April 25, 1961 E. J. WEDRALL 2,981,026

UNDERWATER WEAPON

Filed Feb. 10, 1959

Fig. 1

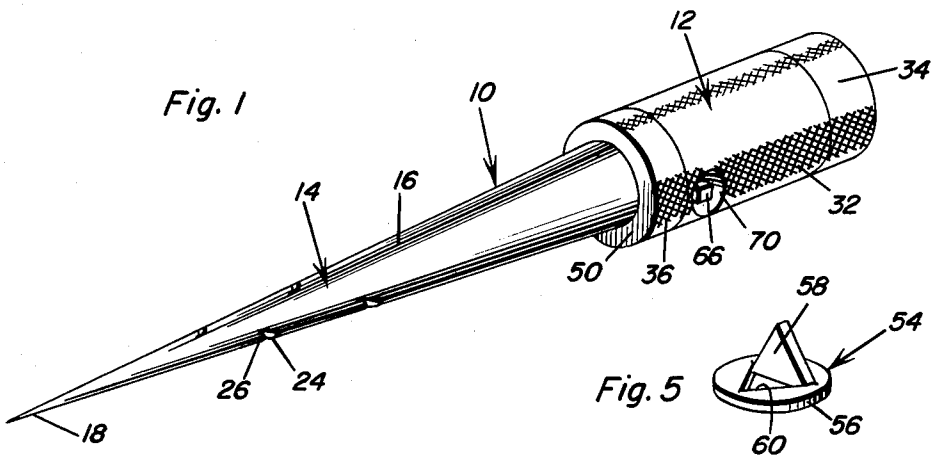


Fig. 5

Fig. 2

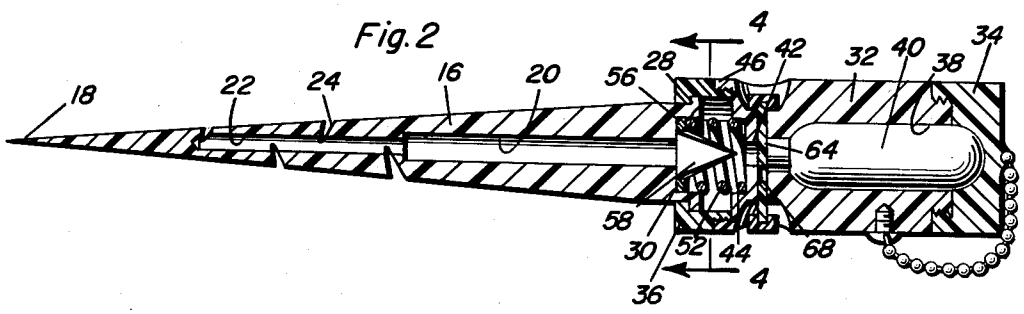


Fig. 3

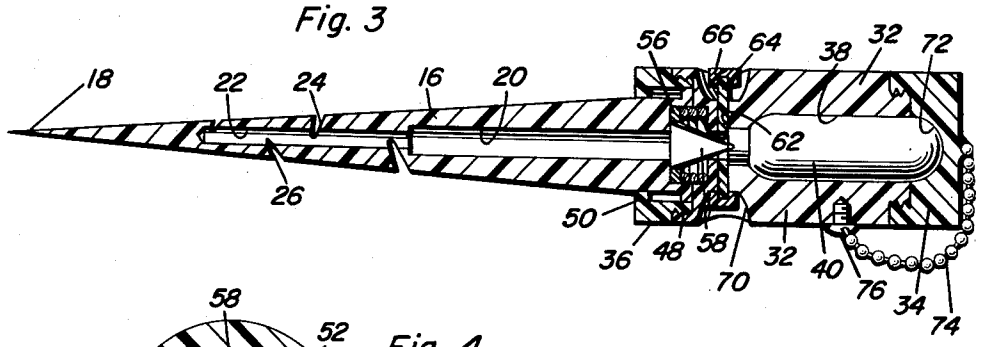
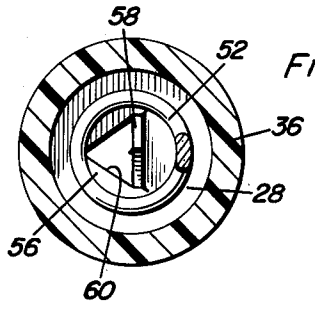


Fig. 4



Edwin J. Wedrall

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

United States Patent Office 2,981,026 Patented Apr. 25, 1961

2,981,026

UNDERWATER WEAPON

Edwin J. Wedrall, 570 E. Church Hill Road, La Habra, Calif.

