31 points or the player stands pat on original three cards. Once no more cards are taken by the first player, that players bets are either paid or taken and the cards for that hand shall be placed in the discard rack. Dealer now reacts to the next player on his left in the same fashion, and so forth, until all players hands are completed. During play a player wishing to double down shall place a bet in the double down betting area that is equal to his Point bet wager . The dealer will deliver one final card sideways partially on top of the players last card received signifying the player has doubled down and has received his final card. Dealer will then pay or take players bets according to the hand player has been dealt. When the cut card is reached, any hands in play shall be completed. Once all hands are completed, the remaining cards will be joined with discards and reshuffled. At this point a new shoe will be started for additional play.

Dealers should announce a player's hand point total after every point change as well as describing the Poker hand and potential Poker hands of the player's cards.

Only the highest paying Poker hand will be paid per hand. Example: A Full House pay off excludes a Three of a Kind payoff.

Casino's should put an aggregate total payout limit per poker hand due to the high odds associated with the rare Poker hands that can occur.

This game is easy to deal as long as a Dealer can keep a running count up to 31 points accurately, as well as recognize winning Poker hands, even though a players hand may contain up to ten cards or more on certain rare occasions. Game security is quite good because cards are dealt from a shoe face up and players do not touch the cards, also there is less chance of error since bets are paid one player at a time, unlike Black Jack that has Dealer take or pay all bets at once.

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Examples of winning Poker Hands:

Jacks or Better - Pair of Jacks or pair of Queens or pair of Kings or pair of Aces.

Two Pair - A pair of any same value cards combined with another pair of same value cards.

Three of a kind - Any three same value cards.

Full House - Any pair of same value cards combined with any three same value cards.

Flush - Any five cards of the same suit.

Straight - Any five cards in a row not of the same suit. Example: Ace, two, three, four and five.
Example: Ten, Jack, Queen, King and Ace.
Note: A Seven, Eight, Nine, Ten and Jack is not possible because this exceeds 31 Points.

Four of a kind - Any four cards of same value. Example: 4 Aces or 4 Twos or 4 Threes or 4 Tens.

Three like face cards - Any three Jacks or any three Queens or any three Kings.

Four 4's or Four 5's - Any four 4's or any four 5's.

Straight Flush - Any five cards in a row of the same suit.

Four Sixes - Any Four Sixes.

Four Sevens - Any Four Sevens.

Royal Flush - Ten, Jack, Queen, King, Ace of the same suit.

Poker Payout Schedule:

Royal Flush - 2000 to 1

Four Sevens - 200 to 1

Four Sixes - 100 to 1

Straight Flush - 100 to 1

Four 4's or Four 5's - 40 to 1

Three like face cards - 25 to 1 (Three Jacks or Three Queens or Three Kings)

Four of a kind - 20 to 1

Straight - 10 to 1

Flush - 8 to 1

Full House - 7 to 1

Three of a kind - 3 to 1

Two pair - 2 to 1

Jacks or better - 1 to 1

Frequency of Poker hand occurrences:

Royal Flush - 1 in every 600,000 hands

Four Sevens - 1 in every 20,000 hands

Four Sixes - 1 in every 10,000 hands

Straight Flush - 1 in every 7,150 hands

Four 4's or Four 5's - 1 in every 1,150 hands

Three like face cards - 1 in every 500 hands

Four of a kind - 1 in every 300 hands

Straight - 1 in every 108 hands

Flush - 1 in every 79 hands

Full House - 1 in every 59 hands

Three of a kind - 1 in every 36 hands

Two pair - 1 in every 14 hands

Jacks or better - 1 in every 10.5 hands

These results are based on 50,000 hands that I personally ran using the best mathematical decisions I could reason.

