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FOLDABLE FRAME CONSTRUCTION FOR CRAB POTS AND THE LIKE

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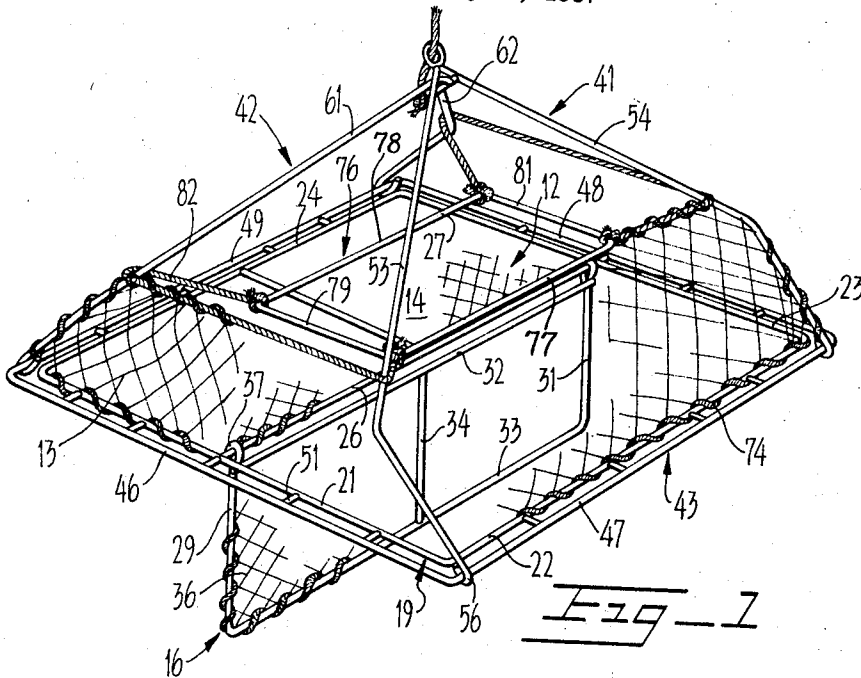


Fig. 1

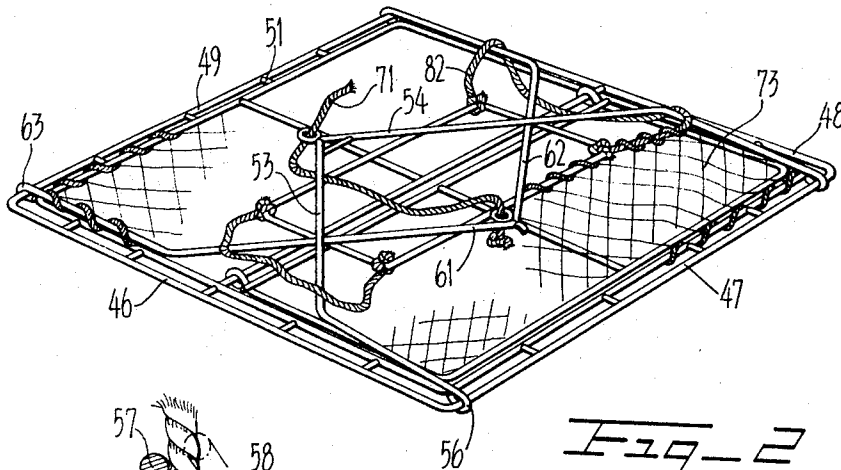


Fig. 2

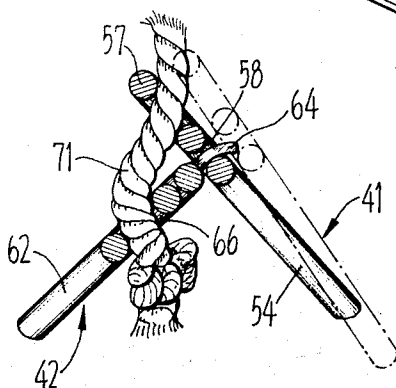


Fig. 3

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**FOLDABLE FRAME CONSTRUCTION FOR CRAB
 POTS AND THE LIKE**
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10 Claims

ABSTRACT OF THE DISCLOSURE

A foldable frame including a base portion having inner and outer frame portions and a single pair of side frame portions, the latter being hingedly connected to the former and movable between an inoperative folded position overlying the base and an upwardly extending operative position. The side portions include flexible walls which, together with the base, define an enclosure. An entrance frame is adjustably secured to the flexible walls and defines an opening through which crabs or the like may enter the enclosure. A latch on the side frame portions releasably holds the frames in operative position and a line is secured to one side frame portion and is threaded through an aperture in the other side frame portion.

Background of the invention

The frame construction of the present invention as will be presently described, has been particularly designed as a so-called crab pot, although the structural features may well have utility in other environments. Crab pots as presently utilized normally comprise large rigid box-like enclosures having open mesh walls and bottoms and a larger opening in a wall or in the top through which the crab may enter in an effort to obtain the bait placed in the pot. Such opening is arranged so that the crab may readily enter the pot through the opening, but cannot escape by exiting through the opening. The baited pots are hoisted from the deck of a ship and lowered into the water, and then raised onto the ship deck after a catch of crabs has entered the pot. Due to the bulk and weight of the pots, they are difficult to handle, are frequently bent or otherwise damaged, and require excessive space on the ship to store or stack the same when they are not in use.

