Jan. 20, 1931. G. A. M. AGRELL 1,789,890

GAME SCORING APPARATUS

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Fig. 1.

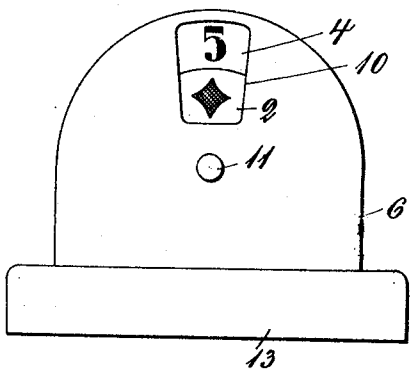


Fig. 2.

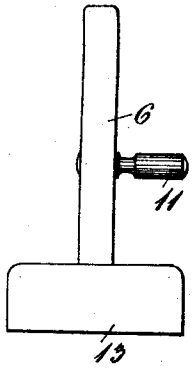


Fig. 3.

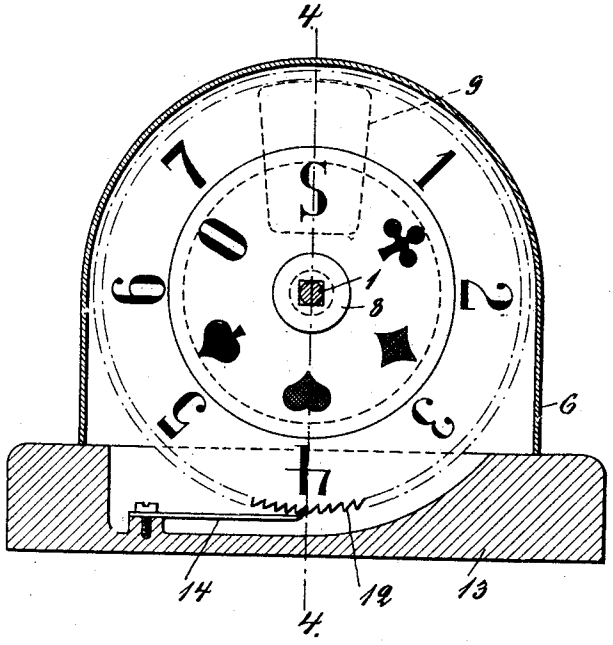
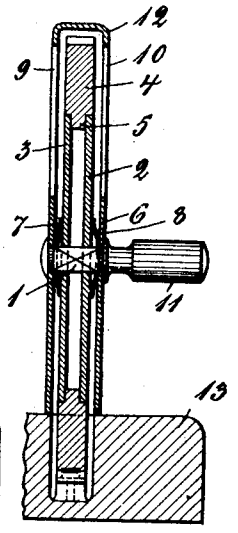


Fig. 4.



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Fig. 5.

