

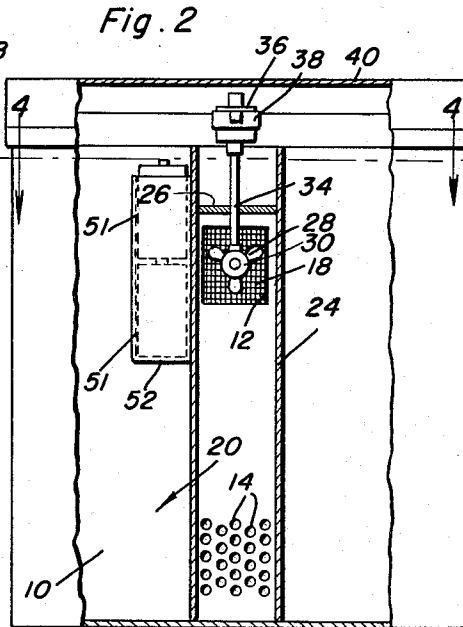
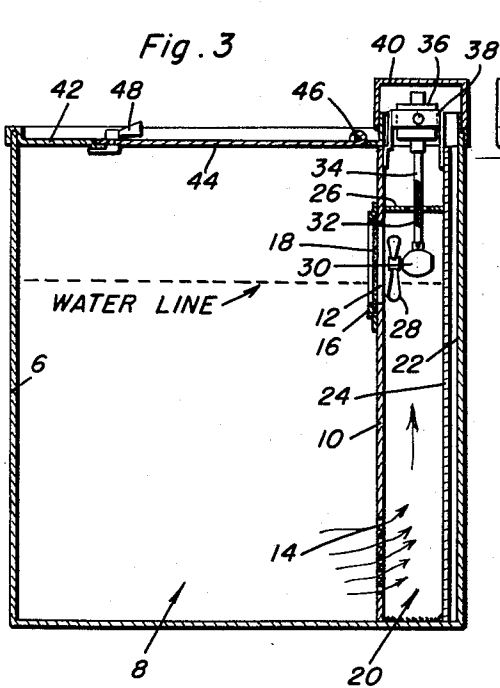
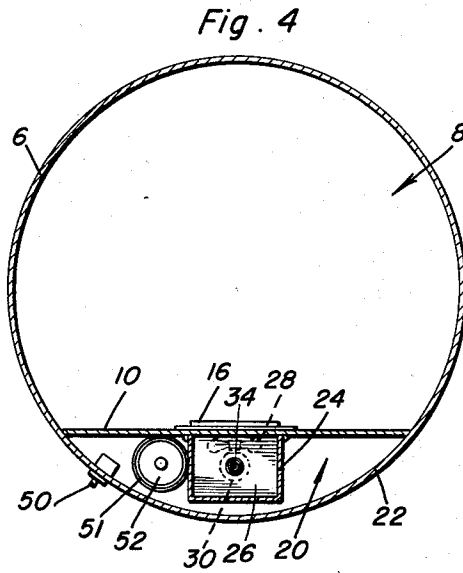
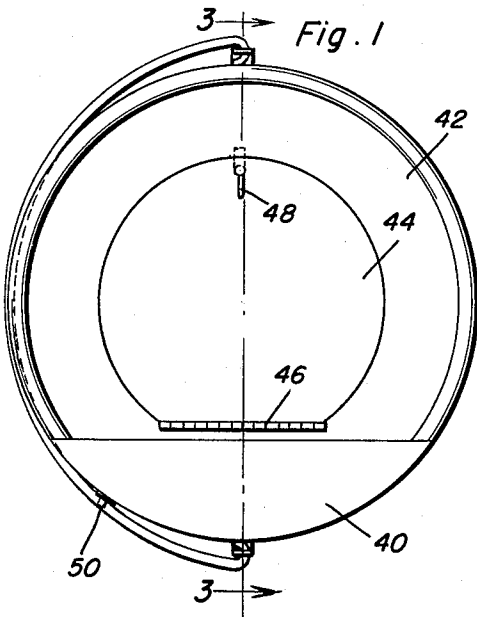
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MINNOW BUCKET WITH AERATING MEANS

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1

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MINNOW BUCKET WITH AERATING MEANS
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The present invention relates to a minnow bucket which is improved in that it has self-contained facilities whereby water contained in the bucket may be circulated in a manner to effectually aerate the water and effectively preserve the life of the minnows contained in the bucket. More specifically, the concept has to do with an aerating minnow bucket which is novel in that it is fully portable, that is, continuous to aerate the water while being carried by hand, if desired, or while it is in use in a rowboat, on the shore, or wharf, in a customary manner.

