WHAT IS CLAIMED IS:

1. A method of releasing a safety joint in a subterranean well, the method comprising:

disconnecting a tubular string at the safety joint without rotation of the tubular string.

2. The method of claim 1, wherein the disconnecting comprises manipulating the tubular string, thereby causing relative longitudinal displacement between first and second sections of the safety joint.

3. The method of claim 2, wherein the relative longitudinal displacement between the first and second safety joint sections operates a ratchet device.

4. The method of claim 1, further comprising actuating a jar multiple times prior to disconnecting the safety joint.

5. The method of claim 1, wherein the disconnecting is performed in response to partially actuating a jar a predetermined number of times.

6. The method of claim 5, wherein fully actuating the jar restarts a count of the partially actuating the jar.

7. The method of claim 1, wherein the disconnecting comprises aligning a portion of a ratchet device with a

portion of a release device, whereby the release device releases in response to non-rotational displacement of the tubular string when the release device portion is aligned with the ratchet device portion.

8. A safety joint for use in a subterranean well, the safety joint comprising:

first and second sections; and

wherein the first and second sections are separated from each other in response to a predetermined number of relative longitudinal and non-rotational displacements between the first and second safety joint sections.

9. The safety joint of claim 8, further comprising a ratchet device with a portion thereof which is displaced in response to the relative longitudinal and non-rotational displacements between the first and second safety joint sections.

10. The safety joint of claim 9, further comprising a release device which releases the first and second safety joint sections from each other in response to one of the relative longitudinal and non-rotational displacements when the ratchet device portion is aligned with a portion of the release device.

11. The safety joint of claim 9, wherein the ratchet device portion is rotated in response to the relative longitudinal and non-rotational displacements between the first and second safety joint sections.

12. The safety joint of claim 8, wherein the relative longitudinal and non-rotational displacements comprise partial actuations of a jar.

13. The safety joint of claim 12, wherein a full actuation of the jar resets the number of relative longitudinal and non-rotational displacements.

14. A method of releasing a safety joint in a subterranean well, the method comprising:

fully actuating a jar multiple times, the jar being interconnected in a same tubular string with the safety joint; and

then disconnecting the tubular string at the safety joint in response to non-rotational displacement of the tubular string.

15. The method of claim 14, wherein the disconnecting comprises manipulating the tubular string, thereby causing relative longitudinal displacement between first and second sections of the safety joint.

16. The method of claim 15, wherein the relative longitudinal displacement between the first and second safety joint sections operates a ratchet device.

17. The method of claim 14, wherein the disconnecting is performed in response to partially actuating the jar a predetermined number of times.

18. The method of claim 17, further comprising fully actuating the jar after partially actuating the jar less than the predetermined number of times, thereby restarting a count of the partially actuating the jar.

19. The method of claim 14, wherein the disconnecting comprises aligning a portion of a ratchet device with a portion of a release device, whereby the release device

releases in response to the non-rotational displacement of the tubular string when the release device portion is aligned with the ratchet device portion.

20. The method of claim 14, wherein the disconnecting further comprises releasing a set of collets.

CLAIMS

What is claimed is:

1. A method of releasing a safety joint in a subterranean well, the method comprising:

disconnecting a tubular string at the safety joint without rotation of the tubular string, wherein the disconnecting comprises manipulating the tubular string, thereby causing relative longitudinal displacement between first and second sections of the safety joint, wherein the relative longitudinal displacement between the first and second safety joint sections operates a ratchet device, and wherein the relative longitudinal displacement is caused by partially actuating a jar a predetermined number of times without delivering an impact to a tubular string.

2. A method of releasing a safety joint in a subterranean well, the method comprising:

disconnecting a tubular string at the safety joint without rotation of the tubular string, wherein the disconnecting is performed in response to partially actuating a jar a predetermined number of times without delivering an impact to the tubular string.

3. The method of claim 2, wherein fully actuating the jar restarts a count of how many times the jar is partially actuated.

4. A method of releasing a safety joint in a subterranean well, the method comprising:

disconnecting a tubular string at the safety joint without rotation of the tubular string, wherein the disconnecting comprises aligning a portion of a ratchet device with a portion of a release device, whereby the release device releases in response to non-rotational displacement of the tubular string when the release device portion is aligned with the ratchet device portion, wherein the non-rotational displacement is caused by partially actuating a jar a predetermined number of times without delivering an impact to a tubular string.

5. A safety joint for use in a subterranean well, the safety joint comprising:

first and second sections, wherein the first and second sections are separated from each other in response to a predetermined number of relative longitudinal and non-rotational displacements between the first and second safety joint sections; and

a ratchet device that responds to the displacements, wherein the relative longitudinal and non-rotational displacements comprise partial actuations of a jar without delivering an impact to the tubular string.

6. The safety joint of claim 5, wherein a portion of the ratchet device is displaced in response to the relative longitudinal and non-rotational displacements between the first and second safety joint sections.

7. The safety joint of claim 6, further comprising a release device which releases the first and second safety joint sections from each other in response to one of the relative longitudinal and non-rotational displacements when the ratchet device portion is aligned with a portion of the release device.

8. The safety joint of claim 6, wherein the ratchet device portion is rotated in response to the relative longitudinal and non-rotational displacements between the first and second safety joint sections.

9. The safety joint of claim 5, wherein a full actuation of the jar resets the number of relative longitudinal and non-rotational displacements.

10. A method of releasing a safety joint in a subterranean well, the method comprising:

fully actuating a jar multiple times, the jar being interconnected in a same tubular string with the safety joint, wherein the safety joint will not disconnect if the jar is fully actuated; and

then disconnecting the tubular string at the safety joint in response to partially actuating the jar a predetermined number of times without delivering an impact to the tubular string.

11. The method of claim 10, wherein the disconnecting comprises manipulating the tubular string, thereby causing relative longitudinal displacement between first and second sections of the safety joint.

12. The method of claim 11, wherein the relative longitudinal displacement between the first and second safety joint sections operates a ratchet device.

13. The method of claim 10, further comprising fully actuating the jar after partially actuating the jar less than the predetermined number of times, thereby restarting a count of how many times the jar is partially actuated.

14. The method of claim 10, wherein the disconnecting comprises aligning a portion of a ratchet device with a portion of a release device, whereby the release device releases in response to the non-rotational displacement of the tubular string when the release device portion is aligned with the ratchet device portion.

15. The method of claim 10, wherein the disconnecting further comprises releasing a set of collets.