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[Continued on next page]

(54) Title: AUTOMATIZED FISHING ROD

(57) Abstract: This invention discloses a fishing rod having a weight sensor integrated therein, wherein the sensor will transmit a signal to a gear motor which will start reeling the line into the reel and when it reaches a line end the container casts a smart net, thus guaranteeing the fish to be immobilized and preventing it from escaping. The device base has a wireless energy transmission system so as to actuate the gear motor.

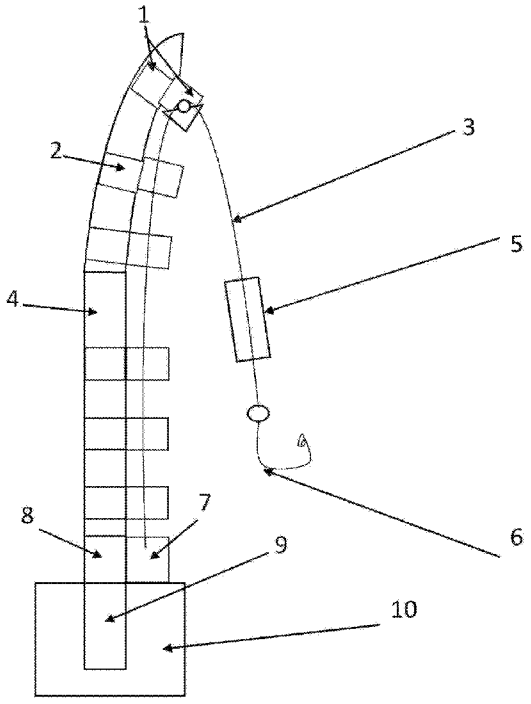

FIG 1

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Published:

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

— *upon request of the applicant, before the expiration of the time limit referred to in Article 21(2)(a)*

AUTOMATIZED FISHING ROD

FIELD OF THE INVENTION

The present invention generally refers to fishing equipment and, in particular, to a fishing rod which has a weight sensor integrated at the end thereof, transmitting a signal to the gear motor for automatically reeling in the reel line, and actuating a compartment comprising a smart fishing net for casting thereof which will immobilize the fish movements preventing it from escaping, guaranteeing the whole fish catch.

BACKGROUND OF THE INVENTION

As every fisherman knows, there is only a suitable or "ideal" moment for fixing the hook after a fish has reached the bait. This moment varies with each fisherman and depends on the conditions, type of fish and other several factors. This precise moment is often lost and the fish is able to escape. Such situations may also occur with expert fishermen who may release the fishing rod for a moment, or whose attention is diverted, and thus the catch is not effective. Therefore, there is a need for improving the detection and capture efficiency of the current fishing systems for catching fish.

The present invention refers to a fishing rod having a weight sensor incorporated at the hook thereof that will transmit automatic signals to the gear motor, which will start reeling in the reel line, and other signals to the compartment integrated in the fishing net, so as to prevent the fish from escaping once being captured.

This method has the purpose of increasing the fishing production with technological equipment which increases the probabilities for catching fish.

There are similar solutions in the state of the art. Particularly, patent US3911608A describes an automatic dip net in the form of a tubular device, which is supportable upon a fishing rod and which is released automatically in response to a tug on the line by a fish grabbing the baited hook, causing the device to slide over the line.

Patent US7337576B2 describes a capture system based on a weighted net, as a device being part of a fishing rod set, wherein the net is driven by the weight force sliding over

the fishing line and over the caught fish, entangling the back portion of the flippers, gills and flanks.

On the other side, patent US4930243A, comprises a vibration or shock emitter which is adapted to be fitted at the top of a fishing rod and which, when actuated by the movement of the tip of the rod caused when a fish bites, sends vibration or shock signals along the rod.

Patent US4276711A describes a device for use thereof with a fishing rod, which transmits a signal when the fish strikes the hook.

Although these patents describe apparatus comprising nets designed for the fish capture, the prior art does not provide automatized systems having sensors which allow reeling the line into the reel in a fast and safe manner. The present invention provides a smart mechanism which reels in automatically and in a faster way once a fish is caught.

