What is claimed is:

1. A cam for cold working a pipe element, said cam comprising:

a cam body having an axis of rotation;

a cam surface extending around said cam body, said cam surface comprising a region of increasing radius and a discontinuity of said cam surface, said radius being measured about and from said axis of rotation;

a traction surface extending around said cam body, said traction surface comprising a plurality of projections extending transversely to said axis of rotation, said traction surface having a gap therein, said gap being aligned axially with said discontinuity of said cam surface;

a first stop surface projecting from said cam body transversely to said axis of rotation, said first stop surface being positioned adjacent to said discontinuity of said cam surface.

2. The cam according to claim 1, further comprising a rib projecting from said cam body, said rib positioned adjacent to said cam surface and extending around a portion of said cam body, said first stop surface being positioned on a first end of said rib.

3. The cam according to claim 2, further comprising a second stop surface positioned on a second end of said rib, said second stop surface projecting from said cam body transversely to said axis of rotation, said second stop surface being positioned adjacent to said discontinuity of said cam surface and in spaced relation to said first stop surface.

4. The cam according to claim 3, wherein said first and second stop surfaces each have a concave curvature.

5. The cam according to claim 1, wherein said cam surface further comprises a region of constant radius positioned adjacent to said discontinuity.

6. The cam according to claim 1, wherein said traction surface overlies said cam surface.

7. The cam according to claim 1, wherein said traction surface is positioned on said cam body in spaced relation to said cam surface.

8. The cam according to claim 1, further comprising a gear mounted on said cam body coaxially with said axis of rotation.

9. The cam according to claim 8, wherein said cam surface is positioned between said gear and said traction surface.

10. The cam according to claim 9, wherein said stop surface is positioned between said gear and said cam surface.

11. The cam according to claim 9, wherein said cam surface is positioned proximate to said traction surface.

12. The cam according to claim 1, wherein said traction surface has a constant radius measured about and from said axis of rotation.

13. A cam for cold working a pipe element, said cam comprising:

a cam body having an axis of rotation;

a plurality of cam surfaces extending around said cam body, each said cam surface comprising a respective region of increasing radius, said radii being measured from and about said axis of rotation, all of said cam surfaces being circumferentially aligned with one another;

a respective discontinuity of said cam surfaces being positioned between each of said cam surfaces;

at least one stop surface projecting from said cam body transversely to said axis of rotation, said stop surface being positioned adjacent to one of said respective discontinuities of said cam surfaces; and

at least one rib, said rib being positioned adjacent to a respective one of said cam surfaces and extending around a portion of said cam body, said rib having first and second oppositely disposed ends, said at least one stop surface being positioned at one of said ends of said rib.

14. The cam according to claim 13, wherein each of said at least one stop surface has a concave curvature.

15. The cam according to claim 13, further comprising a plurality of said ribs, each said rib having one said at least one stop surface at one end thereof, all of said ribs being circumferentially aligned with one another.

16. The cam according to claim 13, wherein each of said cam surfaces further comprises a region of constant radius positioned adjacent to a respective one of said discontinuities.

17. The cam according to claim 16, further comprising:

a plurality of traction surfaces extending around said cam body, each said traction surface comprising a plurality of projections extending transversely to said axis of rotation;

a respective gap in said traction surfaces being positioned between each of said traction surfaces, each said gap being aligned axially with a respective discontinuity of said cam surface.

18. The cam according to claim 17, wherein all of said traction surfaces are circumferentially aligned with one another.

19. The cam according to claim 17, wherein said traction surfaces overlie said cam surfaces.

20. The cam according to claim 17, wherein said traction surfaces are positioned on said cam body in spaced relation to said cam surfaces.

21. The cam according to claim 17, further comprising a gear mounted on said cam body coaxially with said axis of rotation.

22. The cam according to claim 21, wherein said cam surfaces are positioned between said gear and said traction surfaces.

23. The cam according to claim 22, wherein said cam surfaces are positioned proximate to said traction surfaces.

24. The cam according to claim 22, wherein said at least one stop surface is positioned between said gear and said cam surfaces.

25. The cam according to claim 17, comprising at most two of said cam surfaces and two of said discontinuities of said cam surfaces.

26. The cam according to claim 17, comprising at most two of said cam surfaces, two of said discontinuities of said cam surfaces, two of said traction surfaces two of said gaps in said traction surfaces and at most one of said stop surfaces.