Summary of the invention

In accordance with the present invention a crab pot is provided which provides the required bulk enclosure when in its operative position, but which may be folded or collapsed to a flat inoperative position for storage, so that a large number of the pots may be stacked on the deck of a ship and occupy only a small fractional part of the normally required space. The pot has further advantages over those previously available in that the normally incurred type of damage can be easily repaired since most of the frame members are merely pivotally connected together and therefore bending of one will not necessarily affect adjacent members as is the case with conventional pots wherein the members are welded or otherwise rigidly connected. The present pot is also more stable than prior available pots, and with some of the features about to be described, in converting the pot from its flat inoperative position to its open operative position, as mere hoisting of the pot will cause such conversion and a locking of the parts in their operative condition. The pot of this inven-

tion also provides for a ready change in the incline to the crab entry opening—usually referred to as the tunnel eye—without any modification of the structure.

Brief description of the drawing

FIGURE 1 is a perspective view of the apparatus of the present invention with the parts shown in their operative open position, and the bottom gate illustrated in its dumping or unloading position.

FIGURE 2 is a perspective view of the apparatus on its flat inoperative position for storage or stacking.

FIGURE 3 is an enlarged view of the latch mechanism for retaining the parts in their operative position.

Description of the preferred embodiment

The apparatus of the present invention is illustrated and will be described as applied to crab pots, and accordingly is shown in FIGURE 1 of the drawing in its operative position for trapping crabs, other than for the fact that a dumping gate is shown in its open position. In broad terms, the apparatus generally comprises a bottom 12 and side walls 13 defining an enclosure in which the crabs are trapped. An opening 14 is provided permitting entry of the crabs into the enclosure, such opening being normally referred in the trade as a "tunnel eye." As here shown, the side walls converge from the perimeter of the base or bottom 12 to the eye opening, thus permitting the crabs to crawl up along the outside of such walls and enter the eye. Once they have entered the eye, the crabs fall to the bottom 12, and they are unable to climb upwardly along the inner surface of the walls to escape through the opening 14. Obviously, other one-way eyes could be utilized, such as by providing fingers across an opening which can only be pivoted inwardly into the enclosure, but not outwardly. It is also apparent that while the apparatus is shown of generally rectangular plan configuration, a round or other geometric shape could likewise be used. To complete the general description of the pot, a gate 16 extends along at least a portion of the bottom and movable from a closed position in the general plane of such bottom to the open or dumping position shown in FIGURE 1.

The pot is adapted to be lowered to the bottom of the water and remain in position for a period of hours or longer, and then raised to the surface to collect the crabs which entered the same. The bottom and sides of such pots are accordingly of mesh-like or open form, thus permitting free flow of water therethrough.

As hereinabove explained, the present apparatus is foldable, and hence is not made up of rigidly secured base and side wall portions, but instead is constructed in the following manner. The bottom 12 consists of a horizontally disposed coplanar frame 19, here shown as rectangular in shape, but which could be of other configurations, and which includes sides 21, 22, 23 and 24 of rigid bar, tube, or rod-like form, with a cross-brace 26 extending between sides 21 and 23. Wire mesh 27 is secured to and extends between the frame sections 24 and 26 and the corresponding portions of sections 21 and 23 to provide a fixed bottom for a portion of the frame. The other portion of the frame is normally covered by the gate 16 which includes a coplanar frame having ends 29 and 31, opposed sides 32 and 33, and a cross-brace 34, suitable wire mesh 36 extending between the frame sections. The distal portions of ends 29 and 31 are looped over the brace 26 as indicated at 37 whereby such gate may be pivotally moved from its normal closed position shown in FIG-

FIGURE 2 wherein it is generally coplanar with the bottom frame 19, and cooperates with the mesh section 27 to provide a complete bottom for the apparatus, to the open dumping position shown in FIGURE 1. The gate may be latched in its closed position in any suitable manner, such as by lashing the gate frame side 33 to bottom frame side 22 or otherwise providing a releasable securing mechanism therebetween. In its closed position, the gate frame sections are disposed just inwardly of the corresponding bottom frame sections and in coplanar relationship therewith.

The side walls 13 include a pair of wall frames 41 and 42 pivotally attached to the bottom and movable between a first operative position extending upwardly from the bottom and a folded inoperative position overlying the bottom in general parallel relationship thereto. Suitable resilient material, such as netting, is attached to the frames and is caused to assume a taut, form retaining position to define the enclosure when frames 41 and 42 are moved into their operative position.

More specifically, and as here illustrated, the bottom frame 19 is provided with an outer frame 43 having sections 46, 47, 48 and 49 spaced slightly outwardly and secured to corresponding sections 21, 22, 23 and 24 of frame 19 by means of short posts 51 welded or otherwise secured to the respective adjacent sections. The wall frame 41 has its ends pivotally secured to outer frame section 47, while wall frame 42 has its ends similarly secured to the opposed outer frame section 49, the center portions of frames 41 and 42 being adapted to be releasably secured together when the frames are in their operative position.

