Jan. 27, 1948. J. C. KOCI 2,435,141

AMUSEMENT GAME

Filed May 31, 1944 4 Sheets-Sheet 1

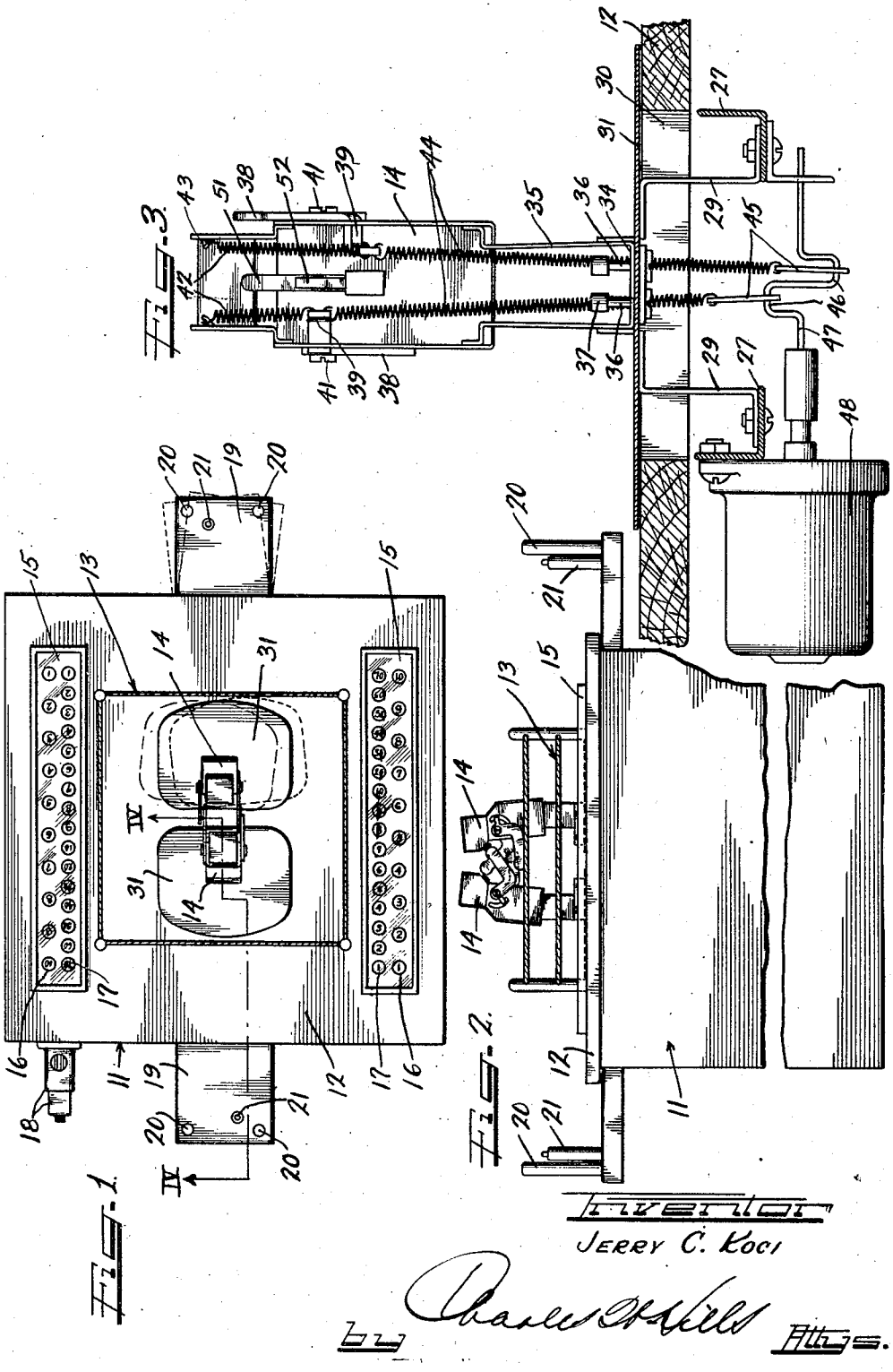


Fig. 3.

Fig. 2.

Fig. 1.

