

July 15 , 1924.

1,501,398

A. L. EACRETT

SCORE REGISTERING DEVICE FOR GOLF AND THE LIKE

Filed Dec. 22, 1922

10 Sheets-Sheet 1

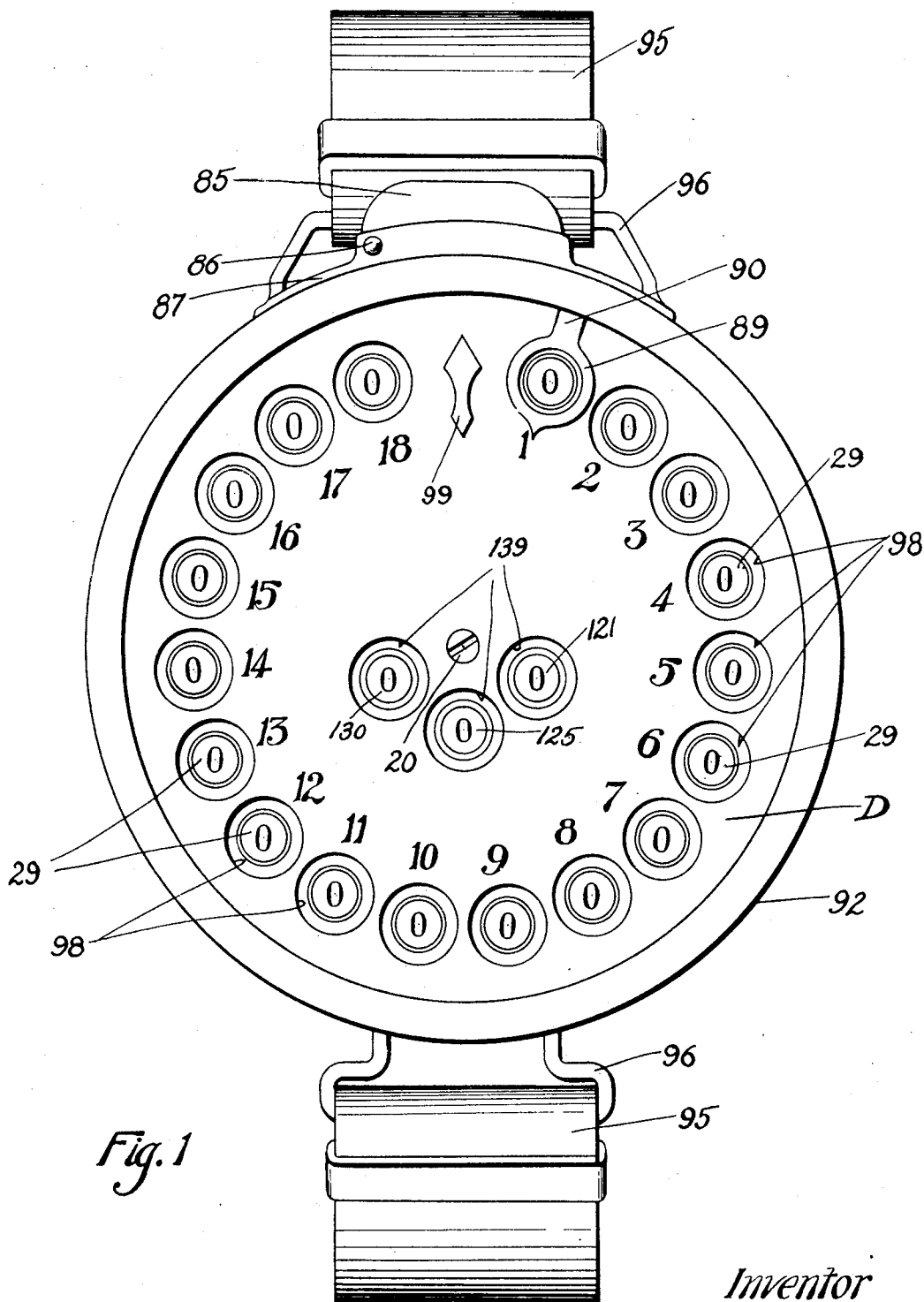


Fig. 1

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July 15, 1924.

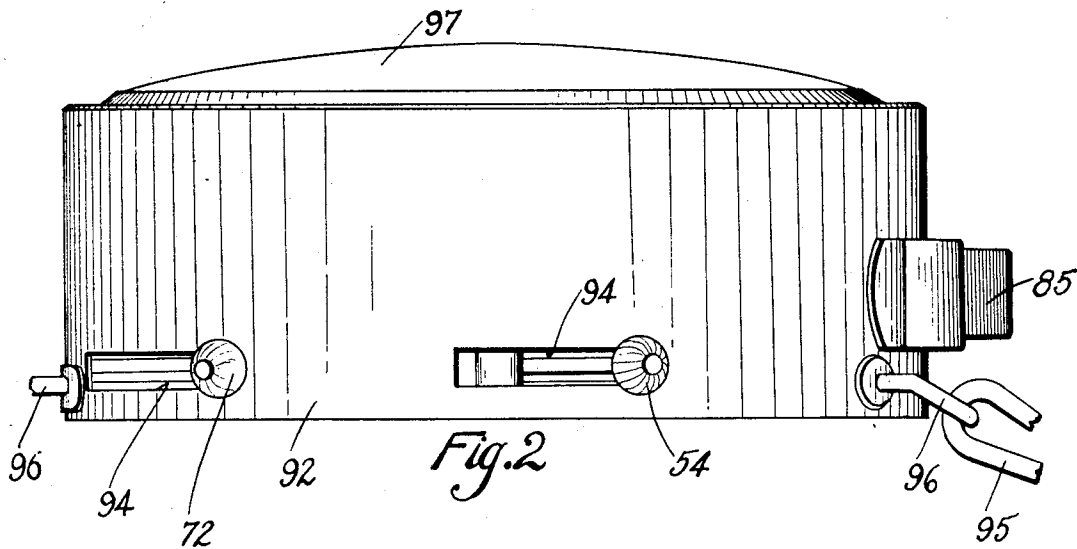
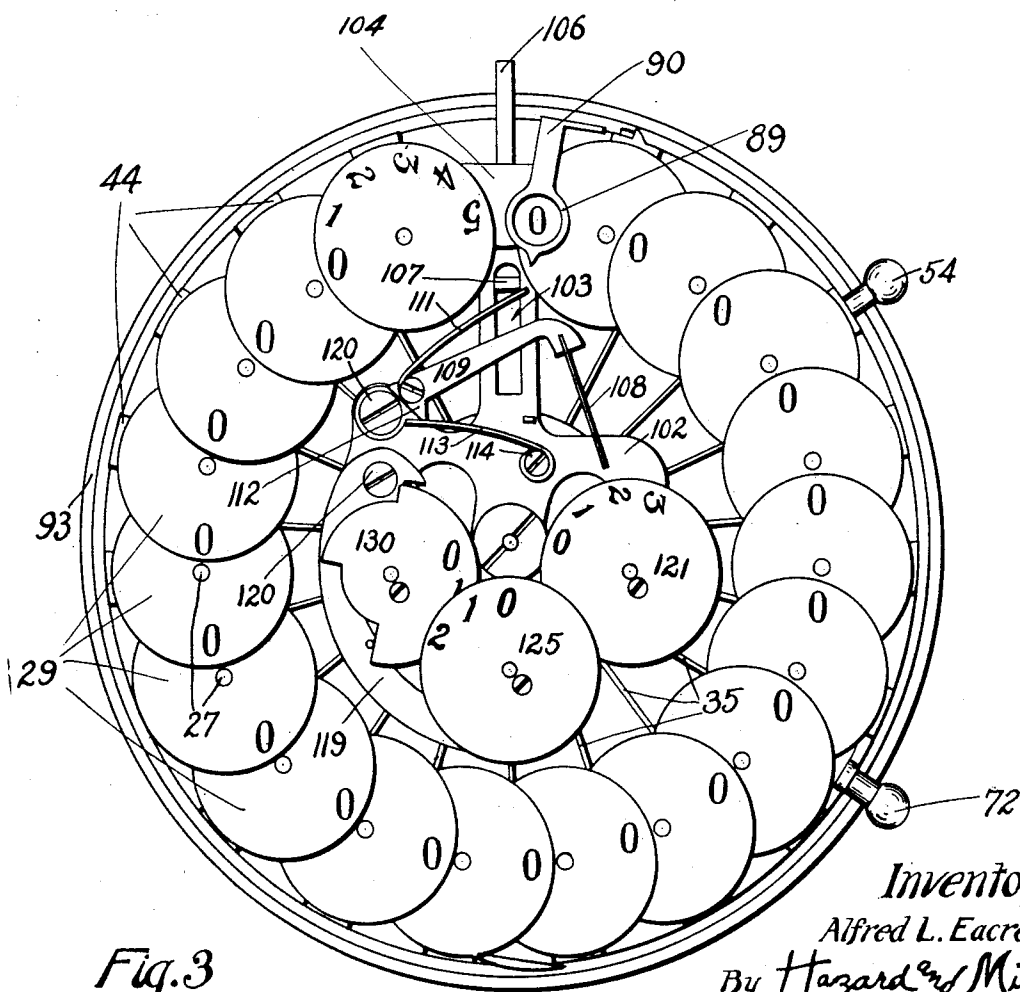
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10 Sheets-Sheet 3

