CLAIMS:

1. A downhole tool for use in a well, the downhole tool comprising:
an actuator comprising:
a first screw being rotatable and having a first proximal end;
a first motor being configured to produce a first drive to rotate a first drive shaft;
a first gear having a first spline connection to the first drive shaft and the first proximal end of the first screw, the first gear being rotatable and transferring first rotation to the first screw;
a second screw being rotatable and having a second proximal end;
a second motor being configured to produce a second drive to rotate a second drive shaft;
a second gear having a second spline connection to the second drive shaft and the second proximal end, the second gear being rotatable and transferring second rotation to the second screw;
an intermediate gear engaged between the first and second gears and being configured to synchronize the first and second rotations of the first and second screws as a synchronized rotation produced by at least one of the first and second drives; and
a yoke disposed on the first and second screws and being displaceable thereon by the synchronized rotation; and
an actuatable member of the downhole tool connected to the yoke of the actuator and being actuatable in response to the displacement of the yoke.

2. The downhole tool of claim 1, wherein the first drive shaft is a rotor of the first motor or is a gear shaft of a gear box coupled to the rotor of the first motor.

3. The downhole tool of claim 1, wherein the yoke comprises:
a first portion threadably engaged with the first screw; and
a second portion threadably engaged with the second screw.

4. The downhole tool of claim 1,

wherein the first and second screws each comprises a worm gear feed screw, and the yoke comprises a first nut and a second nut disposed on the respective worm gear feed screw; or

wherein each of the first and second screws is a rotatable screw of a ball screw assembly, and the yoke comprises a first ball nut and a second ball nut of the ball screw assemblies disposed on the respective rotatable screw.

5. The downhole tool of claim 1, comprising:

a first mount supporting the first and second proximal ends of the first and second screws adjacent one another; and

first bearings supporting the first and second proximal ends of the first and second screws on the first mount.

6. The downhole tool of claim 5, comprising a motor mount having the first and second motors mounted thereon, wherein the intermediate gear is disposed on an intermediate shaft connected between the first mount and the motor mount.

7. The downhole tool of claim 6, wherein the intermediate gear is rotatable relative to the intermediate shaft, the intermediate shaft is rotatable relative to the first mount and the motor mount, or both.

8. The downhole tool of claim 5, comprising:

a second mount supporting first and second distal ends of the first and second screws adjacent one another; and

second bearings supporting the first and second distal ends of the first and second screws on the second mount.

9. The downhole tool of claim 1, wherein the yoke is displaceable in a first linear direction in response to the first drive of the first motor alone in a first rotational direction, the second drive of the second motor alone in the first rotational direction, or the first and second drives of the first and second motors both in the first rotational direction; and wherein the yoke is displaceable in a second linear direction opposite to the first linear direction in response to the first drive of the first motor alone in a

second rotational direction opposite to the first rotational direction, the second drive of the second motor alone in the second rotational direction, or the first and second drives of the first and second motors both in the second rotational direction.

10. The downhole tool of claim 1, wherein the downhole tool is a valve, a packer, a fluid sampler, a formation tester, a pump, an inflow control device, a safety valve, or an interval control valve.

11. The downhole tool of claim 1, wherein the downhole tool is an interval control valve comprising a housing having a bore and at least one side port; and wherein the actuatable member comprises a sliding sleeve disposed in the bore and connected to the yoke, the sliding sleeve being movable relative to the at least one side port in response to the displacement of the yoke.

12. An actuator for actuating a member of a downhole tool used in a well, the actuator comprising:

a first screw being rotatable and having a first proximal end;

a first motor being configured to produce a first drive to rotate a first drive shaft;

a first gear having a first spline connection to the first drive shaft and the first proximal end of the first screw, the first gear being rotatable and transferring first rotation to the first screw;

a second screw being rotatable and having a second proximal end;

a second motor being configured to produce a second drive to rotate a second drive shaft;

a second gear having a second spline connection to the second drive shaft and the second proximal end, the second gear being rotatable and transferring second rotation to the second screw;

a third gear, wherein the third gear is a first intermediate gear engaged between the first and second gears and being configured to synchronize the first and second rotations of the first and second screws as a synchronized rotation produced by at least one of the first and second drives; and

a yoke disposed on the first and second screws and being displaceable thereon by the synchronized rotation.

