

- [54] **PLAYING CARD DISTRIBUTION APPARATUS**
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- [22] Filed: **Apr. 24, 1972**
- [21] Appl. No.: **246,977**

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**Related U.S. Application Data**

- [63] Continuation-in-part of Ser. No. 50,786, June 29, 1970, Pat. No. 3,658,342, which is a continuation-in-part of Ser. No. 30,314, April 20, 1970, abandoned, which is a continuation of Ser. No. 734,429, June 4, 1968, abandoned.

- [52] U.S. Cl. .... 273/149 P, 273/148 A, 273/152.2
- [51] Int. Cl. .... A63f 1/14
- [58] Field of Search ..... 273/148 A, 149 R, 149 P, 273/152.2, 152.44; 206/39, 40.5, 73, 74

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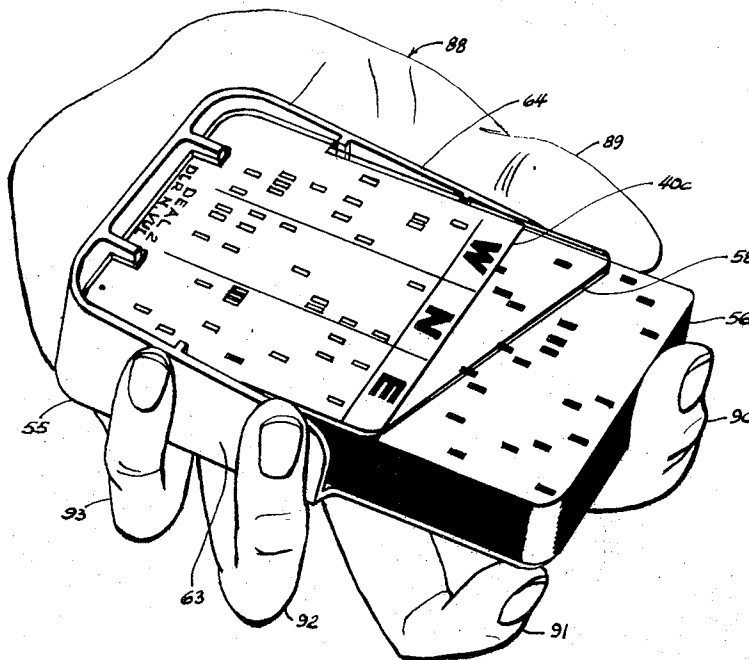
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[57] **ABSTRACT**

The disclosure is of an apparatus for enabling distribution of playing cards into predetermined groups, or "hands," for the game of Duplicate Bridge. The determination of distribution of the playing cards into four hands or sets of equal number is made by use of a punched code card having punches or holes for indicating the distribution of each card of a deck of playing cards, each playing card having printed on its back side a code corresponding to holes of the code card whereby matching superimposed holes of the code card and the printed code of each playing card indicates the hand in which that playing card should be placed.