Fig. 4

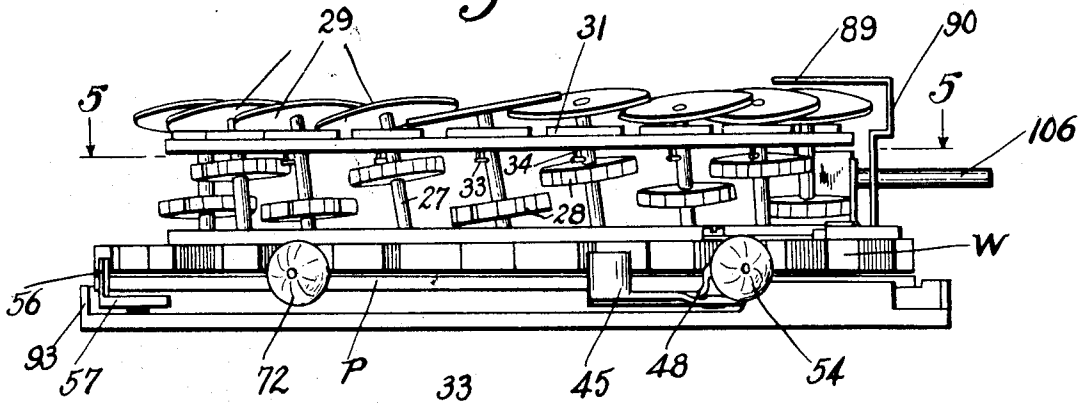
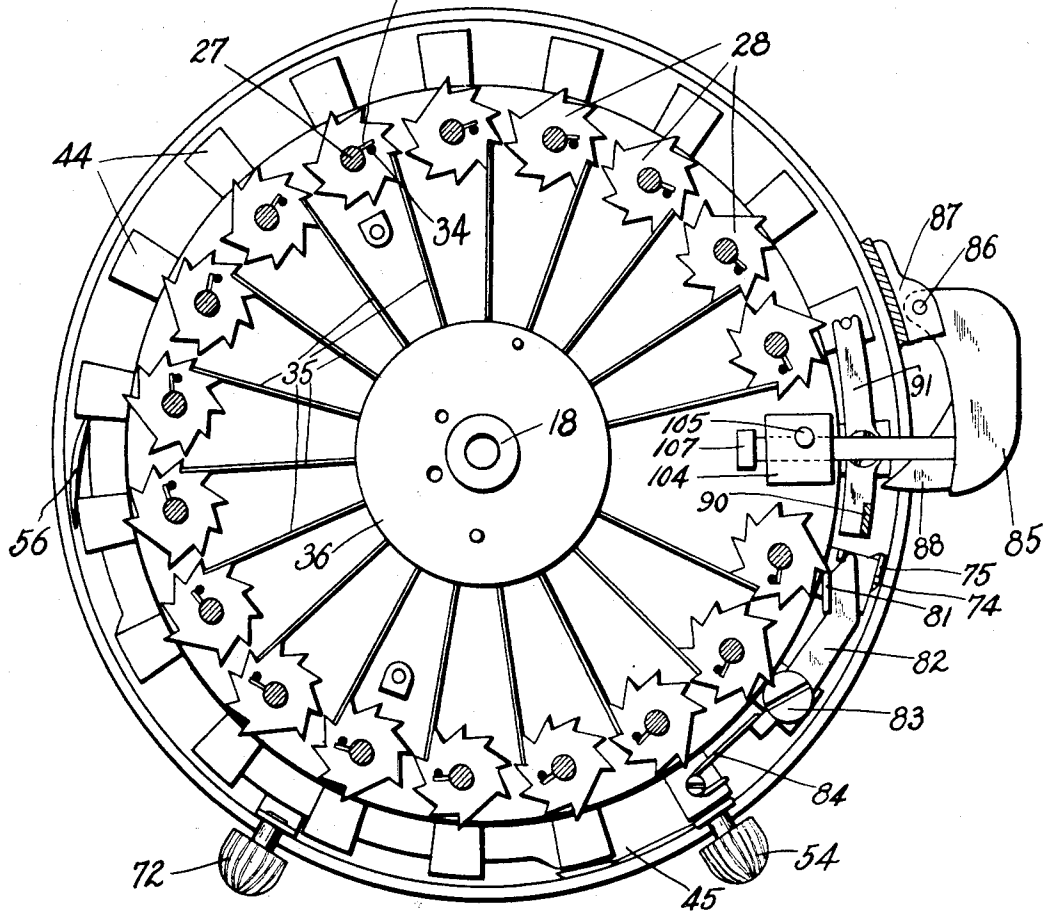


