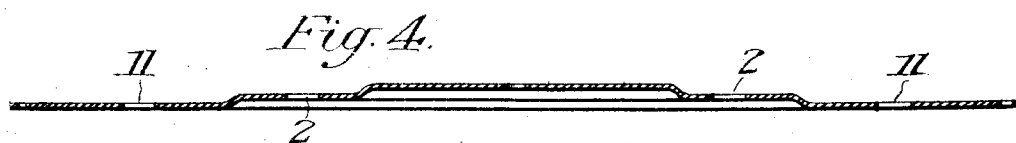
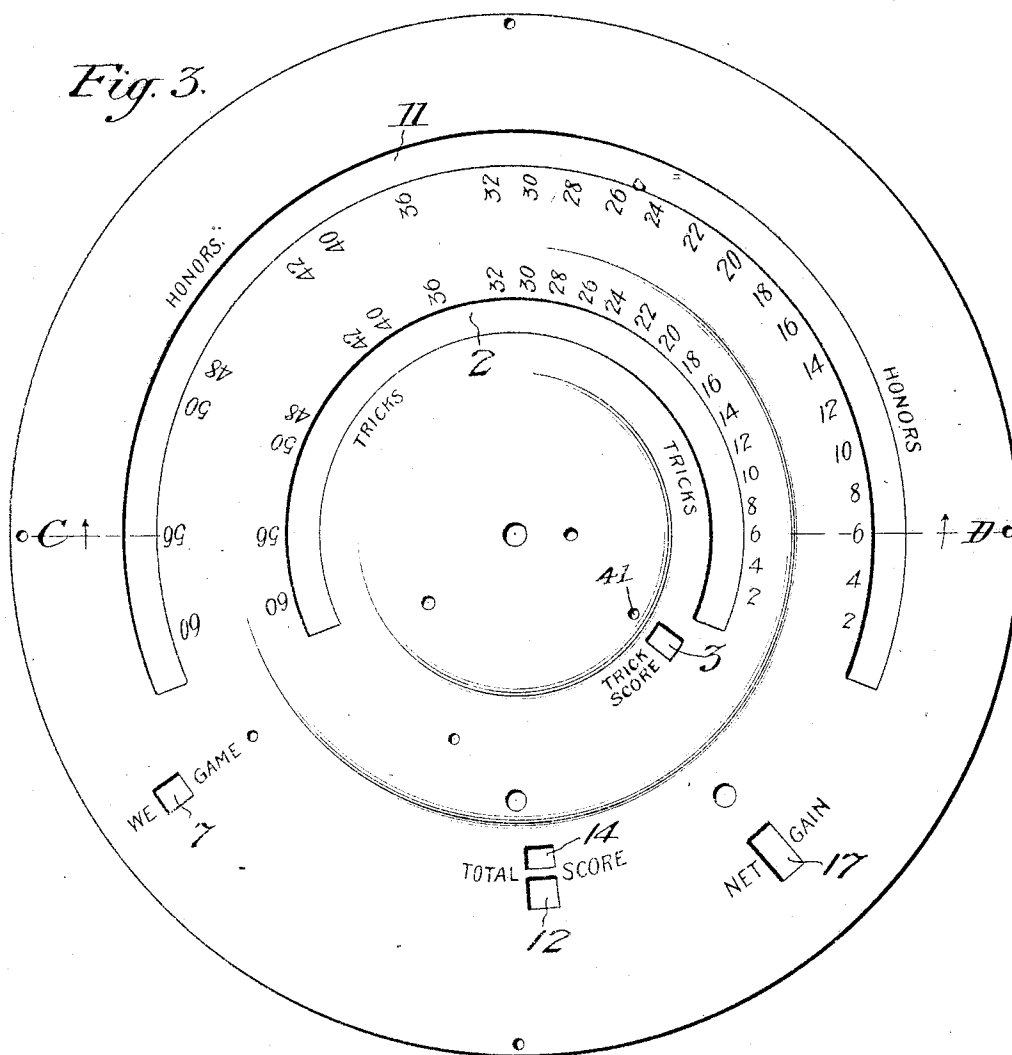


E. C. HILLYER.
GAME COUNTER.

APPLICATION FILED MAR. 28, 1906.

