

Jan. 10, 1950

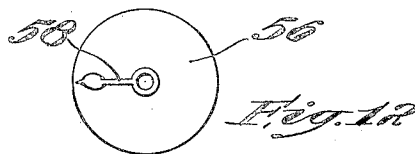
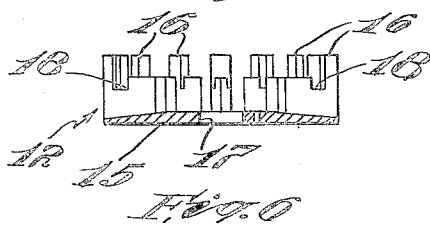
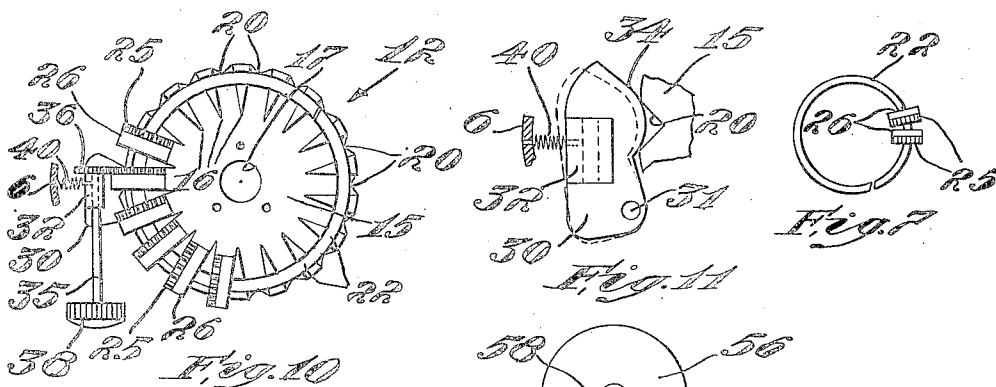
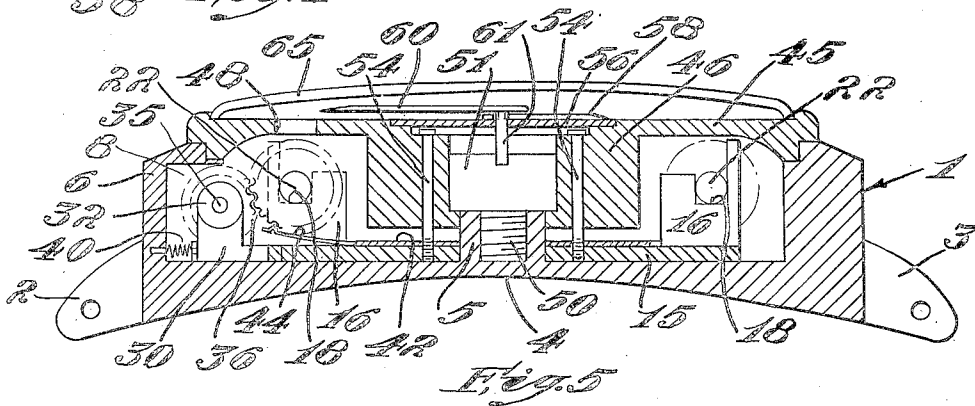
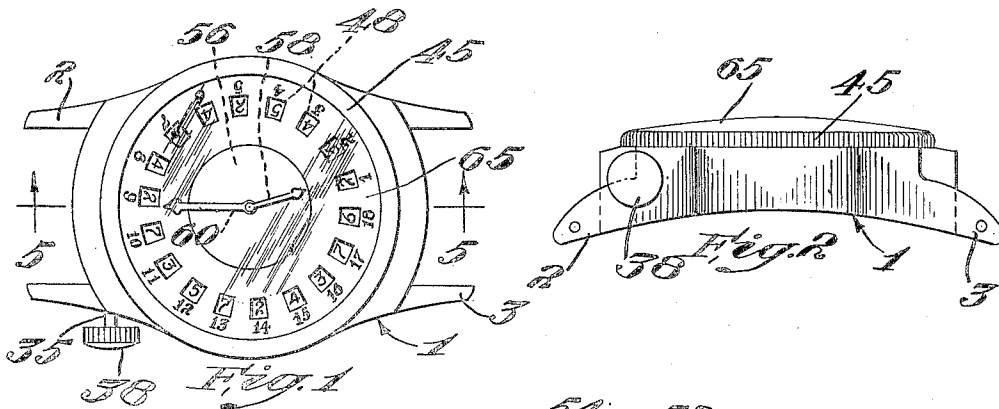
H. D. CLARKE