**3 Claims, 10 Drawing Figures**



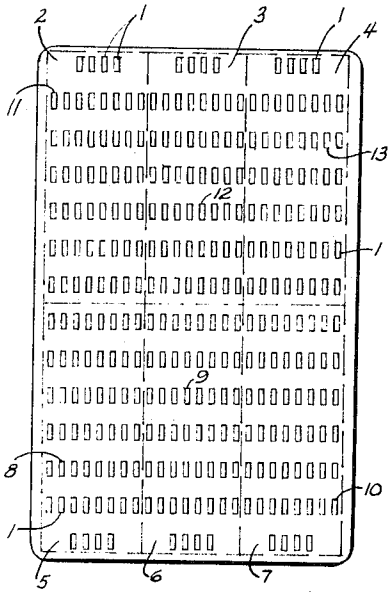


Fig. 1

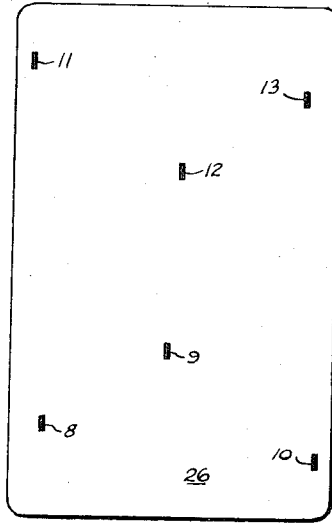


Fig. 2

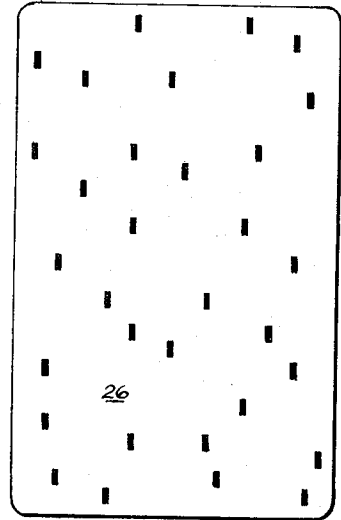


Fig. 3

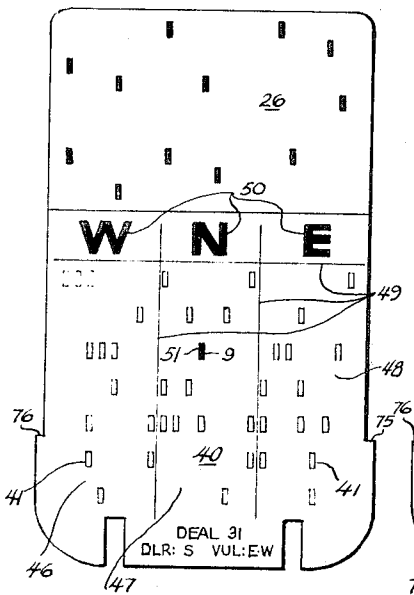


Fig. 4

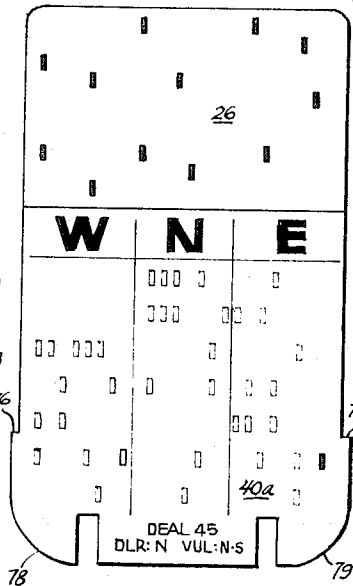


Fig. 5

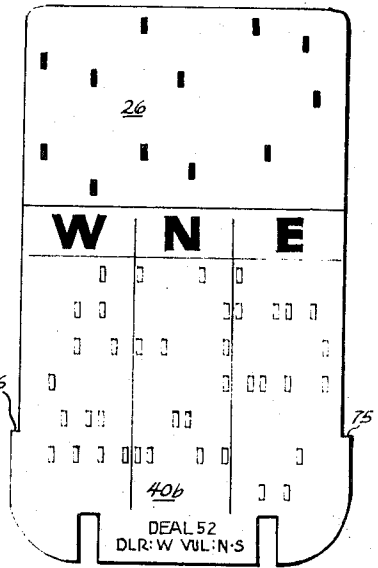


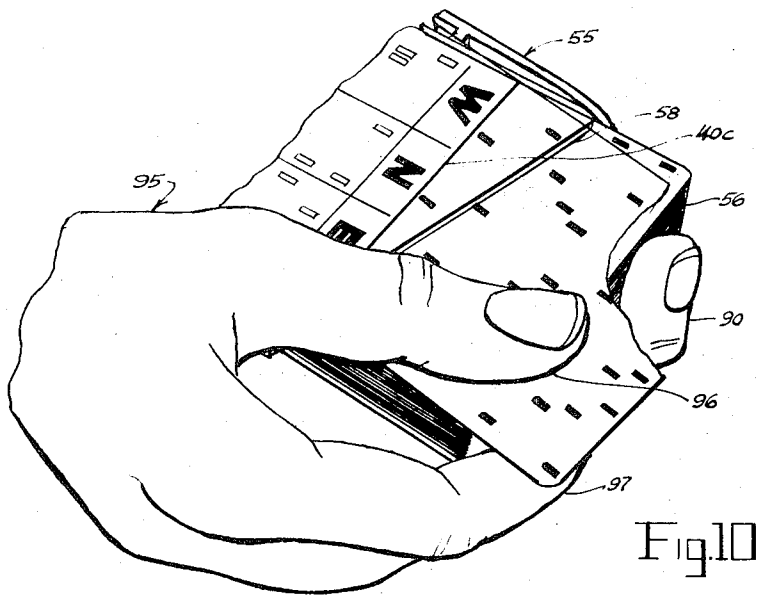
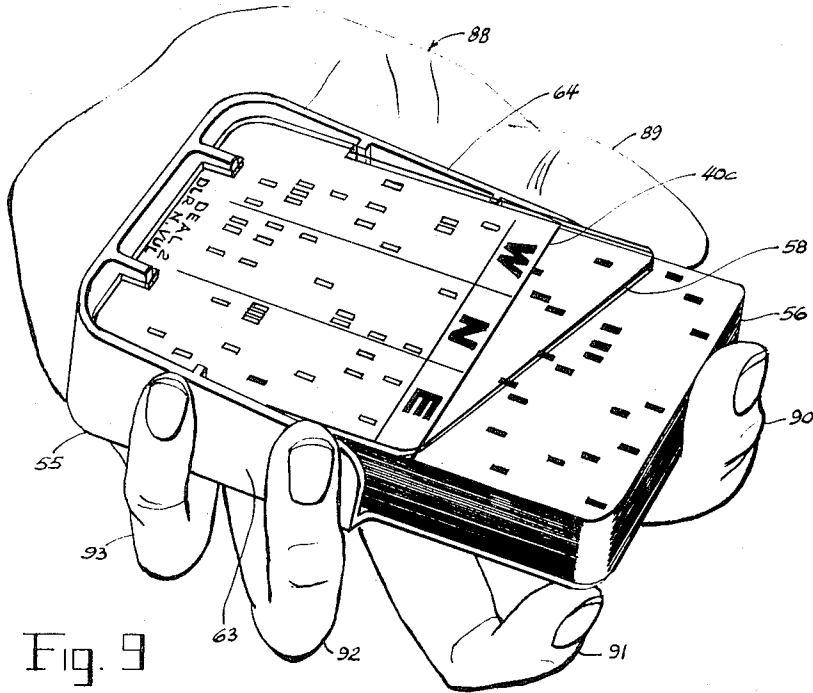
Fig. 6

DEAL 31  
DLR: S VUL:EW

DEAL 45  
DLR: N VUL: N-S

DEAL 52  
DLR: W VUL: N-S





**PLAYING CARD DISTRIBUTION APPARATUS****CROSS-REFERENCE TO RELATED APPLICATION**

This application is a continuation-in-part of application Ser. No. 50,786, filed June 29, 1970, now U.S. Pat. No. 3,658,342, which in turn is a continuation-in-part of application Ser. No. 30,314, filed Apr. 20, 1970, which in turn is a continuation of application Ser. No. 734,429, filed June 4, 1968, both now abandoned.

The disclosure of this application utilizes certain of the principles set forth in applicant's applications Ser. No. 472,270, filed July 15, 1965, and Ser. No. 681,667, filed Nov. 9, 1967, both now abandoned.

**BACKGROUND OF THE INVENTION**

The game of Contract Bridge is well-known today and is played by a great number of people in the form of "rubber" Bridge. In "rubber" Bridge, the cards are shuffled and dealt to each of the participants whereupon they then bid for the contract and play the hand accordingly. The scoring then takes place as the points from individual played hands or deals make up game scores which, in turn, contribute toward the rubber score and the final tally. While the game does require a great amount of skill and imagination to win consistently, luck can be a large factor. That is, when the better cards should fall majorally to one of the partnerships they will have an opportunity to score highly whether they are skilled bridge players or not.