Fig. 5

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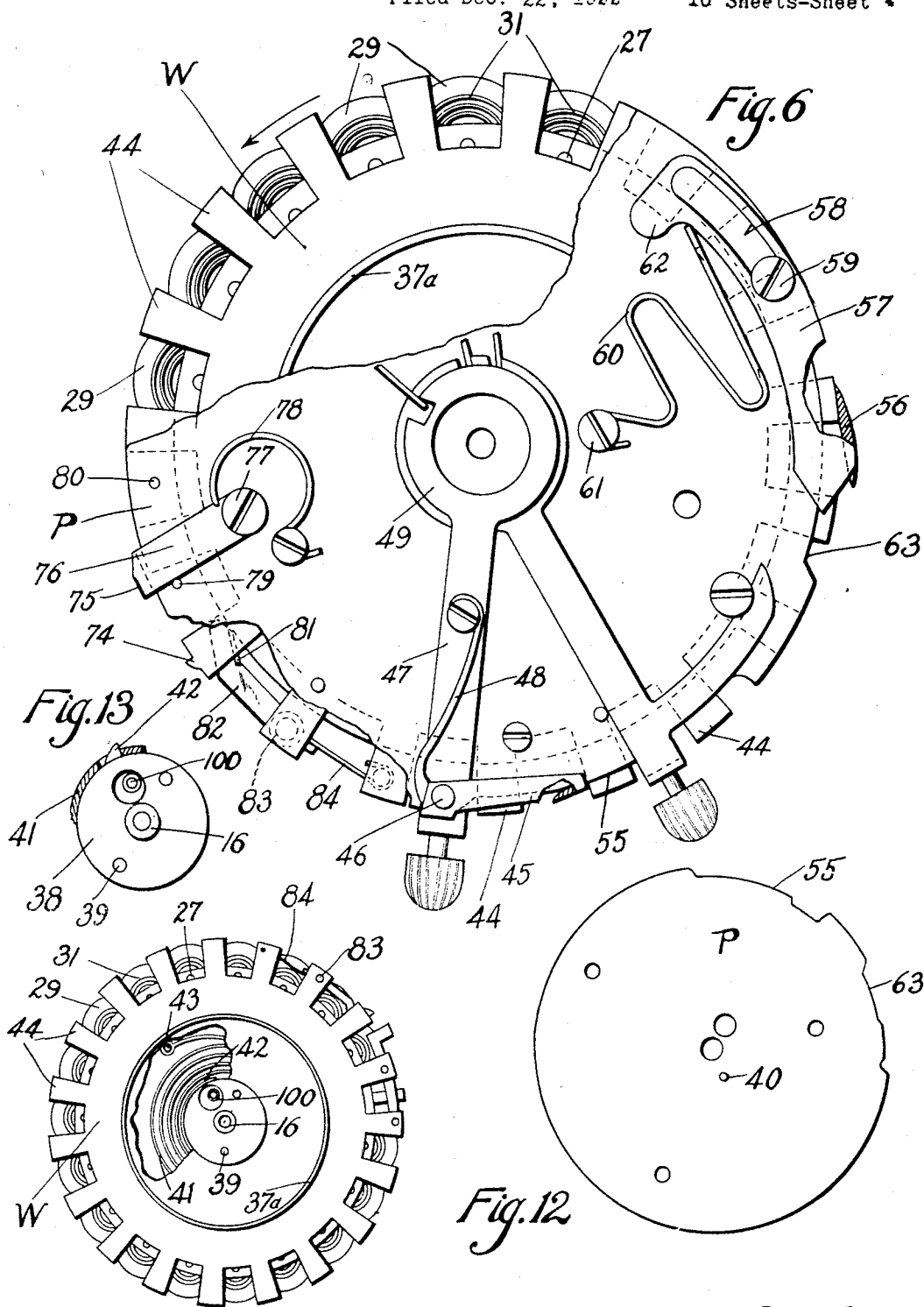
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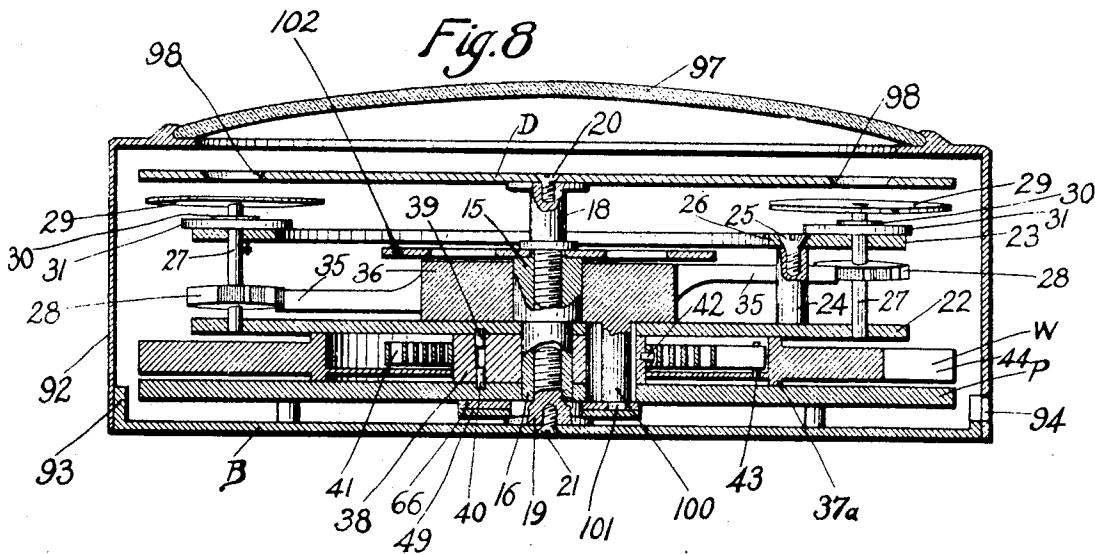
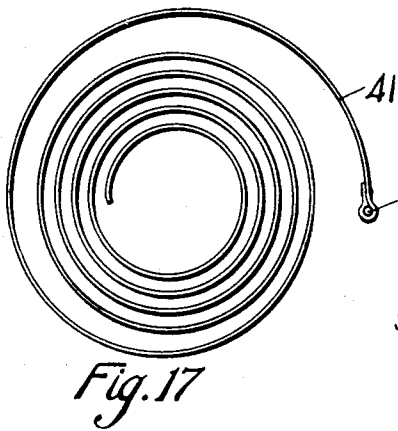
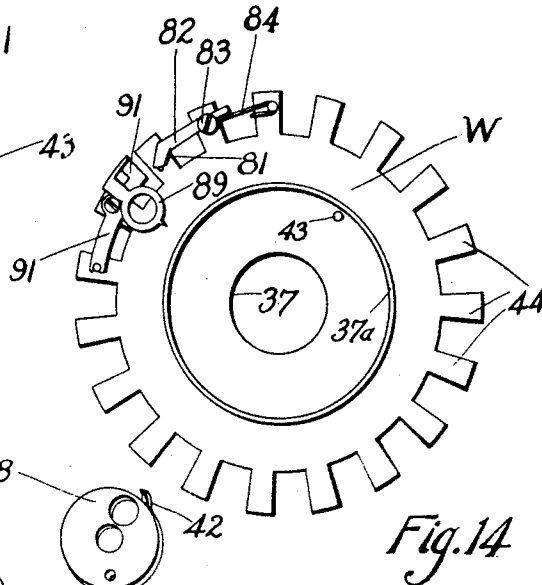
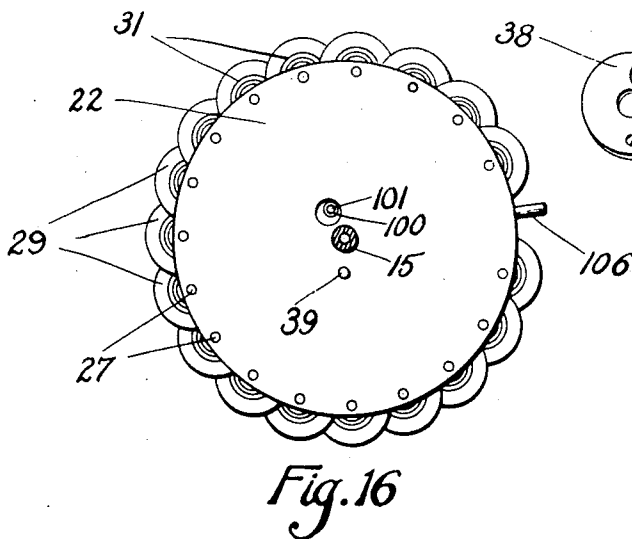
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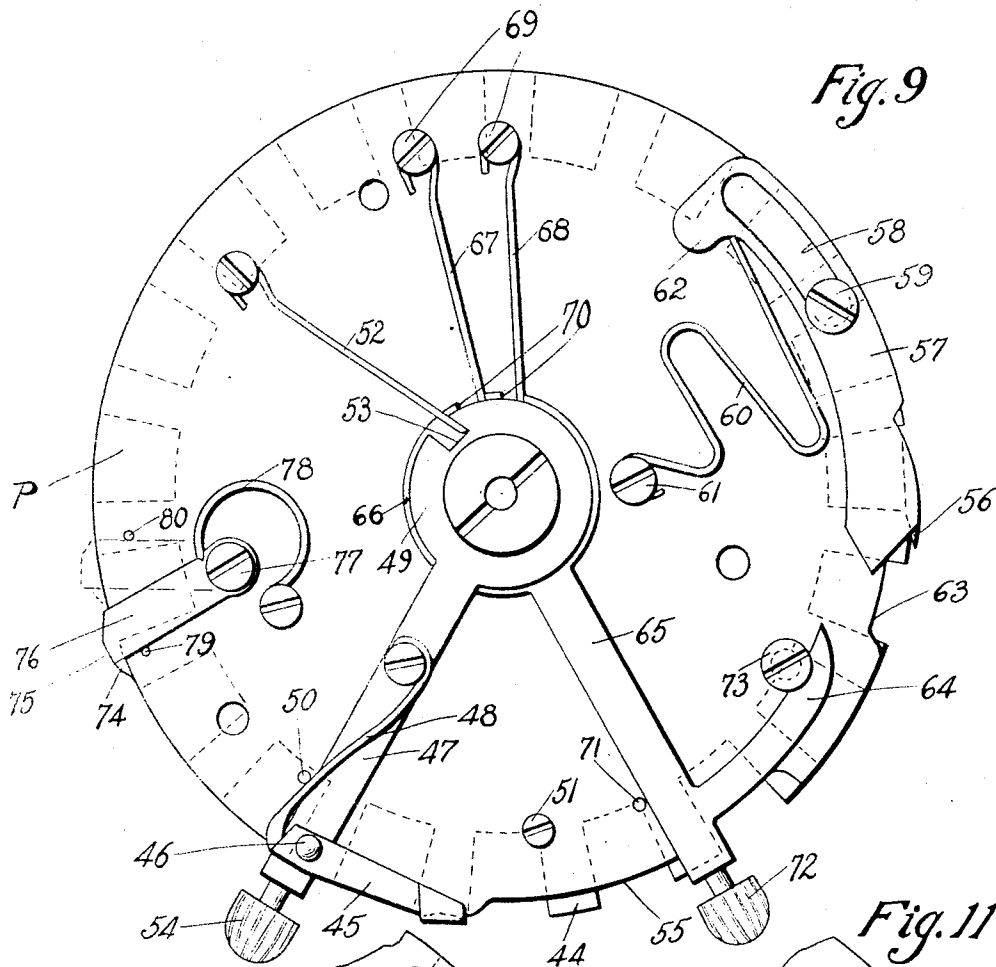