2,494,330

SCOREKEEPER

Filed Oct. 17, 1947

2 Sheets-Sheet 1



Inventor
Harry D. Clarke
by Robert Cushman Grover
Att'ys.

Jan. 10, 1950

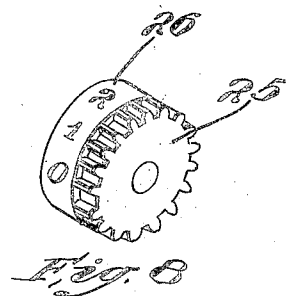
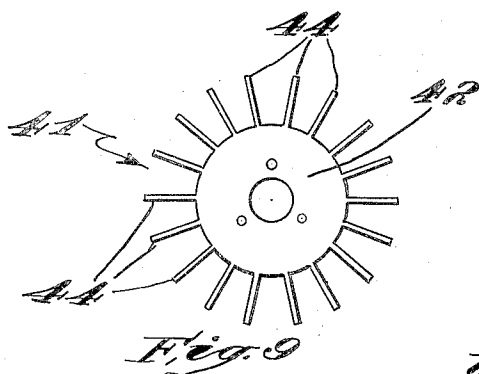
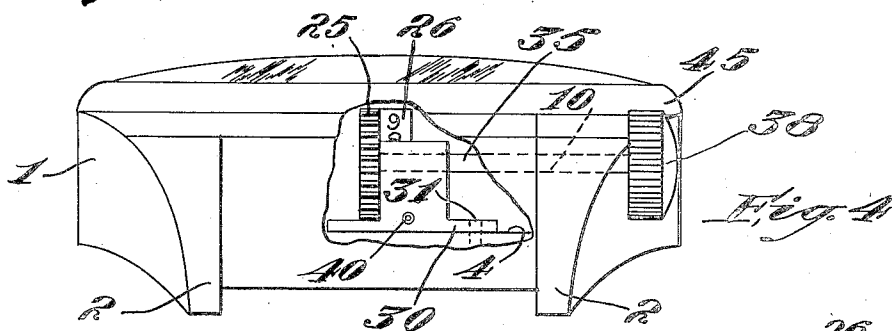
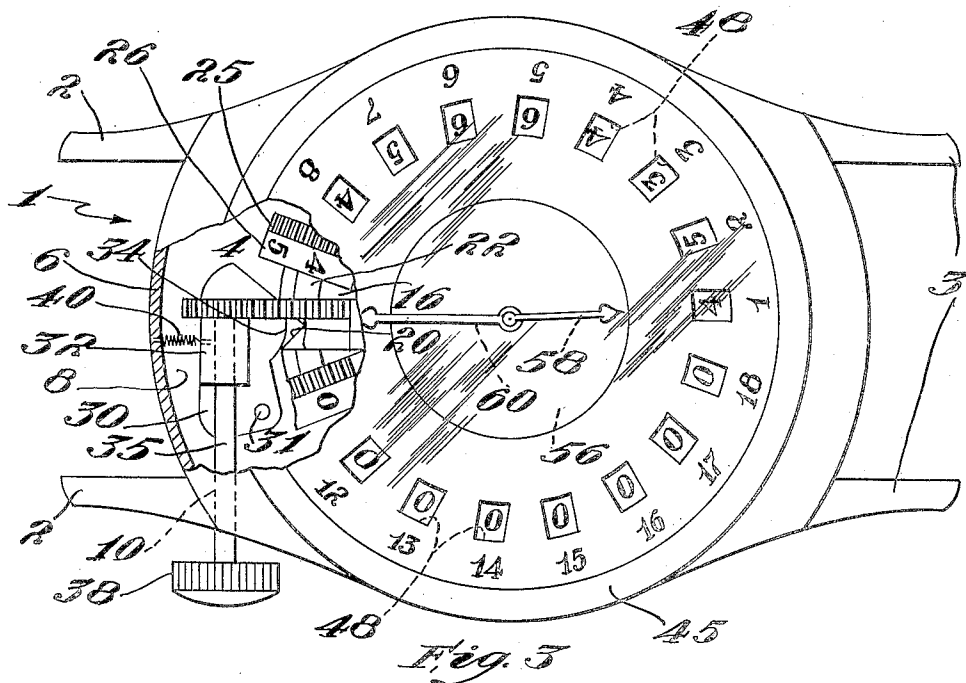
H. D. CLARKE

