Abstract Title: Fishing bait delivery system for attachment to pole

The present invention relates to a fishing bait or chum delivery system 101 having a body portion 301 configured to aid as a flotation device having a pair of hull like floats 201, 203, a receptacle 105 suitable for containing the bait and a means to attach the system to a pole via an arm member 127. Said pole being used to transport said system to a remote area of water. When the device is at the desired location the pole is rotated by an angler thereby causing the bait receptacle to invert dropping bait at the target area. The invention is characterised in that the receptacle is mounted upon said body portion and configured to pivot relative to said body portion.
IMPROVEMENTS TO BAIT DELIVERY

Field of the Invention

The present invention relates to a bait delivery system suitable for use in any fishing activity where bait is used to attract fish to a desired area. In particular, the present invention relates to a bait delivery system suitable for use in coarse fishing.

Background to the Invention

There are many prior art methods for distributing fishing bait in a particular area of water in order to attract fish to that area, such that the angler may cast their fishing pole in a well populated area to ensure successful fishing. Due to the length of the fishing pole, the angler requires the bait to be distributed a considerable distance from where they are stood. A simple method of throwing the bait to the required position presents problems to the angler due to the non-accurate delivery of the bait to the required area and also due to bait spread, i.e. portions of the bait falling short of the required target area during transit. Therefore, many prior art methods have been proposed in order to overcome these disadvantages.

One prior art method involves propelling the required amount of bait towards the target fishing area using a catapult. Although the catapult allows the bait to travel further distances than may be possible throwing the bait by hand, it still suffers some of the same disadvantages. Firstly, the angler must be very skilled in the art of catapulting the bait in order to effect successful and accurate delivery of the bait to the target fishing area. Furthermore, some of the bait may fall short of the target fishing area during propulsion from the catapult causing bait spread and so attracting the fish away from the target fishing area.

A further, and more widely used method of distributing bait involves fitting of a cup, configured to hold a volume of bait, to the end of a fishing pole. Once the bait cup has been filled with the required bait and attached to the end of the
fishing pole, the angler feeds the fishing pole out across the water towards the desired fishing location. Once in position over the target fishing area, the angler rotates the fishing pole in order to discharge the bait. However, this method suffers a further problem due to pole shake causing some of the bait to spill over the sides of the bait cup during transit thereby attracting the fish into an area other than the desired fishing location. Even the most steady handed angler will suffer pole shake during use of the bait cup due to the flexibility and length of the fishing pole.

Various attempts have been made to overcome the problems experienced during use of a bait cup such as pole shake, many such solutions involve the use of a lid portion to cover and seal the recessed portion of the bait cup. However, once the cup is in position for discharge of the bait to the target fishing area there must be some kind of mechanism to effect removal of the lid from the bait cup in order to enable discharge of the bait. One such example of a mechanism is disclosed in GB 2416286 which discloses a bait dispenser comprising a container for the fishing bait having an opening, and a means to attach the bait dispenser to a pole. The apparatus further comprises a closure moveable relative to the container to which a pair of fastening rods with weights may be attached. Once the bait dispenser is in position over the target fishing area, rotation of the pole and movement of the weights under the influence of gravity effect movement of the closure away from the opening of the container, thereby allowing the fishing bait to be dispensed from the container at the target fishing area. This bait dispenser may further comprise flotation means to enhance controllability of the apparatus over large distance.

The disadvantages of this type of apparatus is that as the flotation device is configured to be rotated by the fishing pole, together with the other components of the bait dispenser. This means that accidental rotation of the device and therefore discharge of the contents of the bait dispenser may occur as it is fed out towards the target fishing area as there is no steadying means preventing accidental rotation for the device. Furthermore, the design of the bait dispenser
must be changed in order to accommodate different types and volumes of bait as the container is permanently fixed within the bait dispenser during manufacture.

An alternative method of a bait delivery involves the use of a motorized bait boat-like device which is controlled by a remote control. Such a motorized bait boat runs off batteries and can be guided to the target fishing area where it will discharge its fishing bait load and then guided back to the angler. However, motorized bait boats encounter problems if they are required to plough through dense weeds and the like within the area of water between the angler and the target fishing area. Such weeds and other vegetation may subsequently become entangled in the motor of the boat, thereby rendering the motorized bait boat motionless and therefore useless in such situations.

Furthermore, as a motorised bait boat runs off batteries, the batteries can run out whilst the bait boat is travelling to or from the target fishing area, causing the boat to become stranded. A further disadvantage of motorized bait boats is that they are very expensive pieces of equipment and so not within the means of the average angler.

