United States Patent [19]

Nakatani

[11] **3,872,853**

[45] **Mar. 25, 1975**

[54] **ELASTIC BAND HARPOON PROTECTING DEVICE**

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[73] Assignee: **Suwa Tekko Sho Co., Ltd.**, Osaka, Japan

[22] Filed: **Oct. 27, 1972**

[21] Appl. No.: **301,298**

[30] **Foreign Application Priority Data**

Oct. 29, 1971 Japan 46-101531

[52] **U.S. Cl.** ..... **124/22**, 124/40, 124/30 B, 124/30 R, 33/245, 124/237

[51] **Int. Cl.** **F41b 7/00**

[58] **Field of Search** ..... 124/11 A, 22, 27, 26, 35, 124/40, 30 B, 30 R; 33/245-250, 252, 256; 43/6

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Primary Examiner—Richard C. Pinkham
Assistant Examiner—William P. Browne
Attorney, Agent, or Firm—Armstrong, Nikaido

[57] **ABSTRACT**

An underwater spring gun having a telescope holding means integrally made with a gun grip, a telescope including an objective lens at its front end and an eyepiece at its rear end and extending through and held by the gun barrel at a portion proximate to its rear end, a harpoon guiding member extending along the under face of the telescope. The propelling device for the harpoon has one end engaged in the front end portion of the telescope and the other end engaged in a rear portion of a harpoon to urge the harpoon forwardly. A discharge device for latching and releasing the rear portion of the harpoon when the harpoon is provided to hold the harpoon in its cocked position.