4 SHEETS—SHEET 2.



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No. 869,241.

PATENTED OCT. 29, 1907.

E. C. HILLYER.
GAME COUNTER.
APPLICATION FILED MAR. 28, 1906.

4 SHEETS—SHEET 3.

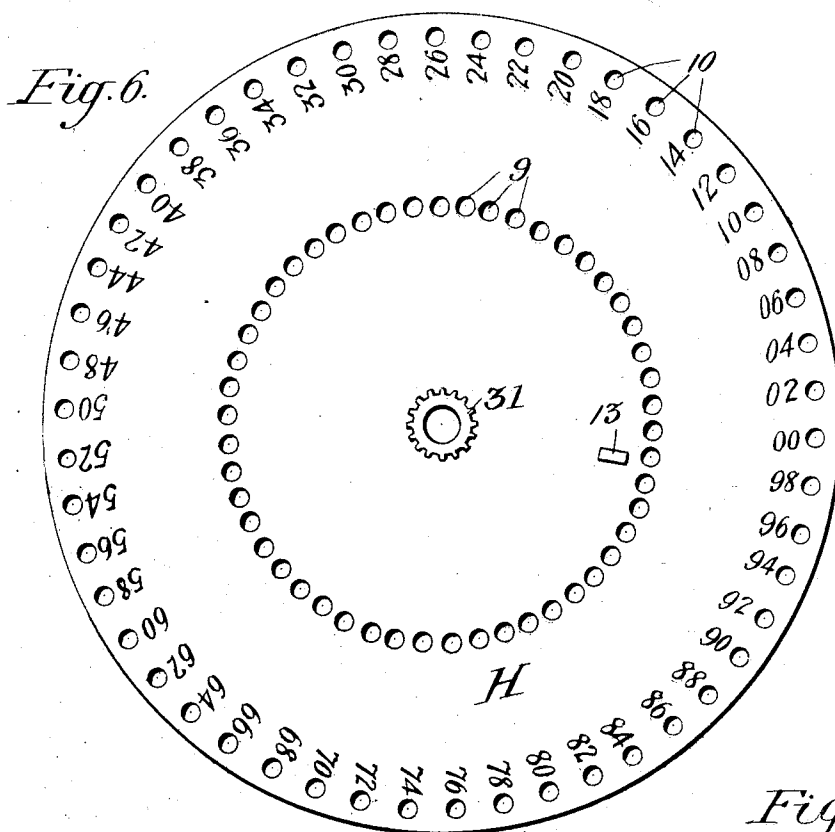


Fig. 5.

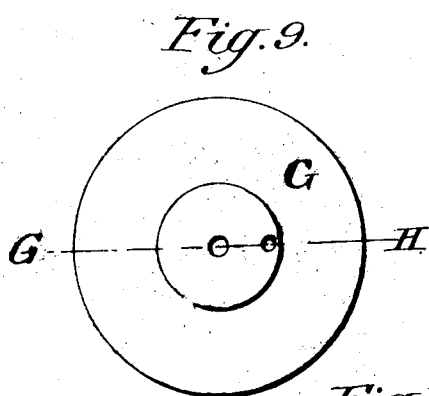
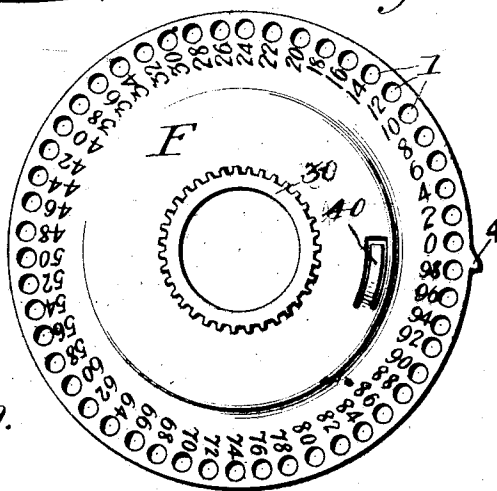


Fig. 10.