Therefore, the inventor has sought to provide an improved bait delivery system for use in conjunction with a standard fishing pole, which provides accurate delivery of the fishing bait to the target fishing area and reduces inadvertent spillage of the bait during transit due to pole shake. This bait delivery system further seeks to reduce the cost of manufacture and maintenance of the device by removal of any motorized portions.

**Summary of the Invention**

An object of the present invention is to provide a means of delivering fishing bait to a target fishing area, located some distance from the angler, in order to attract fish to that area for successful fishing. The means will provide accurate delivery of the bait, without the risk of loss of any amount of the bait during transit, thereby attracting fish away from the target fishing area. Furthermore, the
present invention seeks to provide an inexpensive system which may be transported to the required area of water and controlled by manual means.

The invention achieves this objective by provision of a bait delivery system comprising:

a body portion configured to aid as a flotation device;

a receptacle suitable for containing said bait; and

a means to attach said system to a pole, said pole being suitable for transporting said system to a remote area of water;

wherein said receptacle is mounted upon said body portion; and

said receptacle is configured to pivot relative to said body portion.

The pole suitable for transporting the bait delivery system according to a first aspect of the present invention to a remote area of water may be integral with the system or an independent component which may be attached or inserted into a part of the system to control movement thereof. Controlling the movement of the system by the use of a pole eliminates the need for any motorised components, therefore reducing the initial cost of the system and the costs of maintenance thereof.

By the term 'remote area of water' it is meant an area of water to which the angler wishes to attract fish, in order that they may cast their fishing pole in that area to achieve successful fishing (the target fishing area).

The provision of a flotation body upon which a receptacle for containing bait is mounted, enables better stabilisation of the bait delivery system as it
moves across the water. This means that there will be no spillage of the contents of the receptacle en route to the target fishing area.

Furthermore, the independent movement of the receptacle relative to the stationary body portion ensures that the body portion effectively stabilises and supports the bait delivery system en route to the target fishing area and during distribution of the bait. This feature further ensures accurate delivery of the bait to the required area of water.

Preferably the body portion comprises a cutaway section and the receptacle is mounted over the cutaway section. The cutaway section eliminates the need for any type of mechanism to dispense the bait by providing an opening in the structure through which the bait may be dispensed upon rotation of the receptacle at the target fishing area.

In a preferred embodiment of the present invention, the receptacle is detachably mounted upon said body portion. This allows the angler to alternate between different sizes of receptacles, therefore accommodating different types and quantities of bait.

Preferably the system is transported to said remote area of water by a fishing pole. It is advantageous for the angler to use their fishing pole to control the system to ensure the bait delivery system is quick and easy to use. This is because use of the fishing pole prevents the need for any further apparatus and once the bait has been delivered to the target fishing area, the fishing pole can be fitted with the fishing line, hook and float and the angler can commence fishing.

Preferably, the receptacle comprises at least one arm member which extends from the upper edge of said receptacle. The at least one arm member may comprise the means to attach the system to a pole. By providing the means of attachment to the pole at the arm member of the receptacle, this allows the receptacle to move independently of the body portion, which is advantageous.
In a preferred embodiment, the means comprises a tapered recess portion located at the outermost end of the at least one arm member. The internal surface of the tapered recess portion may be smooth or threaded. The type of internal surface of the arm member will depend upon the corresponding surface of the fishing pole, being designed accordingly. A threaded internal surface of the tapered recess portion is advantageous as it allows the corresponding external threaded portion of a fishing pole or pole attachment to fit securely into the tapered recess portion, therefore enhancing control of the bait delivery system during transit and bait distribution.

Preferably, the body portion comprises at least one groove extending longitudinally through at least a portion of the upper surface of said body portion, the at least one groove being configured to receive said at least one arm member of said receptacle.

Preferably the at least one arm member of said receptacle pivots within said at least one groove of said body portion. In this way, the arm member of the receptacle can rotate within the longitudinal groove of the body portion, effecting distribution of the bait from the receptacle without impairing the stability of the body portion.

The at least one groove may extend throughout said upper surface of said body portion.

Preferably, the at least one groove comprises at least one protrusion at the uppermost edge thereof. This enable secure attachment of the receptacle to the body portion of the system, whilst still maintaining the detachability when necessary. This is because the protrusion allows the arm of the receptacle to clip into the groove and be held securely therein. The angler may then apply upward pressure to the arm member in order to force the arm member out of the groove, thereby unclipping it.
Optionally, the means to attach the system to a pole may further comprise an attachment device. The attachment device may be provided with an internal screw fitting at a first end and an external screw fitting at a second end such that said attachment device is suitable for attaching to said at least one arm member.