As having a bearing on the instant disclosure, reference could be made, if desired, to prior patents in which a motor driven pump functions to circulate water in a bucket or equivalent container and, in so doing, achieves the desired aeration results. A typical prior reference patent exemplary of the state of the art would be the patent granted to Maston 2,678,512. Other similar patents could, but need not, be cited as indicative of the state of development of the art.

With a view toward improving upon the above mentioned patent and other similarly constructed and performing adaptations, the invention herein offered pertains to a simple, practical, and efficient self-contained minnow bucket which is fully portable in that it utilizes a construction which makes it possible to employ a portable battery-operated electric motor of relatively small size and weight. In addition, the construction which includes a propeller is such that the propeller is at water level and is faced in the direction of the main water compartment of the bucket so that it is partially exposed above the water and so that the load on the motor is thus lightened, in fact to such an extent that ordinary flash light batteries will operate the motor for as much as six to eight hours.

One difficulty with prior art constructions is that some type of electric current which is often not available is required to operate the electric motor, and consequently the motor-driven bladed propeller.

In carrying out a preferred embodiment of the invention, a partition is installed in a limited areal portion of a conventional-type minnow bucket and is provided on one side with a channel-like member which, in conjunction with upper and lower water intake and discharge openings, provides a well. The battery-operated motor is appropriately supported above and in alignment with the well and operates a depending shaft which in turn actuates a suspended bladed propeller.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying drawing.

In the drawing:

FIG. 1 is a plan view of the minnow bucket as improved and with the lid closed.

FIG. 2 is an elevational view with portions broken away and shown in section illustrating the essential details of the improved construction.

FIG. 3 is a central vertical section on the plane of the line 3—3 of FIG. 1.

FIG. 4 is a section on the horizontal line 4—4 of FIG. 2.

The bucket shown may be a conventional-type bucket 6 which ordinarily holds six quarts of water. The water space therein 8 is provided with a vertical divider or partition 10 having a discharge opening 12 near the top and intake ports or openings 14 adjacent the bottom. A frame 16 serves to attach a screen 18 to the partition, and

2

the screen is lined up with the opening 12. The partition arranged in the manner shown provides a segmental dry space or chamber 20 between itself and the cooperating arcuate portion 22 of the wall of the bucket. This space has provided therein a vertical channel-like member 24 with its wall fastened to the partition and with the channel extending from the top to the bottom of the bucket and lined up with the openings 12 and 14. This construction provides a relatively small water channeling well and the numeral 26 in the upper portion of the well designates the splash plate, this being located just above the opening 12, and the opening 12 being of a size that the water may be circulated therethrough by the small bladed circulating propeller 28. The propeller is operated from gearing (not shown) in a gear casing 30, the gearing being driven by a shaft 32 in a shaft housing or tube 34 leading up to and cooperating with the battery operated electric motor 36. This motor is suitably strapped or bracketed above the top of the bucket by hanger means 38. An auxiliary sector shaped housing member 40 is provided and this encloses and protects the motor.

The top of the minnow bucket is denoted at 42, the lid at 44 hinged at 46 and provided with an appropriate latch 48. The numeral 50 designates a suitable switch which is connected by wiring (not shown) to the motor and batteries. The batteries here are simple dry cells or flashlight batteries 51 fitted into a receptacle-like holder 52 suspended from the partition 10 in the space 20.

It will be evident that the upper and lower openings 12 and 14, respectively, communicate with the minnow and water containing space 8 of the bucket 6. When the pump is in operation, the water is circulated and satisfactorily aerated.

The circulation of water is as follows: The propeller pulls the water through the bottom inlet 14, up through the well and circulates it back into the main compartment 8 by way of the screened outlet 12 and in so doing creates a turbulent motion in the water which agitates it and breaks it up as it cascades over the lower marginal edge portions of the screened opening 12. As a result of this, the water is aerated. The anti-splash plate 26 in the upper portion of the well or channel actually has no function other than to keep water from being jostled into the motor as the bucket is transported. The action of the propeller does not throw any water against the splash plate. The circulation of the water is somewhat similar to that observed in the wake behind an outboard motor boat. Here the motor creates suction and throws water through the screen and into the minnow compartment 8. This motion in turn as it passes through the screen breaks up the water and produces the desired aeration, and the circulating function results in all of the water being continuously aerated.