13. The actuator of claim 12, wherein the first and second motors are disposed at the first and second proximal ends of the first and second screws; and wherein the actuator further comprises third and fourth motors disposed at first and second distal ends of the first and second screws opposite to the first and second proximal ends, the third motor configured to produce a third drive to rotate the first screw, the fourth motor configured to produce a fourth drive to rotate the second screw.

14. The actuator of claim 12, wherein the actuator further comprises:

a fourth gear disposed toward a first distal end of the first screw and being rotatable in association with at least the first rotation;

a fifth gear disposed toward a second distal end of the second screw and being rotatable in association with at least the second rotation; and

a sixth gear, wherein the sixth gear is a second intermediate gear engaged between the fourth and fifth gears and being configured to synchronize the first and second rotations.

15. The actuator of claim 12, wherein the first drive shaft is a rotor of the first motor or is a gear shaft of a gear box coupled to the rotor of the first motor.

16. The actuator of claim 12,

wherein each of the first and second screws comprises a worm gear feed screw, and the yoke comprises nuts disposed on the respective worm gear feed screw; or

wherein each of the first and second screws comprises a rotatable screw of a ball screw assembly, and the yoke comprises ball nuts of the ball screw assemblies disposed on the respective rotatable screw.

17. The actuator of claim 12, comprising:

a first mount supporting the first and second proximal ends of the first and second screws adjacent one another; and

a second mount having the first and second motors mounted thereon,

wherein the first intermediate gear is disposed on an intermediate shaft connected between the first and second mounts; and

wherein the first intermediate gear is rotatable relative to the intermediate shaft, the intermediate shaft is rotatable relative to the first and second mounts, or both.

18. A downhole tool for use in a well, the downhole tool comprising:

an actuator comprising:

a first motor being configured to produce a first drive;

a first gear being rotatable in association with the first drive;

a second motor being configured to produce a second drive;

a second gear being rotatable in association with the second drive;

a first roto-linear drive having a third gear;

a second roto-linear drive having a fourth gear;

an intermediate gear being rotatable and having first and second portions, the first portion of the intermediate gear engaged between the first and second gears and being configured to synchronize the first and second drives as a synchronized drive, the second portion of the intermediate gear engaged between the third and fourth gears and being configured to transfer the synchronized drive to a synchronized rotation for the first and second roto-linear drives; and

a yoke disposed on the first and second roto-linear drives and being displaceable thereon by the synchronized rotation produced by at least one of the first and second drives; and

an actuatable member of the downhole tool connected to the yoke of the actuator and being actuatable in response to the displacement of the yoke.

19. The downhole tool of claim 18,

wherein each of the first and second roto-linear drives comprises a worm gear feed screw, and the yoke comprises nuts disposed on the respective worm gear feed screws; or

wherein each of the first and second roto-linear drives comprises a rotatable screw of a ball screw assembly, and the yoke comprises ball nuts of the ball screw assemblies disposed on the respective rotatable screws.

20. The downhole tool of claim 18, comprising:

a first mount supporting the first and second roto-linear drives adjacent one another;

a second mount having the first and second motors mounted thereon,

wherein the intermediate gear is disposed on an intermediate shaft connected between the first and second mounts; and

wherein the intermediate gear is rotatable relative to the intermediate shaft, the intermediate shaft is rotatable relative to the first and second mounts, or both.

21. The downhole tool of claim 18, wherein the downhole tool comprises a housing having a bore and at least one side port; and wherein the actuatable member comprises a sliding sleeve disposed in the bore and connected to the yoke, the sliding sleeve being movable relative to the at least one side port in response to the displacement of the yoke.