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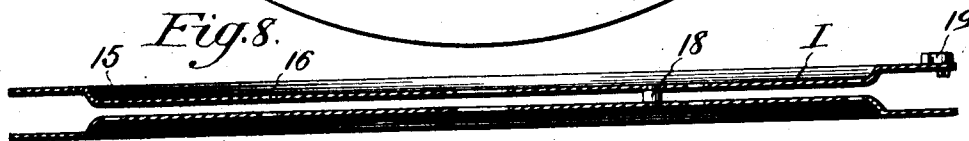
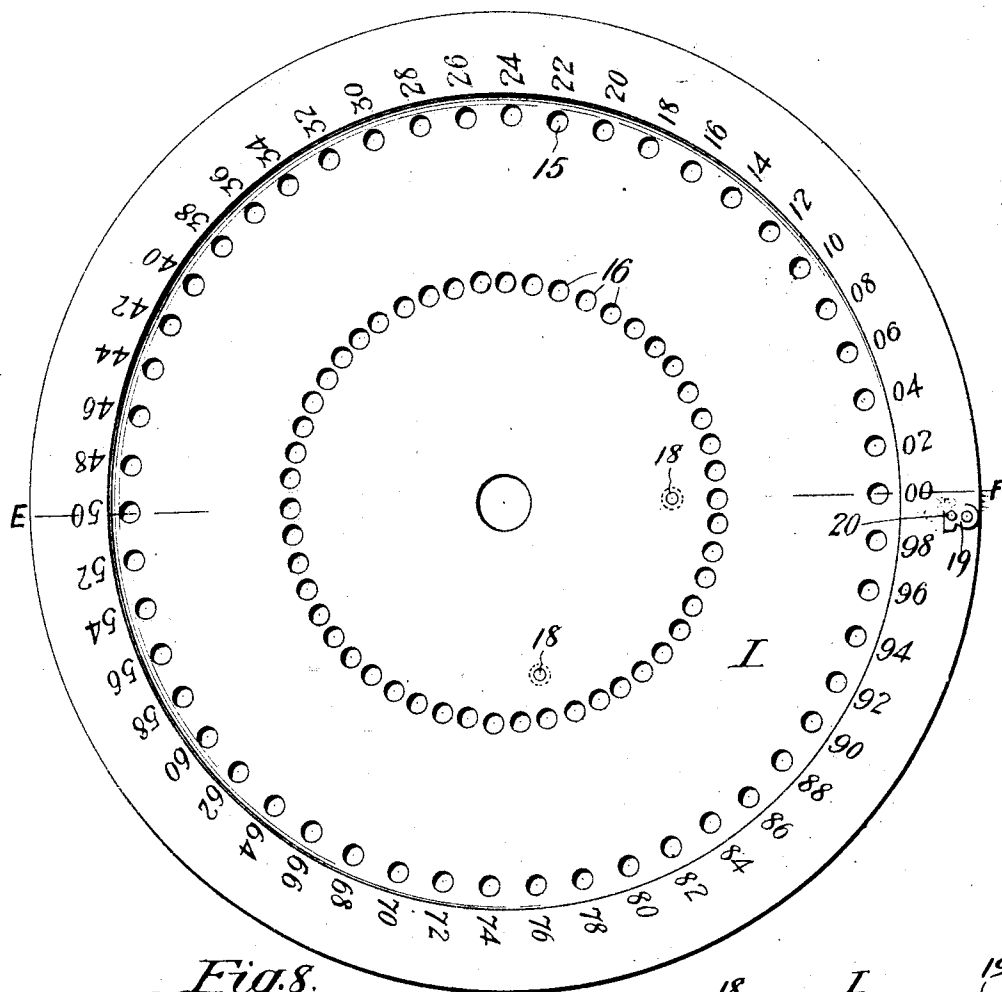
PATENTED OCT. 29, 1907.

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4 SHEETS—SHEET 4.

Fig. 7.