2,494,330

SCOREKEEPER

Filed Oct. 17, 1947

2 Sheets-Sheet 2



Inventor
Harry D. Clarke
by Politt, Cushman & Grover
Att'ys.

UNITED STATES PATENT OFFICE

2,494,330

SCOREKEEPER

Harry D. Clarke, Waltham, Mass.

Application October 17, 1947, Serial No. 780,395

19 Claims. (Cl. 235—117)

1

This invention relates to a score keeper for use in golf and the like games or activities where it is desired to record a plurality of individual scores.

The principal object of the invention is to provide a device which is of durable construction having but few parts, which is reliable in operation and capable of withstanding severe usage, and which can be economically manufactured at a relatively low cost. Another object is to provide a construction which is of simple design and of attractive appearance, which can be carried or worn on the person and which can be conveniently used.

Further objects relate to various features of construction and will be apparent from a consideration of the following description and the accompanying drawings, wherein—

Fig. 1 is a top plan view of a golf score keeper constructed in accordance with the present invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is an enlarged top plan view with parts broken away and shown in section to expose the setting mechanism and associated parts;

Fig. 4 is an enlarged end elevation with parts broken away to expose the setting mechanism and associated parts;

Fig. 5 is an enlarged section on the line 5—5 of Fig. 1;

Fig. 6 is an enlarged vertical section through the rotatable plate or squirrel cage;

Fig. 7 is a view, on a reduced scale, of the ring shaft carrying two number wheels or gears;

Fig. 8 is an enlarged isometric view of one of the number gears;

Fig. 9 is a top plan view of the spider spring;

Fig. 10 is a top plan view of the assembled squirrel cage, ring shaft, number gears and associated setting mechanism;

Fig. 11 is a detail showing a part of the setting mechanism which provides a releasable lock for the squirrel cage; and

Fig. 12 is a top plan view of the dial disk carrying the movable hand.

In accordance with the present invention, I provide a score keeper comprising a casing which preferably has the same general construction and appearance as that of a wrist, lapel or pocket watch and within the casing there is mounted a rotatable plate or the like member for supporting a plurality of wheels or gears, each carrying a series of numbers or other characters, the faces of the gears or wheels being radially disposed in circumferentially spaced relation. To this end the gears may be rotatably mounted on a ring

2

shaft carried by the rotatable plate and spacing elements are interposed between the gears or wheels to maintain them in fixed spaced relation. Setting means are provided for rotating the individual number carrying wheels or gears so as to record a plurality of individual scores, e. g., the total strokes for each hole played in a game of golf.

In addition to the foregoing elements, I preferably provide a shield or bezel which is fixed to or otherwise rotatable with the plate, the bezel extending about the top of the casing and being formed with a plurality of circumferentially spaced openings or windows corresponding to and positioned over the number wheels or gears so as to expose to view the uppermost number or character. Releasable locking means may also be provided for holding the rotatable plate in a selected fixed position and also for holding the individual wheels or gears in set position.

