CLAIMS

1. A valve for use in a wellhead assembly comprising:

a valve member that is stroked between open and closed positions by a rotatable shaft, the rotatable shaft having a drive member;

a torque selecting device operably associated with the rotatable shaft having a low torque position and a high torque position, the torque selecting device comprising a slot with an outer edge that is engaged by the drive member

a spring member mounted on the rotatable shaft for urging the torque selecting device into a position for rotating engagement with the rotatable shaft; and

a gear member in selective engagement with the torque selecting device,

wherein,

torque is coupled directly to the valve member through the rotatable shaft when the torque selecting device is in the low torque position;

torque is coupled from the rotatable shaft to the valve member through the gear member when the torque selecting device is in the high torque position; and

the torque selecting device is automatically shifted to the high torque position when torque applied to the rotatable shaft is sufficient to overcome a preset load of the spring member to slide the drive member along the outer edge to axially move the torque selecting device and the gear member.

2. The valve of claim 1, wherein the torque selecting device comprises an annular collar with a profile that when in the low torque position engages an end of the rotatable shaft and when in the high torque position the collar is axially moved so the profile is disengaged from the shaft.

3. The valve of claim 2, wherein the rotatable shaft comprises a drive shaft and a driven shaft each rotatingly engaged with the collar.

4. The valve of claim 3, wherein the drive member is mounted on the drive shaft and the slot is formed in a sidewall of the collar, the drive shaft being rotatingly engaged with the collar by the drive member that contacts a portion of the outer edge of a slot, and wherein the portion of the outer edge contacted by the drive member is oriented oblique to an axis of the collar, so that when the drive member slides along the outer edge in a direction that approaches the end of the collar having the profile, the collar is disengaged from the drive shaft.

5. The valve of claim 3, wherein the profile comprises a shoulder formed on a lower end of the collar that contacts a first drive member provided on the driven shaft when the torque selecting device is in the low torque position.

6. The valve of claim 5, wherein when the drive member on the drive shaft slides along the edge of the slot towards the profile, the collar is moved axially so that the profile is urged axially away from the first drive member on the driven shaft.

7. The valve of claim 3, wherein a portion of the slot projects in a direction away from the profile with lateral sides oriented oblique to an axis of the collar that intersect to define a wedge shaped drive end of the slot.

8. The valve of claim 7, wherein when the drive member on the drive shaft slides along the lateral sides away from the drive end of the slot, the torque selecting device changes from the low torque position to the high torque position.

9. The valve of claim 3, wherein the spring member is mounted on the drive shaft and urges the collar into a position for rotating engagement with the drive shaft.

10. The valve of claim 3, further comprising a pinion operably connected to the drive shaft for driving the gear member.

11. The valve of claim 10, wherein the drive shaft is rotatingly engaged with the gear member by a second drive member mounted to the driven shaft that contacts a shoulder formed on an inner edge of a lower end of the gear member, when the torque selecting device is in a high torque position, the pinion transmitting torque to the driven shaft via the gear member.

12. The valve of claim 3, wherein the drive shaft drives the gear member via an idler gear operably connected between the drive shaft and the gear member.

13. A valve for use in a wellhead assembly comprising:

a valve member that is stroked between open and closed positions by a rotatable shaft;

a torque selecting device operably associated with the shaft having a low torque position and a high torque position, wherein the torque selecting device comprises an annular collar with a profile that when in the low torque position engages an end of the

rotatable shaft and when in the high torque position the collar is axially moved so the profile is disengaged from the shaft, and

a gear member in selective engagement with the torque selecting device,

wherein,

torque is coupled directly to the valve member through the rotatable shaft when the torque selecting device is in the low torque position; and

torque is coupled from the rotatable shaft to the valve member through the gear member when the torque selecting device is in the high torque position.

14. The valve of claim 13, wherein the rotatable shaft comprises a drive shaft and a driven shaft each rotatingly engaged with the collar, wherein the drive shaft is rotatingly engaged with the collar by a drive member mounted to the drive shaft that contacts a portion of an outer edge of a slot formed in a sidewall of the collar, and wherein the portion of the outer edge contacted by the drive member is oriented oblique to an axis of the collar, so that when the drive member slides along the outer edge in a direction that approaches the end of the collar having the profile, the collar is disengaged from the drive shaft.

15. The valve of claim 14, wherein the profile comprises a shoulder formed on a lower end of the collar that contacts a first drive member provided on the driven shaft when the torque selecting device is in the low torque position.

16. The valve of claim 15, wherein when the drive member on the drive shaft slides along the edge of the slot towards the profile, the collar is moved axially so that the profile is urged axially away from the first drive member on the driven shaft.

17. The valve of claim 14, wherein a portion of the slot projects in a direction away from the profile with lateral sides oriented oblique to an axis of the collar that intersect to define a wedge shaped drive end of the slot, wherein when the drive member on the drive shaft slides along the lateral sides away from the drive end of the slot, the torque selecting device changes from the low torque position to the high torque position.

18. The valve of claim 14, further comprising a pinion operably connected to the drive shaft for driving the gear member, wherein the drive shaft is rotatingly engaged with the gear member by a second drive member mounted to the driven shaft that contacts a shoulder formed on an inner edge of a lower end of the gear member, when the torque selecting device is in a high torque position, the pinion transmitting torque to the driven shaft via the gear member.

19. The valve of claim 14, further comprising a spring member mounted on the drive shaft for urging the collar into a position for rotating engagement with both the drive shaft and the collar, wherein the torque selecting device is automatically shifted to the high torque position when torque applied to the drive shaft is sufficient to overcome a preset load exerted by the spring member to thereby axially move the collar and the gear member.