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AMUSEMENT GAME

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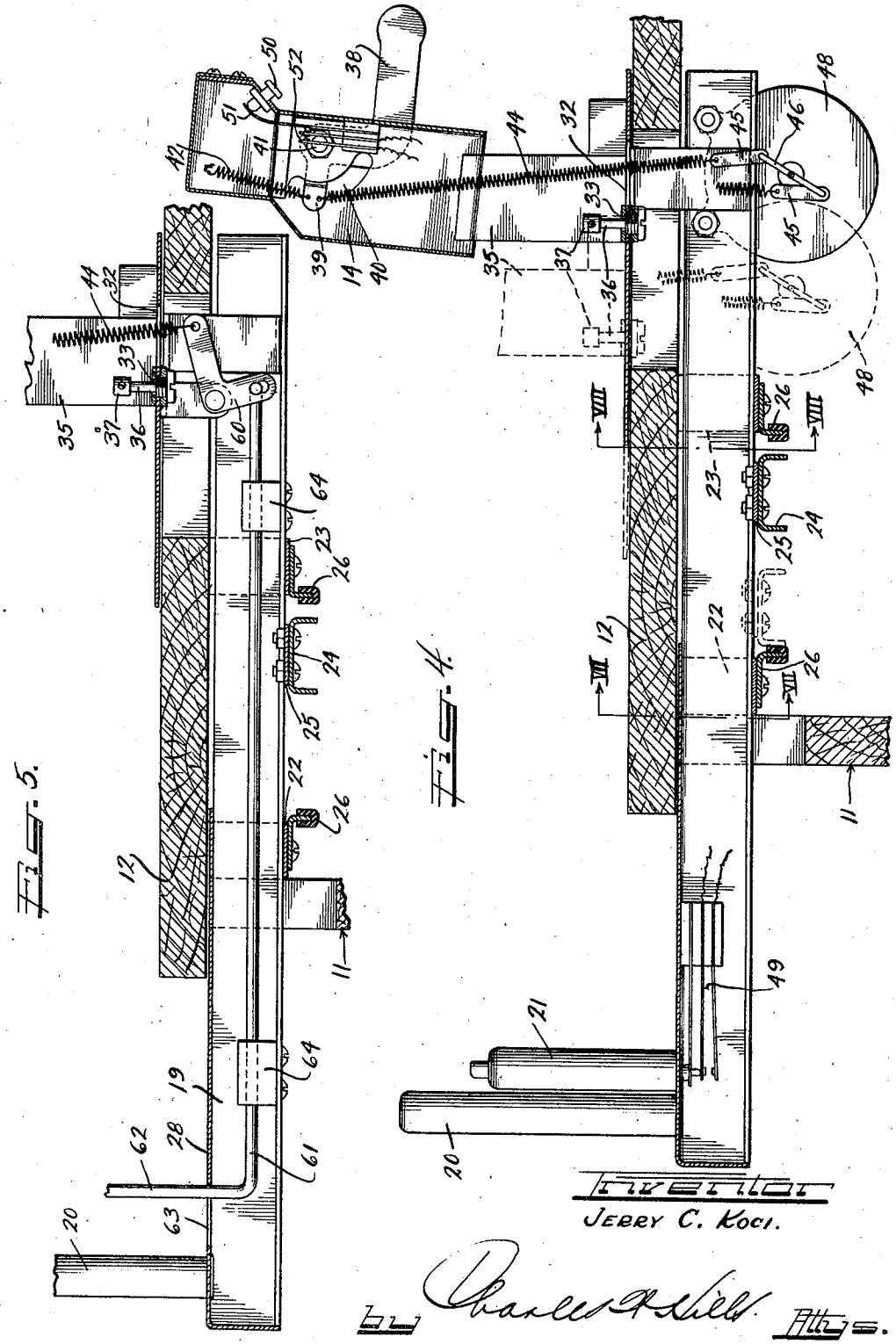


Fig. 4.

Fig. 5.