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UNITED STATES PATENT OFFICE.

EDGAR CURTIS HILLYER, OF RALEIGH, NORTH CAROLINA.

GAME-COUNTER.

No. 869,241.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed March 28, 1906. Serial No. 308,423.

To all whom it may concern:

Be it known that I, EDGAR C. HILLYER, a citizen of the United States, residing at Raleigh, county of Wake, State of North Carolina, have invented certain new and useful Improvements in Game-Counters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to means for recording or scoring the results of games and belongs to that class of devices which are commonly known as game counters.

15 The invention is particularly applicable to scoring in connection with the game of bridge whist, popularly called "bridge". It will be understood, however, that the invention may be employed in connection with the scoring for other games, be they card or otherwise.

20 It is an object of the invention to provide a device of the character described which shall be capable of scoring two sets of points, as for instance, the "trick" and "honor" points in the game of "bridge" and automatically summing those points so that the total number of points scored in both sets can be read at any time.

25 It is a further object of the invention to render the means whereby one of the sets of points is scored movable independently of the means for scoring the other set of points, so that the first mentioned means may be adjusted without disturbing the second means. For instance, in the game of "bridge", it is desirable to turn the means for scoring "trick" points to its zero position after the end of each game without disturbing the reading of the total score.

35 It is a further object of the invention to provide means for automatically indicating the difference of the total scores of opposing sides.

40 It is a further object of the invention to provide means for indicating the number of games played, and

It is a further object of the invention to provide means for bringing all scores to 0.

45 It has before been stated that the invention is particularly applicable to the scoring of points in the card game of bridge whist and as the invention is illustrated in the drawings and described in the following specification in connection with that game, a brief description of the manner in which points are scored in the game referred to will aid in an understanding of the description of the invention.

50 "Bridge" is played by opposing sides, each side keeping separate scores of the points made. There are two distinct kinds of points, "trick" points and "honor" points, all of which are scored in two or multiples of two, there being no odd numbers. Thirty or more "trick" points win a game and the first two out of

three games win a "rubber". At the end of a rubber, the "trick" and "honor" points of each side are added together into two total scores, the difference between these total scores is the amount won. It is necessary, 60 therefore,

1st. To score separately the "trick" points made by each side and to add these points together into two total "trick" scores.

2nd. To score separately the "honor" points made 65 by each side and add the "honor" and "trick" points of each side together into two total scores, it not being necessary to keep a total of "honor" points alone.

3rd. To subtract the smaller total score of "honor" and "trick" points from the larger, thereby showing 70 the "net gain".

4th. To record the first game won by each side.

5th. To provide for bringing the two "trick" scores to 0 at the end of each game without altering the reading of the total scores, and 75

6th. To provide for bringing all scores to 0 at the end of a rubber.

With this preliminary explanation, a description of the accompanying drawings which illustrate the invention may now be entered upon. 80

Of these drawings, Figure 1 is a plan view of the apparatus partly broken away to show underlying portions. Fig. 2 is a vertical radial section on the line A—B of Fig. 1. Fig. 3 is a plan view of one side of the casing. Fig. 4 is a radial section on the line C—D of 85 Fig. 3. Fig. 5 is a plan view of the "trick" disk. Fig. 6 is a plan view of the "honor" scoring and point totalizing disk. Fig. 7 is a plan view of the "net gain" disk. Fig. 8 is a radial section on the line E—F of Fig. 7, showing the "net gain" disks of the opposing 90 sides in section and their relation to each other. Fig. 9 is a plan view of a guiding disk, as will be hereinafter referred to, and Fig. 10 is a radial section of the same on the line G—H of Fig. 9.