DESCRIPTION OF THE INVENTION

The main object of the present invention is to provide a fishing rod for catching fish, characterized in that it has a sensor measuring the fish weight at the tip thereof, wherein the sensor will transmit a signal to a gear motor which will start to reel in the reel line for the fish capture, and in turn transmits a signal to a container which is located in the rope for casting a smart net which will immobilize the movements of the fish preventing it from escaping, thus guaranteeing the whole fish catch. The energy source of the devices of the fishing rod works through a wireless energy transmission system and is arranged at the base thereof.

DESCRIPTION OF THE FIGURES

FIG 1. Side view of the fishing rod.

FIG 2. Side view of the weight sensor and the box for the capture smart net.

FIG 3. Energy base and gear motor.

FIG 4. Procedure for catching the fish with the hook.

FIG 5. Procedure for actuating the weight sensor by means of the force exerted by the fish upon pulling from the hook.

FIG 6. Procedure for actuating the compartment which releases the capture smart net.

DETAILED DESCRIPTION OF THE INVENTION

FIG 1 shows the main components that the fishing rod comprises, according to the invention, and which provides an automatic smart mechanism featuring a faster fish catch.

The fishing rod comprises a base (10) holding the fishing rod and providing the gear motor (8) with energy. In said base (10) there is the rod handle (9), pole (4) and reel (7), through which the fishing line (3) passes by means of guiding rings (2). At the top end of the rod there is the weight sensor (1) through which the fishing line (3) passes. The hook (6) is suspended at the end of the fishing line (3).

Located on the fishing line (3) between the weight sensor (1) and the hook (6), there is a compartment (5) containing the smart fishing net (11), in the unextended and extended (5.1) form thereof.

FIG 2 shows the shape of the weight sensor (1) and the shapes of the compartment containing the smart fishing net in the unextended (5) and extended (5.1) form thereof.

FIG 3 shows the base (10) holding the fishing rod and providing the gear motor (8) with energy, which comprises the rod handle (9) and the reel (7) that reels the line in when it is actuated by the gear motor (8).

FIG 4 shows the moment when the fish takes the hook (6) and the weight sensor (1) is actuated just then, generating a force which moves the line (3).

FIG 5 shows the moment when the weight sensor (1) actuates the gear motor (8) by means of the force exerted by the fish.

FIG 6 shows the final moment when the compartment containing the smart fishing net is expanded (5.1), casting the smart net (11), wherein the ends (12) thereof close, thus immobilizing the fish and guaranteeing the catch.

CLAIMS

1. Automatized fishing rod comprising a base (10) holding the fishing rod and providing the gear motor (8) with energy, a weight sensor (1) and a compartment (5) containing a smart fishing net (11) characterized in that the weight sensor (1) is actuated when the fish bites the hook (6), generating a signal which is transmitted to a compartment (5) containing a smart net (11) which expands and wherein the ends (12) thereof close immobilizing the fish and guaranteeing the catch.

2. Automatized fishing rod according to claim 1, characterized in that the base (10) of the fishing rod contains a wireless energy transmission system.

3. Automatized fishing rod according to claim 1, characterized in that the compartment (5) containing the smart fishing net (11) is located on the fishing line (3) between the weight sensor (1) and the hook (6).

4. Automatized fishing rod according to claim 1, characterized in that the weight sensor (1) is at the top end of the rod.