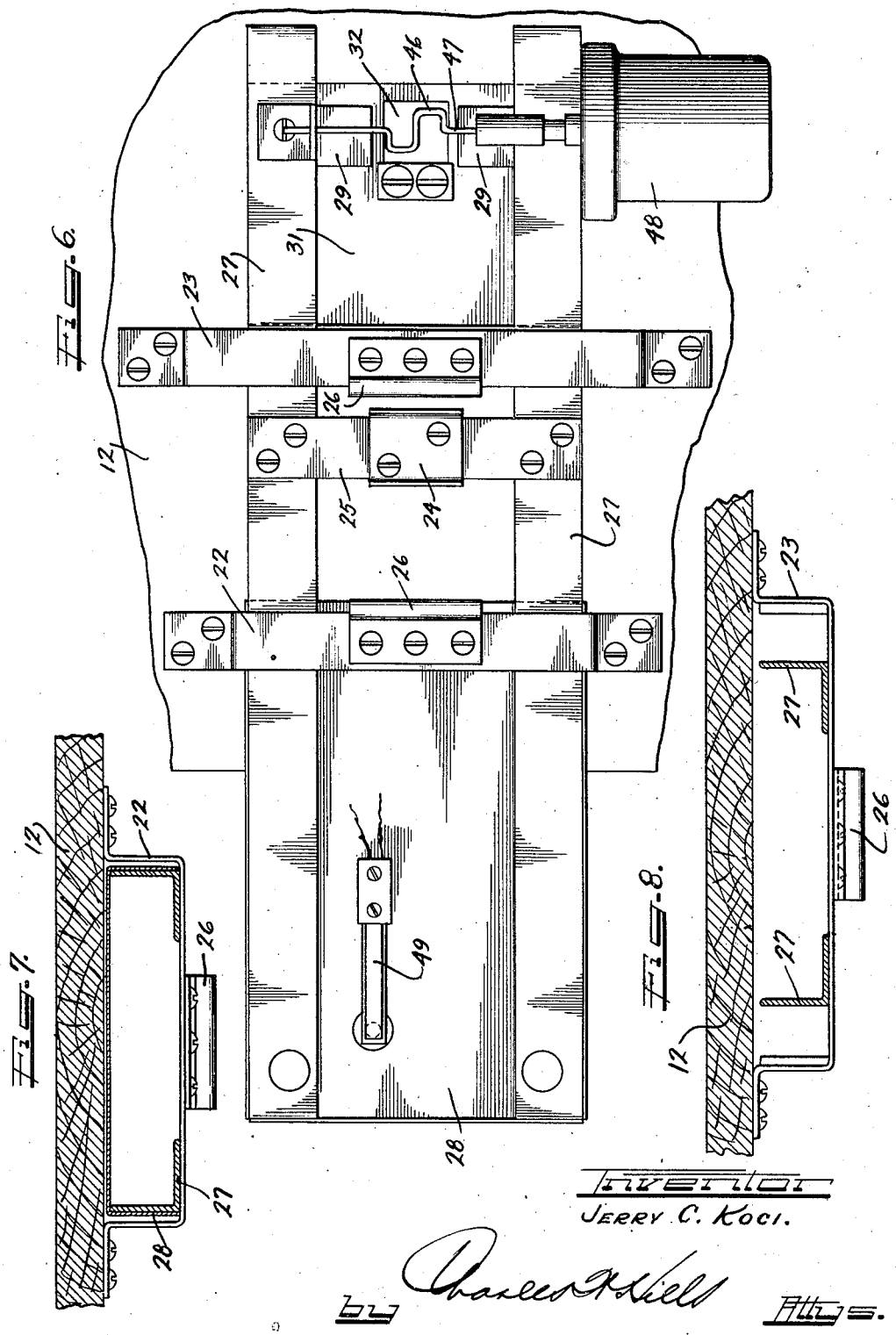
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AMUSEMENT GAME