Referring to the accompanying drawings, the apparatus 95 comprises a circular casing having top and bottom plates A and B with a circular side wall C, the interior of the casing being divided by a partition D parallel to the plates A and B. Upon each side of the partition is arranged identical apparatus, although the relative 100 arrangements of the apparatus upon the two sides of the partitions are opposite to each other. Similar parts upon opposite sides of the partition are arranged upon opposite sides of a diametrical plane as indicated by the line I—K of Fig. 1, and symmetrical with relation thereto, so that the face of the counter will appear the same whichever side may be up, with the exception of certain marks for indicating the opposing 105 parties to the game to which the scores upon the respective sides relate, and also with the exception of certain means for returning the counter disks to their zero positions, as will be hereinafter noted. Substan-

tially however, the two faces of the device are of the same appearance. In the center of the casing is secured a pintle E and upon each side of the partition a "trick" score disk F is mounted to turn upon the guide plate G, which is secured to the pintle, an "honor" scoring and "trick" totalizing disk H adapted to turn upon a shoulder of the pintle, as shown, and "net gain" disk I also supported by a shoulder upon the pintle. Also upon each side of the partition is a wheel K adapted to be engaged by the "trick" disk and to record the number of revolutions thereof. Also upon each side of the partition is a lever L, also adapted to be engaged by the "trick" disk to record the number of games and also upon each side of the partition is a wheel M adapted to be engaged by the "net gain" disk to record the number of its revolutions in one direction.

As the parts and their relations to each other are exactly the same in the apparatus on each side of the disk, a description of one of the apparatus will apply to each.

The "trick" disk is provided with a series of perforations which register with an arc-shaped slot 2 in the cover plate. Beside the perforations are placed numerals adapted to pass under a slot 3 in the cover plate. On the same radii on which the centers of the perforations in the "trick" plate are located, are also situated numerals upon the cover plate adjacent to the slot 2. The numbers which are thus located upon the "trick" disk and upon the cover plate are those which represent points possible to be scored in the game of "bridge". It will be obvious that other notation might be used for other games. The manner of scoring "trick" points will now be obvious. It being assumed that the "trick" disk has been adjusted so that 0 shows through the opening 3 in the cover plate, now suppose one of the opposing sides secures twelve "trick" points, a stylus, as a pencil point, may then be inserted in the one of the perforations 1 adjacent to the numeral 12 upon the cover plate and moved in a clockwise direction to the end of the slot 2 when the number 12 will appear in the slot 3. If again the same side scores 10 "trick" points, the stylus may be inserted in the one of the perforations 1 adjacent to the numeral 10 and again moved in a clockwise direction to the end of the slot 2. The number 22 will then appear in the slot 3, this being the sum of the trick points scored.

To record the number of games played, a lug 4 is provided upon the "trick" disk which is adapted to engage with the end of the lever 5 as the number 30 upon the "trick" disk passes the slot 3. At one end, the lever 5 carries a segment 6 upon which are formed the figures 0 and 1 adapted to pass beneath the slot 7 in the cover plate. The lever 5 being set by means of the thumb screw 8 upon its supporting pivot rotatably mounted in the cover plate, so that 0 appears at the slot 7, when 30 or more points (which constitute a game) have been scored, the lever 5 will be shifted by the dog 4, so that the numeral 1 upon a segment 6 is exposed to view. It is only necessary in "bridge" to score up one game for a side as when another is won, the rubber is won.

The "honor" and totalizing disk is provided with two sets of perforations 9 and 10. The perforations 9 are beneath and adapted to register with the perforations 1 in the trick disk. Each of the perforations 10