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. For use in a water filled bucket having a cover, water circulating, recirculating and aerating means for installation in the receptacle portion of the bucket comprising a partitioning wall of a vertical dimension equal to the depth of said receptacle portion, a bottom edge of said wall being adapted to be secured fluid-tight to the bucket bottom, the vertical edges being adapted to be likewise secured to vertical portions of the wall of the bucket to divide the receptacle portion into a main water containing compartment and an auxiliary dry compartment, a vertically disposed channel-shaped member defining a lifting and circulating well and having side walls joined to a sur-

3

face of the median part of said wall, said channel-shaped member corresponding in height to the height of said wall, the lower median portion of said wall having intake ports communicating with the lower portion of said well, the upper median portion of said wall having a screened opening communicable with the upper portion of said well, and propeller means operably mounted in the upper portion of said well for circulating water from the main compartment, through the ports and well and back to the main compartment through said screened opening, said main and auxiliary compartments being non-communicating at all times.

2. In a circular minnow bucket having a receptacle portion and usual cover and handle means; an improved water circulating device comprising a space spanning partitioning wall for installation in the receptacle portion in a manner to divide said receptacle portion into main water and minnow compartment and a constantly dry auxiliary compartment, a channel-shaped member of a cross-section less than the area of said partitioning wall and of a height corresponding to the height of the partitioning wall and having an open channel side facing the partitioning wall with edges of the longitudinal walls thereof secured to a median portion of the partitioning wall, the bottom of said channel-shaped member being adapted to be secured to the interior of the bottom of the bucket to close said bottom and to define a water lifting and circulating well, the lower median portion of said partitioning wall having intake ports in communication with the well, the upper median portion of said partitioning wall having a screened opening in communication with the well, the upper portion of said channel-shaped member being provided with a splash plate situated in a position below the open top of the channel in a position just above the upper marginal edge of the screened opening, and a motor supported atop the partitioning wall in alignment with the channel and above the splash plate, said motor having a shaft depending into the channel, passing through said splash plate and provided below the splash plate with a propeller occupying a position in alignment with said screened opening.

3. The combination of claim 2, and wherein the lower portion of the screened opening is in a plane below the path of operation of said propeller.

4. In combination, a bucket having a water receptacle portion, a partitioning wall mounted in said receptacle portion and dividing the receptacle portion into main and auxiliary compartments, said main compartment being adapted to contain water and minnows and the auxiliary compartment being wholly dry, an upper median portion of said partitioning wall having a screened opening, the lower median portion being provided with water intake

4

ports, an imperforate channel-shaped member of a height equal to the height of the partitioning wall and limited in cross-section and having side wall portions joined to the partitioning wall and defining a water circulating well in communication with the main compartment by way of the screened opening and intake ports, said channel-shaped member being of a cross-section considerably less than the area of that side of the partitioning wall on which it is mounted and dividing the auxiliary compartment into chambers, and that portion of the channel above the level of said screened opening being provided with a fixedly mounted splash plate.

5. The structure defined in claim and, in combination, a motor supported on the partitioning wall above but in alignment with said well, a bladed propeller confined for operation in the well and opposed to said screened opening and occupying a position in a plane above the lowermost edge portion of said screened opening so that the blades on the propeller operate partly in the water and said well but primarily above the normal level of the water in the well, and an operating shaft providing a connection between the propeller and motor, said shaft having a lower portion thereof passing through an opening in said splash plate.

6. The structure defined in claim 4 and, in combination, a motor supported on the partitioning wall above but in alignment with said well, a bladed propeller confined for operation in the well and opposed to said screened opening and occupying a position in a plane above the lowermost edge portion of said screened opening so that the blades on the propeller operate partly in the water and said well but primarily above the normal level of the water in the well, and an operating shaft providing a connection between the propeller and motor, said shaft having a lower portion thereof passing through an opening in said splash plate, and a receptacle-type receiver fixedly mounted on one side wall of the channel-shaped member near the top of the latter and confined in the dry auxiliary compartment and adapted to receive and hold flashlight batteries for operating the motor.

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