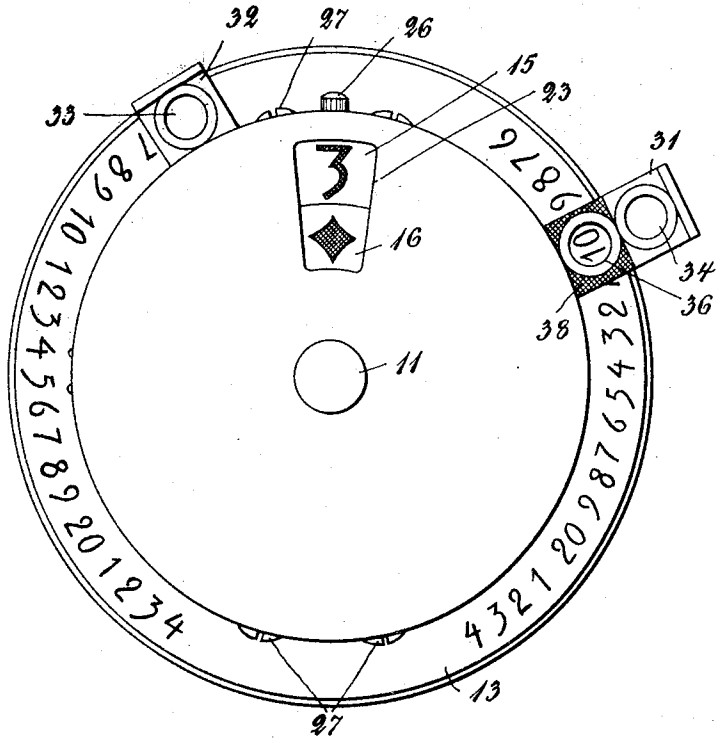
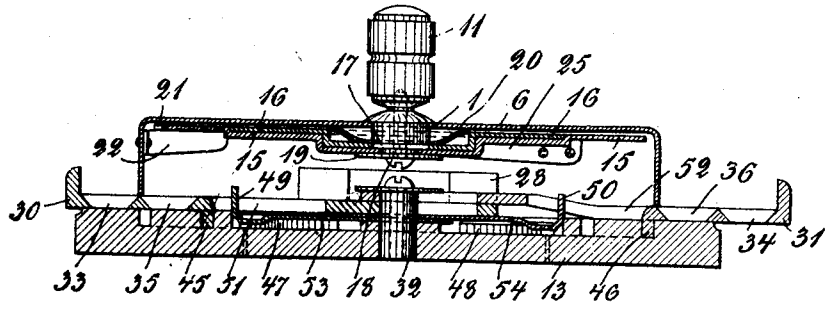


Fig. 6.



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Fig. 7.

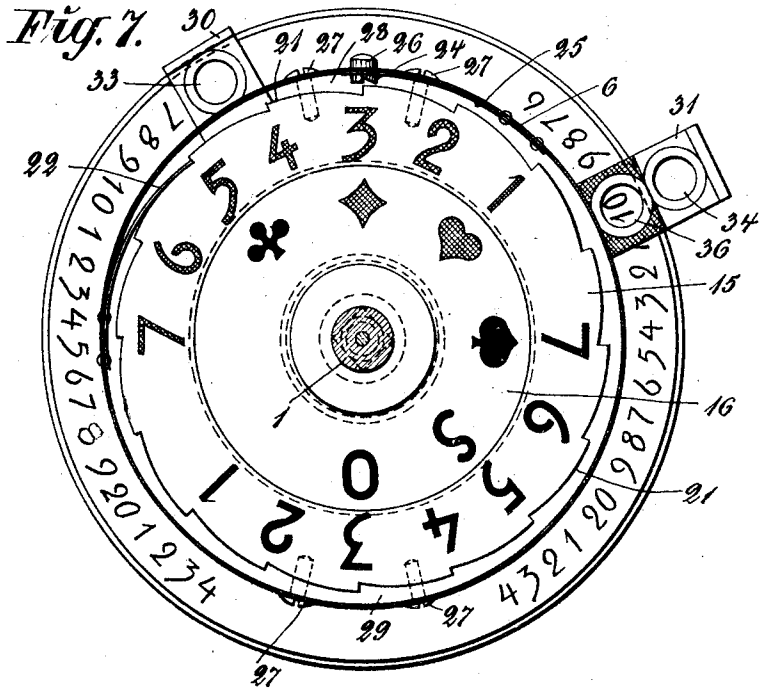
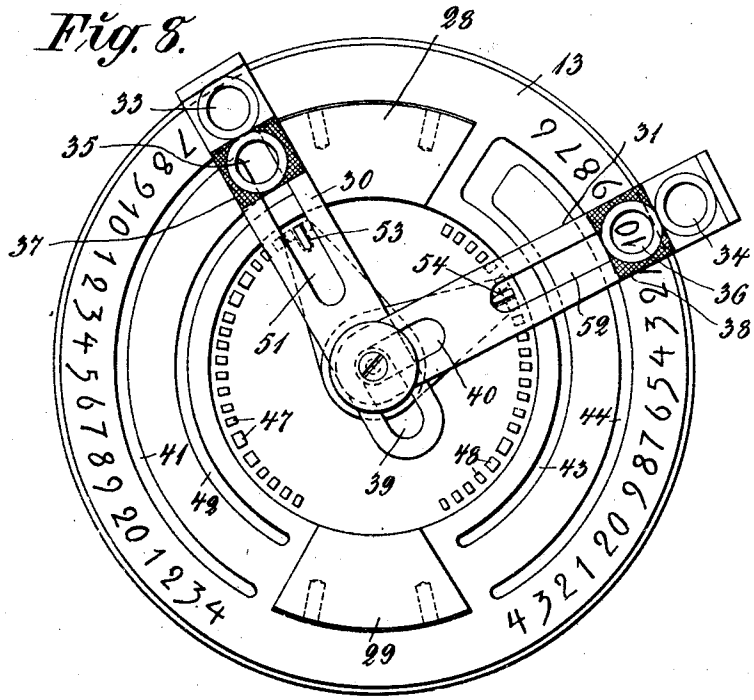