Filed May 31, 1944 4 Sheets-Sheet 3



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AMUSEMENT GAME

Filed May 31, 1944 4 Sheets-Sheet 4

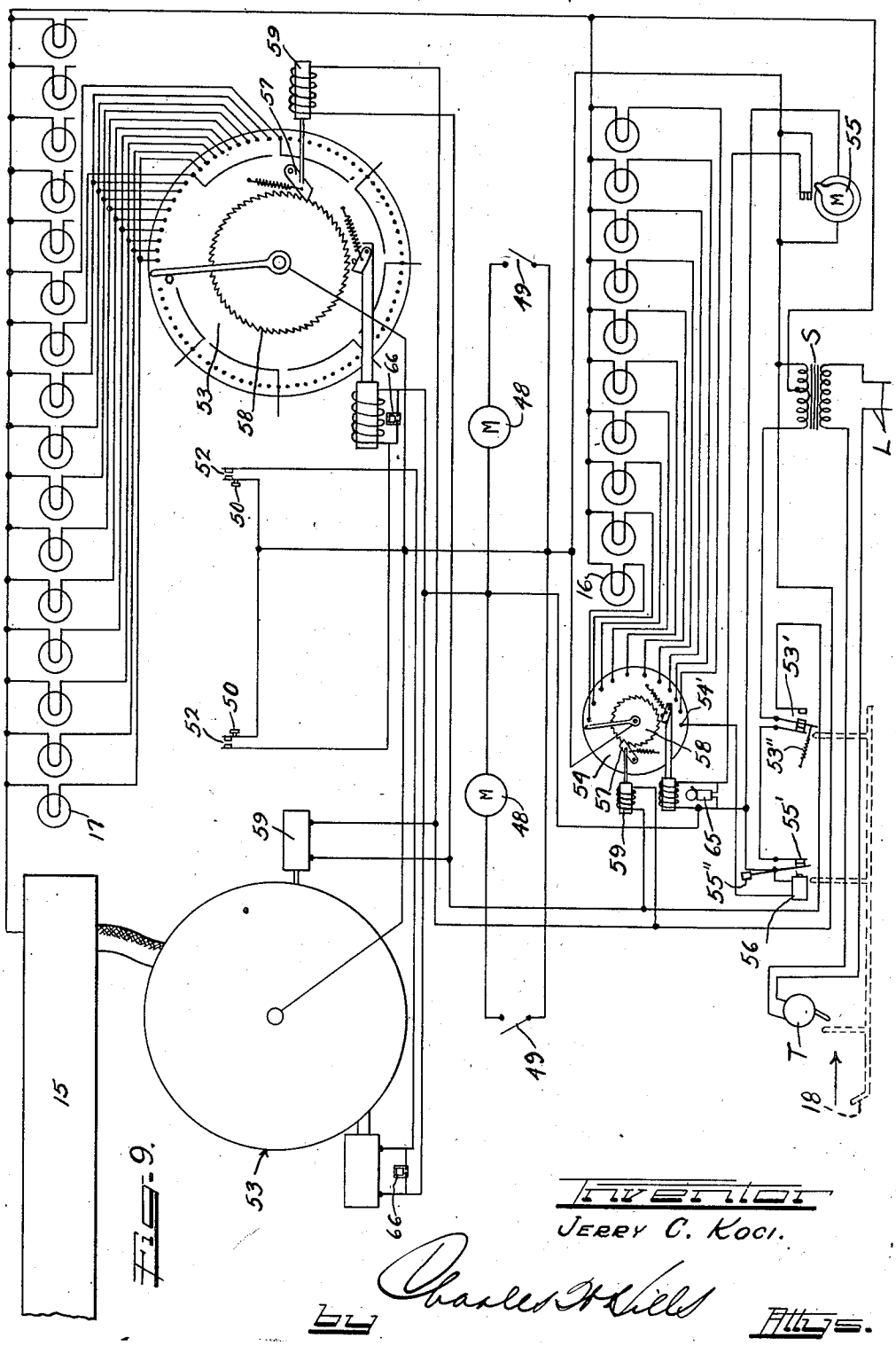


FIG-9.

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UNITED STATES PATENT OFFICE

2,435,141

AMUSEMENT GAME

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Application May 31, 1944, Serial No. 538,144

5 Claims. (Cl. 46—143)

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This invention relates to an amusement device or game in which the players control the movements of combatant figures to score points by striking an opposing figure, the device having visual means to indicate the score as the game progresses and means to indicate timed divisions of the game.

In present devices of this general type, which are usually coin-operated, the outcome of the contest is decided by knocking down or otherwise rendering ineffectual the combatant figure or figures controlled by one of the players, the game thereupon being terminated, and the mechanism rendered inoperative for further play without the deposit of another coin. In these devices, it often happens that through the difference in the skill of the opposing players, or by accident or luck, the game is terminated very shortly after it has begun. This, of course, is disappointing, since the interest of the game, as in any contest, derives primarily from the closeness of the competition, and a brief contest does not afford as great an opportunity for the interplay of various factors as does a longer contest.

In many instances, also, the game ends without either player's figure or figures having been rendered ineffectual by the other player, and since there is no means for scoring the contest, there is no way of determining which player has manipulated the figures most effectively, and any controversy as to this point must remain unsettled.

The present invention insures that the contest will continue to the end of the predetermined period of operation of the game, so that there is ample opportunity for various factors to come into play, such as skill, judgment, quickness of reaction, and the like. The provision of scoring means insures that there will be a definite indication of which player has best manipulated the game, so that there will be no controversy over who is the winner. Means are provided for indicating the passage of divisions of the period during which the game is operated so as to permit the players to ascertain readily just what stage has been reached in the playing of the game. Furthermore, since the score-indicating means and the stage-indicating means operate contemporaneously, the players may obtain a very accurate idea of the status of the game by noting the score and the stage to which the game has progressed.

The game can end in a tie score only if the players have manipulated the respective figures with equal success, so that the score-indicating means show the same score for each player.

