

ELECTRIC FISHING SPEAR

TECHNICAL FIELD

This utility model relates to electric fishing spear specifically a spear
5 for fishing for efficient capture of fish using electricity.

BACKGROUND OF THE UTILITY MODEL

Traditional fishing spear devices have long been used as a method
of capturing aquatic animals, primarily through mechanical impalement.
10 These devices, while effective in certain conditions, often rely heavily on
the user's strength, accuracy, and timing. For example, the fish spear
disclosed in US2014115945A1 utilizes a spearhead equipped with a bait
holder to lure fish closer to the spear's tip. Although this improves the
potential for contact, the spear still relies entirely on mechanical thrust to
15 penetrate and capture the fish. This design poses limitations, especially
when dealing with fast-moving, evasive, or deeply submerged aquatic
species where successful impalement becomes increasingly difficult.
Similarly, US8677675B2 introduces a multi-pronged spear tip design
intended to enhance the effectiveness of fish capture by combining a
20 central tine with several diverging tines. This multi-pronged structure
increases the surface area and likelihood of immobilizing the fish during
impalement. However, as with other conventional designs, it remains
dependent on direct physical force and user coordination. Environmental
factors such as water resistance, poor visibility, and fish agility can greatly
25 diminish its effectiveness, particularly in dynamic underwater conditions. On
the other hand, US9125389B1 presents an underwater electrocution device
developed primarily for diver defense against marine predators such as
sharks. This system integrates a spear tip with a complex motor-generator
setup capable of delivering electric shocks. While it introduces the
30 concept of electrical stun mechanism underwater, the device is large,

intricate, and not suited for routine fishing operations. Its reliance on bulky power systems, spear gun mechanisms, and frangible insulation covers makes it impractical for small-scale or recreational use. The development of an electric fishing spear addresses this gap by combining the user-
5 friendly aspects of traditional spears with a battery-powered electrical discharge mechanism. The device integrates a rechargeable battery, a push-button switch, and a step-up converter housed within the shaft, which activates dual electrodes at the tip to deliver a high-voltage shock upon contact with the target. This innovation enables users to stun or immobilize
10 fish quickly and safely, improving capture efficiency while minimizing reliance on physical force or complex equipment. It offers a more practical, scalable solution for small-scale fishers and recreational users, making it a valuable advancement in modern fishing technology.

15 **SUMMARY OF THE UTILITY MODEL**

It is therefore the objective of the electric fishing spear to capture fish effectively in a more humane manner.

The present utility model is distinct over the prior art references in several material respects. US2014115945A1 discloses a conventional fish
20 spear that incorporates a bait holder attached to the spearhead for the purpose of luring fish underwater. The device operates purely by mechanical means, relying on the user's ability to attract and impale the fish using physical thrust. It contains no electrical or electromechanical components. In contrast, the present utility model is an electrically
25 operated fishing spear that includes a rechargeable battery disposed within the upper part of the shaft, a push-button switch mounted on the handle grip, and a step-up converter housed within a circuit enclosure at the lower portion of the shaft. This electrical configuration enables the delivery of a high-voltage current through a pair of electrodes that also

function as the spearhead, allowing the device to stun or immobilize the fish upon contact, thereby eliminating the need for purely mechanical penetration.

The present utility model is also significantly different from the invention
5 disclosed in US8677675B2, which pertains to a multi-pronged spear tip with
a central tine and diverging tines designed to immobilize fish upon
mechanical impalement. While this reference introduces a more
advanced spear structure to improve capture reliability, it still functions
solely through mechanical force. It lacks any electrical components,
10 energy sources, or electrical stunning mechanisms. In contrast, the claimed
utility model employs a high-voltage electrical discharge system powered
by a rechargeable battery and regulated through a step-up converter.
The spear's effect on the target is not merely physical impalement, but
electro-neurological incapacitation, resulting in a more efficient and
15 humane method of capture.

Further, the utility model is clearly distinguishable from US9125389B1, which
describes a complex underwater electrocution device primarily intended
for diver protection against predators such as sharks. That system requires a
motor, generator, frangible cover, and in some embodiments, a spear gun
20 mechanism. It is bulky, involves numerous moving parts, and is not
optimized for handheld, everyday fishing operations. In contrast, the
present utility model offers a compact and integrated design where the
battery-powered step-up converter is directly housed within the spear shaft
itself. The use of a simple push-button switch to control current flow ensures
25 operational ease, while the elimination of external generators and
mechanical launching systems allows for a more lightweight, portable, and
user-friendly configuration specifically tailored for fishing rather than
defense.

Thus, the present utility model provides a novel advancements over the
30 cited prior art by integrating a simplified, compact electrical system into a

handheld fishing spear. It achieves the functionality of fish immobilization not through bait or mechanical impalement alone, but via a controlled electric shock system using rechargeable power, thereby offering increased effectiveness, usability, and versatility in aquatic environments.

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BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

Figure 1 is an exemplary embodiment of the electric fishing spear in accordance with present utility model.

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DETAILED DESCRIPTION OF THE UTILITY MODEL

The objectives and advantages of an electric fishing spear will be readily apparent to those skilled in the art upon reading the detailed description of the utility model in conjunction with the accompanying drawings.

In reference to the drawing as shown in figure 1, the utility model is describe as a electric fishing spear 1 comprising of shaft 55, a rechargeable battery 41 as a source of stored electrical energy disposed at the upper part of the shaft 55, the said rechargeable battery 41 is electrically connected to push button switch 95, step-up converter 45, positive electrode 86 at positive terminal of said step-up converter 65, and negative electrode 100 at negative terminal of step-up converter 65, a handle grip 37 attached at the upper most part of the shaft 55, which a push button switch 95 is fixedly disposed to the said handle grip 37, said push button switch 95 controls the electric flow from the rechargeable battery 41, going to the step-up converter 65, and finally to the pair of electrodes of the electric fishing spear 1. A circuit enclosure 48 disposed at the lower part of the shaft 55, housing the step-up converter 65 which is electrically connected to the rechargeable battery 41, said step-up

converter 65 steps the voltage up and sends the current to the positive electrode 86 and travel to the negative electrode 83 via the flesh of the fish. Said pair of electrodes also serves as the spearhead to be thrust to the target fish.

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