5 Claims, 11 Drawing Figures

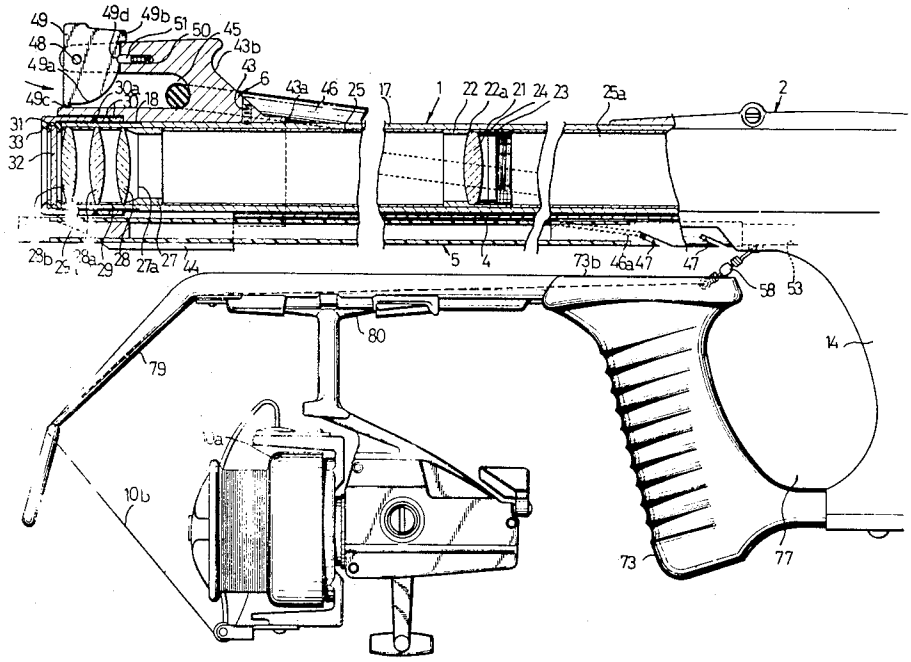


Fig 1

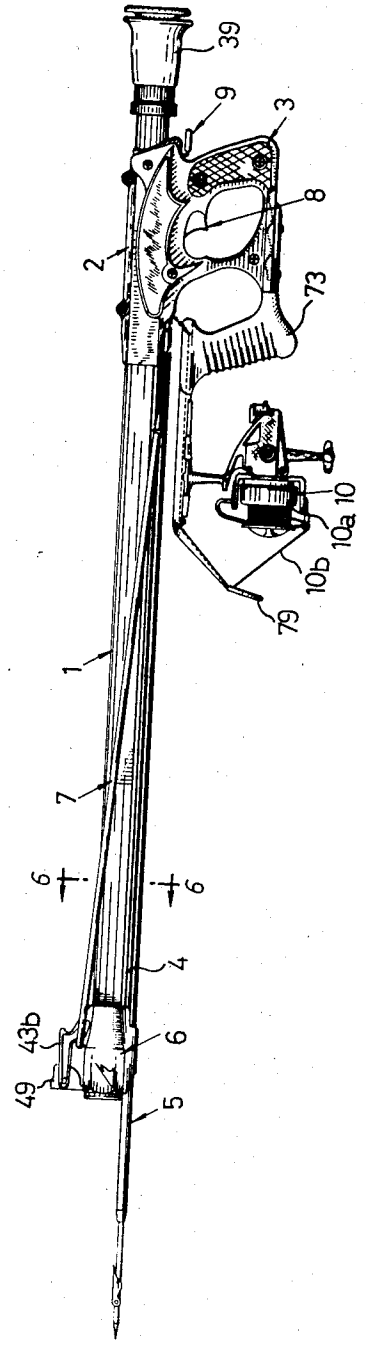

39
9
3
8
2
73
10
10a
10b
79
1
7
6
6
4
43b
6
49
5

Fig 11

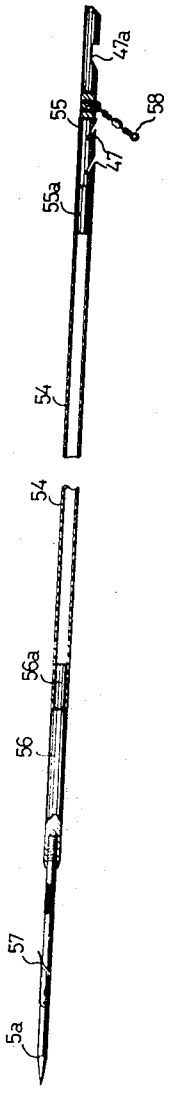

47a
58
55
47
55a
54
54
56a
56
57
5a

Fig 2

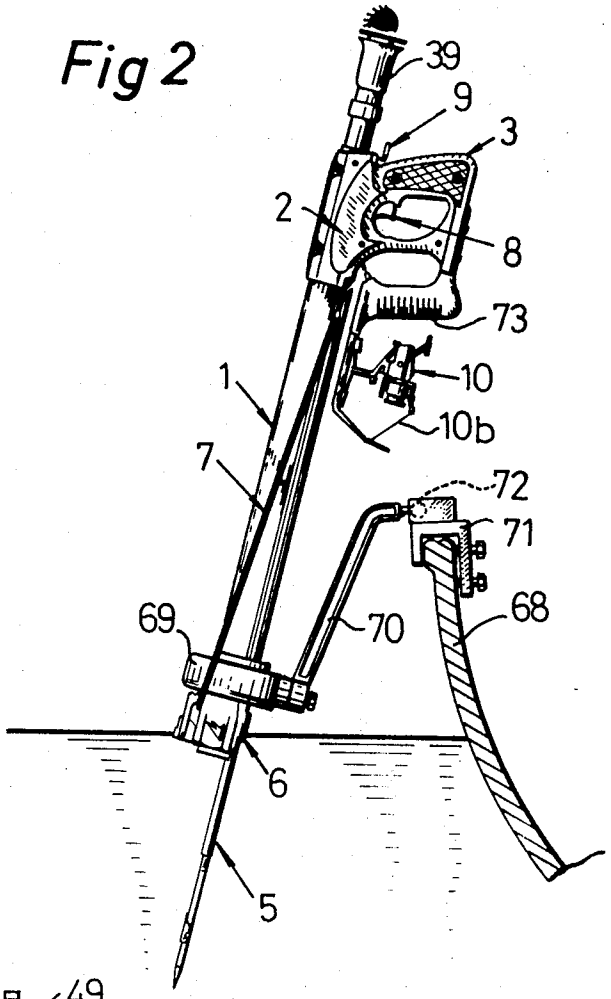

39
9
3
2
8
73
1
10
10b
7
72
71
69
70
68
6
5

Fig 6

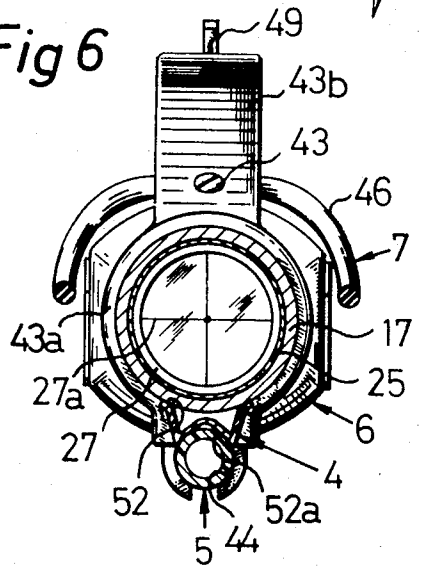

49
43b
43
46
7
43a
17
27a
25
27
6
4
52
52a
5
44

Fig 3

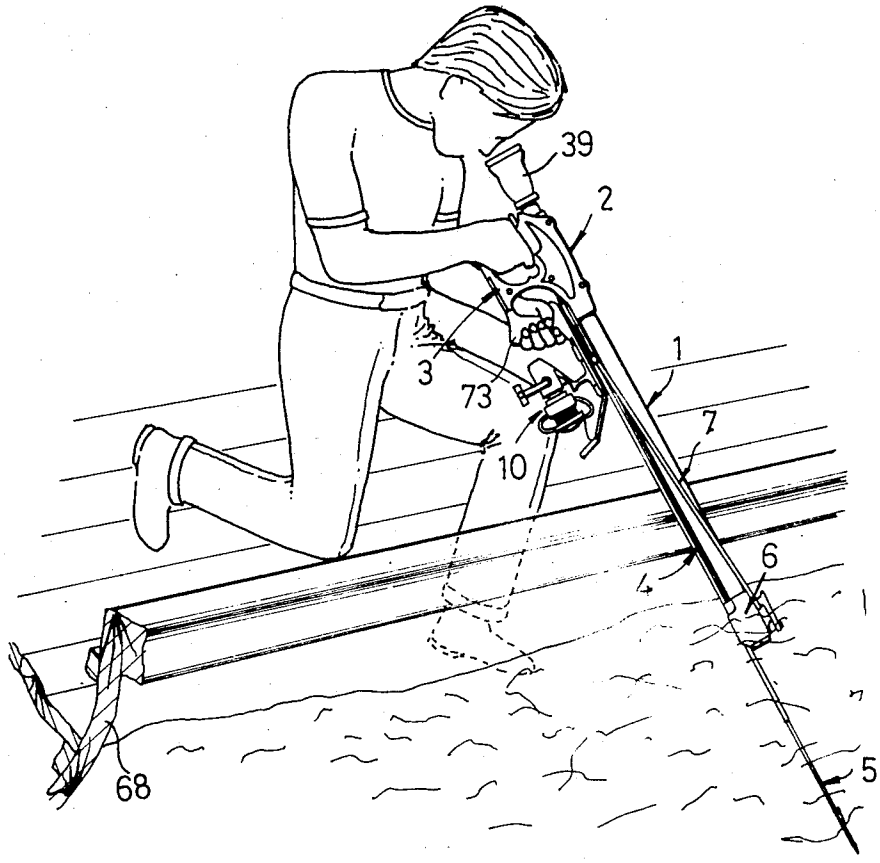


Fig 4

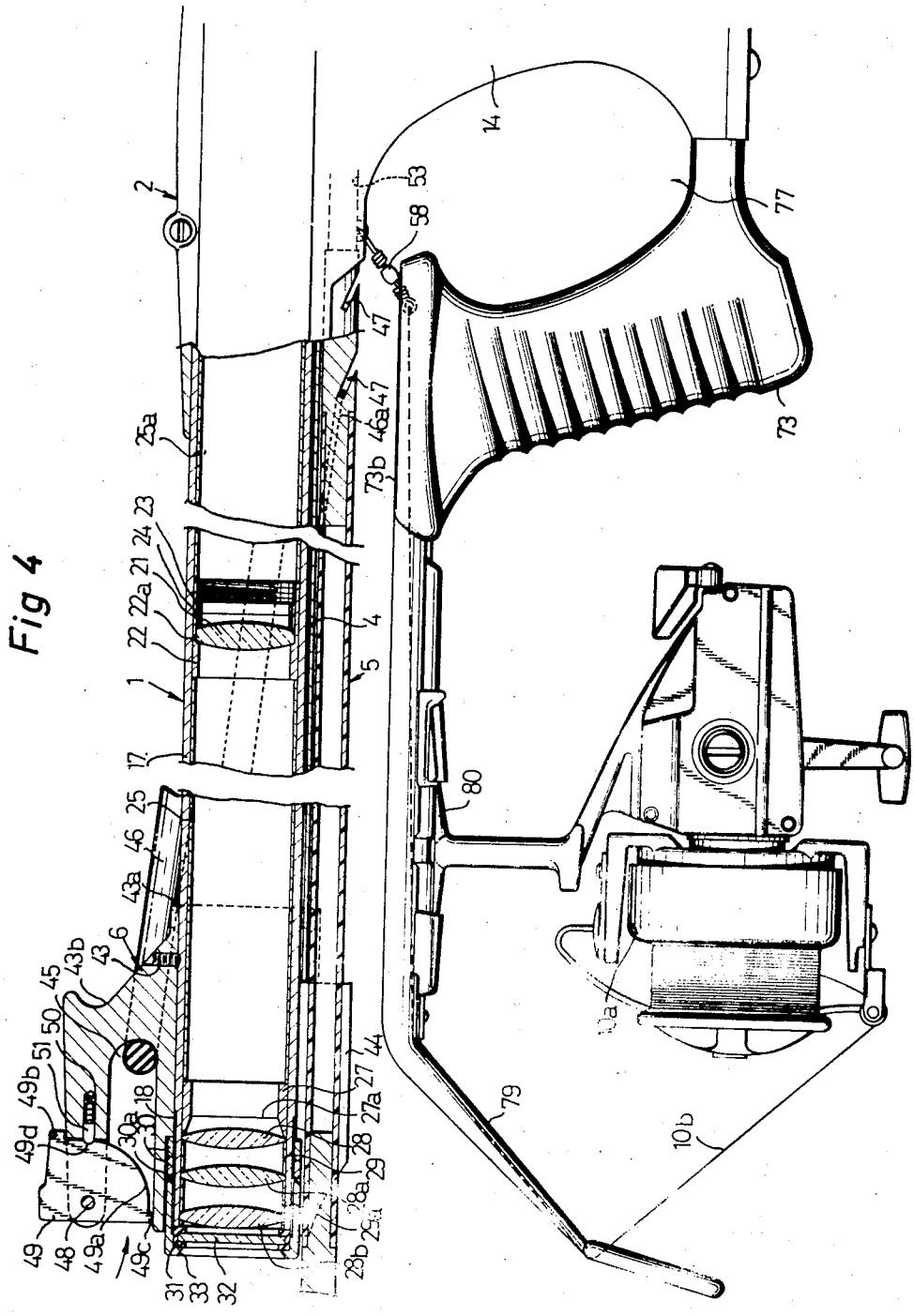

2
14
53
58
77
47
46a
73b
73
25a
23
24
21
22a
22
1
4
5
17
25
46
43a
6
43
43b
45
50
51
49b
49d
18
30
49
48
49a
49c
31
33
32
27
27a
28
29
28a
28b
44
80
79
