

March 31, 1964

J. W. RYAN
BATTLE CONTEST GAME BOARD WITH ELECTRICALLY
OPERABLE SIGNAL MEANS

3,127,174

Filed March 20, 1962

3 Sheets-Sheet 1

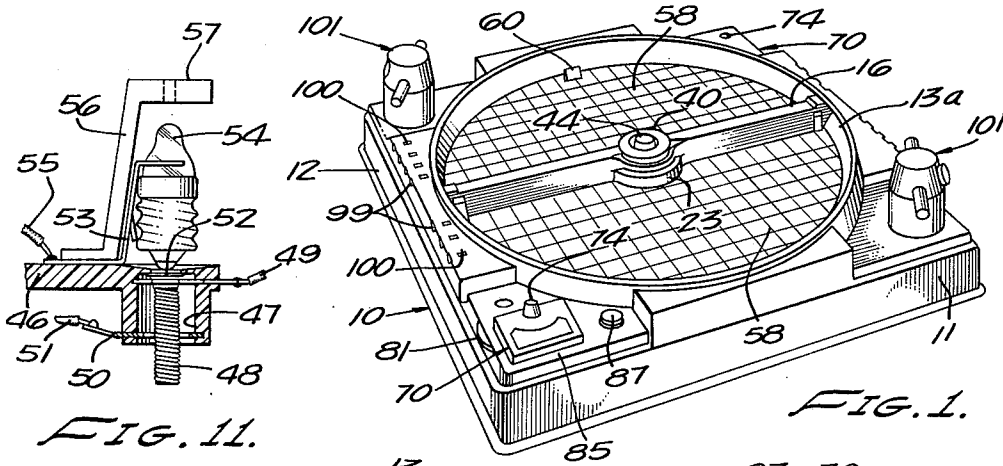


FIG. 11.

FIG. 1.

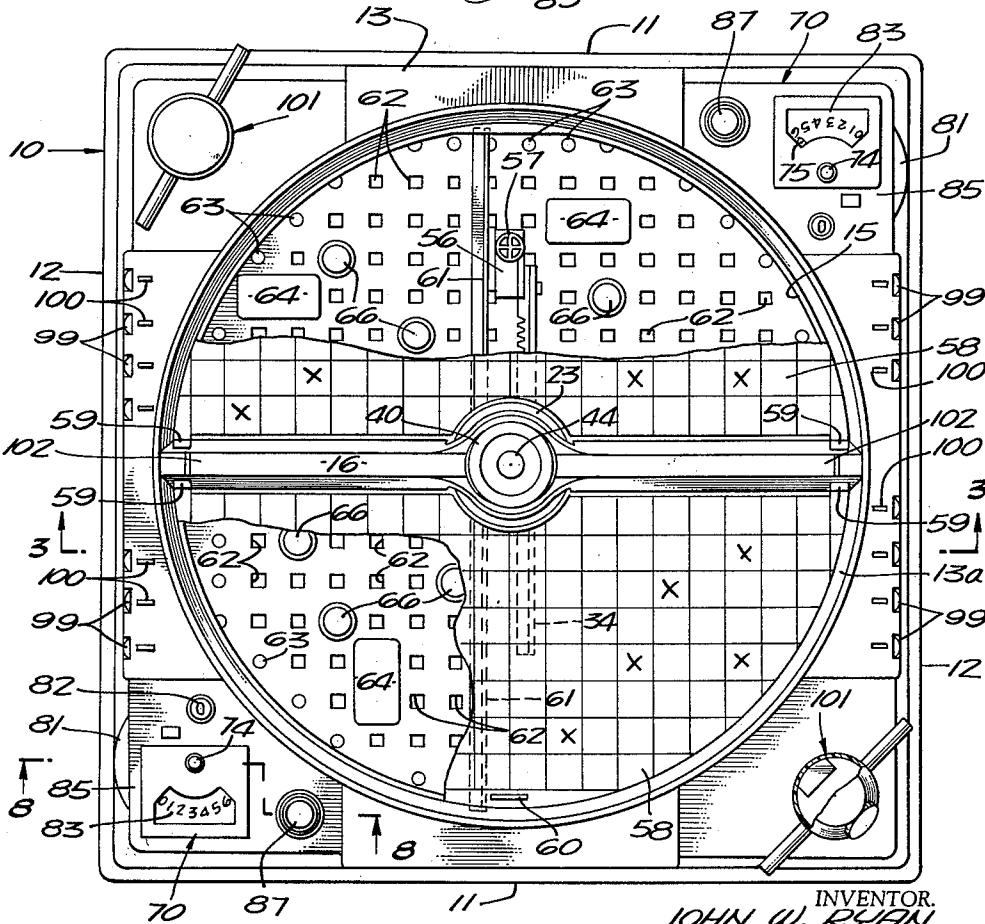


FIG. 2.