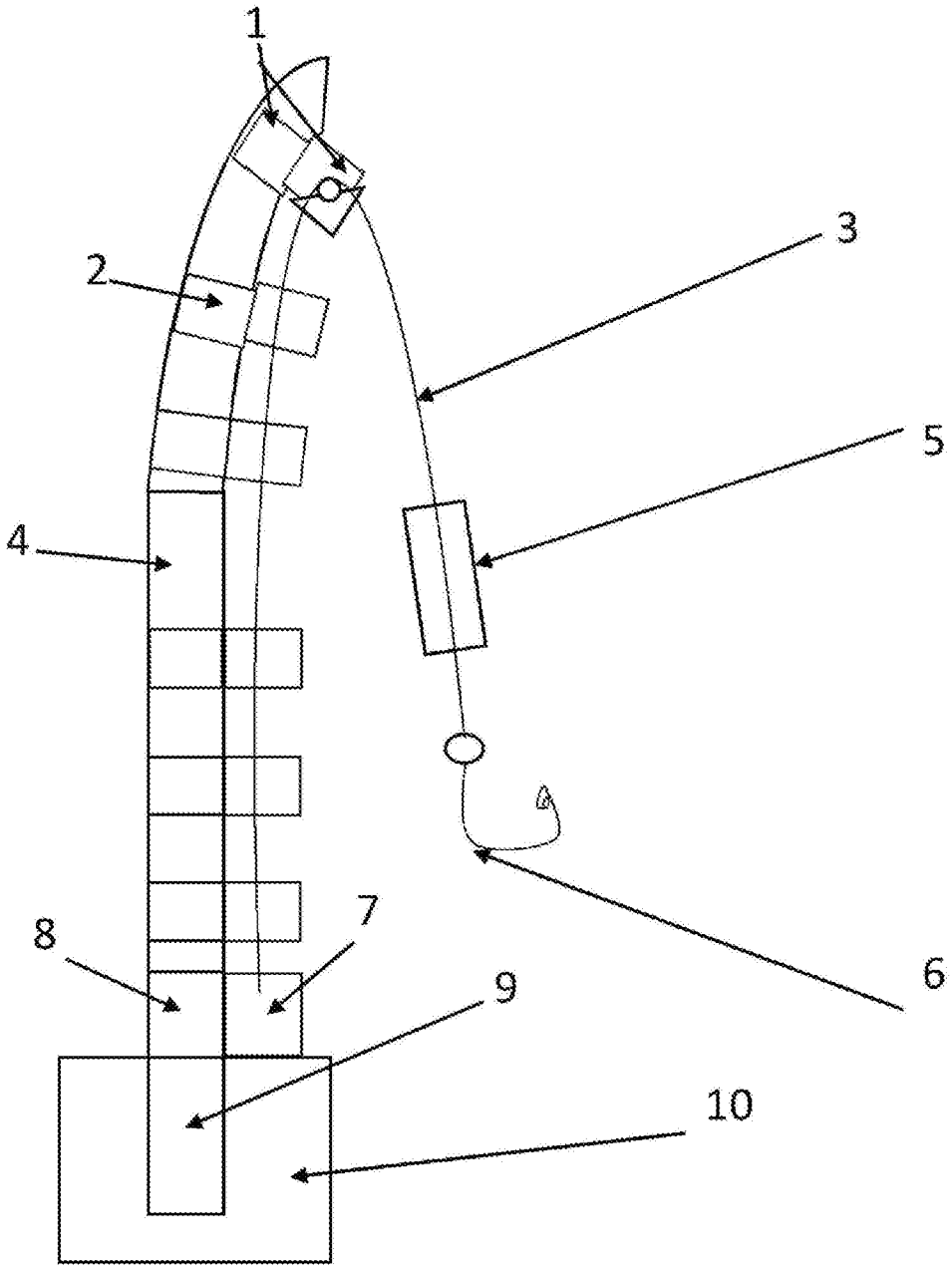

FIG 1

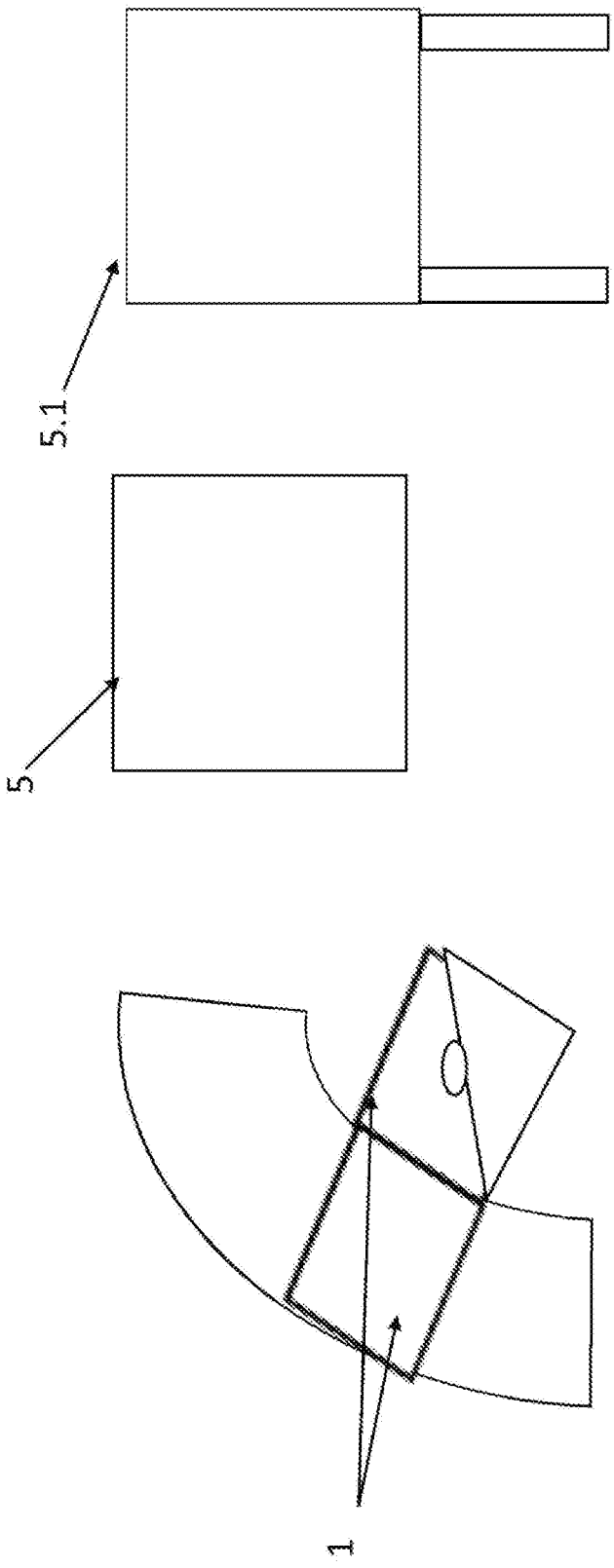

FIG 2

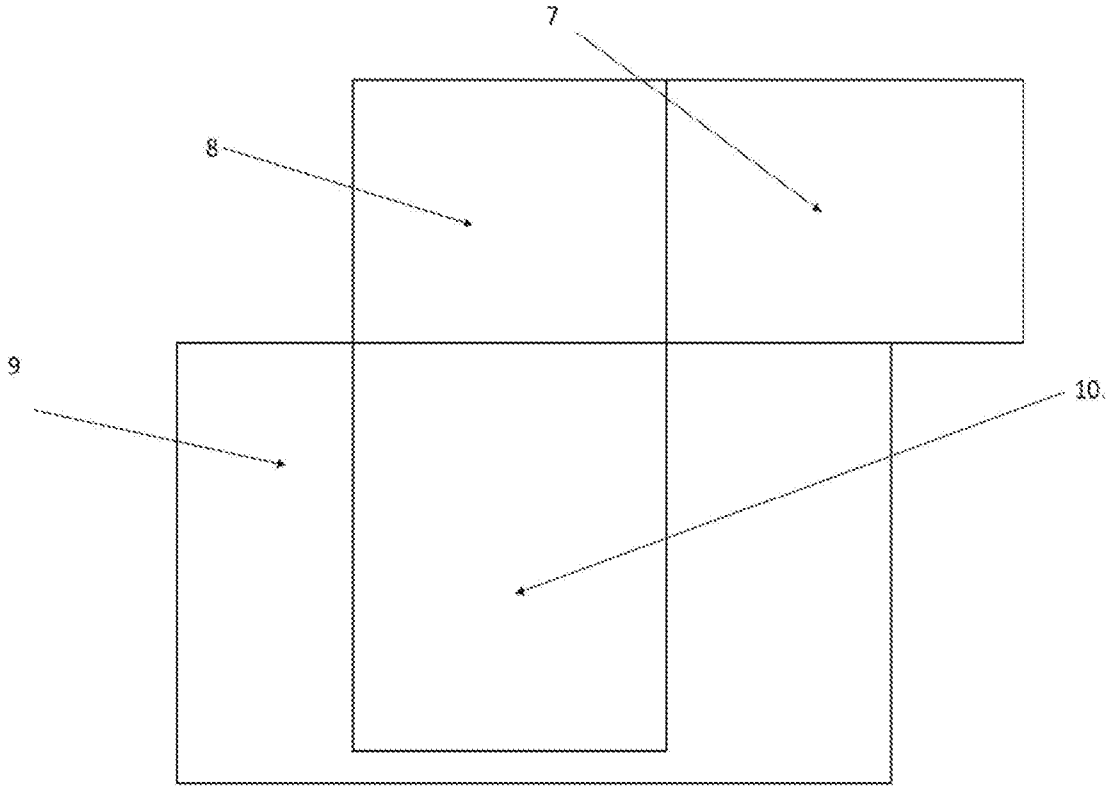

FIG 3

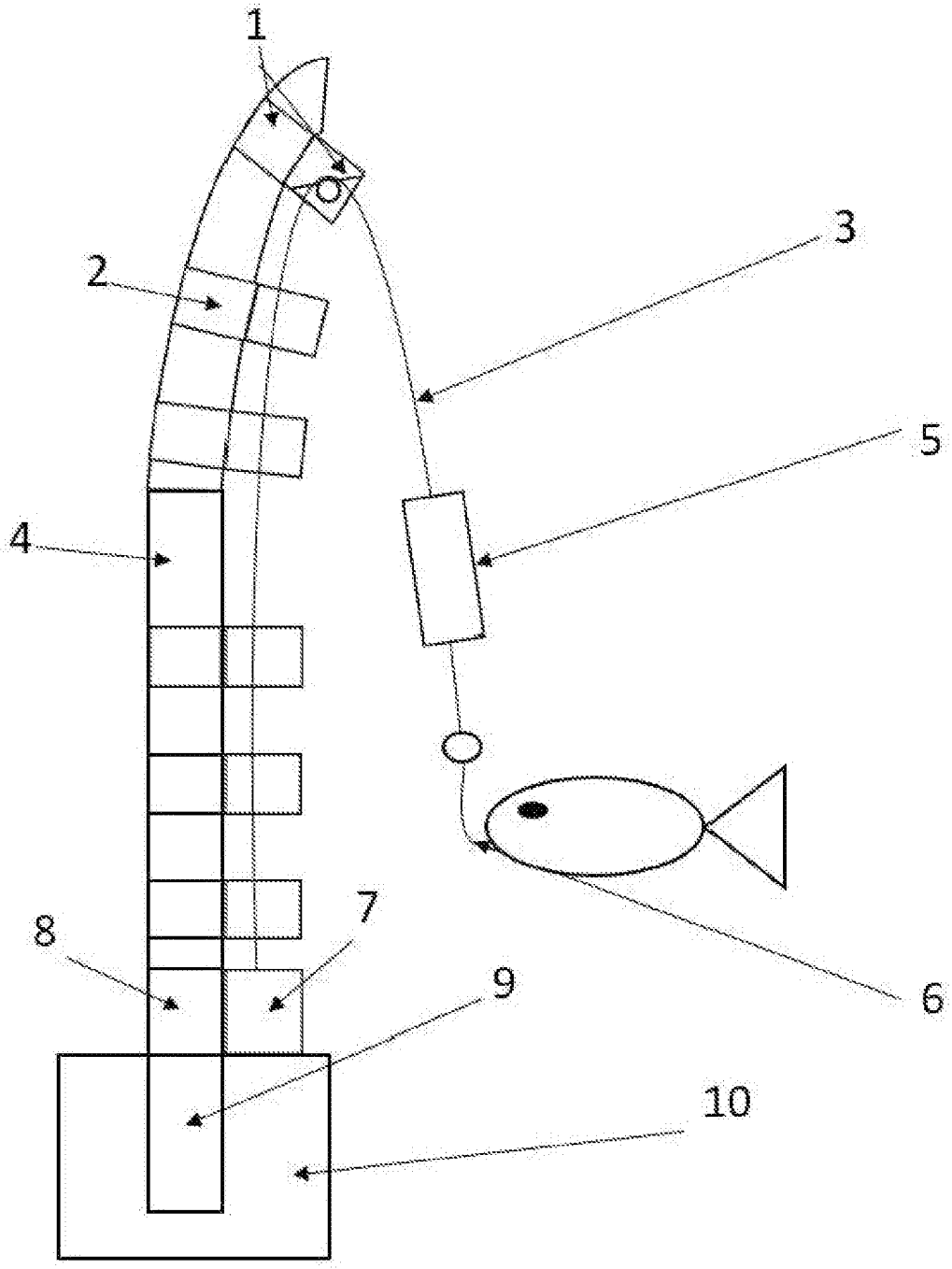

FIG 4

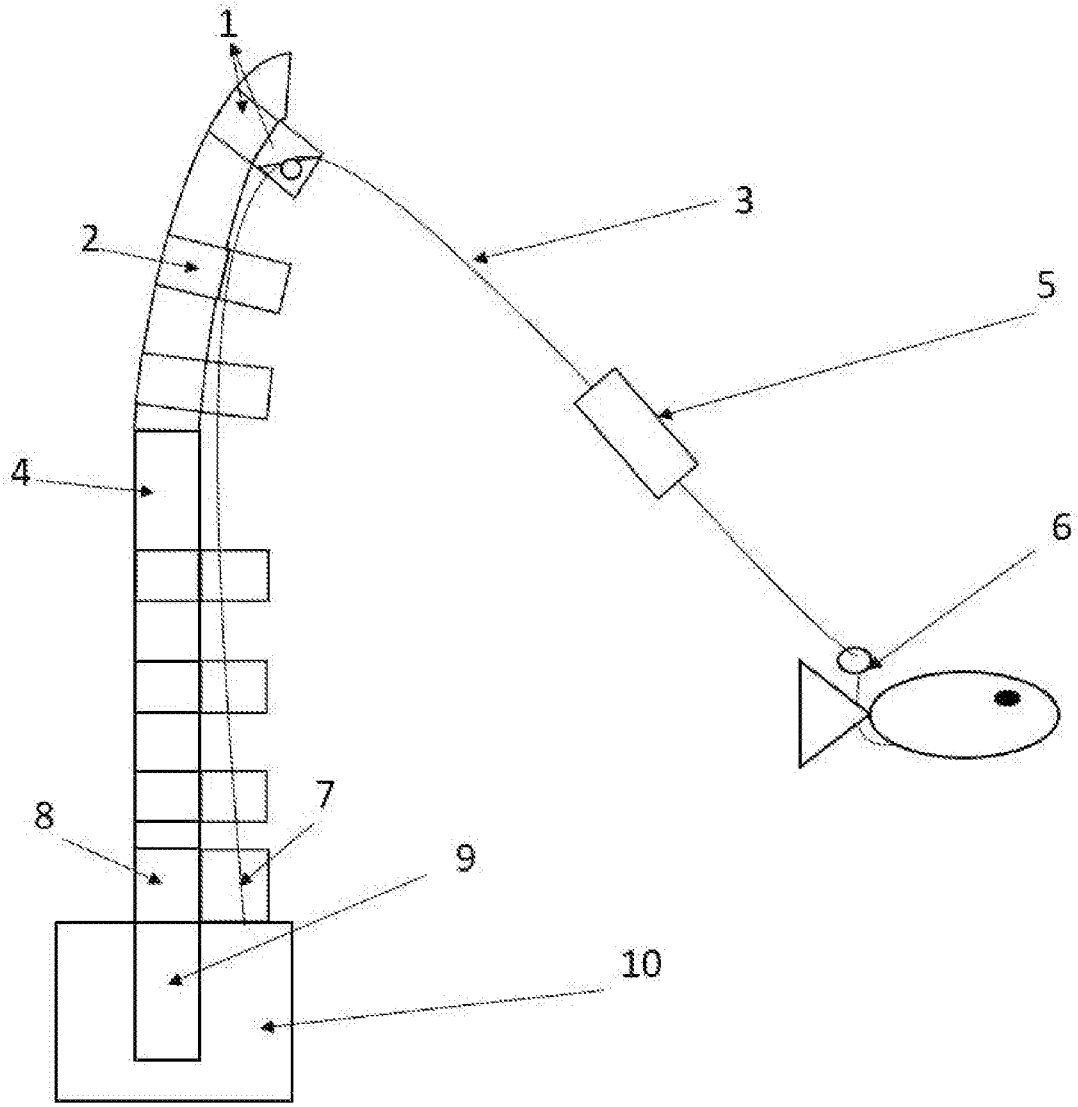

FIG 5

