SUMMARY

[0003] Various nonlimiting examples provide methods and apparatus for moving coils of flexible pipe.

[0003a] In an aspect, the present disclosure refers to a pipe coil lifting device comprising: a superstructure with a central longitudinal member and at least one cross-member, with two channels at outside long-edges of the superstructure attached to the at least one cross-member, with a convex upper surface attached to the at least one cross-member of the superstructure, wherein the central longitudinal member extends beyond the convex upper surface and comprises an end member for attaching cable fittings.

[0003b] In another aspect, the present disclosure refers to a pipe coil lifting device comprising: a superstructure having:a pair of longitudinal channel portions attached to and forming sides of an outermost portion of the superstructure; a longitudinal central member extending between the pair of longitudinal channel portions; and at least one cross-member perpendicular to and attached to the longitudinal central member and attached to the pair of longitudinal channel portions, wherein; a top of the superstructure forms a convex upper surface attached to the pair of longitudinal channel portions, the longitudinal central member and the at least one cross-member; and the longitudinal central member extends beyond the convex upper surface and comprises an end member for attaching cable fittings.

[0003c] In another aspect, the present disclosure refers to a method for lifting a pipe coil comprising: inserting a pipe coil lifting device into an interior channel of a coil of flexible pipe, wherein the pipe coil lifting device comprises a superstructure with a central longitudinal member and at least one cross-member perpendicular to the central longitudinal member, with two channels at outside long-edges of the superstructure, with a convex upper surface attached to the at least one cross-member of the superstructure, wherein the central longitudinal member extends beyond the convex upper surface and comprises an end member for attaching cable fittings; and lifting the coil of flexible pipe using the pipe coil lifting device.

[0003d] In an example, a pipe coil lifting device comprises a superstructure having a pair of longitudinal channels attached to and forming sides of an outermost portion of the superstructure, a longitudinal central member extending between the channel portions, the superstructure having at least one cross-member perpendicular and attached to the central member and channel portions, and wherein the top of the superstructure forms a convex upper surface attached to the channel portions, central member and cross-members.

[0004] In other nonlimiting examples, a pipe coil lifting device comprises a superstructure having a pair of longitudinal channel portions attached to and forming sides of an outermost portion of the superstructure, a longitudinal central member extending between the channel portions having at least one cross-member perpendicular and attached to the central member and channel portions, and wherein the top of the superstructure forms a convex upper surface attached to the channel portions, central member and cross-members.

[0005] In further nonlimiting examples, a method for lifting a pipe coil comprises lifting a coil of flexible pipe with a pipe coil lifting device that has a superstructure with a central member and at least one cross-member perpendicular to the central member, with two channels at the outside long-edges of the superstructure, with a convex surface attached to the cross-members of the superstructure.

CLAIMS

WHAT IS CLAIMED IS:

1. A pipe coil lifting device comprising: a superstructure with a central longitudinal member and at least one cross-member, with two channels at outside long-edges of the superstructure attached to the at least one cross-member, with a convex upper surface attached to the at least one cross-member of the superstructure, wherein the central longitudinal member extends beyond the convex upper surface and comprises an end member for attaching cable fittings.

2. The pipe coil lifting device of claim 1 wherein the convex upper surface is attached to and overlaps upon outside surfaces of the two channels.

3. The pipe coil lifting device of claim 1 further comprising half-pipes attached to lateral outside surfaces of the two channels to facilitate protecting pipe material loaded on the pipe coil lifting device from angled surfaces on the superstructure of the pipe coil lifting device.

4. The pipe coil lifting device of claim 1 further comprising a 1/4 inch round bar attached to an arcuate edge of the convex upper surface to facilitate protecting pipe material loaded on the pipe coil lifting device from the arcuate edged of the convex upper surface of the superstructure.

5. A pipe coil lifting device comprising:

a superstructure having:

a pair of longitudinal channel portions attached to and forming sides of an outermost portion of the superstructure;

a longitudinal central member extending between the pair of longitudinal channel portions; and

at least one cross-member perpendicular to and attached to the longitudinal central member and attached to the pair of longitudinal channel portions, wherein;

a top of the superstructure forms a convex upper surface attached to the pair of longitudinal channel portions, the longitudinal central member and the at least one cross-member; and

the longitudinal central member extends beyond the convex upper surface and comprises an end member for attaching cable fittings.

6. The pipe coil lifting device of claim 5, wherein the convex upper surface of the superstructure overlaps upon outside surfaces of the pair of longitudinal channel portions.

7. The pipe coil lifting device of claim 5, further comprising half-pipes attached to the sides of the outermost portion of the superstructure that are formed by the pair of longitudinal channel portions to facilitate protecting the pipe material loaded on the pipe coil lifting device from angled surfaces on the pair of longitudinal channel portions.

8. The pipe coil lifting device of claim 5, further comprising a round bar attached to an arcuate edge of the convex upper surface of the superstructure to facilitate protecting pipe

material loaded on the pipe coil lifting device from the arcuate edge of the convex upper surface of the superstructure.

9. A method for lifting a pipe coil comprising:

inserting a pipe coil lifting device into an interior channel of a coil of flexible pipe, wherein the pipe coil lifting device comprises a superstructure with a central longitudinal member and at least one cross-member perpendicular to the central longitudinal member, with two channels at outside long-edges of the superstructure, with a convex upper surface attached to the at least one cross-member of the superstructure, wherein the central longitudinal member extends beyond the convex upper surface and comprises an end member for attaching cable fittings; and

lifting the coil of flexible pipe using the pipe coil lifting device.

10. The method of claim 9, wherein a cable is attached to the end member of the pipe coil lifting device.

11. The method of claim 10, wherein the pipe coil lifting device is attached by the cable to a crane for moving the coil of flexible pipe.

12. The method of claim 9, wherein the pipe coil lifting device is mounted on a fork lift.

13. The method of claim 12, wherein the pipe coil lifting device is secured to fork lift tines of the fork lift by hydraulic force applied to the fork lift tines.

14. The method of claim 9, wherein the coil of flexible pipe is secured with a cable to the pipe coil lifting device.