is arranged in a radial line with one of the perforations 9 and the one of the perforations 1 which registers with it. Adjacent to the perforations 10 are placed numerals as shown most clearly in Fig. 6. Above the perforations 10 is an arc-shaped slot 11 in the cover plate, the slots 2 and 11 being concentric and terminating in the same radial lines, each of said lines being tangent to two perforations 9 and 10. Adjacent to the slot 11 and corresponding with the perforations 10 are engrossed numerals which designate these perforations in a manner similar to that in which the perforations in the "trick" plate are designated, a numeral designating a perforation 10 being located on the same radial line with the same numeral designating a perforation 1. The numerals upon the disk H adjacent to the perforations 10 are adapted to pass beneath a slot 12 in the cover plate. It will now be obvious that if the plate H be set so that 0 shows through the slot 12, that if any "trick" points are scored as before described, the stylus will extend through the perforation of the "trick" plate into its registering perforation in the plate H and both plates will be moved through the same angle. If therefore 12 "trick" points are scored as before described, not only will this numeral appear at the slot 3, but it will also appear at the slot 12, and in a similar manner if 10 more "trick" points be scored, the numeral 22 will appear at each of the slots 3 and 12. If now it be desired to score "honor" points, the stylus is inserted in one of the perforations 10, say that opposite the numeral 12 of the cover plate, and moved in a clockwise direction to the end of the slot 11. In this case, the "trick" disk will not be moved, but the disk H or "honor" disk will be moved so that the number 34 will appear at the slot 12, the number at the slot 3 remaining unchanged. It will now appear that we have a total of the "trick" and "honor" points scored exhibited at the slot 12, while a total of the "trick" points scored is exhibited at the slot 3. It will be observed that at the end of a game (the securing of 30 or more "trick" points) the "trick" disk can be turned to its zero position without disturbing the total exhibited at the slot 12. It may be that the total number of "trick" and "honor" points scored may be greater than the highest numeral upon the "honor" and totalizing disk (in this case—98) and therefore a lug 13 is secured to the disk H and adapted to engage with the wheel K to turn the wheel through a space as 0 passes under the slot 12 after each revolution. Upon the wheel K are consecutive numerals so spaced that they are successively brought under the slot 14 in the cover plate as the wheel K is successively moved by the lug 13 at the ends of the revolutions of the "honor" disk. In other words, the numeral appearing at the slot 14 indicates the number of revolutions of the totalizing disk and since one revolution indicates 100 points, the numeral exhibited at the slot 14 indicates the number of hundreds of points.

Beneath the totalizing disk H, is the "net gain" disk I having rows of perforations 15 and 16. The perforations 15 register with the perforations 10 of the totalizing disk, while the perforations 16 register with the perforations 9 of the totalizing disk and the perforations 1 of the "trick" disk. Adjacent to the perforations 15 are numerals engrossed upon the "net gain" disk I, which correspond exactly to those upon

the totalizing disk and which are adapted to pass beneath the slot 17 in the cover plate. It will now be observed that this "net gain" disk is simply a second totalizing disk which is moved whenever "trick" points are scored, and also whenever "honor" points are scored and if no other influences were brought to bear upon it than the scoring of "trick" and "honor" points by one side, a total of these points would be exhibited at the slot 17 which total would at all times be equal to that exhibited at the slots 12 and 14. Other influences are, however, brought to bear upon the "net gain" plate and this is brought about by securing the "net gain" plates upon two sides of the partition D together as by rivets 18. It will now be seen that a movement of one of the "net gain" disks will produce an equal movement to the other and since the parts of the scoring means for one of the opposing parties upon one side of the partition D is opposite and symmetrical with relation to the scoring means for the other one of the opposing parties upon the other side of the partition D, a scoring of points by one of the opposing parties operates to turn his "net gain" disk in a direction which would increase their "net gain" score if they were ahead. The "net gain" disk of the other party is turned in the same direction, but as the scoring means of the opposing sides are oppositely though symmetrically arranged, as before described, and as the device is now up side down with regard to the party which is not scoring, the "net gain" disk of the party not scoring will be turned in a direction opposite to that in which it is turned when the last mentioned party is himself scoring and therefore his "net gain" showing will be decreased if he is ahead. Of course but one party can be ahead at one time and no showing is made at the slot 17 of the party who is behind. This is accomplished by means as will be now referred to.