Fig. 8.



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Patented Jan. 20, 1931 1,789,899

UNITED STATES PATENT OFFICE

GUSTAF AXEL MAURITZ AGRELL, OF STOCKSUND, SWEDEN

GAME-SCORING APPARATUS

Application filed November 20, 1928, Serial No. 320,635, and in Sweden March 9, 1928.

The present invention relates to a game scoring apparatus, especially intended to be used in card playing for simultaneously scoring of several different values. The invention consists essentially in the provision of a number of rotatable co-axially journalled scoring members having the form of round discs or the like and provided with game signs, said members suitably being adjustable in relation to one or several windows or display openings in a casing surrounding the scoring members in such a manner that any arbitrary combination of game signs can be made visible in said windows by turning the scoring members.

An important feature of the invention is that the scoring members are adapted to be set by means of a common operating member which is rotatable and co-axially journalled in relation to said members.

The invention is illustrated in the accompanying drawing which shows two different embodiments of a scoring apparatus especially adapted to be used in bridge playing. Fig. 1 shows a front view of one of said embodiments of the apparatus and Fig. 2 a side view of the same. Figs. 3 and 4 show different vertical sections through the same apparatus on an enlarged scale. Figure 5 is a plan view of the second embodiment and Figure 6 is a vertical section thereof. Figure 7 is a horizontal view of the same apparatus with the upper part of the casing cut away and Figure 8 is a corresponding horizontal view showing the inner parts of the apparatus after the casing and the scoring members provided therein have been removed.

In the embodiment according to Figures 1–4 two scoring members are used, one of which is composed of two metal discs 2, 3 disposed on an adjusting shaft 1 whereas the other scoring member consists of a ring 4 journalled on the periphery of said discs and provided with a flange 5 projecting between the discs 2, 3 and forming together with the discs 2, 3 a friction coupling for transmitting turning motion to the ring 4.

The shaft 1 is journalled in a casing 6 surrounding the scoring members and has a square cross section at its central portion. The discs 2, 3 are provided with square holes fitting to the shaft so that they may be displaced along the shaft but are prevented from being rotated in relation to the same. Between the walls of the casing 6 and the discs 2, 3 resilient washers 7, 8 are disposed by means of which the discs 2, 3 are held pressing against the sides of the flange 5 so as to obtain a suitable friction resistance.

As illustrated in Figure 3 the two scoring members are provided with game signs of different types, suitable for scoring in bridge playing. The ring 4 is thus provided with digit values, whereas the inner scoring members are provided with signs for different suits. Such signs are arranged on both sides of the scoring members. They may be made visible in two windows or display openings 9, 10 arranged opposite each other in the casing 6 by turning the shaft 1 which for this purpose is provided with a handle 11. At its outer periphery the ring 4 is provided with ratchet teeth 12 co-operating with a resilient pawl 14 disposed in the base plate 13 of the apparatus, said pawl permitting a rotation of the ring in a counter-clockwise direction in Figure 3 but preventing such rotation in the opposite direction.