A Royal Flush never occurred in 50,000 hands. The math for figuring a Royal Flush occurrence is as follows:

$$\frac{120}{312} \times \frac{24}{293} \times \frac{18}{292} \times \frac{12}{291} \times \frac{6}{290}$$

$$.3846 \times .0819 \times .0616 \times .0412 \times .02068 = .000001653 = \frac{1}{604,960}$$

The math for figuring a Four Sevens occurrence is as follows: (Even though it only occurred once in 50,000 hands, its mathematically going to occur approximately once in ever 20,000 hands)

$$\frac{24}{288} \times \frac{23}{287} \times \frac{22}{286} \times \frac{21}{285}$$

$$.0833 \times .0801 \times .0769 \times .0736 = .000037764 = \frac{1}{26,480}$$ LOWEST AVG.

$$.0833 \times .0801 \times .0769 \times \frac{21}{213} = .000050586 = \frac{1}{19,768}$$ HIGHEST AVG.

Royal 31 has an approximate House edge of 3%. The following example is based on 1000 hands of $5.00 Poker and $5.00 Point bets being wagered and played with optimal mathematical decisions.

Two Pair	- 70.28	x 1	x $5.00	=	$351.4
Three of a Kind	- 28.04	x 2	x $5.00	=	$280.4
Full House	- 17.04	x 6	x $5.00	=	$511.2
Flush	- 12.62	x 7	x $5.00	=	$441.7
Straight	- 9.26	x 9	x $5.00	=	$416.7
Any Four of a kind	- 3.36	x19	x $5.00	=	$319.2
Three Like Face Cards	- 2.04	x24	x $5.00	=	$244.8
Four 4's or Four 5's	- .86	x39	x $5.00	=	$167.7
Straight Flush	- .14	x99	x $5.00	=	$ 69.3
Four Sixes	- .10	x99	x $5.00	=	$ 49.5
Four Sevens	- .05	x199	x $5.00	=	$ 49.7
Royal Flush	- .00166	x1999	x $5.00	=	$ 16.6
Both Poker & Point bet win	- 93.92	x2	x $5.00	=	$939.2
					$3,857.0 Player win
Busted Hands	-416	x2	x $5.00	=	$4,160.0 House win
					$ 303.0 House Profit

Note: Unless a player is a card counter, there is no player advantage in doubling down, therefore, I had no reason to factor doubles into this percentage chart.

In the game of "Royal 31" in many instances a players decision to draw more cards or to stand pat are obvious, however, many instances arise that put the player in a risk reward position. This factor gives the game character and creates various skill levels that players attain by making good mathematical decisions.

Example hands for the game "Royal 31":

Example hand 1: J,Q,8 = 28 points

Player will logically take additional card(s) because at this point both bets are lost. Any additional card of 4 points or higher automatically loses both bets because the hand will exceed 31 points . Drawing an Ace, two or a three will win the Point bet , but will in turn lose the Poker bet. Drawing a ten card which has a zero point value will neither help nor hurt the players hand unless the players 4 cards are of the same suit thereby giving the player a slim chance of drawing a five card flush hand on his next card. These three cards are one of the worst starting hands associated with this game because the chance of making a Poker hand and or making 29, 30 or 31 points without exceeding 31 points is of low percentage.

Example hand 2: Q,Q,Q = 30 points (the suits of the Queens are irrelevant)

Player should stand pat thereby getting paid 1 to 1 on the Point bet and also getting paid 25 to 1 on the (three like face card) Poker hand. This is one of the best starting hands associated with this game since the player is automatically being paid on both bets without even having to draw additional card(s).

Example hand 3: 2 of Clubs, 3 of Clubs, 4 of Clubs, 5 of Clubs and 6 of Clubs = 20 points

Players hand is a Straight Flush Poker hand which will be paid at 100 to 1 as long as the hand does not exceed 31 points with any additional draws of cards. Player should logically draw additional card(s) in hopes of attaining 29, 30 or 31 points because at this point players hand is valued at 20 points which means he is in no danger of exceeding 31 points by taking one more card. If the next card drawn is a 9, J, Q,K or Ace the player will win both bets and will logically stop drawing cards. If the next card drawn is a 2 through 8, the player should logically stop drawing cards because his point total now is between 22 and 28 points and drawing additional cards would jeopardize his hands point total to exceed 31 points which would lose players 100 to 1 Poker bet payout.