Filed Feb. 10, 1959, Ser. No. 792,423

5 Claims. (Cl. 43—6)

The present invention generally relates to a weapon and more particularly to a weapon constructed for use underwater by persons such as skin divers and may be used against underwater creatures or as a device for aiding in the surfacing of large creatures for partially inflating such a creature so that the same will float to the surface of the water.

The primary object of the present invention is to provide an underwater weapon in the form of a stiletto of hollow construction and having discharge ports together with a mechanism for automatically opening a pressurized cartridge when the stiletto is driven into a creature so that the compressed air or gas in the cartridge will be discharged into the creature.

Another object of the present invention is to provide an underwater weapon in accordance with the preceding object which is safe in operation, resistant to corrosion, easy to reload, effective in operation and generally inexpensive to manufacture.

A further important feature of the present invention is to provide an underwater weapon in the form of a stiletto having a handle carrying a pressurized cartridge together with a spring loaded stiletto connected thereto and a firing pin connected to the stiletto for puncturing the cartridge upon engagement of the stiletto with an object and subsequent longitudinal movement of the handle towards the stiletto such as would occur when the stiletto was driven into an underwater creature.

A further important object of the present invention is to provide an underwater weapon in accordance with the preceding object in which there is a safety bar provided for preventing puncturing of the cartridge until such time as the safety is moved to a predetermined position.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the underwater weapon of the present invention;

Figure 2 is a longitudinal vertical sectional view taken substantially upon a plane passing along the longitudinal center of the weapon and illustrating the normal condition of the device and with the safety in a position for preventing puncturing of the cartridge;

Figure 3 is a sectional view similar to Figure 2 but illustrating the safety moved to its other position and with the stiletto partially moved into the handle for puncturing the cartridge;

Figure 4 is a transverse, sectional view taken substantially upon a plane passing along section line 4—4 of Figure 2 illustrating the details of construction of the firing pin and the orientation of the spring in relation thereto; and

Figure 5 is a perspective view of the firing pin.

Referring now specifically to the drawings, the numeral

10 generally designates the underwater weapon of the present invention which broadly includes a handle portion generally designated by the numeral 12 and a stiletto generally designated by the numeral 14. The stiletto 14 is in the form of an elongated tapered member 16 having a sharpened solid tip 18 at the outer end thereof and provided with a longitudinally extending bore 20 communicating with the inner end and terminating in spaced relation to the pointed tip end 18. The portion of the bore 20 disposed nearer the outer end is of smaller diameter and is designated by the numeral 22 thereby assuring rigidity to the stilletto 14 and this area of the stiletto 14 is provided with a plurality of longitudinally staggered notches 24 each of which is in the form of a transverse notch inclined inwardly and towards the tip end 18 and which actually form barbs 26 so that when the stiletto 14 is inserted into an underwater creature, the same will be retained therein by the barbs 26. The staggered orientation of the notches 24 is such that the stiletto 14 will not be unduly weakened. Further, the reduction in the diameter of the bore in the stiletto 14 assures sufficient wall thickness throughout the length of the stiletto for maintaining rigidity. The notches 24 may be formed by any suitable procedure such as a transverse filing or grinding operation whereby the bottom edge of the notch defined by the converging walls will actually extend around a periphery of the bore 22.

The other end of the tapered member 16 is provided with a peripheral outwardly extending flange 28 and also a counterbore 30 disposed in the end thereof.

The handle 12 includes three separate sections including a central cylindrical member 32, an end cap 34 and a cap 36 for connecting the stiletto 14 to the handle 12. The central portion 32 is provided with a longitudinal bore 38 receiving a cartridge 40 of compressed air or gas with the neck thereof extending towards the cap 36 and being in alignment with an opening 42 in the central member 32 which opening communicates with the recessed end 44 disposed in axial alignment with the recess 30. The central member 32 is provided with an internally threaded flange 46 and the cap 36 is provided with an externally threaded flange 48 for mounting the cap 36 in position. Also, the cap 36 is provided with an inwardly extending peripheral flange 50 slidably receiving the portion of the tapered member 16 adjacent the flange 28 which is actually cylindrical in configuration.