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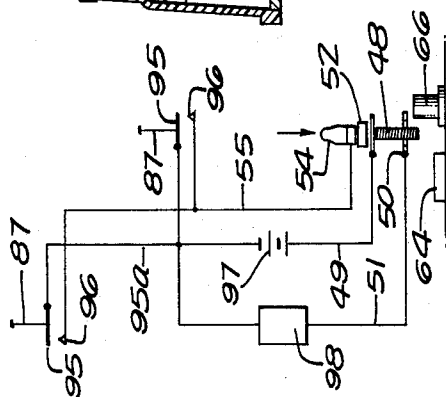
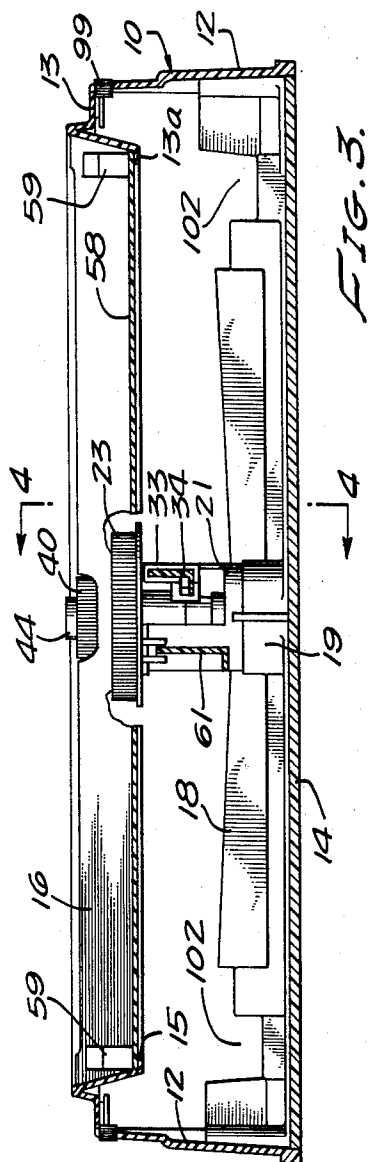


FIG. 12.

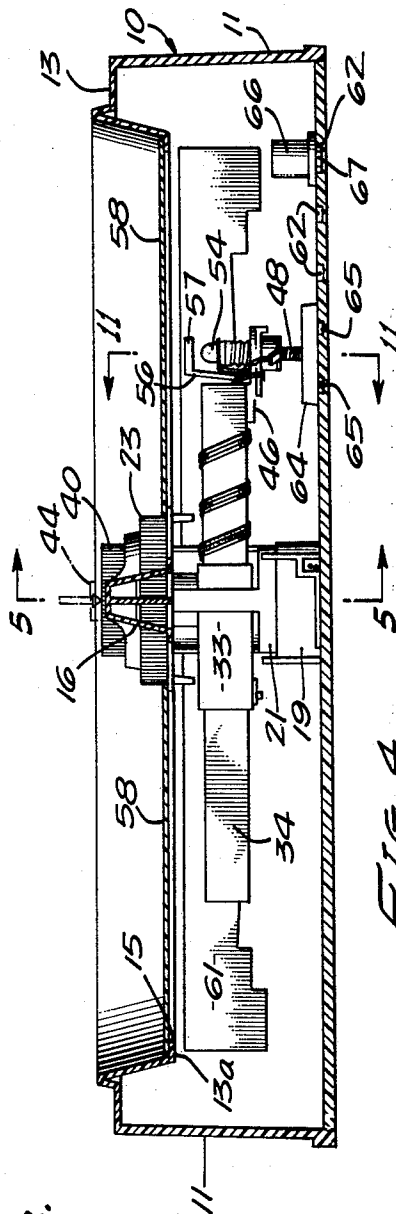


Fig. 4.