10b

Fig 5

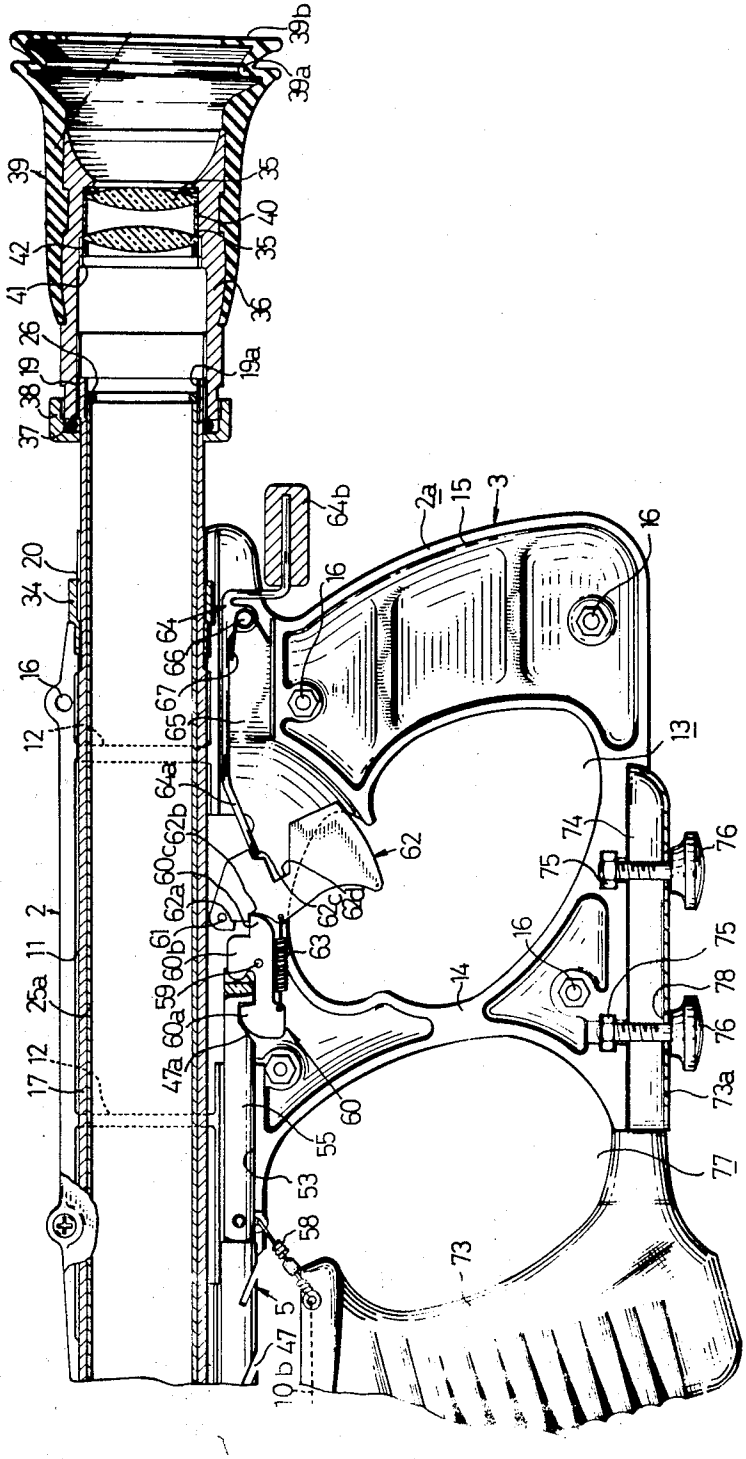

39b
39a
39
35
40
35
42
41
36
26
19
19a
38
37
64b
2a
15
3
16
20
34
64
66
67
65
16
12
64a
62b
60c
62a
62
74
75
76
61
60b
62c
62d
63
16
75
25a
11
2
59
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73a
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10b

Fig 7

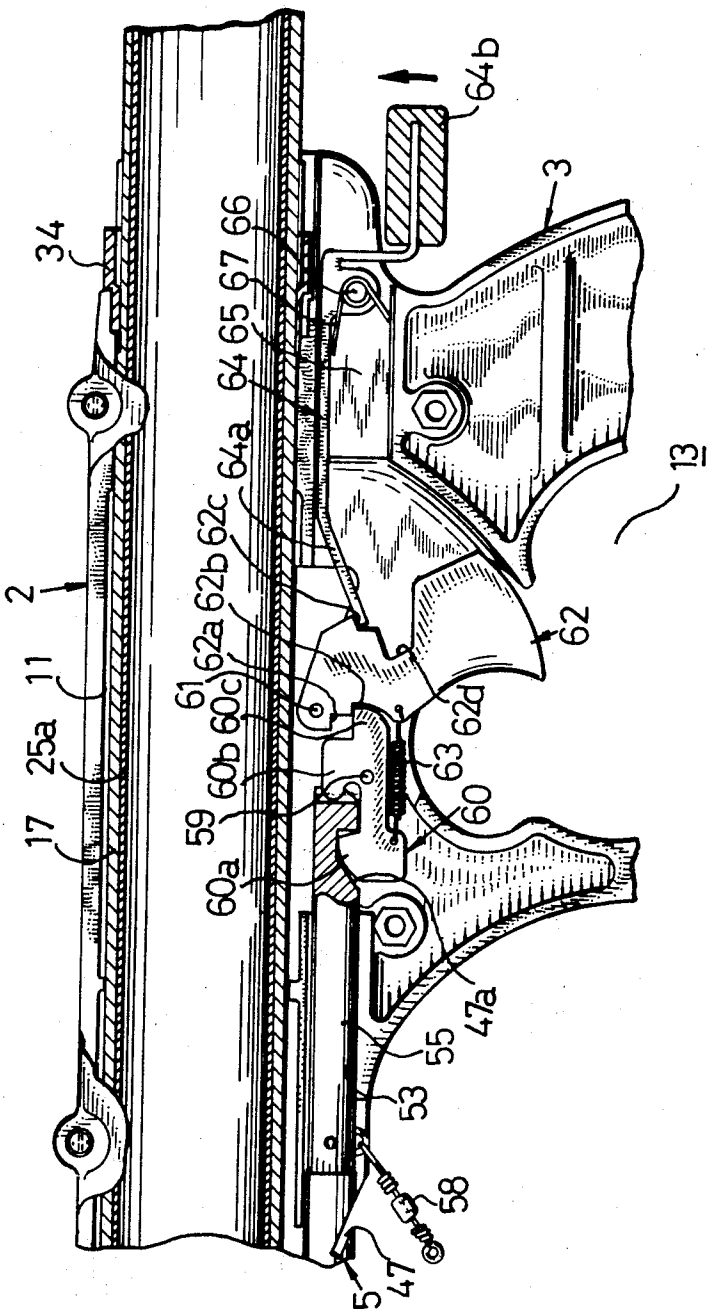

64b
3
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66
67
65
64
64a
62c
62b
62a
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60c
60b
59
60a
17
25a
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62
62d
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47a
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Fig 8