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It is an important object of this invention to provide an amusement game for opposing players which requires concentration, quickness of perception and reaction, coordination and judgment for success in the playing thereof.

It is another object of this invention to provide an amusing game for opposing players which develops latent or underdeveloped qualities of concentration, coordination, perception, and the like.

It is an object of this invention to provide an amusement device or game which is operated for a predetermined period of time regardless of the relative success of the opposing players.

It is a further object of this invention to provide a game device in which scoring means progressively indicate the success of the players.

It is another object of this invention to provide an amusement game in which opposing figures are resiliently secured to their respective carriers and their movements thereon limited.

It is still another object of this invention to provide a game in which opposing figures are loosely mounted on their respective carriers, and limited movement relative thereto permitted, but having means to prevent the figures from falling down.

It is also an object of this invention to provide a game which has scoring means operated by the opposed elements of the game accurately indicating the relative success of the players.

Another object of the invention is to provide a novel form of combatant for a game.

A further object of the invention resides in the provision of improved indicating and recording means directly responsive to the actions of the players.

In accordance with the general features of the invention there are provided in a game opposing combatants with manually operable oscillating striking elements and having blow-responive means, with electrically operated register means operable sequentially by the blow-responsive means to progressively indicate visually the status of the combat.

Another feature relates to the provision in the game of the aforementioned type a novelly supported combatant figure.

Other and further objects and advantages of the present invention will be apparent to those skilled in the art from the following description and the amended drawings.

In the drawings:

Figure 1 is a plan view of one embodiment of the present invention;

Figure 2 is a side view of the device shown in Figure 1 partly broken away;

Figure 3 is a fragmentary rear detail view of one of the figures of the device and associated parts, the rear covering member of the figure being removed;

Figure 4 is a fragmentary vertical sectional view taken on the line IV—IV of Figure 1 looking in the direction of the arrows;

Figure 5 is a sectional view similar to Figure 4, but showing a modification of the means for actuating the arms of the figures;

Figure 6 is a fragmentary bottom view of the figure supporting and actuating means;

Figure 7 is a fragmentary sectional view taken substantially on the line VII—VII of Figure 4 looking in the direction of the arrows;

Figure 8 is a fragmentary view similar to Figure 7 taken on line VIII—VIII of Figure 4 looking in the direction of the arrows; and

Figure 9 is a diagrammatic view of the electrical circuits of the device.

The invention is shown and described as embodied in a game or amusement device simulating a boxing contest, although it will be obvious that the invention is applicable to a wide range of games simulating contests of various kinds. For example, the game might simulate a cock-fight, with the combatant figures simulating gamecocks, or a fencing match, with the figures simulating fencers.

As shown in the drawings, the device includes a casing 11, the top of which constitutes a platform 12 on which is mounted a miniature boxing ring 13 enclosing two figures or combatants 14 simulating boxers. Two panels 15 are provided for the mounting of two rows of lights each. One row of lights 16 on each panel constitutes indicating means to show the round in progress, and the other row of lights 17 in each panel is a score-indicating or registering means showing the number of points scored by each contestant. Since the game may be of the coin-operated type, a coin-depositing mechanism 18 of any desired type is provided for setting the game in operative condition and for starting operation of timing means to limit operation of the game to a predetermined period. Since means of this type are well known in the art, it is not considered necessary to illustrate or describe the same.

Each combatant or figure 14 is carried by a slide member 19 which is disposed beneath the platform 12 within the casing 11, with a portion extending out of the casing through an opening in a side wall of the casing. The slide member is manipulated by means of handles such as 20 mounted on the outer portion thereof. An electric contact actuator 21 is disposed on this outer portion for convenient operation. The slide member 19 is supported by brackets 22 and 23 secured to the under side of the platform 12. The bracket 22 is slightly longer than the width of the slide member 19, and the bracket 23 is somewhat longer than the bracket 22. The bracket 22 is disposed near the side wall of the casing, and the bracket 23 is mounted nearer the center of the casing. The slide 19 may thus be moved longitudinally and laterally, and may also be moved in a pivotal manner to swing the inner end of the slide member substantially in an arc. The dotted lines and broken lines of Figure 1 show extreme pivotal positions of the slide. The lateral and pivotal movement of the slide 19 is limited by the brackets. Longitudinal movement of the slide 19 is limited by a stop member 24 secured to the under side of the slide as by a bar 25, the stop 24 moving between the bracket 22 and the bracket 23, and preventing inward movement of the slide when brought against the bracket 23 and outward movement of the slide when it strikes bracket 22. To prevent undue jarring or shock, the brackets may each carry a buffer member 26 with a surface of resilient or shock-absorbing material such as rubber or the like. Within the limits indicated, the slide member 19 and the figure 14 carried thereby may be moved freely by the player as he may see fit. The slide member is always under the close and direct control of the player, and moves easily in response to pushing, pulling, and other movements of his hands. Thus, regardless of how rapid and sudden or how slow and gradual those movements may be, the movements of the slide accurately follow them. The figure 14 may thus be moved in any direction either quickly and sharply to evade blows or follow up an advantage, or more slowly and cautiously to avoid unnecessary blows or obtain a favorable position for attack.