Fig. 9

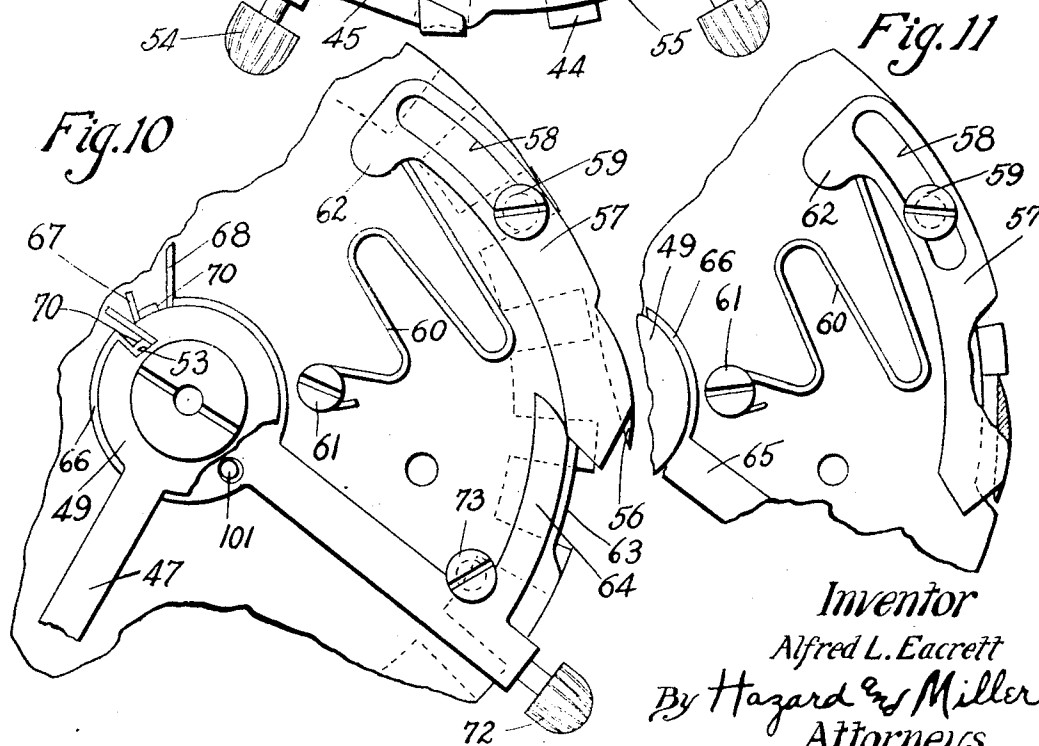


Fig. 11

Fig. 10

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10 Sheets-Sheet 7

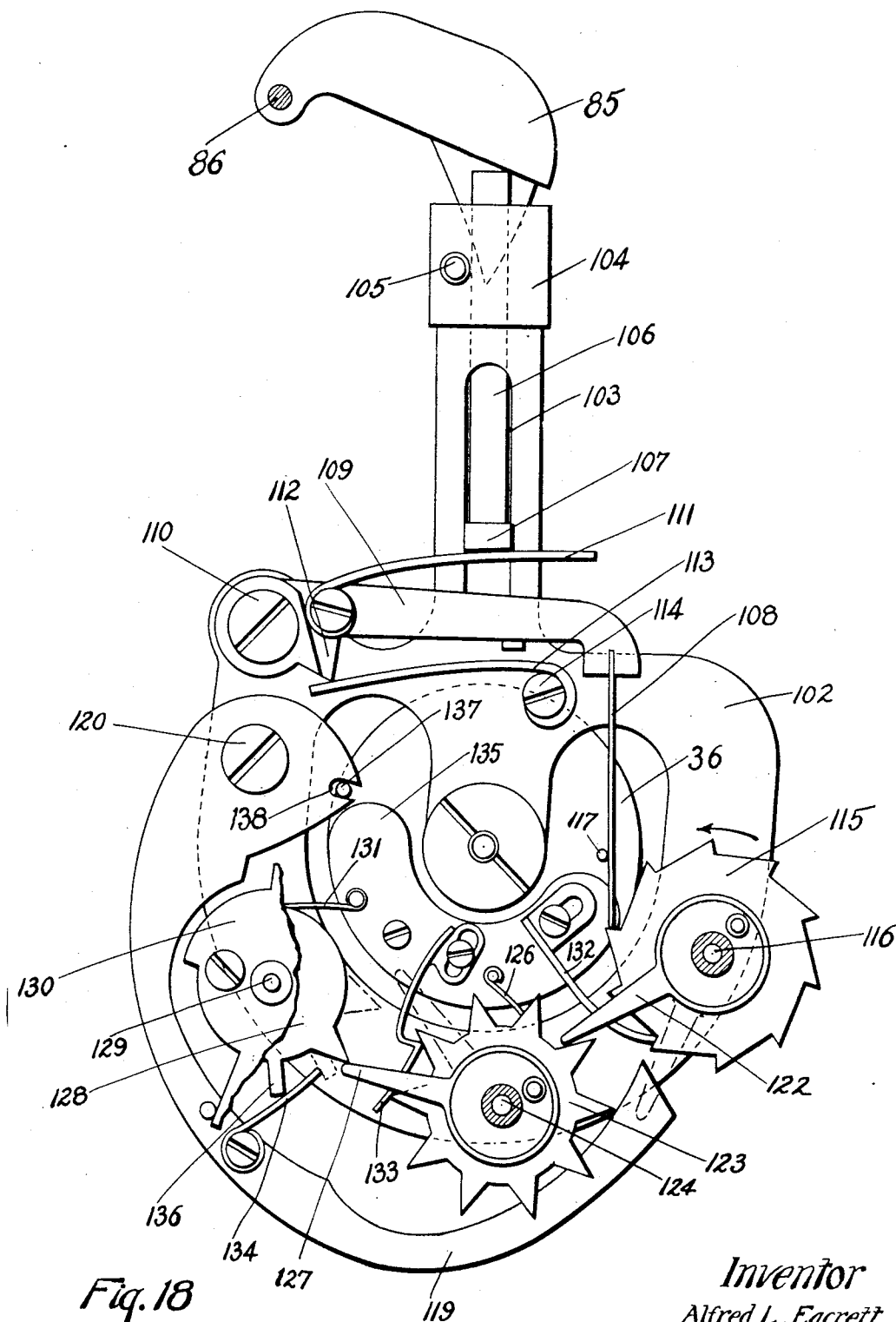


Fig. 18

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Fig. 19

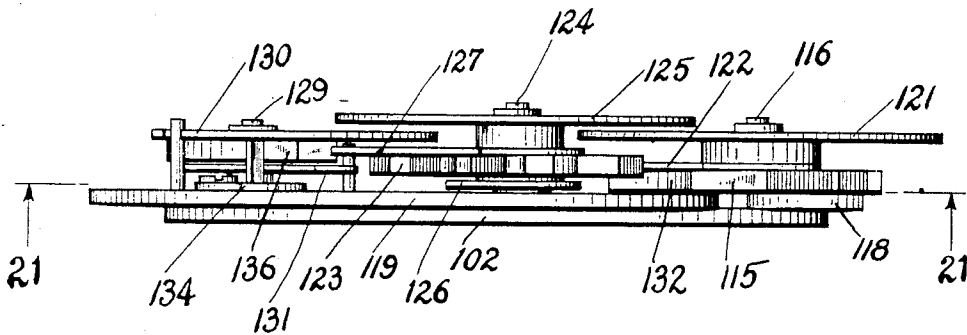
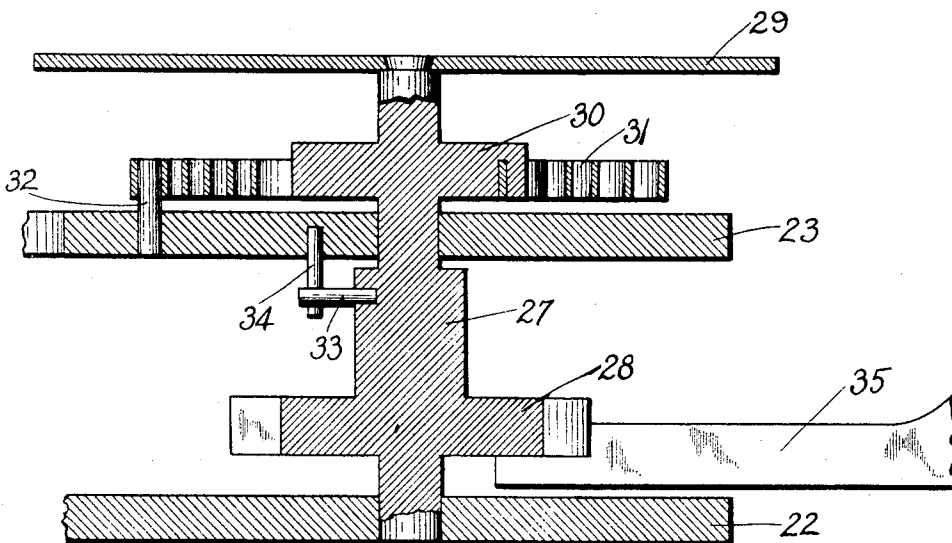