Duplicate Bridge to a large extent corrects for the luck factor which is present in "rubber" Bridge. This is the form of Bridge which is played in nearly all Bridge tournaments and provides a contest wherein the skill or competing partners is accurately indicated by the score. In effect, all participating partners are made to play the same identical hands which their competitors play and the point gain, the measure of skill, can then be made by comparing scores of both the playing and the defending partners with the similar results achieved by other foursomes. The Bridge hands after being bid and played by one foursome are kept in the same order, by not intermixing the cards as they are played as in "rubber" Bridge, and passed to the next foursome for bidding and play. This procedure is repeated until all the hands have been played by each of the contestant foursomes. The scoring can then be made on the basis of what a foursome, both the playing and defending partners, did on a particular dealt hand relative to the results of all other competing foursomes.

It is apparent that Duplicate Bridge requires a large number of foursomes in order to produce the multitude of scores required for comparison of results on the various hands. Such multiple-table Bridge requires a large number of decks of cards, one for each deal to be played, and a large number of containers (called "boards") in which the individual hands of each deal are transmitted from table to table.

There are several types of Duplicate Bridge games which attempt to enable Duplicate Bridge play in the home or other casual gamesite. These games consist of certain books or listings which disclose particular Duplicate Bridge deals along with pertinent comparison and scoring material. In each of these prior known game assemblies a problem arises as to the manner and mode of distributing the predetermined bridge deals to the contestants. One solution has been to distribute a separate deck of cards to each participant at the table

so that he may select his hand for each deal as it would be listed in an accompanying guide book. Another method uses card decks with printed numbers on the decorative side of the cards which designate the proper card distribution as per a particular deal or Bridge hand, the deck of cards having its usefulness limited to the number of deals that can be represented in the given space, usually 24 to 48 deals. Such modes of predetermined deal distribution rely on judgment of the person or persons assembling the hands, tending to introduce errors which render the deals unplayable.

**SUMMARY OF THE INVENTION**

The present invention contemplates card distribution apparatus which allows accurate distribution of playing cards into predetermined bridge hands from a total number or deck of such cards, by means of punched code cards which enable the apparatus to automatically signal the hand to which each playing card belongs for a particular deal involved. The invention further contemplates the use with a book which accompanies the card distribution apparatus and which contains Duplicate Bridge tournament results and scoring for a multiplicity of Bridge hands or deals, each of which is identifiable to a particular punched code card.

It is an object of the present invention to provide a game apparatus which enables Duplicate Bridge play by a single foursome in the home.

It is further an object of the present invention to enable the play of Duplicate Bridge by a single foursome with match point scoring and thereafter to enable comparison of results with actual tournament results as very high standards.

It is still further an object of the present invention to enable playing card distribution in accordance with a single punched code card which is identifiable to a particular Bridge deal.

Another object of the invention is to provide code cards which are made by punching the cards with computer card producing equipment, whereby the cards are economically produced and are extremely accurate as to the punch locations. The code marks on the backs of the playing cards are also preferably positioned by use of computer equipment, and perfect correlation and alignment of the marks and punches thereby results.

Finally, it is an object of the invention to provide an apparatus which enables the operator to distribute playing cards as they are dealt from a deck into predetermined hands of Bridge by visual signals produced as the printed code of the playing card currently atop the deck matches the holes in a punched code card superimposed above that playing card, such signals relating to the predetermined hands.

Other objects and advantages of the invention will be evident from the following detailed description when read in conjunction with the accompanying drawings which illustrate the invention.

**BRIEF DESCRIPTIONS OF THE DRAWINGS**

FIG. 1 is an illustrative plan view showing all of the code mark positions available on the back of a playing card, according to the invention.

FIG. 2 is an illustrative plan view showing card designation marks on the back of a particular playing card of a deck of playing cards, which distinguish and iden-

tify that card from the other playing cards of the deck.

FIG. 3 is a plan view of a playing card having the card designation marks shown in FIG. 2, and showing additional marks which serve to conceal the identity of the card.

FIG. 4 is a plan view of a code card for a particular bridge hand disposed above the back of the playing card shown in FIG. 2, one code mark showing through a punch of the code card and indicating distribution of the playing card to the "N," or North, hand of a bridge foursome.

FIGS. 5-6 are similar to FIG. 4, showing different code cards having different punch locations for different bridge hands, indicating distribution of the playing card to the "E," or East, hand and to the South hand, respectively.

FIG. 7 is a perspective exploded view showing a preferred form of apparatus according to the invention.