The slide 19 is composed of a framework including longitudinally extending angle members 27. The end, sides, and top of the outer portion of the slide are covered by sheet metal 28 or the like to present a neat, finished appearance. To the angle members 27 near the inner ends thereof, supporting brackets 29 are secured which extend upwardly to substantially the plane of the upper surface of the platform 12, a substantial aperture 30 being formed in the platform of sufficient area to permit movement of the slide member without interference between the brackets 29 and the edges of the aperture 30, so that movement of the slide member 19 is limited only by the brackets 22 and 23 and the stop members 24 and 26 as previously described. To the upper portions of the brackets 29 is secured, as by welding or otherwise, a plate 31 of such size as to cover the aperture 30 regardless of the movements made by the slide member. In the forward portion of the plate 31 is an aperture 32 for a purpose which will be described hereinafter.

The figure 14 is loosely mounted on the plate 31 by means of openings 33 in the base 34 of the leg portion 35 of the figure. Pins 36 of slightly smaller diameter than the openings 33 extend upwardly therethrough and are secured to the plate 31 in any suitable manner. A collar 37 is secured to the upper end of each pin in any suitable manner, as by set screws, and has an outer diameter greater than that of the opening 33. The figure 14 may therefore move vertically the distance between the plate 31 and the bottom edge of the collar 37, and may have slight tilting or rocking movements about the pins 36, but is held from falling.

At the sides of the body portion of the figure 14 are two arms 38 each having an integral rearwardly extending pivot lug 39 bent to extend into the body portion through an arcuate slot 40 formed in each side member of the body portion. Each arm is pivoted at an intermediate point thereof to the side member, as by bolts 41. A coil spring 42 has one end secured to the pivot lug 39 and the other to any suitable securing member in the head portion of the figure, a tongue 43 struck inwardly from the sides of the head portion being shown in the drawings

as the securing means. The spring 42 urges the pivot lug upwardly, and thereby urges the arm 38 downwardly. Another coil spring 44 extending downwardly has one end secured to the pivot lug 39 and the other end to a link 45 connected to one throw of a double crank portion 46 formed in the shaft 47 of a small electric motor 48 mounted on the angle member 27 and controlled by a suitable switch 49 operated by the actuator 21. It will be seen that when the switch 49 is closed the motor will turn the shaft 47 and the crank portion 46, thereby alternately tensioning and releasing the springs 44 with a phase difference of 180°, so that when one arm 38 is raised by the force of the tensioned spring 44 overcoming the force of the spring 42, the other arm 38 will be lowered because the spring 42 will not be opposed by the other spring 44, which will be released. The opening 32 in the plate 31 through which the springs 44 extend permits movement of the springs without scraping or other interference. The springs 44 tend to hold the figure on the plate against the force of any blows received by the figure, and bring it quickly into equilibrium when it has been rocked or otherwise moved by a particularly heavy blow. If desired, the pins 36 may be omitted, and it will be found that the springs 44 will hold the figure in resiliently secured position on the plate 31. The loose, resilient mounting of the figure 14 permits a player to rock the figure forwardly, backwardly, or sidewise, by a sudden jerk or stoppage of movement of the slide 19, as an evasive maneuver or otherwise, or to take advantage of the rebound action of the figure after such rocking movement without further movement of the slide 19.

It will be seen that the construction and arrangement of the slide member and figure permits absolute control of movements of the slide member, and of the figure when the slide movements are smooth, even though rapid. It will further be seen that even with sudden changes in speed or direction of movements of the slide member, the direction and amplitude of the resulting resilient movements of the figure can be gauged within very close limits, so that complicated maneuvers may be carried out as desired.