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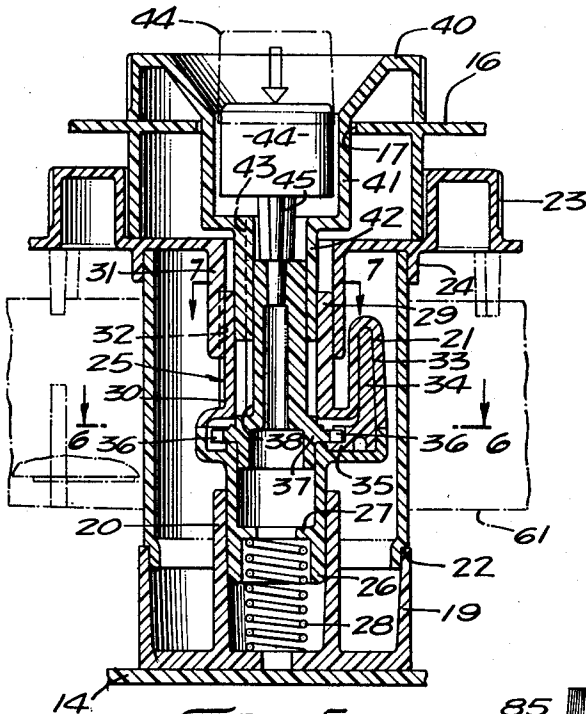


FIG. 5.

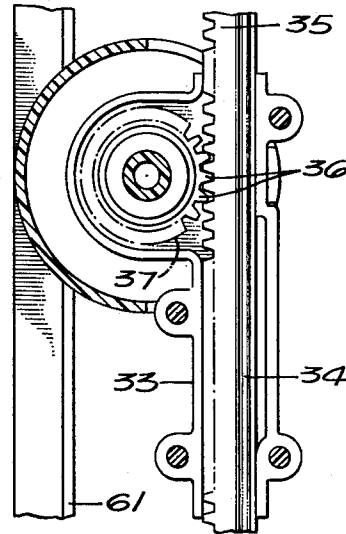


FIG. 6.

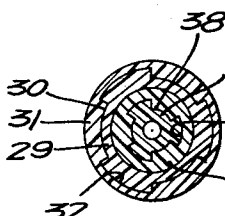


FIG. 7.

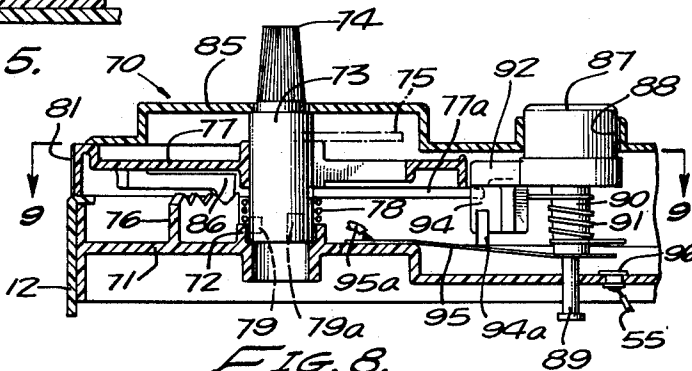


FIG. 8.

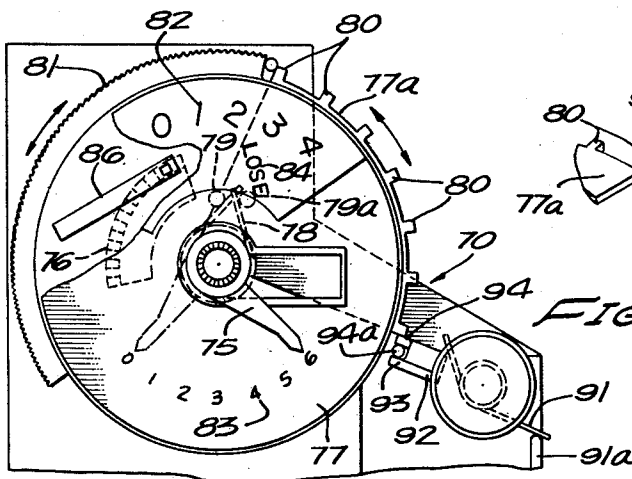


FIG. 9.

