Oct. 27, 1936. F. L. MORSE 2,058,614

BRIDGE SCOREKEEPER

Filed Aug. 3, 1933 3 Sheets-Sheet 1

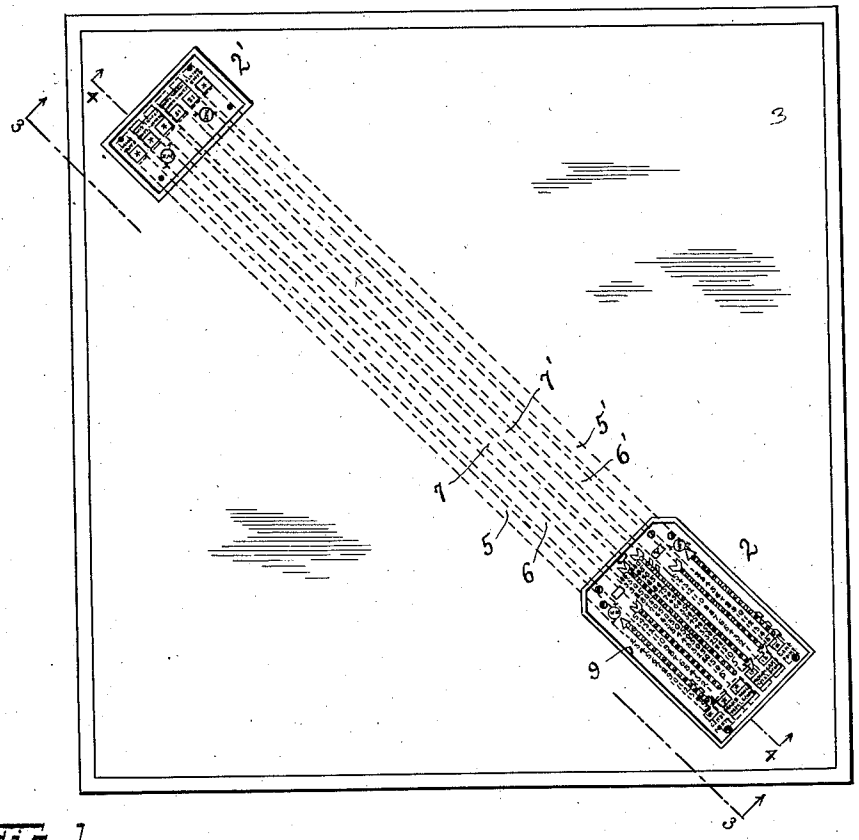


Fig. 1.

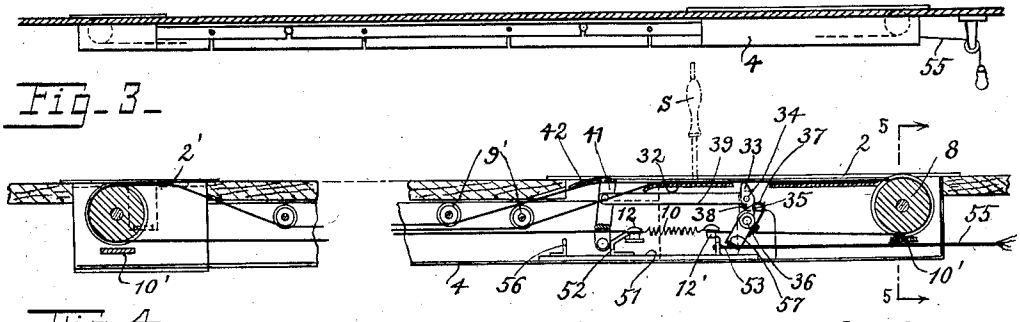


Fig. 3.

Fig. 4.