Mounted in the chin portion of the figure 14 and freely slidable in the wall thereof is a button 50 formed with spaced flanges or collars, one outside and one inside the chin wall, which limit inward and outward movement of the button. The inner end of the button is pressed outwardly by a spring 51, with which is associated a suitable switch 52. When the button is moved inwardly to overcome the force of the spring 51, the switch 52 is closed. Closing of the switch 52 energizes an electrical circuit to light one of the scoring lights 17, these lights being arranged to indicate a point score of from one to seventy-nine. It will be obvious that the number of these scoring lights might be increased or decreased to increase or decrease the range of the score which can be indicated. A step-by-step relay 53, known in the art as a "stepping switch" or "step-up switch," is included in the scoring light circuit to operate the lights sequentially as the button 50 is repeatedly struck in the course of the game. Such a stepping switch is well known in the art, and is illustrated and described in my Patent No. 2,165,059, issued July 4, 1939, and reference is made to that patent for a disclosure of the structure and operation of the relay or stepping switch 53. It may be pointed out, however, that instead of the ratchet holding and releasing means disclosed in that patent, the present construction utilizes a solenoid-operated pawl. This holding and reset mechanism is described herebelow.

In Figure 9, which illustrates the electrical circuits of the amusement device, mains L carry electric current from a suitable source (not shown), and a step-down transformer S is provided to reduce the voltage to a desired value. An additional timing means T, which may be a clockwork mechanism, is provided to open the line L after a predetermined time. The timing means T is set in operation upon actuation of the coin-depositing mechanism 18. One stepping switch 53 and its associated parts are illustrated in some detail. To avoid confusion, however, all of the elements of the switch are not shown, and for the same reason all of the connections between the lights 17 and the switch contacts are not shown, the connections not shown merely duplicating those which have been illustrated. It is believed that a clear showing of the stepping switch and its associated parts and connections is made in the figure, reference being had to the aforesaid Patent 2,165,059. The other score-indicating means are identical, and have been represented only generally, the stepping switch at 53 and the lights by the box or panel 15.

The rounds lights 16 are also operated in sequential order by a stepping switch 54 similar to the switch 53. The step-by-step operation of the switch 54 is accomplished by a timing motor or the like 55 which operates at a constant speed and by means of any suitable arrangement, such as a cam, periodically closes a suitable switch for momentary energization of the operating solenoid of the switch 54. The timing motor 55 is put in operation by suitable switch means 55', which may be of the off-center type having a counterweight 55'', closed by actuation of the coin-depositing mechanism 18. The switch 55', with the switches 49, controls the circuits of the motors 48. As shown, the game is divided into ten rounds, and ten rounds lights are provided, but it will be obvious that the game might be divided into more or fewer rounds, and a corresponding number of lights provided instead of ten. The stepping switch 54 is provided with a contact 54' to which is connected a cut-out relay 56 which when energized opens the switch 55' to open the circuits of the motors 48 and 55 and of the switches 53 and 54, and thus terminates the operation of the game. The timing motor 55 actuates the stepping switch 54 at the termination of the last round to move the contact arm of the switch to the contact 54' to energize the relay 56 and open the circuits.

As will be clear from Figure 9, however, the cut-out relay 56 does not open the circuits of the scoring lights, which remain lighted for a predetermined period, until the circuits are opened by the additional timing means T. This provides a period of time in which the players of the game may ascertain the score, to determine the victor of the contest. The scoring light circuit timing means utilized in the present embodiment is well known in the art and as indicated hereinabove, is not shown or described specifically.

The holding and reset mechanism for each of the stepping switches 53 and 54 comprises a pawl 57 normally spring-urged into engagement with the ratchet 58 of the stepping switch to hold the

ratchet against the action of the torsion spring (not shown) tending to turn the ratchet and contact arm to starting position. The pawl 57 is withdrawn from engagement with the ratchet 58 by the plunger of a reset solenoid 59 when the solenoid is energized. Upon release of the ratchet 58 by withdrawal of the pawl 57, the ratchet and the contact arm rotated thereby are returned to starting position by the aforesaid torsion spring (not shown). Each solenoid 59 is energized by means of a double-throw switch 53', which in one position closes the circuits through the solenoids 59 and in its other position closes the circuit through the switch 55'. The switch 53' is normally held in the latter position, as by a spring 53'', and is moved to the former position by means of the coin-depositing mechanism 18 when this mechanism is actuated at the start of a game.