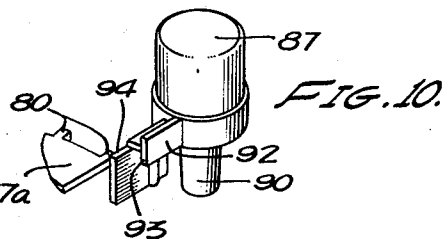


FIG. 10.

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BATTLE CONTEST GAME BOARD WITH ELECTRICALLY OPERABLE SIGNAL MEANS

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Filed Mar. 20, 1962, Ser. No. 180,984

10 Claims. (Cl. 273—130)

This invention relates to games of the contest type and more especially to a table type game employing playing pieces generally analogous to checkers and chess games.

An object of the invention is to provide a novel game apparatus of the contest type normally intended to be played by two opponents upon a playing field comprising a pair of marine areas protected by submarines and mines, the winning of the game being accomplished by the "destruction" or "disabling" of the opponent's fleet.

Another object of the invention is the provision of a game apparatus as in the previous object, the game being stimulating as a battle contest between the opponents.

Another object of the invention is to provide a novel game apparatus, as in the previous object, wherein the playing field is a realistic simulation of a submarine battle area employing submarines and mines which may be deployed in a variety of arrangements.

An additional object of the invention is to provide a game apparatus of the character described employing a periscope which permits a player to observe the maneuvering of the opponents while endeavouring to hit one of the player's subs and avoid hitting one of the player's mines.

Another object of the invention is to provide a novel game apparatus as in the previous objects having improved "hit" signals and score indicating means.

Other and additional objects and advantages of the invention will appear and be brought out more fully in the following specification, reference being had to the accompanying drawings wherein:

FIGURE 1 is a perspective view of a game apparatus incorporating the present invention.

FIGURE 2 is a top plan view, partly broken away, of the same.

FIGURE 3 is a sectional view taken along the line 3—3 of FIGURE 2.

FIGURE 4 is a sectional view taken along the line 4—4 of FIGURE 3.

FIGURE 5 is an enlarged sectional view taken along the line 5—5 of FIGURE 4.

FIGURE 6 is a sectional view taken along the line 6—6 of FIGURE 5.

FIGURE 7 is a sectional view taken along the line 7—7 of FIGURE 5.

FIGURE 8 is a sectional view enlarged taken along the line 8—8 of FIGURE 2.

FIGURE 9 is a sectional view taken along the line 9—9 of FIGURE 8.

FIGURE 10 is a fragmentary perspective view of the escapement movement shown in FIGURES 8 and 9.

FIGURE 11 is a sectional view taken along the line 11—11 of FIGURE 4.

FIGURE 12 is a diagrammatic view of the electrical circuit of the invention.

Referring to the drawings in more detail, the game of this invention comprises a box-like case 10 made of any suitable light material such as a thermosetting plastic, the case having a pair of confronting front walls 11, side walls 12 and a top 13, these parts being shown as an integrally formed unit. A bottom plate 14 is suitably secured as by cementing by the front and side walls. Top 13 has a central circular opening 15 formed in a depressed portion 13a thereof and a truss member 16 extends across opening 15 and has an enlarged central portion formed with an opening 17 through which ex-

tend the ready button and the range knob to be more fully described hereinafter. A beam 18 extends across bottom plate 14 below truss member 16 and is formed with an upstanding circular flange 19 at its center and interiorly of flange 19 is a smaller upstanding flange 20 which forms a cylindrical guide for the arm sub-assembly to be described more fully hereinafter. The support tube 21 has an annular recess forming a shoulder 22 by which it is rotatably mounted on the upper end of flange 19.