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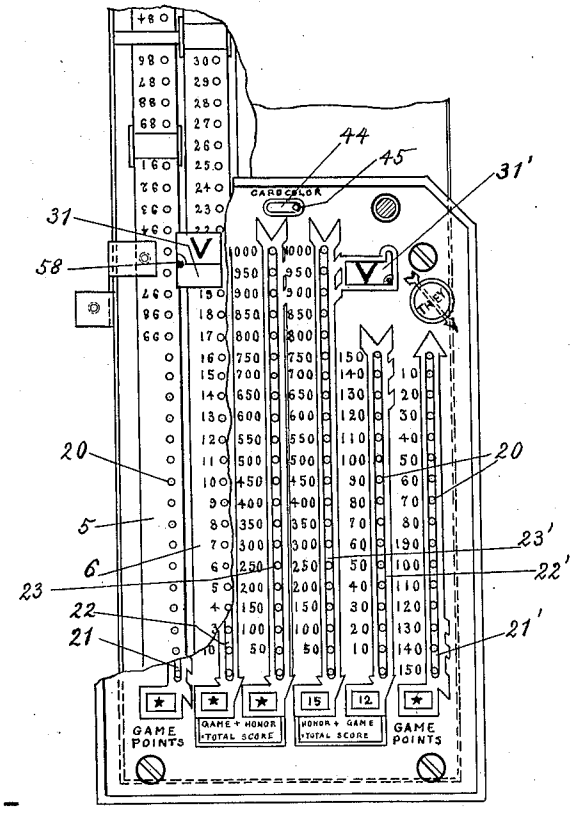


Fig. 2.

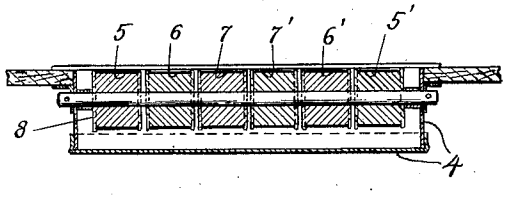


Fig. 5.

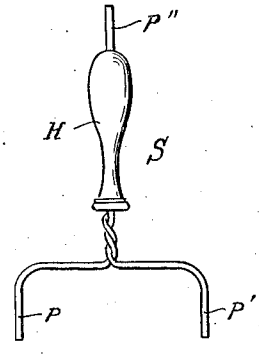


Fig. 6.

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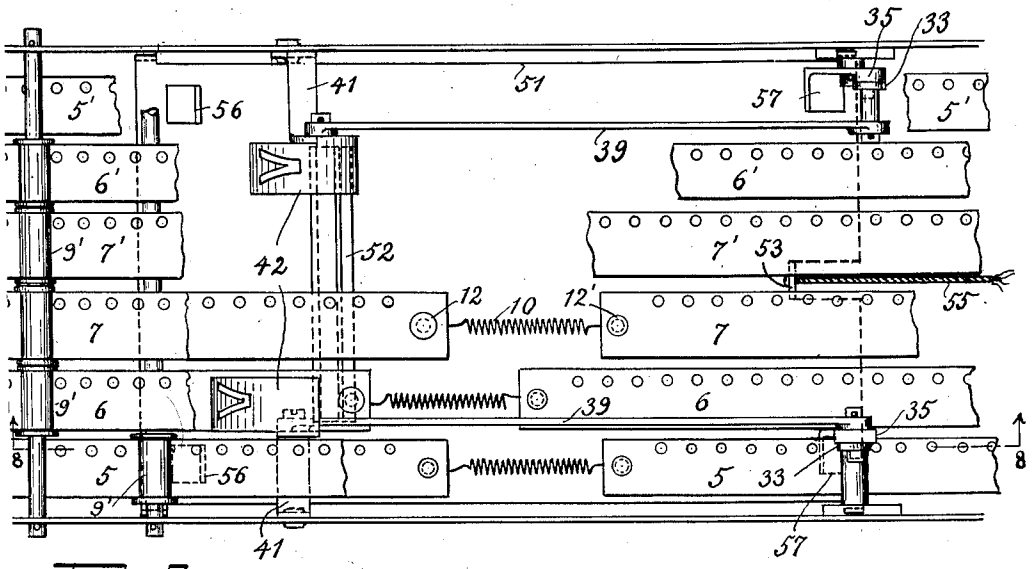


Fig. 7.