The "net gain" score, that is, the difference between the total scores of the opposing sides may be larger than the largest numeral upon a "net gain" disk, in this case, 98, and therefore a wheel M is provided which is adapted to be engaged by a dog 19 pivoted upon the "net gain" disk. The dog is adapted to turn the wheel through one space upon the passage of the 0 numeral beneath the slot 17 in either direction. The dog 19 is provided with a pin 20 extending into a hole in the "net gain" disk, the pin having considerable clearance in the hole, so that it may have movement sufficient to permit it to pass without engaging any of the dogs upon the wheel M, except that one which is in position to be moved, but the clearance is not sufficient to permit the dog to move so far as to prevent its engagement with the proper cog. The wheel M is provided with an arch-shaped slot 21 extending partially around the wheel and through which the numerals upon the "net gain" disk may be viewed when the wheel is in proper position. Adjacent to the slot 21 consecutive numbers are engrossed upon the wheel and so spaced that a movement of the wheel by the dog 19 will operate to move one of the numbers out of sight, while its adjacent number on one side or the other is moved into view, unless the 0 is in view when a movement of the wheel M in one direction would bring the numeral 1 into view and a movement in the other direction would expose a blank portion of the wheel. The numerals upon the wheel M are viewed through the slot 17 alongside those upon the

"net gain" disk. It will now appear that, if the wheel M is moved in such direction as to move the 0 numeral upon it out of sight and to expose a blank portion, the end of the slot 21 will be passed and the wheel M will be interposed between the numerals upon the "net gain" disk and the slot 17, so that there will be a blank reading. When this is the case upon one side, it indicates that the "net gain" is in favor of the party scoring upon the opposite side and the amount of this gain will appear in the slot 17 upon that side. If one side has a "net gain" showing, the scoring by the opposite side will turn the "net gain" disk of the party ahead in such direction that the total indicated will be reduced by the point scored on the other side and when the opposite side has scored sufficient points to equal those which have been scored by the side showing the "net gain", 0 indications will be exhibited in the slot 17 on both sides of the counter. If now the party previously behind scores more points than the party in favor of which a "net gain" was previously recorded, the wheel M upon the side upon which the latter is scoring will cause a blank indication to be given at the slot 17 upon their side, while the previously losing party will have an indication at the slot 17 showing the number of points which have been scored in excess of those scored by their opponents. As the different sides score their "trick" or "honor" points, the two "net gain" disks will be turned back and forth, the difference in total scores or "net gain" being exhibited on one side at the slot 17, while at the corresponding slot on the other side a blank is exhibited, and these conditions are reversed according as the blank of points scored is reversed.

It is necessary that the apparatus should be set to indicate 0 at all the reading apertures when a rubber is begun, and for reasons as hereinbefore referred to, it is necessary that the different disks and particularly the "trick" disk should be capable of being turned to its zero position independently of the remaining disks. To accomplish these results, the disks F and G have fixed to them respectively the pinions 30 and 31. Respectively engaging with these pinions are other pinions 32 and 33, which are rotatably mounted in the cover plate, and upon the outside of the cover plate their journals are provided with thumb nuts 34 and 35 respectively, whereby the "trick" plate may be conveniently turned to the desired position. Similar turning means for the "trick" and totalizing disks are provided upon each side of the partition D. Similar turning means are provided for the wheels K. Wheel K has one long tooth 50 which engages with a downwardly projecting pin in the cover plate, which pin is so located that when the long tooth and the pin are in contact, the numeral 0 on wheel K will show at the slot 14 in the cover. It is evident that if the wheel K is in this 0 position, and the totalizing disk H is revolved counter-clockwise by hand until the lug 13 impinges against a short tooth of the wheel K, that the numerals 00 will show in the slot 12 of the cover thus bringing the totalizing disk to zero. The net gain disks are brought to 0 position by simply scoring honors on the losing side equal in amount to the net gain-reading of the winning side. At this point it may be noted that the means for turning the totalizing disks are in a line parallel to the axis of the pintle and the turning means for the "trick" disks are also in a line

5 These features are also upon one side of the line I—K.
statement that similar parts on opposite sides of the
partition D are on opposite sides of the line I—K and
also to the statement that the appearance of the face
of the counter is exactly the same whichever side may
10 be up, as was hereinbefore noted.

It will be understood that in starting a rubber, all of the parts will be turned to the 0 indication and as the game progresses the points will be scored and the desired readings noted as before described.

25 While the invention has been described in what is
considered its best embodiment in connection with
what is contemplated will be its most general applica-
tion, other structures may be employed and it may
have other applications without departing from the
30 spirit of the invention. It is not therefore limited to
the structure or application shown.