An azimuth knob 23 is mounted on the upper end of support tube 21 and has a downwardly depending guide flange 24 within which the upper end of the support tube extends. A sight and contact arm case 25 has a tubular lower end 26 which extends into guide flange 20 and is formed with a transverse web 27 by which it is resiliently supported on a coil spring 28 contained in guide flange 20. Arm case 25 has a tubular upper end 29 formed with external axial grooves 30 and azimuth knob 23 has a downwardly depending flange 31 formed with interior axial grooves 32 forming splines which interfit in grooves 30 of the arm case. The azimuth knob 23 is thus adapted to rotate the arm case 25 while the arm case is movable vertically on the spring seat 28.

Arm case 25 is formed with an elongated offset guide 33 which has a somewhat oval shaped opening extending from end to end and a sight and contact arm 34 is slidably contained within arm guide 33. Support tube 21 has wall openings through which guide 33 and arm 34 extend. Arm 34 has a lateral flange 35 formed with rack gear teeth which mesh with teeth 36 of a gear 37. Gear 37 is bearing mounted in arm case 25 and has a plurality of external axial grooves 38.

A range knob 40 has a flange bearing mounting on truss member 16 and is formed with a tubular portion 41 extending through aperture 17 of the truss member. The range knob has a further tubular portion 42 of reduced diameter formed with axially extending internal grooves 43 forming splines which interfit with grooves 38 of and for rotating gear 37 and causing longitudinal movement of arm 34 in arm guide 33. The spline and groove connections 30—32 and 38—43 are made free enough so that the arm case 25 carrying the arm 34 is freely movable vertically. A button 44 designated a ready button is positioned within tubular portion 41 of the range knob 40 and has a stem 45 suitably secured onto the top of gear 37. By this construction when ready button 44 is depressed the arm case structure will be moved downwardly against the action of spring 28.

A switch bracket 46 is secured at one end of arm 34 and is formed with a vertical bore 47 in which is secured the upper enlarged end coil of a coil spring 48, and a conductor wire 49 is secured to this upper end coil. A contact 50 is secured in the lower part of bore 47 and a conductor wire 51 is connected to this contact. Contact 50 has an aperture through which spring 48 extends so that when the spring is bent or tilted a switching contact will be made between the spring and contact 50. A contact plate 52 is mounted on bracket 46 across the upper end of bore 47 and in spaced relation to the upper end coil of spring 48.

A lamp bracket and contact 53 is secured on switch bracket 46 and holds a lamp 54 in such manner that the end contact of the lamp engages plate 52 and the threaded side contact thereof makes contact with the lamp bracket 53. Upon compression of spring 48 in a manner to be more fully explained hereinafter, a switch contact is made between the upper end coil of the spring and contact plate 52 completing a circuit through a lamp 54. A conductor wire 55 is connected to lamp holding bracket 53. A target sight bracket 56 is secured on a switch bracket 46 and the upper end of bracket 56 is extended laterally above

lamp 54 and has apertures forming a cross to constitute a target sight.

A pair of semicircular screens 58 are disposed on opposite sides of truss member 16, the peripheral edges of the screens resting on the depressed portion 13a of case top 13. Screens 58 have tabs or tongues 59 which interfit in apertures in truss member 16 thereby providing hinge action for the screens which may be raised, the screens being provided with upstanding tongues or tabs 60 to permit this movement. The upper edge of the beam 18 is shown as having a stepped formation at its ends and an elongated shield or barrier 61 is mounted on arm case 25 and has its lower edge portions formed in a stepped formation complementary to that of beam 18. By this formation, arm 34 is under and parallel to truss member 16, so that the players cannot see the opponent's sub and mine field and the placement of the pieces thereon.

Bottom plate 14 is formed with a plurality of square recesses 62 in an equally spaced grid arrangement as seen in FIGURE 2 and a plurality of round recesses 63 are similarly formed in the bottom of the plate and disposed marginally with respect to the square recesses 62. A plurality of elongated playing pieces 64 are formed with a pair of depending end bosses or pegs 65 which interfit with square recesses 62, and round recesses 63. Playing pieces 64 may have a representation on the upper surface thereof of a submarine. A plurality of playing pieces 66 each have a peg, foot or boss 67 by which they may be positioned in the square recesses 62, but will not fit in the round recesses 63.