The provision of an attachment device allows the bait delivery system to be used with any type of fishing pole, regardless of whether the end portion of the pole comprises a simple taper or an internal or external threaded taper.

Preferably, the body portion comprises two hulls and a frame, the frame of said body portion being positioned between said two hulls. The shape of the body portion further enhances the stability of the bait delivery system as it moves through the water to the target fishing area. Furthermore, it reduces the water resistance experienced by the system as it moves through the water, preventing any jerky movements of the system and hence spillage of the bait en route.

Preferably the two hulls and said frame of said body portion are integral.

In a preferred embodiment of the present invention, the body portion is formed of a polyolefin material, and is hollow. This type of material and design is advantageous to the bait delivery system as it contributes further to the buoyancy of the system.

Preferably, the body portion is formed by blow moulding.

In a preferred embodiment of the present invention, the receptacle is formed from one of the following materials:

- Nylon
- Acrylonitrile butadiene styrene (ABS)
- Polystyrene
**Brief Description of the Drawings**

For a better understanding of the invention and to show how the same may be carried into effect, there will now be described by way of example only, specific embodiments, methods and processes according to the present invention with reference to the accompanying drawings in which:

Figure 1 shows the top view of a bait delivery system in accordance with a first embodiment of the present invention;

Figure 2 shows the front view of the bait delivery system of Figure 1;

Figure 3 shows the side view of the bait delivery system illustrated in Figure 1;

Figure 4 shows a perspective top view of the receptacle suitable for containing bait in accordance with the first embodiment of the present invention; and

Figure 5 shows the side view of the receptacle of Figure 4.

**Detailed Description**

There will now be described by way of example a specific mode contemplated by the inventors. In the following description numerous specific details are set forth in order to provide a thorough understanding. It will be apparent however, to one skilled in the art, that the present invention may be practiced without limitation to these specific details. In other instances, well known methods and structures have not been described in detail so as not to unnecessarily obscure the description.
With reference to Figure 1 herein there is shown a bait delivery system 101 in accordance with a first embodiment of the present invention. The bait delivery 101 comprises a body portion 103 and a receptacle 105.

The body portion 103 is substantially rectangular wherein the two corners 107 and 109 located at the front section 111 of the body portion 103 are curved.

The body portion 103 comprises a circular cutaway section 113 located centrally within the body portion 103. The body portion 103 further comprises two longitudinal grooves 115 and 117 located equidistant from one another about the circumference of the circular cutaway section 113. The first longitudinal groove 115 extends from the cutaway section 113 to the outer edge 119 of the front section 111 of the body portion 103 and the second longitudinal groove 117 extends from the cutaway section 113 to the outer edge 121 of the back section 123 of the body portion 103.

Receptacle 105 is located upon the body portion 103, within the cutaway section 113 and is hemispherical in shape. Receptacle 105 comprises two longitudinal arm members 125 and 127 which extend from the uppermost edge 129 of the receptacle 105 and are fitted into the longitudinal grooves 115 and 117 of the body portion 103 in order to support the receptacle 105 within the cutaway section 113 of the body portion 103. The receptacle 105 pivots about the arm members 125 and 127 within the longitudinal grooves 115 and 117, thereby enabling retention and distribution of the bait contained within the receptacle 105.

In this embodiment, body portion 103 is formed by blow moulding of polypropylene such that the body portion 103 has a hollow interior. The body portion 103 measures 190 mm long and 150 mm wide and the diameter of the cutaway section 113 is 90 mm. The receptacle 105 is formed from nylon and has a diameter of 90 mm.
In use, the angler aligns the uppermost edge 129 of the receptacle 105 with the upper surface 131 of the body portion 103. This action is carried out by insertion of the end of a fishing pole or any other type of pole into a recessed portion (not shown) of the second arm member 127 of the receptacle 105 and twisting the pole to effect rotation of the receptacle 105. The angler then fills the receptacle 105 with the required amount of bait, places the bait delivery system 101 on the water and floats it across the water to the target fishing area, using the pole to guide and control the bait delivery system 101. When the bait delivery system 101 is in position over the target fishing area, the angler discharges the bait by twisting the pole once more which causes the arm members 125 and 127 to rotate within the longitudinal grooves 115 and 117 of the body portion 103, up-turning the receptacle 105. In this way, the bait will be accurately delivered to the target fishing area without risk of loss of the bait en route.