Fig. 20



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10 Sheets-Sheet 9

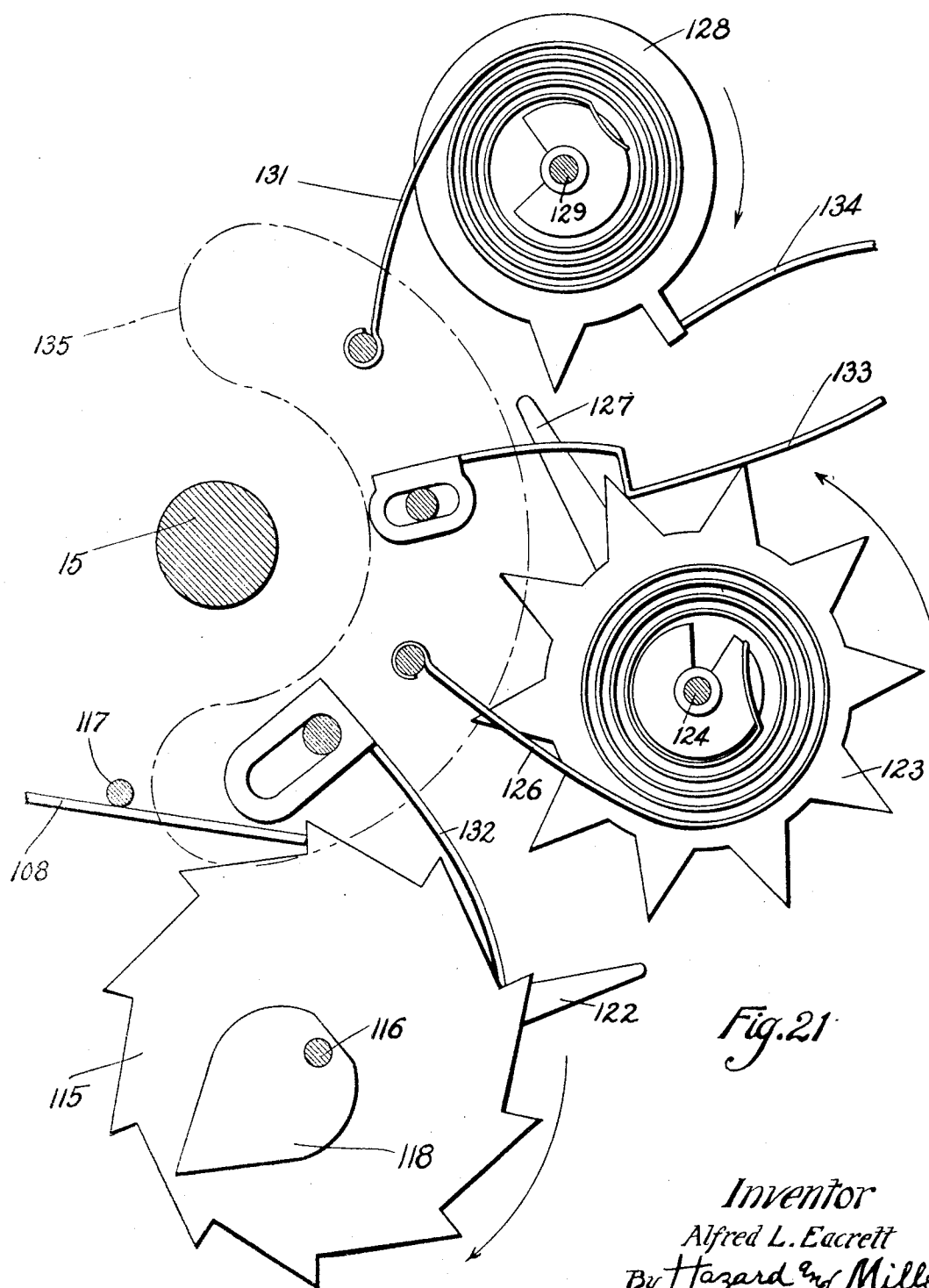


Fig. 21

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10 Sheets-Sheet 10

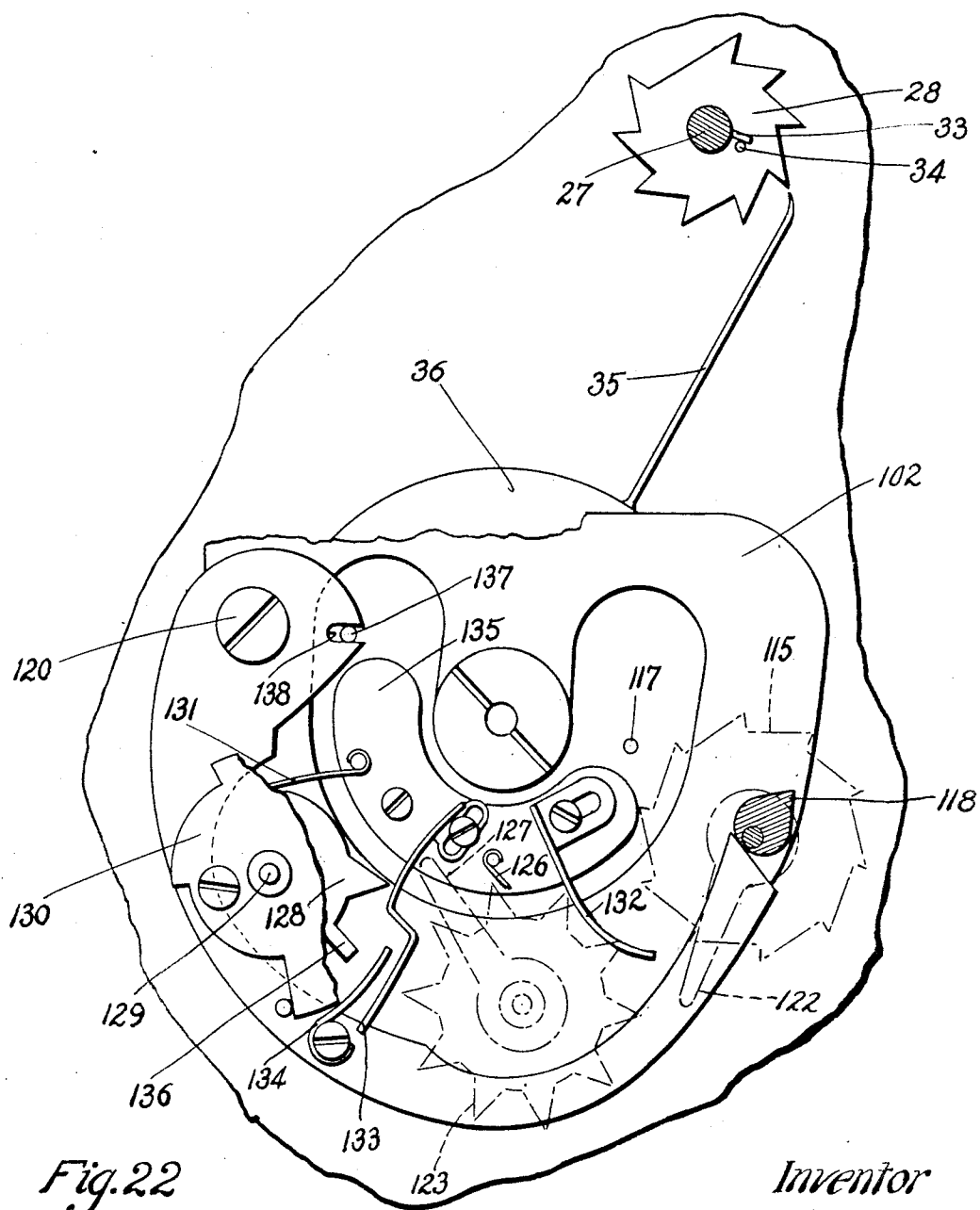


Fig. 22

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UNITED STATES PATENT OFFICE.

ALFRED L. EACRETT, OF HOLLYWOOD, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO JAMES A. ARMSTRONG AND ONE-THIRD TO HOWARD M. O'MALLEY, BOTH OF LOS ANGELES, CALIFORNIA.

SCORE-REGISTERING DEVICE FOR GOLF AND THE LIKE.

Application filed December 22, 1922. Serial No. 608,502.

To all whom it may concern:

Be it known that I, ALFRED L. EACRETT, a citizen of the United States, residing at Hollywood, in the county of Los Angeles and State of California, have invented new and useful Improvements in Score-Registering Devices for Golf and the like, of which the following is a specification.

My invention relates generally to registers, and more particularly to registers of the portable type adapted for the registering of scores in games of various characters.

A purpose of my invention is the provision of a register which is portable to the extent that it is similar in size to that of a watch, to be carried upon the wrist, and which is particularly adapted, although not necessarily, for registering the number of strokes in the game of golf. The operation of the register is such that the operator can successively register the individual strokes for each hole as they are played, and in such a manner that a register of the strokes, hole by hole, is preserved until the completion of the game, when the register can be reset for use in succeeding games. Further, the register provides a total registering means operable with the stroke registering mechanism for the successive holes which registers the combined total number of strokes for the holes as they are played, so that a player can determine the number of strokes consumed at any point in the game, and the probable final score of his game.

I will describe one form of score registering device embodying my invention and will then point out the novel features thereof in claims.

In the accompanying drawings,

Figure 1 is a view showing in top plan one form of score registering device embodying my invention,

Figure 2 is a view showing in side elevation the registering device shown in Figure 1 with the attaching means broken away,

Figure 3 is a plan view of the registering device with the casing and master dial removed,

Figure 4 is a view showing the registering device in side elevation with the casing and master dial removed,

Figure 5 is a horizontal sectional view taken on the line 5—5 of Figure 4,

Figure 6 is a bottom plan view of the

registering device with the casing removed and portions of the main supporting plate broken away to reveal parts not otherwise disclosed,

Figure 7 is a view similar to Figure 6 with the main supporting plate and parts carried thereby removed and with a portion of the master ratchet wheel broken away,

Figure 8 is a view showing in vertical section the complete registering device,

Figure 9 is a view similar to Figure 8 showing the master operating pawl in normal position or in a position reverse with respect to that shown in Figure 6,

Figure 10 is a fragmentary view showing in bottom plan the main supporting plate with the master releasing cam in active position,

Figure 11 is a view similar to Figure 10 showing the releasing pawl for the master ratchet wheel in advance position,

Figure 12 is a detail view showing in top plan the main supporting plate of the registering device,

Figure 13 is a detail view showing the spacing block or bearing shown in Figure 8,

Figure 14 is a detail view showing in top plan the master ratchet wheel and the parts carried thereby,

Figure 15 is a detail perspective view of the spacing block or bearing shown in Figure 13 and looking from the opposite side thereof,

Figure 16 is a bottom plan view of the frame for supporting the stroke registering means for the individual holes,

Figure 17 is a plan view of the master ratchet wheel spring and spacing block showing the manner in which the spring is attached to the block,

Figure 18 is an enlarged plan view of the total registering means embodied in the registering device shown in the preceding views,

Figure 19 is a view showing in side elevation the total registering means shown in Figure 18,

Figure 20 is an enlarged vertical sectional view of one of the stroke registering means embodied in the registering device shown in the preceding views,

Figure 21 is an enlarged horizontal sectional view taken on the line 21—21 of Figure 19,

Figure 22 is a view similar to Figure 18 with portions of the total registering means broken away and in section to reveal parts not otherwise disclosed, and in its proper position with respect to the remainder of the registering device,

Similar reference characters refer to similar parts in each of the several views.