It will be seen from Figure 9, which includes a schematic showing of the coin-depositing mechanism 18, that when the mechanism 18 is moved in the direction of the arrow it starts the timing means T into operation, and at the same time it closes the switch 55' and moves the reset switch 53' to close the circuits of the reset solenoids 59, and thereby permit the stepping switches 53 and 54 to return to their starting positions, as described above. Upon return of the mechanism 18 to its normal position, the reset switch 53' is moved to open the circuits of the reset solenoids 59 and close the circuit through the switch 55'. The switch 55' remains closed until energization of the relay 56, and operation of the timing means T continues until its predetermined period has elapsed.

A gong 65 or other sounding means may be associated with the stepping switch 54 to be sounded at each step movement thereof, so that the players may have an aural indication of the passing of each round or other time interval as well as the visual indication provided by the lights 16. A sounding device 66 may also be associated with each of the stepping switches 53, to be sounded each time the contact button 50 is struck, and thus give an aural indication of each blow struck on the button, in addition to the indication given by the lights 17. It will be obvious that each of the various sounding means may have a sound or tone differing from that of the others, so that a clear and distinct indication will be given as to the blows struck each button and the passage of the time intervals. Sounding devices of this type are well known in the art, and, therefore, are not here described in detail.

Figure 5 illustrates a modification of the invention in which the springs 44 are operated manually instead of by means of the motor 48. In this construction, each arm 38 of the figure 14 is separately actuated, the lower end of its spring 44 being connected to one arm of a bell crank lever 60 suitably pivoted on the slide member 19. A rod 61 extending longitudinally of the slide 19 has one end connected to the other arm of the bell crank lever 60, and the other end of the rod is bent to form an upstanding handle 62 extending through a slot 63 in the cover 28 of the outer portion of the slide 19. The handle 62 is positioned conveniently near the slide member handle 29 so that both handles may be grasped by one hand in the manipulation of the slide and arm. Each rod 61 passes through guide blocks 64 and has a sliding fit therein, so that the rod will be maintained in desired relation to the other elements of the structure. It will be clear that when the rod 61 is moved outwardly by means of its handle 62, the bell crank lever 60 will tension the spring 44 to raise the arm 38 with a striking motion. When the handle 62 is released, the spring 44 will draw the rod 61 forwardly, and will resume its released position so that the arm 38 will be moved downwardly by the spring 42.

It will be obvious that, if desired, a separate motor 48 and switch 49 may be provided for each arm 38 of the figure 14, one spring 44 being connected to a single crank on the shaft of each motor.

The game may be used as a therapeutic or training device to restore or develop quickness of perception, quickness of reaction, the ability to concentrate, and judgment and coordination in general. It is, therefore, valuable in the treatment of persons who for any reason may be defective in any of these qualities.

It will, of course, be understood that various details of construction may be varied through a wide range without departing from the principles of this invention and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. An amusement game comprising timing means to limit the duration of the game, combatant figures movable to strike each other, a blow-responsive element on each figure, an electrical circuit operable by said element including means to sequentially operate visual means indicating the number of blows struck said blow-responsive element, and another electrical circuit controlled by said timing means including means to sequentially operate visual means indicating the passing of time intervals of the game, and means to open said other circuit to prevent operation of the game upon the passing of a predetermined number of said time intervals.

2. An amusement game comprising combatant figures operable to strike each other, means for operating said figures, timing means for rendering the game mechanism inoperative after a predetermined period, said timing means including visual means marking the passage of equal time intervals during said period, blow-responsive means on said figures, and registering means operable by said blow-responsive means for progressive visual indication of blows received by said blow-responsive means, said registering means and said marking means operating contemporaneously and progressively indicating the status of the game.

3. In a game including an apertured platform and a figure movably mounted thereon adjacent said aperture, said figure having a movable element thereon and actuating means therefor beneath said platform, resilient means extending between said element and said actuating means and constituting the sole connection for moving said element and for holding said figure for limited oscillating and vertical movement relative to said platform.

4. In a game simulating a boxing contest, a slide, a boxer loosely carried by said slide having independently movable arms, spring means urging each arm upwardly, spring means urging each arm downwardly, crank means disposed beneath the boxer and acting through one of said

spring means to oscillate said arm and yieldably retain the boxer on the slide, an opening in the base of said boxer, a pin secured to said slide and extending through said opening to limit motion of said boxer, said spring means cooperating with said pin to restore the boxer to equilibrium after movement thereof relative to said slide.

5. For use in an amusement device, a platform, a combatant figure having a head portion and a body portion supported in an upright position on said platform, striking elements pivoted on said body portion, opposed resilient means for each striking element urging said element in opposite directions, one of said resilient means also tending to hold said figure in an upright position on said platform, and means for tensioning and releasing said resilient means to move said striking elements.

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