In this figure, the receptacle 105 is shown in the position of its rotation necessary to effect discharge of the bait from the bait delivery system 101.

Figure 2 more clearly shows the shape of the body portion 103 of the bait delivery system 101 of Figure 1.

The body portion 103 comprises two hulls 201 and 203 joined by a frame 205. The two hulls 201 and 203 and the frame 205 of the body portion 103 are integral and enable the stabilization of the bait delivery system 101 as it is moved across the surface of the water, towards the target fishing area.

In this figure, it is clearly shown that the longitudinal groove 115 of the body portion 103 of the bait delivery system 101 is substantially C-shaped comprising two protrusions 207 and 209 at its uppermost edge. These protrusions 207 and 209 effect a slight upward tapering of the longitudinal groove 115 such that when the arm member 125 of the receptacle 105 is placed into the longitudinal groove 115, the user must apply pressure to the arm member 125 to allow it to pass between the two protrusions 207 and 209 and into the longitudinal groove 115.
In this way, the arm member 125 clips into the longitudinal groove 115 of the body member 103 and is tightly secured therein to prevent any movement of the receptacle 105 other than rotation. Furthermore, this arrangement enables the interchangeability of the receptacle 105.

The longitudinal groove located at the back section of the body member 103 is also substantially C-shaped with identical protrusions to allow the corresponding arm member of the receptacle 105 to be secured therein.

The depth of the body portion 103 of the bait delivery system 101 at each hull 201 and 203 is 75mm.

With reference to figure 3 herein there is shown the side view of the bait delivery system 101 of figure 1. In this figure, the shape of the hull 201 of the body portion 301 is more clearly visible. The front edge 301 of the hull 201 is angled upwards in order to assist the movement of the bait delivery system 101 across the surface of the water by reducing resistance experienced at the front section 111 of the body portion 103. The second hull (not shown) is similarly shaped in this way.

As can be seen in figure 3, the arm member 127 of the receptacle 105 extends out of the longitudinal groove (not shown), away from the outer edge 121 of the back section 123 of the body portion 103. This configuration enables the fishing pole or any other type of pole to be fitted into the recessed end portion (not shown) of the arm member 127 of the receptacle 105 with ease, whilst the receptacle 105 is mounted on the body portion 103 of the bait delivery device 101.

Figure 3 further shows the recessed portion 303 of the receptacle 105. This recessed portion 303 is configured to receive the required amount of bait and retain that bait therein en route to the target fishing area, when the receptacle
105 is positioned such that the uppermost edge 129 of the receptacle 105 is
aligned with the upper surface 131 of the body portion 103.

With reference to Figures 4 and 5 herein there is shown the receptacle 105
of figures 1 to 3 detached from its position over the cutaway section of the body
portion of the bait delivery system. The receptacle 105 comprises a body portion
401 and two longitudinal arm members 125 and 127.

The body portion 401 of the receptacle 105 is substantially hemispherical in
shape and comprises a recessed portion 303 configured to hold the required
amount of bait therein. The longitudinal arm members 125 and 127 are
cylindrical in shape and extend outwardly in a radial direction from the uppermost
edge 129 of the body portion 401 of the receptacle 105. The longitudinal arm
members 125 and 127 are located equidistant from one another about the
uppermost edge 129 of the body portion 401 of the receptacle 105.

The second arm member 121, which when in position upon the body portion
of the bait delivery system extends to the back section of the body portion,
comprises a tapered recess portion within the outermost end 403 thereof. In this
embodiment of the invention, the internal surface of the tapered recess portion is
threaded. However, in an alternative embodiment the internal surface may be
smooth, depending upon the external surface of the corresponding end section of
the pole. This embodiment enables the angler to screw in the corresponding end
of the pole (or extension attached to the pole) to ensure tight and secure fitting of
the receptacle 105 to the pole, to give greater control of the bait delivery system
as it is transported out to the target fishing area.

In this embodiment, all of the components of the receptacle 105 are
integraphically formed from nylon. The length of the receptacle 105, from the
outermost end of the first arm member 125 to the outermost end of the second
arm member 125 is 180 mm. The receptacle 105 comprised of a 25 mm first arm
member 125, a 90 mm diameter body portion 401 and a 65 mm second arm member 127.