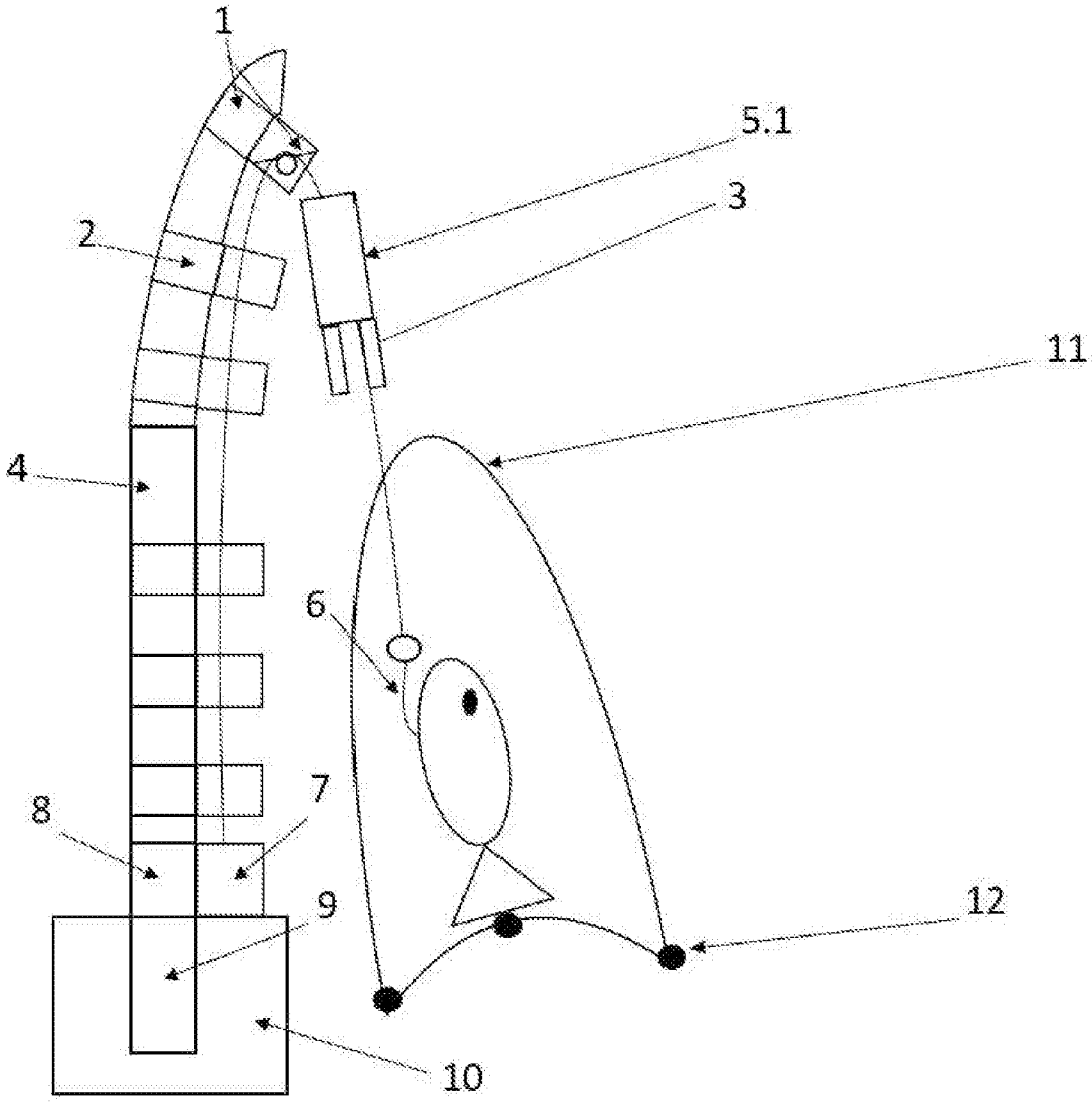

FIG 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB16/56396

A. CLASSIFICATION OF SUBJECT MATTER
IPC - A01K 89/012, 91/06 (2017.01)
CPC - A01K 87/007, 89/012, 91/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
See Search History document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0005497 A1 (BOLTAN Z et al.) January 13, 2005; figures 3C, 5B-5H; paragraphs [0021], [0102], [0111], claims 3, 11, 12	1-4
Y	US 4,791,833 A (SAKAI Y et al.) December 20, 1988; figure 5; column 1, lines 15-20	1-4
Y	US 2016/0099606 A1 (ZHANG Y et al.) April 7, 2016; figure 14; paragraphs [0039], [0040], [0070]	2
A	US 3,911,608 A (HOLLING JH) October 14, 1975; entire document	1-4
A	US 3,363,355 A (KELLNER H) January 16, 1968; entire document	1-4
A	US 1,797,251 A (TYRRELL F) March 24, 1931; entire document	1-4

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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