Referring specifically to the drawings, and particularly to Figure 8, my invention, in its present embodiment, is shown as comprising a main arbor including an upper portion 15 and a lower portion 16, the latter being of a reduced diameter to provide a shoulder between the two, and both of the portions being formed with screw threaded bores to receive the shanks of screws 18 and 19 having flanged heads to which are secured, respectively, a master dial D and a base plate B by means of attaching screws 20 and 21, respectively. A main frame is supported upon the arbor, and this frame includes a disc or plate 22, and a flat ring 23 is supported above and in spaced relation to the disc by means of posts 24 formed on the disc and engaged by screws 25, which extend through ears 26 formed on the ring 23. This frame is designed to support a plurality of registering units for registering the individual strokes per hole, there being a registering unit for each of the holes comprising a golf course, usually eighteen. As clearly shown in Figures 4 and 5, the registering units are arranged at regularly spaced intervals around the main frame, and as shown in Figure 20, each registering unit comprises a shaft 27, journaled to the disc 22 and the ring 23, and having a ratchet wheel 28 formed integral therewith and secured thereto at a point between the disc and ring. The upper end of each shaft carries a dial 29, upon the upper face of which is arranged a circular series of digits, preferably ranging from 0 to 9, and as clearly shown in Figure 3, the digits of all of the dials are similarly arranged so that in their normal positions, the digits of one of the dials will occupy a corresponding position with respect to the digits of the other dials. As again shown in Figure 20, each shaft 27 is provided with a flange 30, to which is secured the inner end of a hair spring 31, the outer end of the latter being secured to a pin 32 carried by the ring 23. This spring 31 is associated with the shaft 27 so as to normally urge the shaft and consequently the dial 29 to a predetermined position so that normally the digit 0 will be exposed through a window in the master dial, as will be hereinafter described. The urged position of the shaft under the action of the spring is defined by means of co-acting pins 33 and 34 secured to the shaft and ring 23, respectively. The several teeth of the ratchet wheel 28 extend in a clock wise

direction, as when viewed in Figure 5, and as here shown, the ratchet wheel is provided with nine ratchet teeth to correspond to the digits of the dial 29, it being particularly noted that the ratchet wheel is disrupted to provide sufficient space between two of the teeth to prevent actuation of the wheel by a pawl, as will be more fully described hereinafter.

For the purpose of preventing reverse rotation of the dials 29 under the action of the springs 31 after they have been moved by the master pawl engaging the ratchet wheel 28, and to effect the simultaneous release of all of the ratchet wheels so as to allow of the dials being reset, I provide a series of pawls 35 which, as clearly shown in Figure 5, extend radially from a hub 36 mounted for limited rotational movement upon the portion 15 of the main arbor, as clearly shown in Figure 8. These pawls 35 are in the form of spring arms secured to the hub 36 at one end, and normally engage the teeth of the ratchet wheels 28 at the other end so as to allow rotation of the ratchet wheels in a counterclock wise direction, as when viewed in Figure 5, but to prevent rotation thereof in the opposite direction.

In order that the several registering units may occupy a minimum space so as to allow of the entire registering device being housed in a relatively small casing, and to thus produce a registering device which may be conveniently carried upon the wrist in a manner similar to a watch, the several dials 29 are arranged in overlapped relation to each other, as clearly shown in Figures 3 and 4. To permit this arrangement, the several shafts are disposed on an incline with respect to the perpendicular, and the ratchet wheels 28 are disposed in staggered relation with respect to each other so as to permit of their being operated without interference. Similarly, the several pawls 35 are arranged in staggered relation with respect to the hub 36 so as to engage their respective ratchet wheels in effecting a locking of the latter, as has been described. The several registering units are adapted to be operated by a single actuating means, which includes a master ratchet wheel W mounted for rotational movement between the disc 22, and a main supporting plate P, as clearly shown in Figure 8. As shown in Figure 14, the master ratchet wheel W is of substantially disc formation, and is provided with an axial opening 37 of an area sufficient to accommodate the main arbor and a spacing block or bearing 38. The wheel W is provided on opposite sides with annular ribs 37^a designed to minimize friction between the wheel and adjacent parts and to thus insure easy rotation of the wheel. The block 38 is secured against movement upon the main arbor by means of pins 39 and 40

extending into a suitable opening formed in the block and carried, respectively, by the disc 22 and the main supporting plate P, as clearly shown in Figure 8. The upper side of the wheel W is recessed to accommodate a coiled spring 41, the inner end of which is secured to the spacing block by means of a hook 42, while its outer end is secured to the wheel W by a pin 43. This connection is clearly shown in Figure 17. The association of the spring 41 with the wheel W in the block 38 is such that rotation of the wheel in the direction of the arrow in Figure 6 effects a winding of the spring 41, and the tension of the spring is such that the wheel can be freely rotated and the spring will operate to restore the wheel to normal position.

The wheel W is provided at the periphery with radially extending teeth 44, any one of which is adapted to be engaged by a master pawl 45, pivoted at the point indicated at 46, (Figure 6) to a lever 47. A spring 48 is secured to the lever 47 and is associated with the pawl 45 to normally urge the latter inwardly toward the teeth 44. As shown in Figure 6, the lever 47 is mounted on the under side of the main supporting plate P, and one end of the lever is provided with a flattened head 49 which is rotatably mounted upon the lower screw 19 so that the lever is capable of occupying an inactive position, as shown in Figure 9, or an active position as shown in Figure 6. These two extreme positions of the lever are defined by stop pins 50 and 51, and a spring 52 is secured to the plate P so that one end engages within a notch 53 upon the head 49 so as to normally urge the lever 47 to inactive position. A knob or handle 54 is formed on the outer end of the lever 47 which is adapted to be gripped for manually moving the lever from the inactive to the active position. When the lever is moved from the inactive to the active position, a recess 55, formed on the edge of the plate P, allows the spring 48 to urge the pawl 45 into engagement with one of the teeth 44 upon the ratchet wheel W, and by continued movement of the lever, the pawl effects a movement of the entire ratchet wheel in the direction of the arrow in Figure 6. The ratchet wheel W is latched against retrograde movement by means of a latching pawl designated at 56 in Figure 6, and by virtue of the co-action of this latching pawl with the master pawl 45 a step by step movement of the master ratchet wheel can be effected.

As clearly shown in Figures 6, 9, 10 and 11, the latching pawl 56 is formed on and disposed at right angles to a bar 57 formed with a slot 58 into which extends a screw 59 for supporting the bar for longitudinal sliding movement, as well as for pivotal movement. A spring 60 is secured to the plate P by means of a screw 61, and this

spring consists of resilient wire formed to provide recurrent bends with the free end of the wire engaging the projection 62 formed on one end of the bar 57. The construction of the spring is such as to normally urge the bar so that the latching pawl 56 is disposed in the path of movement of the teeth 44 of the master ratchet wheel. Furthermore, the spring urges the bar longitudinally so that the screw 59 is disposed at one end of the slot 58. The adjacent edge of the plate P is recessed as indicated at 63 to accommodate the pawl 56 and to allow of the longitudinal sliding movement of the bar and pawl for a purpose which will be hereinafter described.

The pawl end of the bar 57 is adapted to be engaged by a cam 64 formed on one end of an L shaped lever 65, the latter constituting the releasing lever for the latching pawl 56. This lever 65 is provided at one end with a flattened head 66 which is rotatably mounted upon the screw 19 and above the flattened head 49 of the lever 47. Two springs 67 and 68 are secured to the bottom of the plate P by means of screws 69, and these springs engage within notches 70 formed in the head 66 so as to normally urge the lever 65 into engagement with a stop pin 71 formed in the plate P. The outer end of the lever 65 is provided with a knob 72 which is adapted to be gripped in moving the lever from the urged position to another extreme position, in which the lever engages a screw 73. In this position of the lever, the cam 64 engages the adjacent end of the bar 57 so as to lock the latter against the action of the spring 60 to move the pawl 56 out of engagement with the teeth of the ratchet wheel W.

Through the medium of the latching pawl 56, it will be understood that when the master ratchet wheel is rotated through the actuation of the master pawl 45, the latching pawl will retain the master ratchet wheel in any position to which it has been moved and against the tendency of the spring 41 to return the wheel to normal position. However, when it is desired to return the wheel to normal position, which operation is effected when resetting the registering device, the latching pawl 56 may be moved to disengaging position with respect to the teeth of the ratchet wheel by an actuation of the cam 64 through an operation of the lever 65. The normal position of the master ratchet wheel W is defined by a projection 74 formed on one of the teeth 44 of the ratchet wheel and disposed to engage a stop pin 75 formed on one end of an arm 76 pivoted to the plate P at the point indicated at 77 and engaged by a spring 78 so as to normally urge the arm into engagement with a stop pin 79. A second pin 80 defines the other extreme position of the arm 76.

By this arrangement, it will be seen that when the ratchet wheel W is released by an operation of the latching pawl 56, the spring 41 will rotate the wheel until the projection 74 abuts the pin 75, the latter yielding by virtue of the arm 76 and its mounting, until such arm engages the pin 80. It will be clear, by this arrangement, that the possibility of the projection or the pin 75 being broken under the force of the wheel returning to normal position, is positively prevented.

