CLAIMS

What is claimed is:

1. An apparatus for feeding and retracting coil clad portions of a plurality of high pressure hose assemblies, the apparatus comprising:

a primary bull gear fastened to a driven drive axle;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

a plurality of secondary bull gear/sprocket modules fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of modules on the drive axle mesh with corresponding secondary bull gear teeth of modules on the follower axle to define between adjacent modules an opening width for receiving and passing therebetween a coil clad portion of a high pressure hose assembly, and wherein the sprocket gear teeth of corresponding secondary bull gear/sprocket modules are spaced apart so as to engage the coil clad portion of the high pressure hose.

2. The apparatus according to claim 1 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

3. The apparatus according to claim 1 further comprising a housing containing the primary bull gear, the follower axle and the plurality of secondary bull gear/sprocket modules.

4. The apparatus according to claim 3 wherein the housing includes openings aligned with the sprocket gears to facilitate passage of the coil clad high pressure hose therethrough.

5. The apparatus according to claim 1 wherein the primary bull gear is keyed to the drive axle.

6. The apparatus according to claim wherein only the primary bull gear is fixed to the drive axle and the secondary bull gear/sprocket modules on the drive axle are bolted to the primary bull gear.

7. The apparatus according to claim 1 wherein there are three secondary bull gear/sprocket modules fastened to the primary bull gear and three secondary bull gear/sprocket modules fastened to the follower bull gear.

8. The apparatus according to claim 7 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

9. The apparatus according to claim 8 further comprising a housing containing the primary bull gear, the follower axle and the plurality of secondary bull gear/sprocket modules.

10. The apparatus according to claim 9 wherein the housing includes openings aligned with the sprocket gears to facilitate passage of the coil clad high pressure hose therethrough.

11. An apparatus comprising:

a drive mechanism;

a hollow housing having two separable parts defining a plurality of parallel through passages between the parts of the housing each for receiving therethrough a coil clad portion of a fluid hose;

a primary bull gear in the housing fastened to a drive axle connected to the drive mechanism;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

a plurality of secondary bull gear/sprocket modules in the housing fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of modules on the drive axle mesh with corresponding secondary bull gear teeth of modules on the follower axle to define between adjacent modules an opening width

for receiving and passing therebetween a coil clad portion of a high pressure hose aligned with the passages through the housing, and wherein the sprocket gear teeth of corresponding secondary bull gear/sprocket modules are spaced apart so as to engage the coil clad portion of the high pressure hose.

12. The apparatus according to claim 11 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

13. The apparatus according to claim 11 wherein the primary bull gear is keyed to the drive axle.

14. The apparatus according to claim 11 wherein only the primary bull gear is fixed to the drive axle and the secondary bull gear/sprocket modules on the drive axle are bolted to the primary bull gear.

15. The apparatus according to claim 11 wherein there are three secondary bull gear/sprocket modules fastened to the primary bull gear and three secondary bull gear/sprocket modules fastened to the follower bull gear.

16. The apparatus according to claim 15 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

17. The apparatus according to claim 11 wherein the coil clad hose includes a flat wire coil spring wrapped around the high pressure hose.

18. An apparatus for feeding and retracting a plurality of high pressure hoses, each having a flat wire spring wrapped therearound compressively engaging the high pressure hose, the apparatus comprising:

a drive mechanism;

a primary bull gear fastened to a drive axle connected to the drive mechanism;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

a plurality of secondary bull gear/sprocket modules fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of modules on the drive axle mesh with corresponding secondary bull gear teeth of modules on the follower axle to define between adjacent modules an opening width for receiving and passing therebetween a flat wire spring wrapped around a high pressure hose, and wherein the sprocket gear teeth of corresponding secondary bull gear/sprocket modules are spaced apart so as to engage the flat wire spring wrapped around the high pressure hose.

~~AMENDED CLAIMS~~

~~received by the International Bureau on 9 October 2014 (09.10.14)~~

What is claimed is:

1. An apparatus for feeding and retracting coil clad portions of one or more high pressure hose assemblies, the apparatus comprising:

a primary bull gear fastened to a driven drive axle;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

one or more secondary bull gear/sprocket modules fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of each one of the modules on the drive axle mesh with corresponding secondary bull gear teeth of the modules on the follower axle to define between adjacent bull gears an opening width for receiving and passing therebetween a coil clad portion of a high pressure hose assembly, and wherein the sprocket gear teeth of corresponding secondary bull gear/sprocket modules are spaced apart so as to engage opposite portions of the coil clad portion of the high pressure hose therebetween.