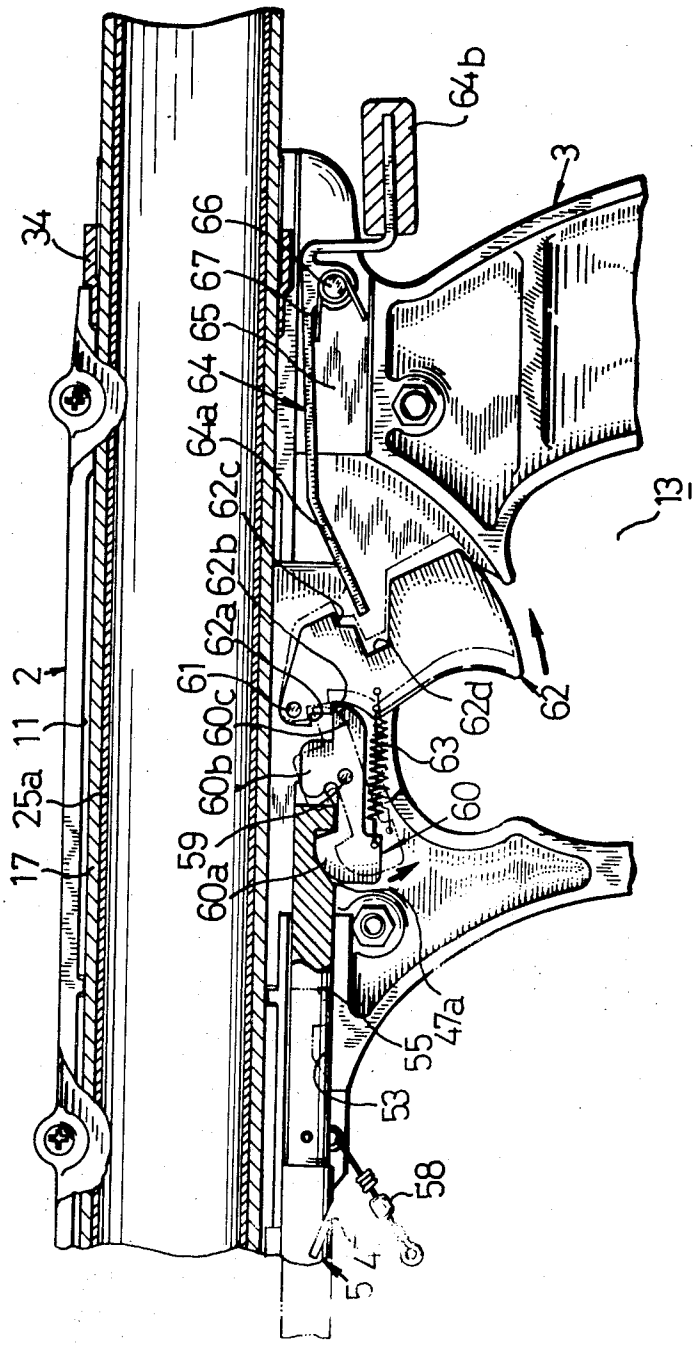

64b
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62b
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Fig 9

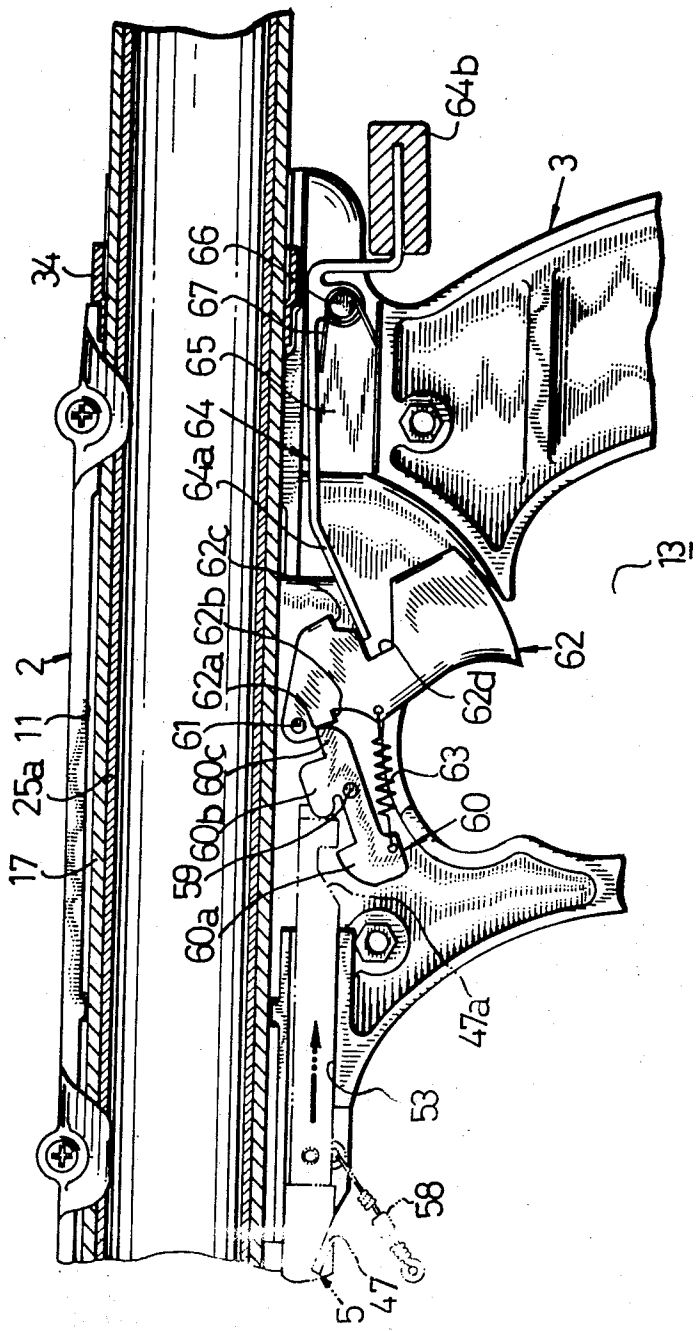
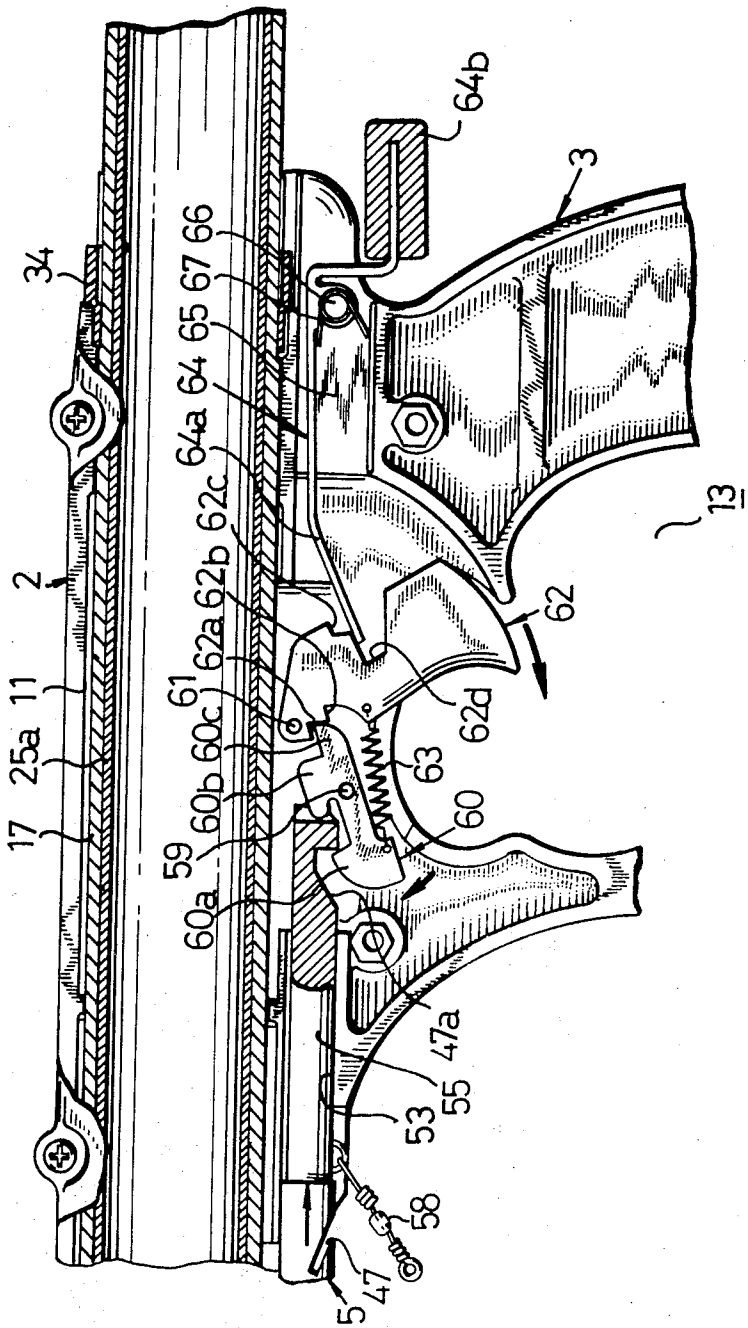