The operation of the parts as thus far described is as follows. A rotation of azimuth knob 23 will in turn support tube 21 on beam flange 19 carrying with it beam 34 and shield 61 whereby the target sight 57 will be moved in a circular path under radar screen 58, the target sight being visible through the screen which is of a translucent and light transmitting character. Upon rotation of range knob 40 which is slidable vertically on gear 37, arm 34 carrying the target sight 57 will be moved radially inwardly or outwardly to move the target sight to any desired range position. If now ready button 44 is pressed downwardly against the resistance of spring 28 and in the event a playing piece 64, as shown in FIGURE 4, is under the switch bracket 46 and spring contact 48 the spring will be compressed and make a contact with contact plate 52 to complete an electrical circuit which will light lamp 54.

A pair of mines hits and firing mechanisms 70 are positioned at opposite corners of the game and each mechanism includes a secondary dial cover 71, having a bearing 72 to receive an arming knob shaft 73 at the top of which is an arming knob 74. A pointer 75 is secured on shaft 73 and dial cover 71 is formed with a detent flange 76, the upper end of which has a plurality of detent teeth. A mines hit knob 77 is bearing mounted on shaft 73, and a sector shaped escapement plate 77a is secured on shaft 73. A coil spring 78 is positioned on shaft 73 and has one end thereof engageable with an abutment rim 79 extending upwardly from base plate 71 and the other end engageable with an abutment rim 79a extending downwardly from sector plate 77a. By this arrangement the sector plate and pointer are rotatable in a clockwise direction by the spring after tensioning of the spring by counterclockwise rotation of the arming knob 74. Escapement plate 77a has a plurality of spaced-apart escapement teeth 80. The mines hit knob 77 has a knurled flange 81 which extends through a side opening in a top plate 85 of the mechanism 70. The plate portion of mines hit knob 77 is marked with scoring indicia 82, 83 and 84 and a spring detent arm 86 is formed on the underside of the knob plate portion and engages the teeth of detent flange 76 to hold the knob in any of the several positions indicated by the indicia 82 during the operation of the game.

A firing button 87 extends through a flange opening 88 in top plate 85 and has a shaft 89 extending through an

opening in secondary dial cover 71. Shaft 89 has an enlarged portion 90 extending through a coil spring 91, the lower end of which engages a stop 91a on dial cover 71 to permit rotation of the firing button. Firing button 87 is formed with an integral stepped arm 92 having offset stops 93 and 94 so positioned as to engage and stop the escapement teeth 80 during actuation of the mines hit knob 77. A stop pin 94a holds stop 94 against counterclockwise rotation, as seen in FIGURE 9, but permits clockwise rotation thereof to clear teeth 80 when the escapement plate is restored to the position shown in FIGURE 9 after actuation thereof. A leaf spring contact 95 has one end secured on dial cover 71 and its free end has an aperture through which shaft 89 extends, the enlarged portion 90 of shaft 89 seating on spring 95. A conductor 95a connects a battery 97 to both leaf spring contacts 95 and one terminal of a buzzer 98, the other terminal of the buzzer being connected by conductor wire 51 to contact 50 of the mines hit switch shown in FIGURE 11. A plurality (seven) of signal levers 99 are suitably mounted through openings in side walls 12 and bear colored indicia, such as red and green, visible through apertures 100 in top plate 13. A pair of periscopes 101 are positioned at opposite corners of top plate 13 and permit the players to view the deployment of the sub and mine playing pieces 64 and 66 and the maneuvering by the opponent of the coil spring contact 48.