27. The cam according to claim 17, comprising at least two of said stop surfaces.

28. A device for cold working a pipe element, said device comprising:

a housing;

a plurality of gears mounted within said housing, each one of said gears being rotatable about a respective one of a plurality of axes of rotation, said axes of rotation being parallel to one another, said gears being positioned about a central space for receiving said pipe element;

a plurality of cam bodies, each said cam body mounted on a respective one of said gears;

a plurality of cam surfaces, each one of said cam surfaces extending around a respective one of said cam bodies and being engageable with said pipe element received within said central space, each one of said cam surfaces comprising a region of increasing radius and a discontinuity of said cam surface, each one of said radii being measured about and from a respective one of said axes of rotation;

at least one traction surface extending around one of said cam bodies, said at least one traction surface comprising a plurality of projections extending transversely to said axis of rotation of said one cam body, said at least one traction

surface having a gap therein, said gap being aligned axially with said discontinuity of one said cam surface surrounding said one cam body;

at least one stop surface projecting from one of said cam bodies transversely to said axis of rotation of one of said gears, said at least one stop surface positioned adjacent to said discontinuity of said cam surface on said one cam body;

a pinion mounted within said central space within said housing, said pinion meshing with said plurality of gears and being rotatable about a pinion axis oriented parallel to said axes of rotation;

a cup adjacent said pinion, said cup receiving said pipe element upon insertion of said pipe element into said central space; wherein

said cup is movable relatively to said housing along said pinion axis between a first position, wherein said cup engages each of said at least one stop surface thereby preventing continuous rotation of said cam bodies, and a second position, wherein said cup is out of engagement with each of said at least one stop surface, thereby permitting continuous rotation of said cam bodies.

29. The device according to claim 28, further comprising a spring acting between said pinion and said cup to bias said cup into said first position.

30. The device according to claim 28, wherein said cup is fixedly mounted on said pinion.

31. The device according to claim 28, further comprising a spring acting between said pinion and said housing to bias said cup into said first position.

32. The device according to claim 28, wherein said cup is free-wheeling relatively to said pinion.

33. The device according to claim 28, further comprising a rib projecting from said one cam body, said rib positioned adjacent to said cam surface on said one cam body and extending around a portion of said one cam body, a first stop surface of said at least one stop surface being positioned on a first end of said rib.

34. The device according to claim 33, further comprising a second stop surface of said at least one stop surface positioned on a second end of said rib, said second stop surface projecting from said cam body transversely to said axis of rotation, said second stop surface being positioned adjacent to said discontinuity of said cam surface of said one cam body and in spaced relation to said first stop surface.

35. The device according to claim 34, wherein said first and second stop surfaces each have a concave curvature.

36. The device according to claim 28, wherein each of said cam surfaces further comprises a region of constant radius positioned adjacent to a respective one of said discontinuities.

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37. The device according to claim 28, further comprising a plurality of ribs each said rib projecting from a respective one of said cam bodies, said ribs being positioned adjacent to said cam surfaces on each said cam body and extending around a portion of said cam bodies, each said at least one stop surface being positioned on an end of each of said ribs.

38. The device according to claim 28, wherein said at least one traction surface overlies one of said cam surfaces.

39. The device according to claim 28, wherein said at least one traction surface is positioned on said one cam body in spaced relation to said cam surface extending around said one cam body.

40. The device according to claim 28, wherein said at least one traction surface has a constant radius measured about and from said axis of rotation of said one cam body.

41. The device according to claim 28, wherein said cam surface on said one cam body is positioned between said gear and said at least one traction surface on said one cam body.

42. The device according to claim 41, wherein said cam surface on said one cam body is positioned proximate to said at least one traction surface on said one cam body.

43. The device according to claim 41, wherein said at least one stop surface is positioned between said cam surface and said gear on said one cam body.

44. The device according to claim 28, comprising at most, three said gears, each said gear comprising one of said cam bodies and said cam surfaces.

45. The device according to claim 28, comprising at most, two said gears, each said gear comprising one of said cam bodies and said cam surfaces.

46. The device according to claim 28, further comprising:

a first finger extending from a first one of said plurality of cam bodies in a direction parallel to and offset from a first one of said axes of rotation about which said first one of said plurality of cam bodies rotates;

an actuator movably mounted on said housing, said actuator being movable into engagement with said first finger for rotating said first one of said plurality of cam bodies about said first one of said axes of rotation.

47. The device according to claim 46, wherein said actuator comprises a lever pivotably mounted on said housing, said lever having a first surface engageable with said first finger for rotating said first one of said plurality of cam bodies about said first one of said axes.

48. The device according to claim 47, wherein said lever has a second surface engageable with said finger for pivoting said lever into a ready position upon rotation of said first one of said plurality of cam bodies.