The recessed portion 303 of the body portion 401 of the receptacle 105 has a volume of approximately 191 cm³.

The design of the receptacle 105 means that it can pivot relative to the body portion of the bait delivery system by rotation of the arm members 127 and 125 within the longitudinal grooves of the body portion. Furthermore, the removeability of the receptacle 105 enables the angler to interchange the receptacle 105 of the bait delivery system with alternative receptacles configured to contain a greater or lesser volume of bait.

The bait delivery system of the present invention is suitable for use in any fishing activity where bait is used to attract fish to a desired area, where the angler intends to cast their fishing pole. The bait delivery system is suitable for use with any type of bait and the body portion can be easily manufactured in various sizes, if necessary, to accommodate different amounts and types of bait for delivery.
Claims:

1. A bait delivery system comprising:

   a body portion configured to aid as a flotation device;

   a receptacle suitable for containing said bait; and

   a means to attach said system to a pole, said pole being suitable for
   transporting said system to a remote area of water;

   wherein said receptacle is mounted upon said body portion; and

   said receptacle is configured to pivot relative to said body portion.

2. A bait delivery system according to claim 1 wherein said body
   portion comprises a cutaway section.

3. A bait delivery system according to claim 2 wherein said receptacle
   is mounted over said cutaway section.

4. A bait delivery system according to any one of claims 1 to 3
   wherein said receptacle is detachably mounted upon said body portion.

5. A bait delivery system according to any preceding claim wherein
   said system is transported to said remote area of water by a fishing pole.

6. A bait delivery system according to any preceding claim wherein
   said receptacle comprises at least one arm member.

7. A bait delivery system according to claim 6 wherein said at least
   one arm member comprises said means to attach said system to a pole.
8. A bait delivery system according to claim 7 wherein said means comprises a tapered recessed portion located at the outermost end of said at least one arm member.

9. A bait delivery system according to claim 8 wherein the internal surface of said tapered recessed portion is threaded.

10. A bait delivery system according to any preceding claim wherein said body portion comprises at least one groove extending longitudinally through at least a portion of the upper surface of said body portion.

11. A bait delivery system according to claim 10 wherein said at least one groove is configured to receive said at least one arm member of said receptacle.

12. A bait delivery system according to claim 11 wherein said at least one arm member of said receptacle rotates within said at least one groove of said body portion.

13. A bait delivery system according to any one of claims 10 to 12 wherein said at least one groove extends throughout said upper surface of said body portion.

14. A bait delivery system according to any one of claims 10 to 13 wherein said at least one groove comprises at least one protrusion at the uppermost edge thereof.

15. A bait delivery system according to any preceding claim wherein said means to attach said system to said pole further comprises an attachment device.
16. A bait delivery system according to claim 15 wherein said attachment device is provided with an internal screw fitting at a first end and an external screw fitting at a second end such that said attachment device is suitable for attaching to said at least one arm member.

17. A bait delivery system according to any preceding claim wherein said body portion comprises two hulls and a frame.

18. A bait delivery system according to claim 17 wherein said frame of said body portion is positioned between said two hulls.

19. A bait delivery system according to any one of claims 17 and 18 wherein said two hulls and said frame of said body portion are integral.

20. A bait delivery system according to any preceding claim wherein said body portion is formed from a polyolefin material.

21. A bait delivery system according to any preceding claim wherein said body portion is hollow.

22. A bait delivery system according to any preceding claim wherein said body portion is formed by blow moulding.

23. A bait delivery system according to any preceding claim wherein said receptacle is formed from one of the following materials:

- Nylon
- Acrylonitrile butadiene styrene (ABS)
- Polystyrene
Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

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<th>Category</th>
<th>Relevant to claims</th>
<th>Identity of document and passage or figure of particular relevance</th>
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<td>GB 2237963 A (PERRIN) See whole document especially figures 1 and 1a.</td>
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<td>GB 2341778 A (GODDARD) See whole document especially figure 1.</td>
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<td>GB 2312143 A (GRiffin) See whole document especially figures 3 and 6.</td>
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<td>GB 2427341 A (VESPE) See whole document especially figures 1 and 2.</td>
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Categories:

- X Document indicating lack of novelty or inventive step
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- P Document published on or after the declared priority date but before the filing date of this invention
- E Patent document published on or after, but with priority date earlier than, the filing date of this application

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UK:

- Worldwide search of patent documents classified in the following areas of the IPC
- A01K

The following online and other databases have been used in the preparation of this search report

- EPDOC, WPI

International Classification:

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