In order to set a combination of signs, for example that one shown in Figure 1, the shaft 1 is first turned counter-clockwise from the starting position shown in Figure 3, both scoring members then moving together. When the digit 5 appears in the middle of the window, the direction of rotation is reversed, the discs 2, 3 then rotating clockwise, whereas the ring 4 is locked in the newly set position. The discs 2, 3 are then turned clockwise, until the desired suit sign appears in the window. It is evident that in this manner it will be possible to set any desired combination of digit values and suits. It is not necessary to provide the ring 4 with locking teeth all over the periphery, the disposition of one single locking tooth for each setting position being sufficient, which arrangement, moreover, has the advantage that the ring 4 need not be exactly set before the setting of the inner scoring member, said setting of the

ring 4 being then effected automatically in an exact manner upon reversing the direction of movement, provided only the ring 4 has, prior to that, been turned somewhat past the correct position.

The embodiment as described above may be modified in such manner that the discs 2, 3 and the ring 4 are arranged horizontally instead of vertically, in which case it will, of course, suffice to arrange the game signs only on the one side.

An embodiment of this kind is illustrated in Figures 5–8. In this modification the two scoring members which are adjustable by means of the handle 11 are mounted upon the rotatable shaft 1 and consist of circular sheet metal discs one of which 16 is thrust upon a square portion 17 of the shaft and is disposed in a depression in the other scoring member 15 which latter is rotatable upon the outer end of the shaft 1 and is retained on the shaft by means of a screw 18 and a washer 19. Upon the shaft 1 is also thrust a plate spring 20 by means of which the inner disc 16 is pressed against the outer disc 15 so that a frictional engagement is obtained between the two discs sufficient to make it possible to adjust the disc 15 by rotating the handle 11. The larger disc 15 is provided at its circumference with ratchet teeth 21 in a number corresponding to the number of setting positions which ratchet teeth are adapted to cooperate with a locking spring 22 secured to the casing so that the disc 16 can only be set in the one direction.

The setting operation is effected in such a manner that the handle 11 is first turned in clockwise direction until the desired digit on the disc 15 appears in the display opening 23 of the casing 6, whereupon the handle is turned in counter-clockwise direction until the sign corresponding to the suit in question is set just opposite the said display opening. During the movement first mentioned the disc 15 is moved together with the disc 16 secured to the shaft 1 owing to the friction between the discs. During the latter movement on the other hand the disc 15 is locked in adjusted position by the locking spring 22 so that only the disc 16 is adjusted. The setting of the disc 15 is facilitated by the fact that only one ratchet tooth 21 is disposed for each setting position. If, during the setting operation, the disc 15 should be moved somewhat past the proper setting position the disc will, owing to the said arrangement of the teeth, be adjusted automatically into its proper position when the handle 11 is subsequently turned in opposite direction in that the disc 15 is then again moved together with the handle until it is stopped against the locking spring 22. In order to facilitate the adjustment of the disc 16 a locking pawl 24 is provided inside the casing 6 which pawl is normally pressed by a resilient arm 25 against the inner side of the casing in which position the pawl is located outside the path of movement of the ratchet teeth 21. The locking pawl 24 is provided with a push-button 26 projecting through a hole in the casing and by means of which the locking pawl may be pressed against the periphery of the disc 15. The object of this locking arrangement is to make it possible to retain the disc 15 in any adjusted position by depressing the push-button 26 and in such a manner that the disc 16 may be turned in both directions without changing the adjustment of the disc 15. This locking arrangement is particularly intended to be used when the disc 16, after the setting of the disc 15 has been effected, is turned in a counter-clockwise direction and is then by mistake moved past the desired setting position, in which case the disc 16 upon depression of the button 26 may be turned back in clockwise direction into its proper position without displacing the disc 15. Obviously the locking arrangement 24, 25, 26 may wholly replace the locking arrangement 21, 22 in which case, however, both hands must be employed for the setting operation, whereas the provision of the locking arrangement 21, 22 makes it possible to operate the apparatus in the most cases with only one hand.

In this embodiment of the apparatus the casing has the form of a cover which may be fastened by means of screws 27 to two lips or shoulders 28, 29 provided on the base plate 13.