Frame 41 includes a pair of legs 53 and 54 of generally divergent configuration, one end of each leg being looped over outer frame section 47 adjacent the ends of the latter as indicated at 56, and the other ends terminating in a common apertured lug 57. Inwardly of this lug, the legs further define a latch aperture 58 whose function will be presently described. Frame 42 is of like configuration, including legs 61 and 62 pivotally attached by loops 63 to outer frame section 49, and with the convergent ends being connected together and terminating in a latch member 64 of generally arcuate shape. Inwardly of the latch 64, an apertured lug 66 is provided between the legs. The foregoing construction is best illustrated in FIGURE 3 of the drawing, and as will be understood, by attaching a line 71 to lug 66 and then passing it through the lug 57, lifting of the line 71 will cause the frames 41 and 42 to be raised from their folded position shown in FIGURE 2 to their open position. As the latch 64 moves upwardly it will snap into locked position in the latch aperture and thus maintain the frames in their open operative position. To release the frames, further outward deliberate movement of frame 41 is required, as shown in dot-dash lines in FIGURE 3.

The resilient material which provides the walls of the apparatus when the frames are in their operative position includes suitable netting 73 lashed by a line 74 or otherwise connected to the inner frame 19 of the bottom. The netting is likewise connected to the legs of the wall frames 41 and 42, but terminate inwardly of the converging end portions of the legs.

Entry of the crabs to the interior of the enclosure is provided by the opening 14 defined in part by the spacing of the net at the upper portions thereof, and additionally by providing a rigid frame 76. The sides 77 and 78 of the frame, which are parallel to the bottom frame sections 22 and 24 has the netting connected thereto. The other sides 79 and 81 of the frame are spaced from the upper portion of the netting, but are connected by means of ropes 82 or the like, which pass around and are connected to the legs of adjacent wall frames, are connected to the netting, with their ends tied to the corners of the frame 76.

When the frames 41 and 42 are moved to their open position, resistance is provided by the netting 73 and the

ropes 82 and the netting assumes an upwardly inclined relatively taut position, permitting the crabs to crawl up along the exterior thereof and drop through the tunnel eye defined by frame 76. The tautness of the netting can be changed by varying line 74, and by changing the length of rope 82, the angular inclination of the netting leading to the opening 14 can likewise be varied.

As previously mentioned, the netting is attached to the inner bottom frame 19 rather than to the outer bottom frame 43 so as to protect the netting from damage when the apparatus strikes an object, either on deck, or when submerged. Also, since the hoisting line 71 is centered, with the bulk of the weight of the apparatus at the bottom, the unit is extremely stable and easy to handle whether in a full or empty condition.

What is claimed is:

1. Apparatus of the character described including a base, a single pair of side frame members pivotally attached to said base and each being movable from a first inoperative position overlying said base in generally parallel relationship thereto to a second operative position extending upwardly from said base, resilient netting operatively fastened to said base and to said side frame members and defining upstanding walls when said side frame members are moved to their operative position, said side frame members having cooperating portions, means on said cooperating portions releasably locking said side frame members in said operative position, means secured to said netting defining a restricted opening to the interior of said apparatus when said side frame members are in their operative position and permitting entry of crabs into said apparatus through such opening while preventing exit of such crabs therethrough.

2. Apparatus as set forth in claim 1 in which said walls converge upwardly and inwardly from the perimeter of said base.

3. Apparatus as set forth in claim 2 in which said restricted opening defining means includes a frame operatively connected to said side frame members and to said netting, and means for adjustably positioning the height of said frame relative to said base when said side frame members are in their operative position.

4. Apparatus as set forth in claim 1 in which said base includes a generally coplanar frame, substantially rigid perforate material extending across said frame and defining a bottom, and a gate occupying a portion of said bottom.

5. Apparatus as set forth in claim 4 in which said gate includes a perforate member normally disposed in coplanar relation with said bottom and pivotally movable to an open position angularly disposed to said bottom.

6. Apparatus as set forth in claim 1 in which said base includes an outer frame, said side frame members being pivotally connected to said outer frame, and an inner frame disposed in substantial coplanar relation with said outer frame, said netting having its lower edge portions attached to said inner frame.

7. Apparatus as set forth in claim 1 in which said locking means includes a latch element disposed intermediate the ends of one of said side frame members and a latch opening disposed intermediate the ends of the other side frame member, said latch element entering said latch opening when said side frame members are moved into their operative position.

8. Apparatus as set forth in claim 7 in which said side frame members are provided with apertures adjacent the latch elements and latch opening.

9. Apparatus as set forth in claim 1 in which each of said side frame members includes a substantially continuous rigid element having its opposed end portions pivotally attached to spaced portions of said base and a medial portion disposed substantially centrally of said base when the side frame member is in its operative position.

10. Apparatus as set forth in claim 9 in which said

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medial portions of the respective side frame members are disposed in contiguous relationship when the side frame members are in operative position.

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