The operation of the invention can be well understood from an explanation of the playing of the game. The range knob 40 and azimuth knob 23 are turned to rotate arm 34 to a position under truss 16 and target sight run outwardly until it is positioned under clear space 102. In this condition barrier 61 will be above beam 18 and close off this space. Each player then raises the adjacent screen 58 and places the seven subs 64 at random places in pairs of square recesses 62 and/or round recesses 63. The players likewise place the four mines 66 at random in square recesses 62. The players each turns his mines hit knob 77 clockwise to bring the zero numeral of the indicia 82 in registry with the aperture in top plate 85 and each arming knob 74 is turned counterclockwise so that pointer 75 is pointed at numeral 6 of the indicia 83. The attacking player then turns the azimuth and range knobs so as to bring the target sight 57 and feeler contact spring 48 to a position he believes to be over one of the enemies of defenders subs. The ready button 44 and the firing button 87 are then simultaneously depressed and in the event the contact and feeler switch is over a sub 64 a contact will be made between contact plates 52 and spring 48 and light lamp 54. The downward movement of firing button 87 will shift the arm stops 93 and 94 and permit the escapement plate 77a to advance by one escapement tooth 80 and move pointer 75 to the numeral 5 of indicia 83. This will indicate to the attacking player that he has five remaining shots at his enemy's sub and mine field. A mark "X" with a colored crayon such as a red is placed on the screen at this position to indicate a hit. In the event no hit is made, a differently colored "X," such as yellow, is used to indicate that shot so that the spot will be avoided in later plays. If during the movement of the target sight and feeler spring 48 over the area of play, spring 48 bumps or comes in contact with one of the mines 66, the spring will be deflected and touch contact 50 thus closing the circuit through buzzer 98. The mines hit knob 77 will then be turned to bring the numeral 1 of the indicia 82 in registry with the opening in the top plate 85 thus indicating that the attacking player has made a score of one of four allowable hits on the enemy's mines.

During the maneuvering of the attacking player the defending player can be looking through his periscope 101 and observe the movement of the target sight and the spring contact 48 and if a light or buzzer signal is given he can verify the hit made.

It will be understood that the foregoing description is illustrative of rather than restrictive of the invention and

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that changes and modifications may be made without departing from the spirit and scope of the subjoined claims.

What is claimed is:

1. A submarine battle game as described comprising: a box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position a plurality of
"target" playing pieces in selected changeable deployment,
a non-transparent screen overlying and spaced upwardly
from said playing field areas whereby said playing pieces
cannot be seen therethrough, a target sight under, adjacent
and visible through said screen, a switch and lamp signal
assembly carrying said target sight, and means mounting
said assembly for movement to any part of said playing
field areas, said switch assembly comprising means actu-
atable upon engagement with the top of one of said play-
ing pieces to activate said lamp signal to indicate a target
"hit."

2. A submarine battle game as described comprising: a
box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position a plurality of
"target" playing pieces in selected changeable deployment,
a non-transparent screen overlying and spaced upwardly
from said playing field areas whereby said playing pieces
cannot be seen therethrough, a target sight under, adjacent
and visible through said screen, a switch and lamp signal
assembly carrying said target sight, and means mounting
said assembly for movement to any part of said playing
field areas, said switch assembly comprising means actu-
atable upon engagement with the top of one of said playing
pieces to activate said lamp signal to indicate a target
"hit," said switch assembly being actuatable upon bump-
ing the side of one of said playing pieces to activate a
second signal.

3. A submarine battle game as described comprising a
box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality of
"target" playing pieces in selected changeable deployment,
a non-transparent screen overlying and spaced upwardly
from said playing field areas whereby said playing pieces
cannot be seen therethrough, a target sight under, adjacent
and visible through said screen, a switch and lamp signal
assembly carrying said target sight, and means mounting
said assembly for movement to any part of said playing
field areas, said switch assembly comprising means actu-
atable upon engagement with the top of one of said play-
ing pieces to activate said lamp signal to indicate a target
"hit," said switch assembly being actuatable upon bump-
ing the side of another playing piece having a different
configuration to activate a second signal.

4. A submarine battle game as described comprising: a
box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality
of "target" playing pieces in selected changeable deploy-
ment, a non-transparent screen overlying and spaced up-
wardly from said playing field areas whereby said playing
pieces cannot be seen therethrough, a target sight under,
adjacent and visible through said screen, a switch and lamp
signal assembly carrying said target sight, and means
mounting said assembly for range and azimuth movement
to any part of said playing field areas, said switch assembly
comprising means actuatable upon engagement with the
top of one of said playing pieces to activate said lamp
signal to indicate a target "hit," said switch assembly being
actuatable upon bumping the side of another one of said
playing pieces having a different configuration to activate
a second signal.

5. A submarine battle game as described comprising: a

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box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas hav-
ing means adapted to position a plurality of "target" play-
ing pieces in selected changeable deployment, a translucent
screen overlying and spaced upwardly from said playing
field areas whereby said playing pieces cannot be seen
therethrough, a target sight under, adjacent and visible
through said screen, a switch and lamp signal assembly
carrying said target sight, and means mounting said as-
sembly for radial and rotary movement to any part of said
playing field areas, said switch assembly comprising means
actuatable upon engagement with the top of one of said
playing pieces to activate said lamp signal to indicate a
target "hit," said switch assembly being actuatable upon
bumping the side of another one of said playing pieces
having a different configuration to activate a second signal.