What I claim is:—

35 1. In a game counter, the combination with a disk for scoring one set of points, and a second disk for scoring another set of points, said disks having registering perforations whereby they may both be moved by a single stylus for summing the points in both sets.

40 2. In a game counter, the combination with a disk for scoring one set of points, a second disk for scoring another set of points, said disks having registering perforations whereby they may both be moved by a single stylus and said second disk being adapted to be operated independently of the other disk.

45 In a game counter, the combination of a disk for scoring one set of points, a second disk for scoring another set of points, said disks having registering perforations whereby they may both be moved together by a single stylus, and both of said disks adapted to be moved independently to their zero positions.

50/ 4. In a game counter, the combination with a disk for
scoring one set of points, a second disk for scoring another
set of points, said disks having registering perforations,
whereby they may both be moved by a single stylus and
said second disk having a second row of perforations by
55 means of which said second disk may be moved inde-
pendently of the first.

5. In a game counter, the combination with a disk for scoring one set of points, of a second disk for scoring another set of points, said disks being adapted to be operated by a common means and said second disk being adapted to be operated independently of the other disk, and means for indicating the number of games played adapted to engage with and be operated by the first disk.

65 6. In a game counter, the combination with a disk for scoring one set of points, of a second disk for scoring another set of points, said disks being adapted to be operated by a common means and said second disk being adapted

7. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks.

8. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks and adapted to be operated independently thereof.

9. In a game counter, the combination with two disks for scoring points and a third disk for indicating the points scored on both of the aforesaid disks adapted to be operated upon the operation of either of the aforesaid disks, and means for indicating the revolutions of said third disk.

10. In a game counter, the combination with means for scoring points for one side, of means for scoring points for the opposite side and means for indicating the difference between the points scored by the opposite sides, adapted to be operated upon the operation of either of the aforesaid scoring means.

11. In a game counter, the combination with a disk for scoring points for one side, of a second disk for scoring points for the opposite side, each of said disks having a series of perforations, and disks

the opposite side, each of said disks having a series of perforations, and disks secured together, one of the last mentioned disks having a series of perforations in register with the perforations of one of the said disks for scoring, and being adapted to indicate a difference in favor of one side, and the other of the last mentioned disks having a series of perforations in register with the perforations of one of the said disks for scoring, and being adapted to indicate a difference in favor of the other side.

disks having a series of perforations in register with those of the other of said disks for scoring and being adapted to indicate a difference in favor of the opposing side, said two disks secured together being adapted to be turned in one direction upon the scoring of points by one side and to be turned in the opposite direction upon the scoring of points by the other side.

12. In a game counter, the combination with means for scoring points for one side, of means for scoring points for the opposite side, means for indicating the difference between the points scored by the opposite sides adapted to be operated upon the operation.

be operated upon the operation of either of the aforesaid scoring means, and means for alternately obscuring and revealing the indicator of the differential scoring means as one side passes or falls behind the other in points scored.

13. In a game counter, the combination with a disk for scoring points for one side, of a second disk for scoring points for the opposite side, each of said disks having a series of perforations, disks secured together, one of the last mentioned disks having a series of

last mentioned disks having a series of perforations in register with the perforations of one of the said disks for scoring, and being adapted to indicate a difference in favor of one side, and the other of the last mentioned disks having a series of perforations in register with those of the

the last mentioned disks having a series of perforations in register with those of the other of said disks for scoring and being adapted to indicate a difference in favor of the opposing side, said two disks secured together being adapted to be turned in one direction upon the scoring of points by one side and to be

direction upon the scoring of points, by one side and to be turned in the opposite direction upon the scoring of points, 13
by the other side, and a wheel corresponding to each of
said two disks secured together, said wheel having a slot
through which the indications upon said disks may be
seen and read.

In testimony whereof I affix my signature, in presence of two witnesses.

EDGAR CURTIS HILLYER.

Witnesses

SYLVESTER BROWN SHEPHERD,
ROBERT RICHARDSON BOYD.