2. The apparatus according to claim 1 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

3. The apparatus according to claim 1 further comprising a housing containing the primary bull gear, the follower axle and the plurality of secondary bull gear/sprocket modules.

4. The apparatus according to claim 3 wherein the housing includes openings aligned with the sprocket gears to facilitate passage of the coil clad high pressure hose therethrough.

5. The apparatus according to claim 1 wherein the primary bull gear is keyed to the drive axle.

6. The apparatus according to claim 1 wherein only the primary bull gear is fixed to the drive axle and the secondary bull gear/sprocket modules on the drive axle are bolted to the primary bull gear.

7. The apparatus according to claim 1 wherein there are three secondary bull gear/sprocket modules fastened to the primary bull gear and three secondary bull gear/sprocket modules fastened to the follower bull gear.

8. The apparatus according to claim 7 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

9. The apparatus according to claim 8 further comprising a housing containing the primary bull gear, the follower axle and the plurality of secondary bull gear/sprocket modules.

10. The apparatus according to claim 9 wherein the housing includes openings aligned with the sprocket gears to facilitate passage of the coil clad high pressure hose therethrough.

11. An apparatus comprising:

a drive mechanism;

a hollow housing having two separable parts defining one or more parallel through passages between the parts of the housing each for receiving therethrough a coil clad portion of a fluid hose;

a primary bull gear in the housing fastened to a drive axle connected to the drive mechanism;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

one or more secondary bull gear/sprocket modules in the housing fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of the one or more secondary modules on the drive axle mesh with corresponding secondary bull gear teeth of a module on the follower axle to define between

adjacent bull gears an opening width for receiving and passing therebetween a coil clad portion of a high pressure hose aligned with the one or more passages through the housing, and wherein the sprocket gear teeth of the one or more corresponding secondary bull gear/sprocket modules are spaced apart so as to engage the coil clad portion of the high pressure hose.

12. The apparatus according to claim 11 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

13. The apparatus according to claim 11 wherein the primary bull gear is keyed to the drive axle.

14. The apparatus according to claim 11 wherein only the primary bull gear is fixed to the drive axle and each of the secondary bull gear/sprocket modules on the drive axle are bolted to the primary bull gear.

15. The apparatus according to claim 11 wherein there are three secondary bull gear/sprocket modules fastened to the primary bull gear and three secondary bull gear/sprocket modules fastened to the follower bull gear.

16. The apparatus according to claim 15 wherein each tooth on each sprocket gear has a central recessed portion to accommodate passage of the high pressure hose.

17. The apparatus according to claim 11 wherein the coil clad hose includes a flat wire coil spring wrapped around the high pressure hose.

18. An apparatus for feeding and retracting one or more high pressure hoses, each having a flat wire spring wrapped therearound compressively engaging the high pressure hose, the apparatus comprising:

a drive mechanism;

a primary bull gear fastened to a drive axle connected to the drive mechanism;

a follower bull gear rotatably fastened to a follower axle extending parallel to the drive axle; the follower bull gear meshing with the primary bull gear;

one or more secondary bull gear/sprocket modules fastened to each of the axles, each of the modules having a secondary bull gear having teeth extending to a first outer diameter and a sprocket gear having teeth extending a distance less than the first outer diameter, wherein the secondary bull gear teeth of the one or more modules on the drive axle mesh with corresponding secondary bull gear teeth of the one or more modules on the follower axle to define between adjacent bull gears an opening width for receiving and passing therebetween a high pressure hose having the flat wire spring wrapped around the high pressure hose, wherein the sprocket gear teeth of corresponding secondary bull gear/sprocket modules are spaced apart so as to engage the flat wire spring wrapped around the high pressure hose.

Statement under Article 19(1)

The Article 19 amendments above amends claims 1, 6, 11 and 18 in response to the International Search Report and Written Opinion transmitted on 24 September 2014.