Where, as here shown, the device is designed for use in playing golf, there is provided eighteen number wheels, one for each hole to be played, and to assist the player in keeping track of the holes already played and those to be played, the openings or windows in the bezel may be numbered to cooperate with a fixed index or hand and a movable index or hand carried by the bezel so that a mere glance at the hands indicates how far along the game has progressed.

Referring to the accompanying drawings which show what is now considered a preferred embodiment of the invention, the numeral 1 designates a casing which has the same general shape and construction as a conventional wrist watch including the connecting lugs 2 and 3 for receiving the ends of a bracelet (not shown). The interior bottom wall 4 or the casing, as shown in Fig. 5, is formed with an upstanding central tubular post 5 and the side wall 6 is relieved at one end to provide a chamber 8 which communicates with a stem opening 10, as shown in Figs. 3 and 4. Mounted within the casing so as to rotate about the post 5 is a squirrel cage 12 (Fig. 6) which comprises a generally circular plate 15 formed with eighteen upstanding radially extending circumferentially spaced lugs 16 and a central opening 17 through which the post 5 projects. Each of the lugs 16 is recessed adjacent to its outer end, as shown at 18 in Figs. 5 and 6, and the periphery of the plate between each of the lugs is formed with V-shaped notches 20, shown more clearly in Figs. 10 and 11.

A ring shaft 22 (Fig. 7) has a pressed fit within the recesses 18 of the squirrel cage, as shown in

3

Figs. 5 and 10, and is thus supported for rotation about the post 5. The ring shaft carries eighteen freely rotatable small gears 25 (Fig. 8) which are held in circumferentially spaced relation to each other by the lugs 16. Each of the gears 25 has an enlarged hub 26 which carries numbers from zero to ten, as shown in Fig. 8.

The setting mechanism comprises a flat plate 30 disposed within the chamber 8 and pivotally secured at 31 (Figs. 3 and 4) to the bottom wall 4 of the casing so as to swing toward and away from the periphery of the plate 15, as indicated by the full and broken lines of Fig. 11. The upper face of the plate carries a bearing or sleeve 32 (Figs. 5, 10 and 11) and its inner edge is formed with a rounded pawl-like projection 34 adapted to engage the notched portions 20 of the rotatable plate 15, as shown in Fig. 11, thereby to provide a releasable lock for holding the plate 15 against rotation. A setting stem 35 projects through the opening 10 and sleeve 32 and its inner end carries a setting gear 36 engageable with and disengageable from each of the gears 25 when the plate 30 is swung toward and away from the notch plate 15.

The construction arrangement of parts are such that when the gear 36 is in operative engagement with one of the gears 25, as shown in Figs. 5 and 10, the locking plate 32 engages one of the notched portions 20 to hold the squirrel cage in fixed position, and when the squirrel cage is rotated in one direction or the other, the camming action of the notch 20 on the projection 34 swings the plate 30 outwardly, thereby disengaging the setting gear 36 from the gear 25. Thus, the operative engagement of the setting gear 36 with one of the numbered gears 25 can only take place when the plate 30 locks the squirrel cage in fixed position.

The intermediate portion of the stem 35 has a loose fit within the opening 10 to permit swinging movement of the plate 30 and the outer end of the stem projects outwardly beyond the casing 1 and carries a small finger wheel 38 by means of which the stem may be rotated. A small compression spring 40 is interposed between the sleeve 32 and adjacent wall 6 so as normally to hold the plate and associated parts in locking position, the ends of the spring 40 extending into small openings of the wall and sleeve, as shown more clearly in Fig. 3, so as to hold the spring against displacement.

A spider spring 41 (Fig. 9) having an annular body portion 42 and eighteen radially extending upwardly inclined spring fingers 44, is mounted on the top of the plate 15 so that the hooked ends of its fingers 44 engage the gears 25, as shown in Fig. 5, thus yieldingly restraining them against free rotation.