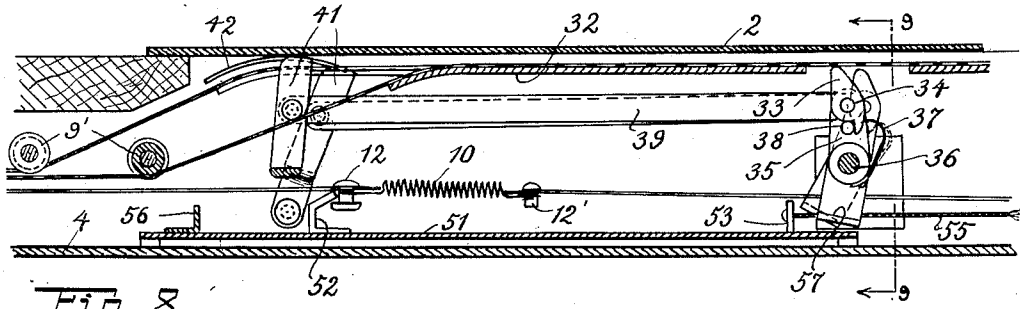


Fig. 8.

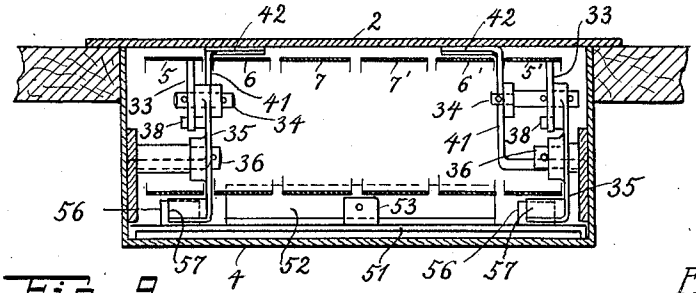


Fig. 9.

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Patented Oct. 27, 1936 2,058,614

UNITED STATES PATENT OFFICE

2,058,614

BRIDGE SCOREKEEPER

Frank L. Morse, Ithaca, N. Y.

Application August 3, 1933, Serial No. 683,451

2 Claims. (Cl. 235—90)

This invention relates to devices for keeping score in the game of contract bridge, or similar games in which a succession of large numbers is totalized. It embodies simple devices readily read on both sides of the bridge table, by which the points are accumulated until a game is finished, then automatically transferred to the total score when each game is finished, with indications of when a side becomes vulnerable, and other features as will become apparent as the description proceeds. The object of the invention is to produce an inexpensive device which can readily be fitted to the ordinary bridge table,—a device which will be simple in operation, and continuously inform the players of the status of the score and assist them in the conduct of the game.

Referring now to the drawings:

Fig. 1 is a plan view showing the device as mounted in an ordinary bridge table.

Fig. 2 is a plan view of the main scoring plate on a larger scale, showing the method of scoring.

Fig. 3 is a longitudinal elevation taken on the line 3—3 of Fig. 1 of the apparatus as mounted in a bridge table,—the table being shown in cross-section.

Fig. 4 is a vertical cross-section taken on the line 4—4 of Fig. 2, showing the manner of mounting and operating the tapes and rollers.

Fig. 5 is a vertical cross-section taken on the line 5—5 of Fig. 4, showing the tapes and rollers.

Fig. 6 shows the double stylus preferably used with the device.

Fig. 7 is a plan view of the operating end of the device, on a larger scale, with the cover plate and part of the upper tapes removed to show the mechanism.

Fig. 8 is an elevation on line 8—8 of Fig. 7.

Fig. 9 is a cross-section on line 9—9 of Fig. 8.

Similar reference numerals refer to similar parts thruout the various views.

Referring now to Fig. 1, which illustrates one preferred form of the device, openings for two window plates, 2 and 2', are cut in the top of the bridge table 3; and beneath the table top, extending from beneath one window plate to the other, is a sheet metal box 4, as shown more in detail in Fig. 3, Fig. 4 and Fig. 5. This box 4 contains six scoring tapes, 5, 5', 6, 6', and 7, 7',—two of these tapes 5, 5' being used to accumulate the points to make a game, two others 6, 6', being used to keep the total game scores, and over tricks, and the other two tapes 7, 7' are used for the honor score and set points.

The tapes 5, 5' on which the points toward a game are indicated are moved in one direction to register and the other tapes are moved in the other direction to register. The clearing of the point score when a game is completed automatically transfers the total game score to tape 6 or 6', as will be described more in detail later.

The tapes 5, 5', 6, 6' and 7, 7' extend around individual large rollers 8 (see Fig. 3, Fig. 4, and Fig. 5), at one end of the box 4, then under the windows 9 and close to the window plate 2, then down under the smaller rollers 9' and across to similar large rollers, small rollers and window plates 2' at the other end of the box 4. The two ends of each strip are connected by a tension spring 10 attached to suitable rivet heads 12 and 12' at the ends of the strip,—so that each strip forms in effect an endless belt running between the large rollers as described. The rivet heads 12' also act as stops by coming up against the stop bars 10' in the extreme position so as to limit the travel.