64b
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Fig 10


64b
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ELASTIC BAND HARPOON PROTECTING DEVICE

BACKGROUND OF THE INVENTION

Underwater guns generally comprise a harpoon, propelling means made of an elastic member such as a rubber member for hurling the harpoon and discharge means for locking the propelling means and discharging the harpoon upon unlocking. The user carries the underwater gun when diving, aims the gun at fish with his eye and operates the discharge means to release the propelling means therefrom, so that the fish is shot by the forwardly hurled harpoon.

Since the underwater gun heretofore known is used by the user in water by aiming the gun with the eye, sighting is inaccurate and limited and it is impossible to shoot fish at a long distance away.

Further because the operation of releasing the propelling means from the discharge means to shoot the harpoon is conducted in the water, the elastic member serving as propelling means is subject to resistance of water to attenuate the propelling force. This makes it difficult to hurl the harpoon a long distance. Furthermore the fact that the discharge means is always operated in the water produces difficulties in operating the discharge means and greater possibility and very high hazard of an inadvertent operation.

SUMMARY OF THE INVENTION

An object of this invention is to provide an underwater gun, free of the foregoing problems and difficulties, by which fish can be sighted from above the surface of water to shoot the fish without fail.

Another object of this invention is to provide an underwater gun by which fish positioned deep in the water can be sighted accurately from above the surface of water and which is capable of hurling a harpoon deep into the water.

Another object of this invention is to provide an underwater gun which is very safe and easy to operate.

Another object of this invention is to provide an underwater gun which is capable of absorbing an impact produced upon discharge of the harpoon and drawing back a discharged harpoon.

Still another object of this invention is to provide an underwater gun which is lightweight, compact and usable while being carried around and which can also be used with ease and accuracy when mounted for example on the gunwale.

The problems described previously can be eliminated by the underwater gun of this invention which is equipped with a telescope on its gun barrel. Briefly, the underwater gun of this invention comprises a gun barrel integrally made of a gun grip, a telescope including an objective lens at its front end and an eyepiece at its rear end and extending through and held by the gun barrel at a portion proximate to its rear end, a harpoon guiding member extending along the under face of the telescope, propelling means having one end engaged in the front end portion of the telescope and the other end engageable in a rear portion of a harpoon so as to urge the harpoon forward, and discharge means adapted for engagement with and disengagement from the rear portion of the harpoon when the harpoon is in its cocked position.

Since the telescope is immersed in water at its front end, at least the objective lens portion is watertight. The rear end of the telescope is covered with a rubber hood for absorbing an impact to be produced upon discharge of the harpoon while the user is looking into water through the eyepiece at the rear end. Disposed approximately at a midportion between the objective lens and eyepiece is a condenser lens for positioning an object, namely fish, in an upright state during sighting through the telescope.

A harpoon guide inlet extending along the telescope is formed at a front upper portion of the gun barrel. The harpoon guiding member extends forward from the guide inlet along the under face of the telescope and is formed with a guide groove of a circular arc cross section. The guiding member is coextensive with a major part of the under face of the telescope to support the same. The front end of the guiding member is secured to a head member, which embraces the front end of the telescope and has a discharge opening. The discharge opening and the guide inlet are in alignment with each other in parallel with the axis of the telescope.

The discharge means housed in the gun grip includes a first lever and a second lever connected to each other by a spring and engageable with each other. A rear end portion of the harpoon, when inserted into the guide inlet, is engaged by the first lever and released therefrom by the second lever. The second lever is usually exposed from an opening formed in the gun grip for inserting the fingers.

To assure greater safety, there is provided, in addition to the first and second levers, a third lever which is spring-loaded so that the second lever is kept out of operation unless the third lever is operated. The third lever is positioned at an upper rear portion of the gun grip.

The propelling means comprises a relatively thick rodlike rubber member whose opposite ends are connected together in a loop form with a thin wire. The rubber member, caught on the head member, is stretched toward the gun grip and the wire portion is engaged in a rear end portion of the harpoon, whereby the harpoon is subjected to a forwardly urging force. The harpoon in this state is engaged by the first lever. The tip of the harpoon, thus positioned forwardly of the telescope, can be sighted through the telescope.

In front of the gun grip, there is provided an auxiliary grip which permits the user to grasp the underwater gun with both hands. Preferably, the auxiliary grip is slidable in a horizontal direction.

