conventionally carried out through mechanical means, such as pipe shearing rams. However, shear rams are limited by the thickness of the pipe they can cut. When an emergency arises and contents of the well are escaping through the drillpipe, immediate action is necessary to preserve human life and to preserve the environment.

SUMMARY

[0005] Induction shearing may be used to cut a drillpipe at an undersea well. Electromagnetic rings may be built into a blow-out preventer (BOP) at the seafloor. The electromagnetic rings create a magnetic field through the drillpipe and may transfer sufficient energy to change the state of the metal drillpipe to shear the drillpipe.

[0006] According to ~~one embodiment~~an aspect, an apparatus includes a clamp comprising a plurality of clamp members configured to close around a pipe, each movable relative to the pipe between an open position and a closed position in which the clamp member is radially closer to the pipe and each comprising a conductive segment where, when each of the plurality of clamp members is in the closed position, the conductive segments cooperate to define one or more coils around the pipe; and where the one or more coils are configured to couple to a power supply configured to apply power to the one or more coils to heat the pipe through induction to shear the pipe.~~adjustable to open and close around a pipe, wires embedded in the clamp to form coils, and a power supply coupled to the wires. The power supply may be configured to apply power to the wires to heat the pipe through induction to shear the pipe.~~

[0007] According to another ~~embodiment~~aspect, an apparatus includes a plurality of conductive segments configured to be disposed around a drillpipe, each moveable relative to the drillpipe between a stored position and a closed position in which the conductive segment is radially closer to the drillpipe, the plurality of conductive segments, when each is in the closed position but not when each is in the stored position, cooperating to define an induction heating coil around the drillpipe~~an induction heating coil configured to close on a drillpipe~~ and an

induction power supply configured to supply power~~coupled~~ to the induction heating coil to shear the drillpipe.

[0008] According to a further ~~embodiment~~aspect, an apparatus includes shearing means comprising conductive segments being movable relative to a drillpipe between an open position and a closed position in which the conductive segments are radially closer to the drillpipe and configured for inductively shearing the drillpipe~~means for inductively shearing a drillpipe~~, and a power supply configured to supply power to the conductive segments~~coupled to the inductive shearing means~~.

[0009] The foregoing has outlined rather broadly the features and technical advantages of the present disclosure in order that the detailed description of the disclosure that follows may be better understood. Additional features and advantages of the disclosure will be described hereinafter which form the subject of the claims of the disclosure. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present disclosure. It should also be realized by those skilled in the art that

CLAIMS

What is claimed is:

1. An apparatus, comprising:

a plurality of conductive segments configured to be disposed around a drillpipe, each moveable relative to the drillpipe between a stored position and a closed position in which the conductive segment is radially closer to the drillpipe, the plurality of conductive segments, when each is in the closed position but not when each is in the stored position, cooperating to define an induction heating coil around the drillpipe~~an induction heating coil configured to close on a drillpipe~~; and

an induction power supply ~~coupled~~ configured to supply power to the induction heating coil to shear the drillpipe.

2. The apparatus of claim 1, further comprising a shearing device configured to shear the drillpipe.

3. The apparatus of claim 1, further comprising a grasp-and-hold device coupled to the drillpipe.

4. The apparatus of claim 1, in which the induction heating coil is configured to store in a first position and close to a second position on the drillpipe.

5. The apparatus of claim 1, in which the induction heating coil is constructed in a ring of overlapping blades.

6. The apparatus of claim 5, further comprising a second induction heating coil in a second ring of overlapping blades, the second induction heating coil being concentric with the induction heating coil

7. The apparatus of claim 1, further comprising a controller coupled to the induction power supply configured to apply power from the induction power supply to the induction heating coil.

8. The apparatus of claim 7, in which the controller is configured to:

ramp the induction power supply to a first power level at a first linear rate; and

ramp the induction power supply to a second power level at a second linear rate.

9. The apparatus of claim 1, further comprising a tension mechanism coupled to the drillpipe, in which the tension mechanism is configured to apply tension to the drillpipe when the induction heating coil heats the drillpipe.

10. The apparatus of claim 1, further comprising a sealing mechanism coupled to the drillpipe, in which the sealing mechanism is configured to seal the drillpipe after cutting the drillpipe with the induction heating coil.

11. The apparatus of claim 1, further comprising a water-cooled conductor coupling the induction power supply to the induction heating coil.

12. An apparatus, comprising:

a clamp comprising a plurality of clamp members configured to close around a pipe, each movable relative to the pipe between an open position and a closed position in which the clamp member is radially closer to the pipe and each comprising a conductive segment~~adjustable to open and close around a pipe~~;

where, when each of the plurality of clamp members is in the closed position, the conductive segments cooperate to define one or more coils around the pipe; and

where the one or more coils are configured to couple to a power supply configured to apply power to the one or more coils to heat the pipe through induction to shear the pipe.~~wires embedded in the clamp to form coils; and~~

~~a power supply coupled to the wires,~~

~~in which the power supply is configured to apply power to the wires to heat the pipe through induction to shear the pipe.~~

13. The apparatus of claim 12, in which the clamp comprises two or more overlapping blades.

14. The apparatus of claim 12, further comprising a controller coupled to the power supply, in which the controller is configured to:

ramp the power supply to a first power level at a first linear rate; and

ramp the power supply to a second power level at a second linear rate.

15. The apparatus of claim 12, in which the power supply is located near the clamp.

16. The apparatus of claim 12, in which the power supply is located at a drilling vessel.

17. An apparatus, comprising:

shearing means comprising conductive segments being movable relative to a drillpipe between an open position and a closed position in which the conductive segments are radially closer to the drillpipe and configured for inductively shearing the drillpipe~~means for inductively shearing a drillpipe~~; and

a power supply configured to supply power to the conductive segments~~coupled to the inductive shearing means~~.

18. The apparatus of claim 17, further comprising means for controlling application of power from the power supply to the inductive shearing means.

19. The apparatus of claim 17, further comprising a means for sealing the drillpipe after shearing the drill pipe with the inductive shearing means.

20. The apparatus of claim 17, in which the apparatus is a blow-out preventer (BOP).