On each one of the tapes are printed two similar series of scoring figures, increasing successively in suitable steps from the lowest to the highest possible score,—each series extending no more than half the length of the strip, and arranged so that when a given number appears under one window in plate 2, a corresponding number will simultaneously appear in the other plate 2'. Thus, while the score may be kept at one plate, it may also be read at the other plate, and with two plates arranged at opposite corners of the table, as shown, all four players may readily observe the score. Generally, each side keeps its own score, and at the same time may observe the score being kept by the adversary. The last figure 0 of the larger numbers may be omitted from the tapes if desired to permit the use of narrower tapes.

The tapes 5, 5', 6, 6', and 7, 7' are preferably made of thin flexible metal, though any other durable material may be used. A small hole 20 is provided opposite each number on the tapes, and these holes 20 pass under open slots 21, 21', 22, 22', 23, 23', so that a stylus or pencil point S may be inserted therein to move the tapes along,—a double pronged or forked stylus such as shown in Fig. 6 being preferably employed. The stylus S has two prongs P and P' spaced apart the distance of the first two tapes, and at the other end of the handle H there is provided a single point or stylus P''.

Referring now particularly to Fig. 2, it will be seen that the slots 21, 21', 22, 22', 23, 23' are marked in the form of arrows indicating the direction the stylus should be moved in scoring.

The game points are registered in the first slot 21 for example, and the arrow is pointed upward. The numbers corresponding to the points which might be scored at each hand toward a game are found along the side of the slot, and as the points are made, a single prong of the stylus is inserted in the hole in the tape opposite the corresponding number, and then moved upward to the end of the slot. This moves the tape along by an amount corresponding to that number of points, and the number appearing in the window marked "Game points" is increased that amount, so that it shows the total amount of points accumulated toward a game.

When this total amounts to 100 or more in contract bridge, a game is won. To clear the game point column and prepare for the next game, and at the same time add the score to the total game score, the two prong stylus S is inserted in the first two columns 21 and 22 opposite the number in the second column that corresponds to the game points shown in the first window, and both tapes are then pulled down to the bottom of the slot. For example, if the game score is 110, the stylus S is inserted in the first two slots opposite the number 110 in the second or total game score column 22, and when the stylus is pulled down to the bottom of the slots, as indicated by the downward pointed arrow of the second column, the first tape will be moved back 110 points, which will restore it to zero, and the second tape will register or add 110 points to the total game score, so that the total of the game scores will be continuously shown in the second window marked "Game score". At the same time the partial game score of the opponent is similarly transferred to the game total on the other side, using the double stylus.

Over tricks are scored in the second column 22 by pulling the tape downward or toward the operator, using a single prong of the stylus. Honor scores and set points are scored in the third column 23 marked "Honor" by using a single prong of the stylus and pulling down, as indicated by arrow. As previously stated, the series of numbers on each tape are repeated and arranged so that the same numbers will appear simultaneously at the windows of the window plates 2' as well as at the plate 2, so that the players on the opposite side of the table are continuously apprised of the status of the score.

The first three columns 21, 22, 23, as described are used for one side, and the other three columns 21', 22', 23', are similar and are used for the score of the other side, the various points being registered by the use of the single or double point stylus as has been described in connection with the first three columns.

The tape in the second or game score column may be made a different color above the 100 point so as to indicate that the side is vulnerable, but in the preferred embodiment as shown, vulnerability is indicated by the letter V appearing automatically at the window 31. This is accomplished by the following mechanism.

Referring now to Fig. 4, the tape 5 lying under the slot 21, on which the game points are accumulated, passes over a guide strip 32 made of metal which prevents the point of the stylus from extending too far thru the holes in the tape and damaging it. Thru an opening in this guide 32, and directly in line with the holes of the tape, there is located a trip 33, pivoted at the point 34 to an arm 35, which is in turn pivoted at the point 36. A light spring 37 holds the trip 33 against a stop 38 on the arm 35, so as to permit the trip 33 to move easily in one direction but to lock it to the arm 35 if it is moved in the other direction. The arm 35 is connected by a rod 39 to the lever 41 which carries a face plate 42 which appears under the window 31 carrying the letter V indicating "Vulnerable" if the arm 35 and lever 41 are swung in one direction, and a blank if swung to the other. The plate 42 may also be made red in one portion to indicate "Vulnerable" and black in the other portion.

