messenger wire rope from the production vessel through the on-vessel mooring equipment, and out to an anchor handling boat to connect the messenger line to the pre-laid permanent platform chain. The messenger line and associated mooring chain are then drawn into the production vessel.

Summary of Invention

[0005] Embodiments of the~~The~~ present invention relate~~s~~ generally to a method and/or apparatus for hauling in, paying out, guiding, storing, transferring, stabilizing and/or manipulating chains, cables, or ropes. In particular, embodiments of the present invention relate~~s~~ to a method and apparatus for hauling in or paying out mooring chains of different sizes. In one application, the method and apparatus are used to apply rotational power or braking and/or to guide chain lines made out of different chain sizes.

[0005a] According to a first aspect of the present invention, there is provided a chain wheel comprising; a wheel hub; a first outer wildcat profile positioned about the hub; a second outer wildcat profile positioned about the hub in spaced relation with the first outer wildcat profile; a first inner wildcat profile positioned about the hub and generally adjacent the first outer wildcat profile; and a second inner wildcat profile positioned about the hub in spaced relation with the first inner wildcat profile and generally adjacent the second outer wildcat profile.

[0005b] According to a second aspect of the present invention, there is provided a chain wheel comprising a rim; a first wildcat profile attached to the rim; and a second wildcat profile attached to the forming in spaced-apart relation with the first wildcat profile, such that a channel is formed between the first and second wildcat profiles.

[0005c] According to a third aspect of the present invention, there is provided a method of hauling in chain comprising the steps of, feeding a chain through a chain wheel adapted for multiple chain sizes; applying rotational power to said chain wheel; and storing chain that has been hauled in.

[0005d] According to a fourth aspect of the present invention, there is provided a method of paying out chain comprising the steps of, paying out chain through a chain wheel adapted for multiple chain sizes; applying braking as required to said chain wheel; and rotatably positioning an inner wildcat profile to accommodate a smaller chain link size.

[0005e] According to a fifth aspect of the present invention, there is provided a method of manipulating a chain having a plurality of chain segment sizes, said method comprising the steps of: providing a chain wheel having a hub and a pair of drums disposed thereon in spaced parallel relation with one another, each drum having a plurality wildcat profiles for engaging the chain segments; employing a first pair of wildcat profiles to engage chain segments of first size during forward or rearward manipulation of the chain; and employing a second pair of wildcat profiles to engage chain segments of second size during rearward or forward manipulation of the chain.

[0005f] According to a sixth aspect of the present invention, there is provided a chain wheel comprising, a first pocket shaped to receive and guide a first chain size; a second pocket shaped to receive and guide a second chain size, wherein said second pocket is positioned interior of said first pocket.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG 1 is a front view of a dual pocket chain wheel according to the invention;

[0007] FIG 2 is a side view of the dual pocket chain wheel in FIG 1;

[0008] FIG 3 is a side partial sectional view of an alternative embodiment of a dual pocket chain wheel according to the invention with a groove designed to carry the smaller chain in a "+" (plus) orientation;

[0009] FIG 4 is a front sectional view of a dual pocket chain wheel in FIG 3 with a groove designed to carry a smaller chain in a "+" orientation;

[0010] FIG 5 is a side partial sectional view of another alternative embodiment of a dual pocket chain wheel according to the invention with a groove designed to carry the smaller chain in an "x" orientation; and