6. A submarine battle game as described comprising: a
box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality
of "target" playing pieces in selected changeable deploy-
ment, a translucent screen overlying and spaced upwardly
from said playing field areas whereby said playing pieces
cannot be seen therethrough, a target sight under, ad-
jacent and visible through said screen, a source of electric
current, a switch and lamp signal assembly carrying said
target sight connected to said source of electric current,
and means mounting said assembly for movement to any
part of said playing field areas, said switch assembly com-
prising means actuatable upon engagement with the top
of one of said playing pieces to activate said lamp signal
to indicate a target "hit," said switch assembly being actu-
atable upon bumping the side of another one of said play-
ing pieces having a different configuration to activate a
second signal.

7. A submarine battle game as described comprising: a
box-like frame including a playing field having an upstand-
ing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas each
having means adapted to position thereon a plurality of
"target" playing pieces in selected changeable deployment,
a translucent screen overlying and spaced upwardly from
said playing field areas whereby said playing pieces cannot
be seen therethrough, a target sight under, adjacent and vis-
ible through said screen, a source of electric current, a
switch and lamp signal assembly carrying said target sight
connected to said source of electric current and means
mounting said assembly for movement to any part of said
playing field areas, said switch assembly comprising means
selectively shiftable in a vertical direction whereby upon
engagement with the top of one of said playing pieces said
lamp signal is activated to indicate a target "hit," said
switch assembly being actuatable upon bumping the side
of another one of said playing pieces having a different
configuration to activate a second signal.

8. A submarine battle game as described comprising: a
box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality
of "target" playing pieces in selected changeable deploy-
ment, a non-transparent screen overlying and spaced up-
wardly from said playing field areas whereby said playing
pieces cannot be seen therethrough, a target sight under,
adjacent and visible through said screen, a battery, an audi-
ble signal, a switch and lamp signal assembly carrying said
target sight connected to said battery, and means mount-
ing said assembly for movement to any part of said play-
ing field areas, said switch assembly comprising means
selectively actuatable upon engagement with the top of
one of said playing pieces to activate said lamp signal
to indicate a target "hit," said switch assembly being
actuatable upon laterally engaging the side of another

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one of said playing pieces having a different configuration to actuate said audible signal.

9. A submarine battle game as described comprising: a box-like frame including a playing field having an up-
standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality
of "target" playing pieces in selected changeable deploy-
ment, a non-transparent screen overlying and spaced up-
wardly from said playing field areas whereby said playing
pieces cannot be seen therethrough, a target sight under,
adjacent and visible through said screen, a switch and
lamp signal assembly carrying said target sight, means
mounting said assembly for movement to any part of
said playing field areas, said switch assembly being actu-
atable when above one of said playing pieces to engage
the top thereof and activate said lamp signal to indicate
a target "hit," said switch assembly being actuatable upon
bumping the side of another one of said playing pieces
having a different configuration to activate a second sig-
nal, and means co-actuatable with said switch assembly
to register actuation of said assembly.

10. A submarine battle game as described comprising: a
box-like frame including a playing field having an up-

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standing opaque transverse barrier dividing said field into
a pair of "battle ground" areas, said playing field areas
each having means adapted to position thereon a plurality
of "target" playing pieces in selected changeable deploy-
ment, a non-transparent screen overlying and spaced up-
wardly from said playing field areas whereby said playing
pieces cannot be seen therethrough, a target sight under,
adjacent and visible through said screen, a switch and lamp
signal assembly carrying said target sight, means mounting
said assembly for movement to any part of said playing
field areas, said switch assembly being actuatable when
above one of said playing pieces to engage the top thereof
and activate said lamp signal to indicate a target "hit," said
switch assembly being actuatable upon bumping the side
of another one of said playing pieces having a different
configuration to activate a second signal, and a periscope
mounted on said frame in position to permit viewing one
of said "battle ground" areas therethrough during play.

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