As previously stated, the several registering units are adapted to be actuated by a single registering means, and this means includes a pawl 81, secured to an arm 82 with the latter pivoted as indicated at 83 upon one of the teeth 44 of the wheel W. A spring 84 normally urges the arm to a position in which the pawl 81 is disposed to engage any one of the ratchet wheels 28, it being understood that the mounting of the pawl permits the latter to yield when the wheel W is moved in the direction of the arrow in Figure 6, but to positively engage the teeth of the ratchet wheels when the master wheel is moved in the opposite direction. With the pawl 81 engaging any one of the ratchet wheels 28, it will be clear that by oscillating the master wheel to move the pawl a distance of one tooth, the corresponding ratchet wheel will be moved a corresponding distance by the engagement of the pawl with one of the teeth of the ratchet wheel. This oscillatory movement of the master ratchet wheel is effected by a cooperation of the spring 60 with the latching pawl 56 and manually operable mechanism, which I will now describe.

A lever 85 (Figure 5) is pivoted at the point indicated at 86 upon a frame 87 secured to the cover for the complete device. This lever is provided at its free end with a cam 88 adapted to engage any one of the teeth 44 of the master ratchet wheel W, and by virtue of its construction, it will be clear that when moved inwardly, it will cooperate with one of the teeth in effecting movement of the master ratchet wheel in a clockwise direction as viewed in Figure 5, until the master ratchet wheel is urged by means of the spring 41. This movement of the master ratchet wheel by the cam 88 is sufficient to move the pawl 81 the distance of one tooth of the ratchet wheel 28 so that when the cam is released, the master ratchet wheel will be moved in the reverse direction to cause the pawl 81 to engage and move the corresponding ratchet wheel 28 the distance of one tooth or a distance corresponding to the space between any two of the teeth of one of the dials 29. This reverse movement of the master ratchet wheel is obtained by the tendency of the

latching pawl 56 to return to its normal position under the action of the spring 60, because during the first movement of the ratchet wheel, a tooth of the latter being in engagement with the pawl 56 drags the bar 57 longitudinally and against the tension of the spring 60 so that the latter is placed under tension during such movement. Naturally, when the cam 88 is moved free of the teeth 44, the spring 60 will act through the pawl 56 to return the master ratchet wheel to its normal position, thereby effecting an actuation of one of the ratchet wheels 28, as has been described. Continued depression and releasing of the cam 88 causes operation of the pawl 81 to actuate the ratchet wheel 28 of any particular registering unit, so that the corresponding dial 29 will visibly indicate, by virtue of the digits, the number of operations of the cam 88.

The cam 88 is adapted to be operated by a player every time a golf stroke is executed, and the several registering units are designed for the purpose of registering the number of golf strokes executed while playing any one of the eighteen holes of a golf course. It is therefore necessary that that particular registering unit be actuated which corresponds to the particular hole which is being played, and in order that the actuating mechanism for the registering units may be moved to actuate any particular registering unit, the main pawl 45 and its mounting have been provided. Through this pawl, the master ratchet wheel can be rotated to dispose the pawl 81 in operative engagement with one of the ratchet wheels 28 of the registering unit so that by a subsequent oscillation of the master ratchet wheel through an actuation of the cam 88, as has been described, the particular registering unit can be actuated to register individual strokes for any given hole. In practice, the master ratchet wheel in its normal position is disposed so that the pawl 81 is arranged to actuate the first dial to the right of the cam 88, and after this particular registering unit has been actuated to register the number of strokes for the corresponding hole, which would be Number 1, the master ratchet wheel is then moved to position the pawl in operative engagement with the next registering unit to the right, so that subsequent actuation of the cam 88 will operate such registering unit to register the number of strokes for the second hole. In this manner, all of the remaining registering units can be actuated for registering the individual strokes for each of the several holes of a golf course.

In order to determine the position of the pawl 81 with respect to the registering units, an indicating member is provided in

superimposed position with respect to the several dials 29. This indicating member is in the form of a ring 89, having an arm 90 depending therefrom and secured to a plate 91 fixed to the teeth 44 of the wheel W. By this arrangement, it will be seen that the indicator moves with the wheel W, and being disposed adjacent the pawl 81, will visibly indicate the position of the pawl with respect to the registering units.

Referring again to Figure 8, the registering device is housed in a casing including a metallic annulus 92 secured to a flange 93 in the base plate B. The annulus is provided with an opening through which the lever 85 is adapted to work in moving the cam into and out of engagement with the wheel W, and the frame 87 is secured to the annulus in surrounding position with respect to the opening so as to properly mount the lever 85 with respect to the opening. The annulus is also formed with slots 94 through which project the knobs 54 and 72 to permit manual actuation of the levers 47 and 65.

When it is desired to attach the registering device to the wrist, suitable straps 95 are extended through loops 96, welded or otherwise secured to the annulus 92. The annulus is constructed to receive a transparent window 97, such as a disc of glass through which the master dial D can be observed. As clearly shown in Figure 1, the dial D is provided with an annular series of openings 98, such openings corresponding in number to the registering units and being positioned so that in the normal position of the dials 29, the digit 0 of all of the dials will be exposed. Obviously, as the dials are rotated, the openings will expose the succeeding digits, so that the player can at all times observe the registration of the strokes as the registering device is actuated. These openings are preferably numbered as shown in Figure 1, so as to permit the operator readily determining the score for any particular hole. An arrow 99 may be stamped, secured or painted upon the dial between the openings 1 and 18 in the manner clearly shown in Figure 1.

In order to effect a resetting of the several registering units, it is necessary that the several pawls 35 be moved to disengaging position with respect to the ratchet wheels 28 so as to allow of the hair springs 31 unwinding, with a subsequent returning of the dials to normal position. To this end, the hub 36, as previously mentioned, is mounted for limited rotational movement upon the arbor portion 15 so as to occupy one extreme position in which the pawls 35 engage the ratchet wheels 28, and another extreme position in which the pawls are moved out of engagement with the ratchet wheels. To define these two extreme

positions, a pin 100 is formed integral with the hub 36 and extends downwardly through suitable openings formed in the disc 22, block 38 and the plate P, with the lower end of the pin provided with a reduced projection 101, which engages the flattened head 66 of the lever 65. Through this connection, movement of the lever 65 to cause the cam 64 to throw the pawl 56 out of engagement with the wheel W, imparts movement to the hub 36 and in such direction as to swing the pawls 35 out of engagement with the ratchet wheels 28. With the pawls 35 in disengaging position, it will be clear that the springs 31 are free to return the shafts 27 and consequently the dials 29 to normal position. With this resetting operation of the dials, the master ratchet wheel is likewise reset or returned to normal position because the latching pawl is no longer in engagement with the teeth of the wheel W.

For registering the total number of strokes registered by the individual registering units, total registering mechanism is provided and operated simultaneously with the operation of any one registering unit. This mechanism comprises in the present instance a yoke 102 which, as clearly shown in Figure 8, is secured between the upper screw 18 and the portion 15 of the arbor so as to be held against movement. This yoke 102 is provided with a slotted extension 103, and the outer end of the extension is adapted to contact with a block 104 secured between the ring 23 and the disc 22 by means of a pin 105 which projects above the ring 23 and fits within an opening in the master dial D to maintain the latter in spaced relation to the several dials 29. The block 104 is provided with an opening in which is slidably fitted an actuating plunger 106 adapted to be engaged at its upper end by the lever 85 and formed at its lower end with an angular projection 107 which works within the slot of the extension 103. The plunger 106 is normally urged outwardly to engage the lever 85, and when pushed inwardly operates a pawl 108 carried by a lever 109 fulcrumed upon the yoke 102 at the point indicated at 110. A spring 111 is carried by the lever and engages the projection 107 so as to provide a yielding connection between the lever and plunger. The lever is provided with a lip 112 which is engaged by a spring 113 secured to the yoke, as indicated at 114. This spring 113 serves to normally urge the lever 109 outwardly, and in this position of the lever, the plunger 106 is urged into engagement with the lever 85.

The pawl 108 is adapted to actuate three total registering units, namely, a registering unit for units, a registering unit for tens, and a registering unit for hundreds.

These three registering units are mounted upon the yoke 102 and are therefore disposed within the area defined by the circular series of individual registering units.

Referring now to Figures 18, 21 and 22, the unit registering means comprises a ratchet wheel 115 rotatably mounted upon an axle 116 fixed on the yoke 102. The teeth of the wheel 115 extend in a clock wise direction as shown in Figure 18, and are adapted to be engaged by the pawl 108 when the latter is actuated through movement of the plunger 106. A pin 117 is fixed to the hub 36 and serves to guide the pawl into engagement with the teeth of the ratchet wheel. As shown in Figure 21, the ratchet wheel 115 is provided upon its under side with a heart shaped cam 118 which is adapted to be engaged by a resetting lever 119, pivoted at the point indicated at 120 on the yoke 102. A dial 121 is fixed to the wheel, and on this dial is arranged a circular series of numerals ranging from 0 to 9, and representing units. A pawl 122 extends from the axle 116 at a point between the wheel 115 and the dial 121, and this pawl is adapted to engage the teeth of the ratchet wheel for the tens registering unit. The tens registering unit comprises a star shaped ratchet wheel 123, rotatably mounted upon an axle 124 fixed to the yoke 102. A dial 125 is fixed to the ratchet wheel 123, and this dial bears numbers representing tens ranging from 0 to 9. A hair spring 126 is associated with the wheel 123 so as to normally urge the dial to a definite position in which the numeral 0 is exposed through the master dial, as will be hereinafter explained. Similarly, the tens registering unit is provided with a pawl 127 which extends beyond the wheel 123 so as to engage a single toothed ratchet wheel of the hundred registering unit.

