

What is claimed is:

1. A gravel packing apparatus comprising:

a sand control screen assembly having a filter medium positioned exteriorly of a base pipe, the sand control screen assembly operable to prevent the flow of particulate material of a predetermined size therethrough but allow the flow of production fluids therethrough; and

a slurry delivery subassembly rotatably mounted exteriorly on the sand control screen assembly, the slurry delivery subassembly including at least one transport tube extending longitudinally along at least a portion of the sand control screen assembly.

2. The apparatus as recited in claim 1 wherein the sand control screen assembly further includes first and second circumferentially extending rails, wherein the slurry delivery subassembly further includes first and second ring assemblies and wherein the first ring assembly is slidably positioned around the first rail and the second ring assembly is slidably positioned around the second rail, thereby rotatably mounting the slurry delivery subassembly exteriorly on the sand control screen assembly.

3. The apparatus as recited in claim 1 wherein the sand control screen assembly further includes first and second threaded connectors, wherein the slurry delivery subassembly further includes first and second threaded ring assemblies and wherein the first threaded ring assembly is threadably coupled to the first threaded connector and the second threaded ring assembly is threadably coupled to the second threaded connector, thereby rotatably mounting the slurry delivery subassembly exteriorly on the sand control screen assembly.

4. The apparatus as recited in claim 1 further comprising a lock assembly positioned between the slurry delivery subassembly and the sand control screen assembly to selectively prevent relative rotation therebetween.

5. The apparatus as recited in claim 4 wherein the lock assembly is selected from the group consisting of a set screw, a pin, a ring and a nut.

6. The apparatus as recited in claim 1 further comprising an outer shroud positioned around the slurry delivery subassembly and the sand control screen assembly.

7. The apparatus as recited in claim 1 wherein the slurry delivery subassembly further comprises at least one packing tube having nozzles.

8. A gravel packing apparatus comprising:

5 first and second joints each including a sand control screen assembly having a filter medium positioned exteriorly of a base pipe and a slurry delivery subassembly rotatably mounted exteriorly on the sand control screen assembly, the slurry delivery subassembly including at least one transport tube extending longitudinally along at least a portion of the sand control screen assembly; and

10 at least one jumper tube coupled to and extending between the at least one transport tube of the first joint and the at least one transport tube of the second joint,

wherein, the at least one transport tube of the first joint is axially aligned with the at least one transport tube of the second joint by rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint after the sand control screen
15 assembly of the first joint has been coupled to the sand control screen assembly of the second joint.

9. The apparatus as recited in claim 8 wherein, for each joint, the sand control screen assembly further includes first and second circumferentially extending rails, the slurry
20 delivery subassembly further includes first and second ring assemblies and the first ring assembly is slidably positioned around the first rail and the second ring assembly is slidably positioned around the second rail, thereby rotatably mounting the slurry delivery subassembly exteriorly on the sand control screen assembly.

25 10. The apparatus as recited in claim 8 wherein, for each joint, the sand control screen assembly further includes first and second threaded connectors, the slurry delivery subassembly further includes first and second threaded ring assemblies and the first threaded ring assembly is threadably coupled to the first threaded connector and the second threaded ring assembly is threadably coupled to the second threaded connector, thereby rotatably
30 mounting the slurry delivery subassembly exteriorly on the sand control screen assembly.

11. The apparatus as recited in claim 8 wherein each joint further comprises a lock assembly positioned between the slurry delivery subassembly and the sand control screen assembly to selectively prevent relative rotation therebetween.

12. The apparatus as recited in claim 8 wherein each joint further comprises an outer shroud positioned around the slurry delivery subassembly and the sand control screen assembly.

5 13. The apparatus as recited in claim 8 wherein the slurry delivery subassembly of each joint further comprises at least one packing tube having nozzles.

14. A method for assembling a gravel packing apparatus, the method comprising:
providing first and second joints each including a sand control screen assembly
10 having a filter medium positioned exteriorly of a base pipe and a slurry delivery subassembly rotatably mounted exteriorly on the sand control screen assembly, the slurry delivery subassembly including at least one transport tube extending longitudinally along at least a portion of the sand control screen assembly;

threadably coupling the sand control screen assembly of the first joint to the sand
15 control screen assembly of the second joint;

axially aligning the at least one transport tube of the first joint with the at least one transport tube of the second joint by rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint; and

coupling at least one jumper tube between the at least one transport tube of the first
20 joint and the at least one transport tube of the second joint.

15. The method as recited in claim 14 further comprising locking the slurry delivery subassembly of the second joint relative to the sand control screen of the second joint prior to axially aligning the at least one transport tube of the first joint with the at least
25 one transport tube of the second joint.

16. The method as recited in claim 14 further comprising locking the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint after axially aligning the at least one transport tube of the first joint with the at least one transport
30 tube of the second joint.

17. The method as recited in claim 14 wherein rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint further comprises sliding first and second ring assemblies of the slurry delivery subassembly on first and second rails of the sand control screen assembly.

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18. The method as recited in claim 14 wherein rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint further comprises rotating first and second threaded ring assemblies of the slurry delivery subassembly on first and second threaded connectors of the sand control screen assembly.

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19. The method as recited in claim 14 wherein coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint further comprises establishing fluid communication between the at least one transport tube of the first joint and the at least one transport tube of the second joint.

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20. The method as recited in claim 14 wherein coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint further comprises sealably coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint.

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What is claimed is:

1. A method for assembling a gravel packing apparatus, the method comprising:

providing first and second joints each including a sand control screen assembly having a filter medium positioned exteriorly of a base pipe and a slurry delivery subassembly rotatably mounted exteriorly on the sand control screen assembly, the slurry delivery subassembly including at least one transport tube extending longitudinally along at least a portion of the sand control screen assembly;

threadably coupling the sand control screen assembly of the first joint to the sand control screen assembly of the second joint; after threadably coupling the sand control screen assembly of the first joint to the sand control screen assembly of the second joint,

locking the slurry delivery subassembly of the second joint relative to the sand control screen of the second joint with a locking assembly of the second joint;

after locking the slurry delivery subassembly of the second joint relative to the sand control screen of the second joint, axially aligning the at least one transport tube of the first joint with the at least one transport tube of the second joint by rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint;

after axially aligning the at least one transport tube of the first joint with the at least one transport tube of the second joint, locking the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint with a locking assembly of the first joint; and

coupling at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint.

2. The method as recited in claim 1 wherein rotating the slurry delivery subassembly of the first joint relative to the sand control screen of the first joint further comprises sliding first and second ring assemblies of the slurry delivery subassembly on first and second rails of the sand control screen assembly.

3. The method as recited in claim 1 wherein coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint further comprises establishing fluid communication between the at least one transport tube of the first joint and the at least one transport tube of the second joint.

4. The method as recited in claim 1 wherein coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint further

comprises sealably coupling the at least one jumper tube between the at least one transport tube of the first joint and the at least one transport tube of the second joint.