FIG. 8 is a side elevational view of the apparatus of FIG. 7, in assembled condition for use.

FIGS. 9-10 are perspective views showing the apparatus of FIGS. 7-8 as held by hand in use.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, FIG. 1 illustrates the "field" of 312 potential code mark positions 1 applicable to the decorative side of each playing card of a deck. This 312 potential positions 1 fall in six groups 2, 3, 4, 5, 6 and 7, indicated by dashed lines, each group having 52 positions therein one of which is allotted to a certain card of the deck, and the positions are symmetrical so that when the card is rotated 180°, reversing the ends of the card but not turning the card over, the code marks are relatively in the same positions. The relative locations of a specific playing card's position may vary from group to group within the field. For example, the Eight of Spades is represented by position 8 in group 5, by position 9 in group 6, and by position 10 in group 7; in symmetrical arrangement, the Eight of Spades is represented by position 11 in group 2, position 12 in group 3 and position 13 in group 4.

Similarly, every other playing card of the deck is represented by a different code mark position in each group.

The code mark positions in groups 4 and 5 are assigned to the West player; those in groups 3 and 6 are assigned to the North player, and those in groups 2 and 7 are assigned to the East player.

In FIG. 2 the decorative or back side of an incomplete playing card 26 is shown. The card is the Eight of Spades, and the code marks 8 through 13 match the Eight of Spades' positions 8 through 13, respectively, in FIG. 1.

In FIG. 3 the complete decorative side of playing card 26, the Eight of Spades, is shown. Its code marks 8 through 13 match the Eight of Spades' positions 8 through 13, respectively, in FIGS. 1 and 2.

Likewise, each other playing card of the deck has six code marks in a location pattern exclusive to the denomination of that card.

In FIG. 4 a punched code card 40, containing 39 punches 41, is shown superimposed over the lower part of playing card 26.

The 39 punches 41 of code card 40 are located such that if code card 40 were superimposed over the field

of potential playing card code mark positions of FIG. 1, in the same relative position as shown with playing card 42 in FIG. 4, the locations of punches 41 would coincide with 39 code mark positions in the field of FIG. 1. Thus, each punch 41 corresponds to a particular card of the deck.

The 39 punches 41 of code card 40 are in three groups 46, 47 and 48, bounded by printed lines 49. Within each group 46, 47 and 48, there are 13 punches; therefore, 13 cards of the deck are represented in each group of punches.

The punches in code card 40 of FIG. 4 represent three "hands" of a particular "deal" of Bridge. Each group 46, 47 and 48 contains 13 punches, representing the West, North and East players' hands, respectively, as shown by the symbols 50. Each card of the deck would be represented in one of the groups 46, 47 or 48, or in none of the groups. If not represented in any of the groups, corresponding to the West, North and East hands, then the card would by process of elimination belong to the fourth hand, South, the dealer's hand.

In FIG. 4, code card 40 is superimposed upon playing card 26 of FIG. 3, the Eight of Spades. Punch 51 in North group 47 coincides with code mark 9 of FIG. 3, code mark 9 being readily visible through punch 51. This visible indication means that playing card 26, the Eight of Spades, belongs to the North hand in the deal represented by code card 40.

In FIGS. 5 and 6, respectively, code cards 40a, 40b having different punch locations are superimposed over card 26. In FIG. 5, card 26 is indicated for distribution to the East, "E," hand, and in FIG. 6, card 26 is indicated for distribution to the South hand since no code mark is visible through a code punch opening.

If code cards 40, 40a, 40b are each imposed upon each playing card in the deck, the visual signals produced by coincident code marks and punches, or lack of such visual signals, would dictate the complete distribution of the playing cards into four predetermined "hands" for each code card, as dictated by the punch pattern in the respective code card.

Likewise, a different pattern of 39 punches in any other code card would signal a different predetermined distribution of playing cards inimitable to that code card.

It will be understood that the playing cards may be turned in either direction, as the same code marks appear symmetrically at each end of each card.

A preferred embodiment of apparatus according to the invention is shown in exploded view in FIG. 7. The apparatus includes box or case 55, deck of playing cards 56, top plate 58 and code card 40c, which has punches corresponding to a particular deal of hands.