A circular cap or bezel 45 (Fig. 5) having an annular depending hub 46 fits over the top of the casing 1, the lower end of the annular hub fitting about the post 5 which provides a pivot about which the bezel may be rotated. The lower peripheral margin of the bezel is shaped so as snugly to fit the upper edge of the casing, as shown in Fig. 5, and spaced inwardly from its periphery the bezel is provided with eighteen circumferentially spaced windows or openings 48 arranged above the hubs 26 on the gears 25 so as to expose to view the uppermost numbers on the hubs, as illustrated in Figs. 1 and 3. Each of the openings 48 are numbered from 1 to 18, as shown in Fig. 3. The bezel is held in position by a screw 50 which has a threaded engage-

4

ment with the post 5, the screw 50 having an enlarged head 51 which overlies the inwardly flanged lower part of the hub 46, as shown in Fig. 5.

The upper peripheral margin of the bezel extends above or overhangs the upper part of the casing, as shown in Figs. 2, 4 and 5, so that the bezel may be conveniently rotated by the thumb and forefinger, and three small screws 54 (Fig. 5) extend through spaced openings in the hub 46 and spider 42 into the squirrel cage or plate 15 to hold these parts together so that they may be rotated as a unit. The upper face of the bezel may be formed with a shallow central recess which receives a dial disk 56 (Fig. 12) having embossed thereon or otherwise provided with an index finger or hand 58. Another index finger or hand 59 is carried by a small arbor 61 (Fig. 5) the lower end of which is threaded into the head 51 of the screw 50, the hand 59 thus being fixed so as to point at all times to the number gear in operative relation with the setting mechanism, thereby indicating either the hole to be played or the hole which has just been played, whereas the movable hand 58 at all times points to the number 1 window, as shown in Fig. 3. Thus, a glance at the hands when in the position shown in Fig. 1, for example, indicates that nine holes have already been played and that the next hole to be played is the tenth hole.

A crystal 65 extends over the upper face of the bezel with its edge retained in a circumferential recess spaced inwardly from the periphery of the bezel, as in conventional watch constructions. Thus, the crystal bezel and associated parts are rotatable as a unit.

In assembling the device the setting mechanism (parts 30-49) is first put in place within the casing, after which a sub-assembly of the squirrel cage 12, spider spring 41, ring shaft 22 and number gears 25, is inserted in the casing about the post 5. The bezel is then positioned with its hub 46 about the post 5 and after lining up the holes for the three screws 54, the screws 50 and 54 are applied. The dial disk 56 is next applied, after which the index hand 58 and arbor 61 are applied. Finally the crystal 65 is applied in conventional manner, thus completing the assembly.

The normal use of the device in playing golf is as follows: Assuming that all numbered gears are set so that the zero number is exposed to view and the bezel 45 is positioned so that the movable hand 58 underlies the fixed hand 59, in which position both hands point to the number 1 window and the setting gear 36 is in operative engagement with the number gear corresponding to the number 1 window—after having played the first hole, the score is recorded by rotating the finger wheel 38 so as to bring the proper number on the hub of the gear 25 uppermost, after which the bezel is rotated clockwise so that the fixed hand points to the number 2 window. Clockwise movement of the bezel from the first position automatically disengages the locking pawl 34 and the setting gear 36, as above explained, and, as the second position is approached, these parts are moved into operative engagement by the action of the spring 40, it being noted that the pawl 34 is operative to hold the bezel and associated parts against free movement and that the spider spring 42 is likewise operative to hold the number gears in set position. The same procedure is repeated after each play so that at the end of the game the individual scores for all holes played are indicated.

It will be noted from the foregoing that the device is of relatively rugged construction and is reliable in operation, there being no delicate parts which cannot withstand the jolts usually encountered in playing golf. Moreover, the device may be provided with the usual embellishments applied to wrist watches so as to enhance its ornamental appearance, and the device may be conveniently worn as a wrist watch without interfering with or impeding the normal play. Another advantageous feature is that the design of the parts is such as to permit economical manufacture on a mass production basis, it being noted that the assembly does not require the services of skilled workmen.