A compression coil spring 52 is disposed between the bottom of the recess 44 and the bottom of the recess 30 for holding the stiletto longitudinally outwardly of the handle 12. Mounted between the end of the spring 52 and the bottom of the recess 30 is a firing pin generally designated by the numeral 54 and including a circular plate 56 of a size for reception within the recess 30 with the plate 56 having an upwardly struck triangular shaped lug 58 therein which leaves a triangular shaped opening 60 in the plate 56. The pointed end of the lug 58 faces the opening 42 for contact with the closed end of the cartridge 40 for opening the same when the pointed end 58 is inserted therethrough. The opening 60 is in alignment with the bore 22 and also in alignment with the bore 42 for permitting passage of compressed air or gas into the stiletto for discharge from the notches.

The central member 32 is provided with a transverse passageway 62 slidably receiving a safety bar 64 having a handle or finger pad 66 at each end thereof. The bar 62 is provided with an opening 68 for selective alignment with the opening 42. The central member 32 is provided with diametrically opposed recesses 70 for receiving the enlarged end or finger pads or abutments 66 for limiting the movement of the safety bar 64. In one position, the safety bar 64 provides a closure for the bore 42 and pre-

vents contact with the cartridge 40. When the safety bar is moved to its other position, the bore 42 is opened and the pointed projection or lug 58 of the firing pin 54 may open the cartridge 40 when the stiletto is moved towards the handle or the handle is moved towards the stiletto.

The closure cap 34 is secured to the central section by a screw threaded connection and is also provided with a recess 72 for receiving the outer end of a cartridge 40 whereby removal of the cap 34 will permit removal and replacement of the cartridge 40. A beaded chain 74 is attached to the cap 34 and has the other end thereof anchored to an anchoring screw 76 in the central body section 32 to prevent loss of the cap 34.

The cartridge may be conventional CO_2 cartridges and the device may be conveniently carried in a scabbard constructed of soft plastic with a metal tip which may be worn on the waistbelt of a skin diver to preclude entanglement and the weapon may be easily reloaded in a quick and simple manner for use, and the device may be used as an underwater weapon against underwater creatures and as a device for helping to float such a creature to the surface.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An underwater hand weapon comprising a handle with a roughened outer surface, a longitudinally extending pointed stiletto extending therefrom, means mounting the stiletto on the handle for longitudinal movement of the stiletto, resilient means urging the stiletto outwardly of the handle, a cartridge of compressed gas in said handle, and means on said stiletto for opening said cartridge upon movement of the stiletto towards the handle, said stiletto including passage means for discharging the compressed gas into the interior of an underwater creature when the stiletto is inserted therein.

2. The structure as defined in claim 1 wherein a transversely sliding safety bar is provided in said handle for selectively precluding opening of the cartridge by the puncturing means carried by the stiletto.

3. The structure as defined in claim 1 wherein said passage means includes a longitudinal bore and a plurality of notches communicating with the bore.

4. An underwater weapon comprising a hollow sectional handle, a replaceable cartridge of pressurized fluid having a rupturable end, means detachably interconnecting the sections of the handle for permitting replacement of the cartridge, a longitudinally extending tapered movable member longitudinally mounted on said handle, resilient means urging the movable member away from the handle, said tapered member terminating in an outer pointed end, and means movably mounted on the handle and engageable by the movable member for movement thereby when the movable member moves inwardly in response to force exerted when the pointed end is forced into an underwater creature, said means including a puncture element for rupturing the end of the cartridge, said movable member including passage means communicating the exterior surface of the movable member with the rupturable end of the cartridge for inflating the animal.

5. An inflating device comprising a hollow sectional handle, a replaceable cartridge of pressurized fluid having a rupturable end, means detachably interconnecting the sections of the handles for permitting replacement of the cartridge, a longitudinally extending tapered movable member longitudinally mounted on said handle, resilient means urging the movable member away from the handle, said tapered member terminating in an outer pointed end, and means movably mounted on the handle and engageable by the movable member for movement thereby when the movable member moves inwardly in response to force exerted when the pointed end is forced into an article to be inflated, said means including a puncture element for rupturing the end of the cartridge, said movable member including passage means communicating the exterior surface of the movable member with the rupturable end of the cartridge for inflating the article, said handle including means movably mounted thereon for selectively blocking the movement of the puncture element towards the cartridge.

References Cited in the file of this patent

UNITED STATES PATENTS

2,617,359	Van Horn et al.	Nov. 11, 1952
2,708,860	Arpin	May 24, 1955
2,780,389	Sandgren	Feb. 5, 1957
2,936,756	Gabriel	May 17, 1960

FOREIGN PATENTS

165,478	Great Britain	June 30, 1921