Box or case 55 has a flat bottom 62, perpendicularly upstanding sidewalls 63, 64, and inwardly angularly leaning rear wall 65. Sidewall 63 has inner upwardly extending ribs 72, 73, the inner sides of which lean forward, non-perpendicular to bottom 62, toward the front of the case. At least ribs 67, 69 of ribs 67-71, lean forwardly of the case at the same angle. The angularity of wall 65 and the inner or front sides or ribs 72, 73, causes the stacked cards of a deck to slant forwardly in an upward direction, so that each successive top card, as cards are removed from the top one at a time, to be more readily grasped by the fingers for removal from the front end of box 55.

The front side of case or box 55 is open for card removal, and the forward end of sidewall 63 is spaced back from the forward end of bottom 62 to enable placing finger pressure sideways against the forward portions of the cards if desired. The ribs 67-71 provide "pressure points" spaced along the sides of the cards, whereby hand pressure (squeeze) may be applied at spaced points along the cards when the case is held in the hand, so that friction of card removal may be controlled by the hand. This type of control during dealing is naturally acquired after relatively short experience in use of the apparatus. If the inner sides of the walls were flat, without the ribs, this form of control would be largely lost, and in addition, warp of the box would more significantly affect control.

With the cards in the case, the code card 40c is placed atop the uppermost card, the shoulders 75, 76 at opposite sides of the code card (see also FIGS. 4-6) being engaged at the rearward sides of ribs 67, 69, respectively. The forward sides or edges of ribs 72, 73, and ribs 67, 69, being of the same angularity, the code cards moves easily between the top and bottom of the case, with full stability against movement forwardly or rearwardly of the case. When the case is made of somewhat flexible material, such as plastic, as is preferred, hand grip on the outside of the sides of the case allows tightening or relaxing of the grip so that pressure on the card edges can be altered to adjust the force necessary for withdrawal of the cards successively from the top of the deck. Finger pressure directly on the card edges forward of the end of wall 63 allows complete control of card withdrawal tension.

The walls 55, 63, 64 are connected at rounded corners, and the rearward corners of the code cards are rounded accordingly at 78, 79. The plate 58 has shoulders 81, 82 which correspond to shoulders 75, 76 of the code cards, and plate 58 has rounded rearward corners 83, 84 corresponding to the shapes of the box and code cards. The plate 58 is shown to have an angular front edge 86, but the front edge may be formed otherwise as desired. The cover or plate 58 is formed of transparent material, such as a plastic or glass, so that the code card and the punches and code marks are viewable therethrough. The code cards 40c and plate 58 have slots 87, 87a, respectively, to receive ribs.

Referring now also to FIGS. 9-10, the apparatus is used by holding the case 55 in one hand and withdrawing successive top cards from the deck with the other hand. Although either hand may be used, the case is shown in the left hand 88 of a person in FIG. 9, which is preferred. The thumb 89 is against wall 64, forefinger 90 is against the exposed end of the deck of cards 56, second finger 91 is at the corner of the case, and finger 92, 93 are against wall 63. Finger 91 can be moved upward against the exposed sides of the cards forward of wall 63. Forefinger 90 is used to limit card withdrawal to the top card of the deck, and effectively retains all lower cards. Cards are withdrawn, FIG. 10, by the other hand, in this case the right hand 95. Thumb 96 frictionally engaged with the top of each card draws the card partially out, and the card is held by thumb 96 and forefinger 97 for distribution to the proper hand as indicated by the code card punches and the code marks on the back of each playing card.

For removal of the code card and plate from the case after completion of dealing, or for removal of cards as well at any time, the case bottom 62 has a hole 98

therethrough for insertion of a finger to move the cards, code card and cover up from the bottom of the case.

It is clear that the apparatus of the invention serves to properly position a code card with respect to the uppermost playing card of a deck of coded playing cards, and as the uppermost playing card is removed from the deck to be "dealt" to the proper player, the code card remains in proper position with relation to the subsequent uppermost playing card of the deck.