The hundred registering unit comprises a single toothed ratchet wheel 128 which is rotatably mounted upon an axle 129, the wheel carrying a dial 130 which bears the numerals 0 and 1 indicating hundreds. A hair spring 131 is associated with the wheel 128 so as to normally urge the dial 130 to a position in which the character 0 is exposed through the master cover dial.

In the operation of the total registering mechanism, the plunger 106, when depressed, moves the pawl 108 from the position shown in Figure 3 to that shown in Figure 18, thereby causing a limited rotational movement of the ratchet wheel 115 in a counter clock wise direction, as indicated by the arrow in Figure 18. After the wheel 115 has completed ten revolutions to cause the pawl 122 to engage and move the wheel 123 a corresponding number of times, the wheel 123 will then have completed one revolution thereby causing the pawl 127

to engage the teeth of the wheel 128 so as to move the dial from 0 to 1.

In order to prevent retrograde movement of the wheels 115, 123 and 128 so that such wheels will be retained in any position to which they have been moved by actuation of the pawls, as just described, I provide latching pawls 132, 133 and 134 for the respective wheels 115, 123 and 128. These pawls are mounted in the manner clearly shown in Figure 18 wherein it will be seen that the pawls 132 and 133 are mounted on an arcuate plate 135 fixed to the hub 36, while the pawl 134 is mounted on the resetting lever 119. The pawls 132 and 133 are adapted to engage the teeth of the wheels 115 and 128 and in such a manner as to only allow rotation of such wheels under the movement of the pawls 108 and 122. The pawl 134 is adapted to engage a projection 136 formed on the wheel 128, which projection engages the end of the pawl after the wheel has been moved by actuation of the pawl 127, all of which is clearly shown in Figure 18.

For the purpose of resetting the several dials of the total registering mechanism, the pawls 132 and 133 have been mounted upon the plate 135, as previously described. This plate is secured to the hub 36, consequently, when the hub is rotated in effecting a release of the several pawls 35, the plate will be moved in a clock wise direction, as when viewed in Figure 18, to throw the pawls 132 and 133 out of engagement with the wheels 115 and 123. The wheel 123 is now free to move and return to its normal position under the action of the hair spring 126. The wheel 115, however, is returned to normal position by the resetting lever 119. Movement of this lever to engage the cam 118 is effected by means of a pin 137 which engages within a slot 138 formed in the lever, as clearly shown in Figure 18. The pin 137 is fixed to the hub 36 so that movement of the hub causes the pin to swing the lever in such direction that its free end engages the cam 118. The cam is then rotated to cause the wheel 115 to return to normal position. With movement of the lever 119, the pawl 134 is moved to disengage the projection 136 so that the spring 131 now functions to return the wheel 128 to normal position.

From the foregoing operation, it will be clear that as the hub 36 is moved to releasing position by actuation of the lever 65 in effecting a resetting of the individual units, the resetting of the entire total registering mechanism is likewise effected and simultaneous with the resetting of the individual registering units. The dials of the total registering mechanism are likewise arranged in overlapped relation to each other to economize space and permit arranging

of the same within the area defined by the individual registering units. To expose one numeral of each of the three dials of the total registering mechanism, three openings 139 are provided in the master dial D in the manner clearly shown in Figure 1 so that in normal position, 0 will be exposed in all of the openings.

From the foregoing description taken in conjunction with the accompanying drawings, the operation of the entire registering device may be briefly described as follows:

With the parts of the device in their normal positions, as shown in Figure 3, the lever 85 is depressed, thereby simultaneously actuating the pawl 108 and the master ratchet wheel W to actuate the dial 29 of the first individual registering unit, and the unit dial 121 of the total registering unit so that the numeral 1 now appears in the corresponding openings of such units. During the playing of a game of golf, the lever 85 is actuated each time the player makes a stroke thus registering the stroke both on the individual registering unit as well as on the total registering unit. As previously explained, there is one individual registering unit for each hole of the golf course, so that while the player is playing the first hole, the master ratchet wheel should be adjusted so as to actuate the first individual registering unit, thus registering all of the strokes necessary to complete the first hole. Should the number of strokes exceed nine, no further registering on the individual registering unit will be effected by virtue of the fact that the distance between the last and first teeth of the corresponding ratchet wheel 28 is such as to prevent the pawl 81 from engaging any of the teeth of the wheel. However, these excessive strokes are registered upon the total registering means because when the unit registering dial has registered nine strokes, a ten registering dial will then be set in operation, as previously explained. After the player has played the first hole, the master ratchet wheel is actuated to move the pawl 81 into operative engagement with the ratchet wheel 28 of the next individual registering unit so that upon subsequent operation of the lever 85, the dial for the second registering unit will be actuated to register the individual strokes for the second hole, it being understood that the total registering means continues to be actuated with the individual registering unit so as to totalize the number of strokes registered by the individual registering units. When the player has completed the eighteen holes, the total score is indicated upon the total registering mechanism, while the player may refer to any particular individual registering unit to determine the number of strokes for the corresponding hole, that is, provid-

ing that he has not exceeded nine strokes for such hole.

To reset the entire registering device so that it may be again used for the registering of the score by strokes, the lever 65 is moved to an engaging position with respect to the bar 57, thereby moving the pawl 56 so as to release the master ratchet wheel W to return the indicator back to normal position, and with it the pawl 81, so that the latter is now in operative position with respect to the ratchet wheel of the first individual registering unit. With movement of the lever 65, operation of the hub 36 is effected to release all of the ratchet wheels 28 so that the springs function to return the dials to indicate 0 within the openings in the master dial. Simultaneously, the releasing pawls of the total registering mechanism are moved to releasing position, and with them the resetting lever is actuated so that all three dials of this registering mechanism are returned to show 0 within the openings in the master dial.

I claim as my invention:

1. A registering device of the character described, comprising a plurality of registering means including dials and ratchet wheels arranged in overlapped and circular formation, a master ratchet wheel having peripheral teeth extending beyond the circle defined by the ratchet wheels, a master pawl for actuating the ratchet wheels and movable circumferentially of the registering means to operatively engage any one of said ratchet wheels, and means engageable with the teeth of the master ratchet wheel for actuating the latter to cause operation of the master pawl.

2. A registering device of the character described, comprising an annular series of registering means including ratchet wheels, a master ratchet wheel having peripheral teeth disposed concentrically of the registering means and rotatable with respect thereto, a pawl carried by the master ratchet wheel for actuating any one of the first ratchet wheels, manually operable means for advancing the master ratchet wheel in a step by step movement to present the master pawl successively to the first ratchet wheels, and means for oscillating the master ratchet wheel to effect operation of the master pawl for actuating the first ratchet wheels.

3. A registering device of the character described, comprising registering means including an annular series of ratchet wheels, a master ratchet wheel rotational with respect to the registering means and having an annular series of teeth disposed concentrically of the ratchet wheels, yieldable means for urging the master ratchet wheel to a predetermined position, a master pawl for the first ratchet wheel, said pawl being carried by the master ratchet wheel, a latching

pawl for securing the master ratchet wheel in positions against the action of said urging means, and manually operable means engageable with the teeth of the master ratchet wheel for moving the same in a step by step movement whereby the master pawl successively occupies operative positions with respect to the first ratchet wheels.

4. A registering device as embodied in claim 17 including means for mounting the latching pawl to cause the latter to automatically disengage the master ratchet wheel during the advancing thereof by the manually operable means, but will again engage the master ratchet wheel when the latter is relieved of the influence of the manually operable means.

5. A registering device of the character described, comprising registering means including an annular series of ratchet wheels, a master ratchet wheel having peripheral teeth disposed concentrically of the first ratchet wheel and rotatable with respect thereto, a master pawl for the first ratchet wheels carried by the master ratchet wheel, means for rotating the master ratchet wheel in a step by step movement to operatively position the master pawl with respect to the first ratchet wheels, means for oscillating the master ratchet wheel to effect actuation of the master pawl, and total registering means within the area defined by the first registering means, said total registering

means being operable by the means for oscillating the master ratchet wheel.

6. A registering device of the character described, comprising spaced plates, a master ratchet wheel rotatable between the plates and having spacing ribs thereon engageable with the plates for the purpose described.

7. A registering device of the character described, comprising registering means including a plurality of ratchet wheels arranged in annular formation, with any two adjacent ratchet wheels disposed in inclined and overlapped relation, a hub mounted for rotational movement, and pawls extending radially from the hub and disposed in different planes so that each pawl engages a corresponding ratchet wheel to prevent rotation of the latter in one direction, and means for rotating the hub in such direction as to simultaneously cause the several pawls to disengage the ratchet wheels.

8. In a registering device of the character described, a master ratchet wheel, means for actuating the wheel including a lever, a cam on the lever, total registering means, and a plunger for actuating the total registering means, said plunger being disposed in the path of movement of said lever whereby actuation of the plunger is effected simultaneously with the actuation of the cam.

In testimony whereof I have signed my name to this specification.

ALFRED L. EACRETT.