A fishing reel with a line wound on its spool is mounted on the auxiliary grip. The front end of the line is attached to the rear portion of the harpoon so that the harpoon can be drawn back after it has been shot upon actuation of the discharge means.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects, features and advantages of this invention will be apparent from the following description with reference to the accompanying drawings showing an embodiment of the invention for illustrative purposes only, in which:

FIg. 1 is a side elevation showing the appearance of an underwater gun of this invention in its entirety;

FIG. 2 and 3 are side elevations showing two exemplary states of the underwater gun of this invention during use;

FIG. 4 is a side elevation partially in section showing the front half of the underwater gun of this invention, with part of the lens barrel of telescope omitted;

FIG. 5 is a side elevation in vertical section showing the rear half of the underwater gun of this invention;

FIG. 6 is an enlarged view in section taken along the line 6 — 6 in FIG. 1;

FIGS. 7 to 10 are views illustrating the operations of discharge means and safety means in sequential order; and

FIG. 11 is a side elevation in vertical section showing a harpoon with part thereof broken away.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. 2 and 3, there is shown an underwater gun of this invention during use as it is mounted on a gunwale above the surface of water and as it is held by the hands.

The underwater gun of this invention to be used from about the surface of water includes, as shown in FIG. 1, a telescope 1 and a gun barrel or holding means 2 through which extends a portion of the telescope 1 proximate to its rear end so as to be supported thereon. The gun barrel 2 is provided with a gun grip 3 integrally therewith. Extending along the under face of the telescope 1 is a harpoon guiding member 4 into which is slidably inserted a harpoon 5 from its rear end. The harpoon has a front end positioned forwardly of the telescope 1. The guiding member is secured to a head member embracing the front end of the telescope. Propelling means 7 comprises a rubber member having one end in engagement with the head member 6 and the other end engaged in a rear end portion of the harpoon 5 to urge the harpoon 5 forward. Discharge means 8 is releasably in engagement with the rear end of the harpoon in a cocked position and is prevented from an inadvertent operation by safety means 9. One end of a line is attached to the rear end of the harpoon 5. In front of the gun grip 3 is disposed a fishing reel 10 already known.

As shown in FIG. 5, the gun barrel 2 has a cylindrical telescope encircling portion 11, the inner wall of which is formed with circumferential ribs 12. The gun barrel 2 and gun grip 3 are formed integrally. As usually formed for receiving the fingers, the gun grip 3 is provided with an opening 13 which is defined by front and rear walls 14 and 15. The gun grip 3 is grasped with the palm of the hand placed on the rear wall 15. The gun barrel 2 is composed of a pair of segments which are fitted together over joining faces 2*a* (see FIG. 5) and fastened with fastening members 16 such as several bolts and nuts.

To support the telescope 1 on the gun barrel 2, a portion of the telescope proximate to its rear end extends through the encircling portion 11 as seen in FIG. 5.

The telescope 1 comprises a tubular lens barrel 17 which is circumferentially threaded in the outer face of its front end as at 18 as well as in the outer and inner faces of its rear end as indicated at 19 and 19*a*. It is also threaded as at 20 in its outer peripheral face, slightly forwardly of the threads 19 and 19*a*.

The lens barrel 17 is provided approximately at the middle of its inner portion with a condenser lens 21, which as shown in FIG. 4 is fitted in a tubular lens holder 22, with the outer peripheral edge of the convex lens 21 received in an intermediate stepped portion formed in the inner face of the holder 22. A ring 23 is driven into screw-thread engagement with threads formed in the inner face of the holder 22, causing a ring spacer 24 to retain the convex lens 21 within the holder 22 in pressing contact therewith.

To position the convex lens 21 approximately at the middle of the lens barrel 17, two tubes 25 and 25*a* are inserted into the lens barrel 17 from the front and rear of the barrel 17. The rear end face of the tube 25 is in contact with the front face of the holder 22 and the front face of the tube 25*a* is in contact with the rear face of the holder 22. The holder 22 is therefore clamped by the tubes 25 and 25*a*.

The rear end face of the tube 25*a* is held in position by a ring 26 screwed into engagement with the threads 19*a* formed in the inner face of rear end of the lens barrel 17 as seen in FIG. 5. The front face of the tube 25 is supported by a member for mounting an objective lens as seen in FIG. 4.

More specifically, inserted into the front end of the lens barrel 17 is a sighting tube 27 having cross hairs 27*a* (see FIG. 6). Further inserted into the lens barrel is a convex lens 28, followed by insertion of a spacer 29. Another convex lens 28*a* is then inserted, followed by a spacer 29*a*. Finally another convex lens 28*b* is inserted. Thus three convex lenses 28, 28*a* and 28*b* are housed in the lens barrel at predetermined spacing to provide an objective lens. Two stop rings 30 and 30 are screwed into engagement with the threads 18 formed externally in front end of the lens barrel 17. A watertight cap 33 having protective glass 32 and a sealing member 31 for effecting watertightness is further screwed on the threads 18, with an O-ring 30*a* positioned between the cap 33 and the stop ring 30, whereby the objective lens and tube 25 are secured in position. Thus the lens barrel 17 fixedly retains the objective lens and the condenser lens therein.

A portion of the lens barrel 17 proximate to its rear end is held in the encircling portion 11 of the gun barrel 2 a seen in FIG. 5. A ring 34 is screwed into engagement with the threads 20 of the lens barrel 17 to secure the lens barrel 17, namely the telescope 1, in position, with the result that the front half of the telescope extends from the gun barrel 2. Part of the rear half thereof is positioned slightly rearwardly of the gun barrel.

An eyepiece 35 is mounted in the rear end of the lens barrel 17. As shown in FIG. 5, an eyepiece holder 36 housing the eyepiece comprising two convex lenses is in engagement with threads 19 of the lens barrel 17 to position the eyepiece in place. To effect dust- and water-proofness, an O-ring 37 is clamped between a ring 38 and the front face of the holder 36 which is covered with a shock absorbing hood 39. It is noted that when the propelling means 7 is released upon actuation of the discharge means 8 as will be described later, the counteraction of the propelling means 7 will act as an impact on the user who is sighting in contact with the rear end face 39*b* of the hood 39. A bellows portion 39*a* formed in the hood 39 will then absorb the impact. Accordingly, the hood 39 may preferably be made of an elastic material such as rubber. The bellows portion 39*a* further assures correct sighting, because the user can view through the telescope 1 in snug-fit contact with the rear end 39*b* of the hood 39, free of penetration by light.

The two eyepiece lenses **35** housed in the holder **36** are retained at a specified spacing by a ring spacer **40** and fixed in position by driving a ring **42** into screwthread engagement with threads **41** formed in the inner face of the holder **36**.

The head member **6** encircling the lens barrel **17** is fixed to the front end of the telescope **1** by a screw member **43** (see FIG. 4). The head member **6** comprises a tubular embracing portion **43***a* and an arm **43***b* on the embracing portion **43***a* formed integrally therewith. An opening **44** for discharging the harpoon is formed in the lower portion of the embracing portion **43***a* in parallel with the axial direction of the telescope **1**. The arm **43***b* extends upward and forward from the upper face of the embracing portion opposite to the discharge opening **44** to provide a cavity **45** for receiving the propelling means which cavity is open at its front.

Inserted in the cavity **45** is a thick rubber member **46** serving as the propelling means **7** whose opposite ends are connected together by a wire **46***a*, the propelling means thus being in the form of a loop. When the wire **46***a* is pulled toward the gun grip **3**, with the rubber member **46** inserted in the cavity **45**, and is placed in a hooking notch **47** formed in the rear end of the harpoon **5**, a propelling force acts on the harpoon **5** since the rubber member **46** is caught on the arm **43***b*.