The punched code card contains printed information necessary for the bidding, including identification of which player is "dealer" and thus bids first, and which partnership is "vulnerable." Upon completion of play, the participants may turn to a master record of consensus of results which pertains to the particular Duplicate Bridge distribution of that code card, identified by the deal number on the code card. It is contemplated that the consensus results would be printed in an accompanying booklet, to be consulted only after play of the deal is completed. The remarks concerning the deal would include actual tournament results on the deal, and expert comments on the proper bidding and play of the hands of the deal.

As in tournament Duplicate Bridge, each of the two partnerships receives a "match point" for every tournament partnership in the same direction (such as East-West or North-South) that it outscores, and a half "match point" for each such pair it ties. After the evening's play (typically 12 to 20 deals), the partnership with the highest cumulative "match point" total wins.

Inasmuch as the determination of distribution of the cards is accomplished by viewing of a code mark in a group (hand) area of the code card, or lack thereof, the remainder of the back of each card may be decorated by designs or colors which do not interfere with the code mark viewing through the code card punches. The code marks and punches are not necessarily of the rectangular shapes shown, and mixed shapes can be employed. For example, code marks in the form of round dots could be used, and viewed through punches of any suitable shape to enable their viewing. However, because the use of computer equipment in the manufacture of the playing cards and code card results in great economies of manufacture, and in preciseness and accuracy, the cards are preferably manufactured using such equipment, and the punch and code mark shapes as shown.

The foregoing discloses a novel playing card distribution apparatus which allows informal gatherings of people to participate in the game of Duplicate Bridge. The present device enables a game apparatus which will allow any Bridge player to compare his Bridge ability against other Bridge players with the element of luck almost completely eliminated and, in the preferable form, the accompanying material can afford the tournament results compiled by expert Bridge players in a consensus form so that the participant can derive a direct indication of his own ability as compared to that of experts. It is anticipated that periodic issues of new code cards sets would be offered to owners of the apparatus, such subsequent issues being based on other Bridge tournaments, thus offering a continuing series of authentic and entertaining deals for use with the apparatus.

Changes may be made in the combination and arrangement of elements as heretofore set forth in this

specification and shown in the drawings, it being understood that changes may be made in the embodiments disclosed without departing from the spirit and scope of the invention as defined in the following claims.

What is claimed is:

1. Apparatus for distribution of playing cards into predetermined hands, comprising case means having a flat bottom wall of generally rectangular form and having opposite upstanding sidewalls and an end wall therebetween, said case means being open at one end opposite said end wall and at its top, one of said sidewalls terminating spaced from said one end and providing a side opening at one side of said case means adjacent said open end thereof, said end wall and said sidewalls each having inwardly projecting ribs extending between said bottom and the upper edge of the wall, the space between said sidewall ribs being adapted to receive playing cards closely but movably therebetween, the ends of playing cards so disposed when engaged with said end wall ribs extending to said one end of said case, one end of said cards being disposed across said open end of said case and a portion of the side of said cards being disposed across said side opening, said apparatus including plate means closely yet vertically slidably received within said case means parallel with said bottom, said plate means terminating spaced from said one end of said case whereby playing cards disposed in said case beneath said plate means may be engaged by the hand for withdrawal at their upper surfaces adjacent said open end of said case, said plate means slidably engaging the inner sides of said

sidewall ribs and end wall ribs and extending outwardly between said end wall ribs and between adjacent end wall and sidewall ribs, whereby said plate means is retained by the sidewall ribs against withdrawal from said one end of said case, said plate means being transparent, and said apparatus including a deck of playing cards having code marks thereon and at least one code card having punch openings therethrough, each said code card being closely yet vertically slidably receivable within said case means beneath said plate and above playing cards therein whereby correlations between said playing card codes and said punch openings designates card distribution into hands whereby playing cards disposed in said case means upon said bottom may be controlled by fingers of the hand supporting said case means at said side opening and at said open end of said case means, and whereby cards may be drawn one at a time from said open end of said case while the remaining cards are controlled by fingers as described.

2. The combination of claim 1, said code cards having outwardly extending portions disposed between adjacent end wall and sidewall ribs to position the code card above the playing cards and to prevent withdrawal of the code card from said open end of the case.

3. The combination of claim 2, said code card punch openings being formed by computer card punch apparatus, and said code marks being positioned according to computer card punch spacings.

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