The trip 33 is located along the slot 21 substantially opposite the point corresponding to a game or 100 on the game score column. As the points are registered in column 21 by moving the stylus upward or toward the left in Fig. 4, the stylus slips over the yielding trip 33 without moving the arm 35. But when at the end of a game the stylus is pulled down or toward the right in Fig. 4 in clearing the first column 21 and transferring the score to column 22, the stylus engages the trip 33, which by the action of the stop 38 is locked to the arm 35. This swings the arm 35 and lever 41 to the right, bringing the sign "Vulnerable" under the window 31.

Similar mechanism operates for the window 31' of the other side, so that each side is continuously informed as to whether it is vulnerable or not.

A card color indicator appears in window 44, under which is merely a slide operated by placing the point of the stylus in the small hole 45 and moving it sideways, one way or the other.

In order to quickly return the scores to zero when desired, a device termed a zeroizer is provided, consisting of a plate 51 having a lip 52 and horizontal face 53 which slides loosely along the bottom of the box 4. The lip 52 is adapted to engage the rivets 12' on the tapes 6, 6', 7, 7', and as the tapes are moved in scoring by the stylus as described, the plate 51 is carried along also by the rivet 12' on the tape which happens to be farthest advanced. After a rubber has been played, the machine can be cleared by pulling on the string 55 attached to the plate 51. As the plate 51 is drawn back by the string, the lip 52 engages the various rivets 12' on the tapes 6, 6', 7, 7' and restores them to zero. At the same time a projection 56 in the plate 51 engages the lower end 57 of the arm 35 and swings the "Vulnerable" indication back, so that it is also cleared, as in the beginning.

If it is desired to play a number of rubbers during an evening play, accumulating the score in the scoring machine without clearing it at the end of each rubber, it can be accomplished in the following manner. At the end of the rubber the vulnerable sign is moved from red to black, or from V to blank, by inserting a point of the stylus into the hole 58 of the face plate 42 in the window 31 or 31', and since the game point tapes have been restored to zero at the end of each game, a new rubber can be started. Thus the scores may be accumulated in columns 22, 22', 23, 23', until possibly six or more rubbers have been played, or the capacity of the machine has been reached.

With the apparatus described a simple and effective means is provided for keeping the players informed of the status of the game points, game score and honor score at all times, together with other pertinent information, such as vulnerability, card color, etc. It will be obvious to those mathematically minded that by the use of the double pronged stylus the final scores can also be automatically subtracted from each other to obtain the net points won, by running the final tapes

backward in equal degrees until one reaches zero. But this is not usually done in ordinary play.

While I have in the foregoing described certain specific embodiments of the invention, it will be understood that they are merely by way of illustration to make clear the principles thereof, and that the invention is not limited thereto, but is susceptible to various modifications and adaptations as will be apparent to those skilled in the art, without departing from the scope of the invention as stated in the following claims.

I claim:

1. In a scoring device, the combination of a plurality of tapes, cumulative series of scoring numbers on each tape, said series advancing in one way on one tape and the other way on the adjacent tape, said tapes being placed in juxtaposition and arranged so that one tape is advanced in one direction to register the points toward a game score and both tapes are moved in the opposite direction to clear the game points from one tape and transfer them to the total game score on the other tape and a two pronged stylus adapted to engage both tapes so that they may be moved simultaneously to advance one series of numbers and retract the other series of numbers simultaneously by like amount in transferring and accumulating the total game score.

2. In a bridge scoring device, a mechanism for indicating when a side is vulnerable comprising in combination a perforated tape adapted to be progressively advanced to accumulate points in a game, a pointed element adapted to be inserted in said perforations to move the tape, and a vulnerability indicator having a trip located in the path of said pointed element when in said perforations, said trip being arranged to allow the pointed element to pass over it in one direction without operating the indicator but to catch the pointed element and operate the indicator when the tape is being moved in the opposite direction, said trip being located at a point corresponding to the score at which a side becomes vulnerable, or a warning needs to be given.

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