It is seen from FIG. 4 that the head member **6** is provided with a member for releasably retaining the propelling means. More specifically, in order to make the front opening of the cavity **45** closable, a retainer plate **49** for the rubber member is pivotally mounted on a pin **48** at the front end of the arm **43***b*. The rear face of the retainer plate **49** is defined by an arcuate face **49***a* having its center at the pin **48**. The arcuate face **49***a* is formed at its opposite ends with projections **49***b* and **49***c*. While the projection **49***b* is on the upper face of the arm **43***b* as seen in FIG. **4**, the portion including the projection **49***b* closes the opening of the cavity **45**. In order to positively maintain this state, the arcuate face **49***a* is formed with a concave cutout **49***d* for engagement with a projecting member **51** loaded with a spring **50** in the arm **43***b*. In this way, the rubber member **46** is prevented from being removed under the counteraction when it contracts upon discharge of the harpoon **5**.

To replace the rubber member **46**, the front of the retainer plate **49** is pushed in the direction of the arrow against the elastic force of the spring **50**, whereby the plate **49** is pivotally moved about the pin **48** to open the cavity **45**. The range of pivotal movement of the plate **49** is limited by the contact of the projection **49***c* with the under face of the arm **43***b*.

Disposed between the head member **6** and the gun barrel **2** is the harpoon guiding member **4** extending along the under face of the telescope **1**. As shown in FIG. **6**, the guiding member **4** has a face **52** for receiving the under face of the lens barrel **17** and an arcuate groove **52***a* for guiding the harpoon **5**. The base end of the guiding member is secured to the front under portion of the gun grip **2** (see FIG. **5**), and the front end thereof is secured to the under face of the embracing portion **43***a* of the head member **6**, namely to the discharge opening **44** (see FIG. **4**).

As shown in FIG. **5**, a harpoon guide inlet **53** extends horizontally through the front under portion of the gun barrel **2**. The guide inlet **53**, guide groove **52***a* and discharge opening **44** are aligned under the telescope **1** substantially in parallel to its axis and are in communication.

The harpoon **5** slidably inserted into the discharge opening **44**, guide groove **52***a* and guide inlet **53** is shaped in the form of an arrow as shown in FIG. **11**. A tubular member **54** made of plastic reinforced with fiber is fitted at its tail endwith a projection **55***a* to which is secured a metal nock **55**. The nock **55** is formed with several notches **47** for hooking the rubber member and a notch **47***a* for a first lever of the discharge means **8** to engage in.

A projection **56***a* is fitted in the head of the tubular member **54** to secure a harpoon holder **56** having a pointed metal harpoon tip **5***a* screwed therein. The harpoon tip **5***a* has a projection **57** pivoted thereto. The nock **55** has a ring **58** for connecting one end of the line wound on the spool of reel.

When the harpoon **5** is inserted into the discharge opening **44**, then into guide groove **52***a* and guide inlet **53** and the rubber member **46** is stretched, with the wire **46***a* engaged in the hooking notch **47**, a force for urging the harpoon forward is accumulated since the rubber member is caught on the arm **43***b*. The harpoon thus subjected to the urging force is locked by the first lever of the discharge means **8**. Accordingly, when released from the lever, the harpoon will be forced out forward.

The means for discharging the harpoon **5** is shown in FIG. **5**. The discharge means **8** comprises a first lever **60** disposed in the gun grip **3** in alignment with the guide inlet **53** and pivotally mounted on a pin **49** and a second lever disposed behind the first lever **60** and pivotally mounted on a pin **61**, the first and second levers being connected together by a spring **63** thereby urged toward each other. The second lever **62**, exposed from the opening **13** for receiving the fingers, serves as a trigger.

The first lever **60** is formed in its upper front portion with a latch portion **60***a* for engagement in the notch **47***a* of the harpoon **5**. Formed to the rear of the latch portion **60***a* is an upper projection **60***b* for returning the first lever **60**. A stepped portion behind the projection **60***b* is a rear projection **60***c* for engagment with the second lever **62**.

The second lever **62** is formed in its front with two stepped portions **62***a* and **62***b* for engagement with the rear projection **60***c*, the lower stepped portion **62***b* being defined by a deeper notch than the upper stepped portion **62***a*. Before the harpoon **5** is discharged, the projection **60***c* of the first lever **60** is in engagement with the lower stepped portion **62***b*.

To assure greater safety, a third lever **64** is provided in addition to the second lever **62**, the second and third levers **62** and **64** being in the following relationship. As shown in FIG. **5**, the second lever **62** is formed in its rear face with upper and lower stepped portions **62***c* and **62***d* for engagement with the front end of the third lever **64**, the lower stepped portion **62***d* being defined by a deeper notch than the upper stepped portion **62***c*.

The rear wall **15** of the gun grip **3** is formed in its upper portion with a chamber **65** horizontally extending therethrough. The third lever **64** is pivotally supported at its intermediate portion on a pin **66** within the chamber **65** in vertically movable manner. A latch portion **64***a* at the front end of the third lever **64** extending to the rear face of the second lever **62** is urged upward

all the time under the action of a spring **67**. An operating portion at the rear end of the third lever **64** is provided with a knob **64***b* exposed from an upper portion of rear wall **15** of the gun grip **3**.

Before the harpoon **5** is dicharged, the latch portion **64***a* of the third lever **64** in engagement with the upper stepped portion **62***c* of the second lever **62** urges the second lever **64** in a counterclockwise movement in FIG. **5** about the pin **61**, causing the first lever **60** to pivotally move also in a counterclockwise direction through the spring **63**. (The elastic force of the spring **67** is greater than that of the spring **63**.) However, the projection **60***c* of the first lever **60** in engagement with the lower stepped portion **62***b* of the second lever **62** and the latch projection **60***a* of the first lever in engagement with notch **47***a* of the harpoon **5** prevent the pivotal movement. Thus the discharge means **8** is provided which incorporates the safety means **9** (see FIG. **1**) such that the second lever **62** is kept out of operation insofar as the third lever **64** retains the second lever **62** in engagement therewith, in other words, unless the third lever **64** is operated.

Since the knob **64***b* of the third lever **64** is exposed from the rear wall **15** of the gun grip **3**, the possibility for the user to inadvertently touch the third lever **64** is very little, if any. Moreover because the lever **64** is usually kept depressed by the spring **67**, slight contact therewith will not permit the third lever **64** to release the second lever **62**. Thus the safety means is simple in construction and highly reliable.

To discharge the harpoon **5**, the knob **64***b* of the third lever **64** is pushed up against spring **67** as shown in FIG. **7**. Since the hand of the user is grasping the rear wall **15** of the gun grip **3**, with the back of the hand in a position accessible to the knob **64***b* at this time, the knob **64***b* can be pushed up with the back of the hand.

The lifting of the knob **64***b* brings the latch portion **64***a* of the third lever **64** to the stepped portion **62***d* of the second lever **62**, making the second lever **62** ready for operation. The second lever **62** is then pulled by the finger toward the direction of arrow in FIG. **8** against the action of the spring **63** by which the second lever **62** is urged toward the first lever **60**.