While I have shown and described one embodiment of the invention, it is to be understood that various changes and modifications may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim:

1. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, and setting means carried by said casing and selectively engageable with said numbered wheels for rotating them individually on said ring shaft.

2. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, setting means engageable with said numbered wheels for rotating them individually on said ring shaft, and a bezel carried by said rotatable member, said bezel extending about the top of said casing and having a plurality of circumferentially spaced openings corresponding to and positioned over said numbered wheels so as to expose to view the uppermost numbers on said wheels.

3. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, and setting means carried by said casing, said setting means being movable toward and away from said ring shaft so as to be successively engageable with and disengageable from the numbered wheels when said rotatable member is rotated, whereby the numbered wheels may be individually set so as to indicate a plurality of given scores.

4. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, setting means engageable with said numbered wheels for rotating them individually on said ring shaft, and locking means for holding the individual numbered wheels in set position.

5. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, setting means for rotating said numbered wheels individually on said ring shaft, and locking means engageable with said rotatable member for releasably holding it in fixed position.

6. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for

supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, a bezel carried by said rotatable member, said bezel extending about the top of said casing and having a plurality of circumferentially spaced openings corresponding to and positioned over said numbered wheels so as to expose to view the uppermost numbers on said wheels, and setting means carried by said casing, said setting means being movable toward and away from said ring shaft so as to be successively engageable with and disengageable from the numbered wheels carried thereby when said rotatable member is rotated, whereby the numbered wheels may be individually set to indicate a plurality of given scores.

7. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, setting means for rotating said numbered wheels individually on said ring shaft, a bezel carried by said rotatable means, said bezel extending about the top of said casing and having a plurality of circumferentially spaced openings corresponding to and positioned over said numbered wheels so as to expose to view the uppermost numbers on said wheels, and locking means for holding the individual numbered wheels in set position.

8. A score keeper comprising a casing, a ring shaft, a rotatable member within said casing for supporting said ring shaft, a plurality of numbered wheels rotatably mounted on said ring shaft in circumferentially spaced relation to each other, setting means carried by said casing, said setting means being movable toward and away from said ring shaft so as to be successively engageable with and disengageable from the numbered wheels carried by said ring shaft when said rotatable means is rotated, whereby the numbered wheels may be individually set so as to indicate a plurality of given scores, and locking means associated with said setting means and engageable with said rotatable member for releasably holding said rotatable means in fixed position.

9. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears, each carrying a series of numbers, rotatably supported on said ring shaft between said lugs, and setting means selectively engageable with said gears for rotating them individually on said ring shaft.

10. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears, each carrying a series of numbers, rotatably supported on said ring shaft between said lugs, a bezel carried by said plate and extending above the top of said casing, said bezel having a plurality of circumferentially spaced openings corresponding to and positioned above said gears so as to expose to view the uppermost numbers carried thereby, the peripheral portion of said bezel extending beyond a part of said casing to provide means by which the bezel, plate and associated parts may be rotated, and setting means for rotating said gears individually on said ring shaft.

11. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears, each carrying a series of numbers, rotatably supported on said ring shaft between said lugs, and a setting stem projecting into the interior of said casing in approximately tangential relation to said plate, the end of said stem carrying gear teeth selectively engageable with said gears to rotate them individually and the outer end of said stem projecting beyond the exterior of said casing to provide means by which said stem may be rotated.

12. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears, each carrying a series of numbers, rotatably supported on said ring shaft between said lugs, spring fingers carried by said plate and engageable with said gears for yieldingly restraining rotation thereof, and setting means selectively engageable with said gears for rotating them individually on said ring shaft.

13. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a plurality of gears rotatably mounted between said lugs, each gear carrying a series of numbers, and setting means movable toward and away from said plate and being selectively engageable with said gears for rotating them individually, thereby to indicate a plurality of given scores.

14. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears rotatably mounted on said ring shaft between said lugs, each gear carrying a series of numbers, a bezel carried by said plate and extending above the top of said casing, said bezel having a plurality of circumferentially spaced openings corresponding to and positioned above said gears so as to expose to view the uppermost numbers carried thereby, the peripheral portion of said bezel extending beyond a part of said casing to provide means by which the bezel, plate and associated parts may be rotated, and setting means for rotating said gears individually on said ring shaft.

15. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a plurality of gears rotatably mounted between said lugs, each gear carrying a series of numbers, a sleeve mounted within said casing so as to move toward and away from said plate, a setting stem projecting into said casing with its inner end rotatably supported by said sleeve, said inner end carrying gear teeth selectively engageable with said gears to rotate them individually so as to indicate a given score, and the outer end of said stem projecting outwardly beyond said casing to provide means by which said stem may be rotated.

16. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a ring shaft supported by said lugs, a plurality of gears rotatably mounted on said ring shaft between said

lugs, each gear carrying a series of numbers; a spring member carried by said plate and having a plurality of radially extending spring fingers engageable with said gears for yieldingly restraining rotation thereof, and setting means for rotating said gears individually on said ring shaft to indicate a given score.

17. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a plurality of gears rotatably mounted between said lugs, each gear carrying a series of numbers, a bezel carried by said plate and extending above the top of said casing, said bezel having a plurality of circumferentially spaced openings corresponding to and positioned above said gears so as to expose to view the uppermost numbers carried thereby, the peripheral portion of said bezel extending beyond a part of said casing to provide means by which the bezel, plate and associated parts may be rotated, and setting means including a stem projecting into the interior of said casing in approximately tangential relation to said plate, the inner end of said stem carrying gear teeth selectively engageable with said gears to rotate them individually so as to indicate a given score and the outer end of said stem extending outwardly beyond the exterior of said casing to provide means by which said stem may be rotated.

18. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a plurality of gears rotatably mounted between said lugs, each gear carrying a series of numbers, a bezel carried by said plate and extending above the top of said casing, said bezel having a plurality of circumferentially spaced openings corresponding to and positioned above said gears so as to expose to view the uppermost numbers carried thereby, the peripheral portion of said bezel extending beyond a part of said casing to provide means by which the bezel, plate and associated parts may be rotated, spring fingers carried by said plate and engageable with said gears for yieldingly restraining rotation thereof, and setting means including a stem projecting into the interior of said casing, said stem being movable toward and away from said plate, the inner end of said stem carrying gear teeth selectively engageable with said gears to rotate them individually so as to indicate a score and the outer end of said stem projecting beyond the exterior of said casing to provide means by which said stem may be rotated.

19. A score keeper comprising a casing, a generally circular plate pivotally mounted within said casing, said plate having a plurality of circumferentially spaced upstanding lugs, a plurality of gears rotatably mounted between said lugs, each gear carrying a series of numbers, a bezel carried by said plate and extending above the top of said casing, said bezel having a plurality of circumferentially spaced openings corresponding to and positioned above said gears so as to expose to view the uppermost numbers carried thereby, the peripheral portion of said bezel extending beyond a part of said casing to provide means by which the bezel, plate and associated parts may be rotated, and setting means including a stem projecting into the interior of said casing in approximately tangential relation to said plate, the inner end of said stem carrying gear teeth selectively engageable with said gears to rotate them individually so as to indicate a given score,

and the outer end of said stem extending outwardly beyond the exterior of said casing to provide means by which said stem may be rotated, and releasable locking means for holding said plate in position, and means for yieldingly restraining rotation of said gears. 5

HARRY D. CLARKE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,110,942	Kempner -----	Sept. 15, 1914
1,501,398	Eacrett -----	July 15, 1924
1,548,941	Giset -----	Aug. 11, 1925