In this embodiment of the apparatus two additional scoring members 30, 31 are provided which members are made in the form of rotatable arms stamped out of sheet metal and mounted so as to be adjustable about a journal 32 inserted in the base plate coaxially with the shaft 1. Said arms are intended to be used in bridge playing for scoring the number of points of both of the parties. For this purpose two series of scoring digits are printed on the base plate outside the cover 6. The arms 30, 31 are adapted to be moved over the corresponding series of digits so that the desired scoring number appears through a hole 33 or 34 respectively in the arm. Adjacent to this hole at the inner end thereof is provided a further hole 35 and 36 respectively which also serves as a display opening and which may be moved over the series of digits after the arm has been pulled out in radial direction. The outer hole may be used to indicate the scoring of a "game" while the inner hole may be used for scoring a "rubber". In order to avoid confusion the inner hole may be marked with red colour on the shaded portion 37 and 38 respectively of the arm. The device is further so arranged that the inner hole takes up a position inside the cover 6 when the arm is shut off in which position said hole is invisible. In order to make the arms displaceable in radial direction the arms

are provided at their inner ends with longitudinal slots 39 and 40 respectively. During the setting operation the arms are guided in circular grooves 41, 42 and 43, 44 respectively in the base plate which are engaged by laps 45 and 46 respectively stamped out in the arms and bent down. Each arm is guided in its shut off condition in the groove 42 or 43 respectively and in its extended condition in the groove 41 or 44 respectively. The grooves pertaining to the same arm are connected with one another only at a point corresponding to the normal position of the arm so that the arm can be drawn out and shut off only in this position whereby errors in setting the arms are prevented.

The setting of the arms into their different scoring positions is facilitated by the provision of a ratchet arrangement consisting of a resilient arm 53 and 54 respectively and elevations 47 and 48 respectively provided on the base plate which elevations serve as ratchet teeth and are adapted to co-operate with the outer ends of the resilient arms 53 and 54 respectively. The arms last mentioned are rotatable about the journal 32 and are connected with the pertaining scoring arms 30 and 31 respectively in that their outer ends are formed with laps 49 and 50 respectively which are bent up so as to engage slot-shaped apertures 51 and 52 respectively in the scoring arms in such a manner that the locking arm 53 and 54 respectively is moved together with the scoring arm when the latter is adjusted.

I claim:

1. In a game scoring apparatus in combination, two rotatable scoring members mounted co-axially, an operating member positively connected with one of said scoring members, frictional means connecting the other scoring member with the operating member, and a locking device with unidirectional operation acting upon the scoring member first mentioned so as to prevent movement thereof in one direction.

2. A game scoring apparatus as claimed in claim 17, wherein the one scoring member consists of two round discs disposed on the setting shaft whereas the other scoring member consists of a ring arranged on the outside of the periphery of said discs, which ring by means of a flange extending between the discs is in frictional engagement with said discs, which are disposed on both sides of the flange.

3. A game scoring apparatus as claimed in claim 17 wherein the locking device is provided with locking teeth which are adapted to lock the scoring member in the corresponding setting positions and arranged with a tooth pitch which corresponds to the distance between adjacent setting positions, the scoring member being thus rotatable in both directions between two adjacent setting positions in order to obtain an accurate setting.

4. In a game scoring apparatus in combination, two rotatable scoring members mounted co-axially, an operating member positively connected with one of said scoring members, frictional means connecting the other scoring member with the operating member, a normally inoperative locking device for the scoring member last mentioned, and hand operated means for bringing said locking device into engagement with the corresponding scoring member so as to retain the latter in set position during the adjustment of the other scoring member.

In testimony whereof I affix my signature.

GUSTAF AXEL MAURITZ AGRELL.

CERTIFICATE OF CORRECTION.

Patent No. 1,789,890. Granted January 20, 1931, to

GUSTAF AXEL MAURITZ AGRELL.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, line 48, claim 2, and line 57, claim 3, for "17" read 1; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 14th day of April, A. D. 1931.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)

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