Example hand 4: J,J,A = 21 or 31 points

Player may stand pat, thereby getting paid 1 to 1 on both the Point bet (31 points) and the Poker bet (Pair of Jacks). Player may elect to draw additional card(s) in hopes of bettering his Poker hand. Example: Player draws an Ace, he now has two pair and a point total of 22 which, if he stands pat, he will be paid 2 to 1 on the Poker bet but will lose the point bet. Drawing additional card(s) in hopes of making a better Poker hand will now put the player in jeopardy of exceeding 31 points. This is a risk reward position. Example: Player draws another Ace, he now has a Full House Poker hand and a point total of 23. Standing pat will pay the player 7 to 1 on the Poker bet but will lose the point bet. Example: Player draws another Ace, he now has a Four of a Kind Poker hand and a point total of 24. Standing pat will pay the player 20 to 1 on the Poker bet but will lose the point bet. At this point the player has no chance of bettering his Poker hand but could exceed 31 points by drawing additional card(s) in an attempt to win the Point bet as well. Logically the player should stand pat with his 20 to 1 Poker bet payout because the risk reward is too high.

Example hand 5: A,A,9 = 11 points, 21 points or 31 points

Player may stand pat, thereby, getting paid 1 to 1 on both the Point bet (31 points) and Poker bet (Pair of Aces). Player may elect to draw additional card(s) in hopes of bettering his Poker hand. Example: Player draws an Ace (A,A,9 plus A) he now has a Three of a Kind Poker hand and a point value of 12 or 22. At this juncture a player should draw another card because he cannot exceed 31 points and can only better his Poker hand. Example: Player draws another Ace (A,A,9,A plus A) he now has a Four of a Kind Poker hand and a point value of 13 or 23. At this juncture the player should draw another card in hopes of making 29, 30 or 31 points with no danger of exceeding 31 points. Example: Player draws a Nine (A,A,9,A,A plus 9) he still has a Four of a Kind Poker hand and a hard 22 point value. At this juncture player should stand pat and get paid 20 to 1 on the Poker bet and lose the Point bet. If the player elects to draw another card in hopes of also winning the Point bet, he may do so, but at the risk of exceeding 31 points which automatically loses all bets.

Example hand 6: 10,10,10 = 0 points and a Three of a Kind Poker hand

There is no danger of exceeding 31 points, so obviously player will draw additional card(s) in hopes of bettering his Poker hand and making a hand totaling 29, 30 or 31 points. Example: Player draws a 5, he draws another 5 and then draws another 5 (10,10,10 plus 5,5,5) he now has a Full House Poker hand and a point value of 15. Player should draw another card. Example: Player draws a Jack (10,10,10,5,5,5 plus J) he still has a Full House Poker hand which pays 7 to 1 and a Point value of 25. At this point player may stand pat and be paid on the Poker hand but lose the Point bet or he may elect to draw additional card(s) in hopes of drawing a 10 for a 20 to 1 Four of a Kind Poker payout or draw a 5 for a Four Fives 40 to 1 Poker payout as well as a 1 to 1 Point bet payout because with another 5 his hands point total will be 30 points. This is a risk reward situation because obviously drawing any additional card(s) with a point value of 7 or more will lose all bets.

Example hand 7: Q,K,A = 21 or 31 points

At this point the player may decide to stand on his original three cards and be paid 1 to 1 on his Point bet, but lose his Poker bet. Player may decide to draw additional card(s) or player may decide to double down his Point bet. By doubling down he will match his Point bet with a double down bet of an equal amount. Example: Q,K,A plus 4 = 25 points. Player has drawn a 4 and at this point is not allowed to draw any additional cards, because of his double down decision. Player has less than Jacks or Better and his point total is not 29, 30 or 31, therefore, he loses all bets. Example: Q,K,A plus K = 31 points. Player has drawn a King thereby attaining a winning Poker hand of a Pair of Kings which will pay 1 to 1 on the Poker bet and a winning Point and Double Down bet that will be paid 3 to 2. Example: Q,K,A plus Ace = 22 points. Player has drawn an Ace thereby attaining a winning Poker hand of a Pair of Aces which will pay 1 to 1 on the Poker bet, but will lose the Point bet as well as the Double Down bet. Example: Q.K.A plus 9 = 30 points. Player has drawn a 9 thereby losing his Poker bet, but his point total of 30 will pay his Point bet 1 to 1 as well as his Double Down bet 1 to 1.