49. The device according to claim 46, further comprising:

a second finger extending from a second one of said plurality of cam bodies in a direction parallel to and offset from a second one of said axes of rotation about which said second one of said plurality of cam bodies rotates;

a stop movably mounted on said housing, said stop being movable into engagement with said second finger for preventing rotation of said second one of said plurality of cam bodies about said second one of said axes of rotation; wherein

upon movement of said actuator into engagement with said first finger, said stop further being movable out of engagement with said second finger for permitting rotation of said second one of said plurality of cam bodies.

50. The device according to claim 49, wherein said stop comprises a hook pivotably mounted on said housing, said hook having a spur extending therefrom and engageable with said actuator for rotating said hook out of engagement with said second finger upon movement of said actuator.

51. The device according to claim 28, further comprising a chuck for receiving said pipe element, said chuck being rotatable about a chuck axis, said chuck axis being arranged coaxially with said pinion axis.

52. The device according to claim 51, wherein said housing is pivotably and axially slidably mounted adjacent to said chuck.

53. The device according to claim 28, further comprising an electrical motor engaged with said pinion.

54. The device according to claim 53, wherein said electrical motor is selected from the group consisting of a servomotor and a stepper motor, said device further comprising a controller in communication with said electrical motor for controlling the number of rotations of said electrical motor and thereby said plurality of cam bodies.

55. The device according to claim 53, further comprising a clutch operating between said electrical motor and said pinion for controlling the number of rotations of said pinion and thereby said plurality of cam bodies.

56. The device according to claim 28, further comprising a crank coupled with said pinion, said crank for manually turning said pinion and thereby said gears.

57. The device according to claim 56, wherein said crank is directly coupled with said pinion.

58. A device for cold working a pipe element, said device comprising:

a housing;

a plurality of gears mounted within said housing, each one of said gears being rotatable about a respective one of a plurality of axes of rotation, said axes of rotation being parallel to one another, said gears being positioned about a central space for receiving said pipe element;

a plurality of cam bodies, each said cam body mounted on a respective one of said gears;

a plurality of cam surfaces extending around each said cam body, each said cam surface being engageable with said pipe element received within said central space and comprising a region of increasing radius, said radii being measured about and from one of said axes of rotation, all of said cam surfaces on each said cam body being circumferentially aligned with one another;

a respective discontinuity of said cam surfaces being positioned between each of said cam surfaces on each said cam body;

at least one stop surface projecting from one of said cam bodies transversely to said axes of rotation of said one cam body, said at least one stop surface being positioned adjacent to a discontinuity of said one cam surface;

a pinion mounted within said central space within said housing, said pinion meshing with said plurality of gears and being rotatable about a pinion axis oriented parallel to said axes of rotation;

a cup adjacent said pinion, said cup receiving said pipe element upon insertion of said pipe element into said central space; wherein

said cup is movable relatively to said housing along said pinion axis between a first position, wherein said cup engages said at least one stop surface thereby preventing continuous rotation of said cam bodies, and a second position, wherein said cup is out of engagement with said at least one stop surface, thereby permitting continuous rotation of said cam bodies.

59. The device according to claim 58, further comprising a spring acting between said pinion and said cup to bias said cup into said first position.

60. The device according to claim 58, wherein said cup is fixedly mounted on said pinion.

61. The device according to claim 58, further comprising a spring acting between said pinion and said housing to bias said cup into said first position.

62. The device according to claim 58, wherein said cup is free-wheeling relatively to said pinion.

63. The device according to claim 58, wherein each of said cam surfaces further comprises a region of constant radius positioned adjacent to a respective one of said discontinuities.

64. The device according to claim 58, further comprising:

a plurality of traction surfaces extending around each said cam body, each said traction surface comprising a plurality of projections extending transversely to one of said axes of rotation;

a respective gap in said traction surfaces being positioned between each of said traction surfaces on each said cam body, each said gap being aligned axially with a discontinuity of said cam surface.

65. The device according to claim 64, wherein said cam surfaces are positioned between said gear and said traction surfaces on each said cam body.

66. The device according to claim 65, wherein said at least one stop surface is positioned between said gear and said cam surfaces on one said cam body.

67. The device according to claim 64, wherein said cam surfaces are positioned proximate to said traction surfaces on each said cam body.

68. The device according to claim 58, wherein each of said plurality of cam bodies comprises at most two of said cam surfaces, two of said discontinuities of said cam surfaces, two of said traction surfaces two of said gaps in said traction surfaces and at most one of said stop surfaces.

69. The device according to claim 58, wherein each of said plurality of cam bodies comprises at least two of said stop surfaces.