Since the first lever **60** and second lever **62** are connected by the spring **63**, the first lever **60** follows the movement of the second lever **62** to move in a counterclockwise direction in the drawing. Simultaneously with the disengagement of the projection **60***c* from the stepped portion **62***b*, the latch portion **60***a* unlatches the notch **47***a* of the harpoon **5**, whereupon the harpoon **5** is forced out forward by the propelling means **7**. FIG. **8** shows, in dot-and-dash lines, the positions of the parts just before the discharge of the harpoon.

As shown in FIG. **9**, the discharge of the harpoon **5** brings the rear projection **60***b* of the first lever **60** into engagement with the upper stepped portion **62***a* of the second lever **62**, with the latch portion **64***a* of the third lever **64** in engagement with the stepped portion **62***d* of the second lever **62**.

The discharged harpoon **5** is subsequently brought back by winding up the line into the reel **10** (not shown in FIG. **9**) to guide the nock **55** into the inlet **53** in sliding fashion, with the result that the end of the nock **55** pushes the upper projection **60***b* of the first lever **60** (see FIG. **9**), causing the first lever **60** to pivotally move in a clockwise direction about the pin **59**. The first lever **60** connected through the spring **63** to the second lever **62** therefore initiates the second lever **62** into a clockwise movement. Further pushing force applied by the nock **55** on the projection **60***b* causes the projection **60***c* of the first lever **60** to move progressively away from the upper stepped portion **62***a* as shown in FIG. **10**, while progressively bringing the latch portion **60***a* of the first lever **60** into engagement with the notch **47***a* in the nock **55**. At the same time, the latch portion **64***a* of the third lever **64** moves along the upper face of the lower stepped portion **62***d*. When the nock **55** is further pushed forcefully, the discharge means **8** latches the harpoon **5** in cocked position and the safety means **9** in set state as illustrated in FIG. **7**.

As shown in FIG. **2**, the underwater gun of this invention is mounted on a gunwale **68** or the like for use. For this purpose, a detachable holder **69** for holding the lens barrel **17** is mounted on the telescope **1** slightly rearwardly of its head member **6**. A connecting arm **70** is secured to the holder **69** and the base end of the arm **70** is connected by a known ball joint **72** to a metal member **71** detachably secured to the gunwale **68**. Thus, the gun can be oriented in any desired direction for use with part of telescope **1** immersed in the water.

Alternatively, the gun may be supported directly by the user during use as shown in FIG. **3**.

To make the gun easier to grasp, the underwater gun according to this invention is provided, in addition to the gun grip **3**, with an auxiliary grip **73**, which is further utilized to mount the reel **10** for returning the harpoon by rewinding.

It is seen from FIGS. **4** and **5** that the gun grip **3** is formed in its bottom face with an elongated groove **74** extending in a horizontal direction. Two nuts **75** are embedded in the bottom of the gun grip in alignment with the groove **74**. A mounting member **73***a* secured to the auxiliary rubber grip **73** is fitted in the groove and fastened thereto with screws **76** and **76**, whereby an opening **77** for inserting fingers is formed which is defined by the front wall **14** of the gun grip **3** and auxiliary grip **73**. In order to enlarge or reduce the opening **77**, screw bores **78** and **78** in the mounting member **73***a* are elongated longitudinally of the gun.

The base portion of an eye ring **79** is fixedly embedded in the top face **73***b* of the auxiliary grip **73**. The reel **10** is secured to an intermediate portion of the eye ring **79** by means of a known fastening member **80** such as is usually employed for detachably securing a reel to a fishing rod. Thus the reel **10** is fixedly positioned in front of the auxiliary grip **73**.

As already known, the reel **10** has a spool **10***a* on which is wound a line **10***b*. The line **10***b* is passed through the eye ring **79** and connected to a connecting ring **58** on the nock **55** of the harpoon **5**. The line **5** pulls back the harpoon **5** after it has been forced out by the discharge means **8**.

The harpoon **5** cocked in engagement with the first lever **60** of the discharge means **8** is positioned forwardly of the telescope **1** as illustrated in FIGS. **1** to **3**, so that when seen through the eyepiece of the telescope **1**, the harpoon tip **5***a* may serve as a substitute for the graticule. When accuracy is essential, however, the cross hairs **27***a* are used for sighting. The intersection of the cross hairs **27***a* is positioned substantially in registry with the tip **5***a* of the harpoon **5**.

To make is sure that the harpoon **5** forced out from the discharge opening **44** will be thrown deep into the water in accurate direction, the center of gravity of the

harpoon 5 may preferably be positioned toward the front of the harpoon longitudinally thereof. Because the front end of the telescope is immersed in the water but the rubber member serving as propelling means 7 is positioned in the air, the propelling force of the rubber member is free of resistance of water, permitting the harpoon 5 to be thrown a long distance.

The fact that the telescope mounted on the gun barrel is immersed in the water at its front end during use results in the advantages that the telescope is free of refraction at the surface of the water and that fish deep in the water can be magnified for sighting. If the telescope 1 is equipped at its head portion 6 with a spotlight (not shown), fish can be gathered immediately below the underwater gun when it is used at nighttime.

While a basic embodiment of this invention has been described and illustrated, various alterations and modifications will be obvious to those skilled in the art. Accordingly, the invention is not limited to the detailed disclosure given above but includes any desired changes and modifications within the scope of the invention as defined in the appended claim.

What is claim is:

1. An underwater gun including a telescope to be immersed in water at its front end for sighting fish in the water and a harpoon to be released from its cocked position from about the surface of water so as to capture the fish comprising a harpoon, holding means having a gun grip, a telescope including an objective lens at its front end and an eyepiece at its rear end and wherein said holding means engages and supports the telescope only at a portion proximate to its rear end, a harpoon guiding member extending along and affixed to the under face of the telescope and parallel therewith, propelling means for projecting a harpoon and having one end engaged and supported by the front end portion of the telescope and the other end engageable in a rear portion of the harpoon to urge the harpoon forward, and discharge means provided in the gun grip for latching and releasing a cocked harpoon.

2. The underwater gun as set forth in claim 1 further including a safety means provided in the rear of the discharge means to prevent the discharge means from operating and wherein the discharge means is operable only after the safety means has been operated.

3. The underwater gun as set forth in claim 1 wherein the rear end of the telescope is covered with a hood made of elastic material and formed with a bellows means which absorbs an impact produced by the counter action of the propelling means.

4. The underwater gun as set forth in claim 1 further including an auxilliary grip means for grasping by a user, said grip means being positioned in front of the gun grip and including a fishing reel having a line wound thereon, and the line being connected at one end to the rear end of the harpoon.

5. The underwater gun as set forth in claim 2 wherein the discharge means comprises a first lever disposed in the rear of a harpoon guide inlet of the gun barrel and having a front projection for latching the harpoon, an intermediate projection for returning said first lever to its initial position after it is moved and a rear projection defined by a stepped portion, the first lever being pivotally movable, a second lever pivotally disposed in the rear of the first lever and having upper and lower stepped portions in its front part for engagement with the rear projection of the first lever and upper and lower stepped portions in its rear part for engagement with a third lever, the second lever being partially exposed from an opening in the gun grip for receiving the fingers, and a spring extending between the first and second levers to urge the same toward each other, and wherein said safety means comprises the third level being pivotally mounted at an upper portion or rear wall of the gun grip behind the second lever and always urged at its front latch end into engagement with the upper stepped portion in the rear part of the second lever, the third lever having a rear end knob exposed from the gun grip.

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