SUMMARY

Disclosed herein is an assembly adapted to be disposed within a wellbore, the assembly comprising: first and second completion joints, each of which comprises: a base pipe; a shunt tube disposed along the base pipe; and a tubular outer shroud disposed about respective portions of the shunt tube and the base pipe; a jumper tube coupling the shunt tube of the first completion joint to the shunt tube of the second completion joint; and a tubular sliding shroud disposed about at least one of the first and second completion joints and adapted to slide longitudinally to a run-in position, in which the tubular sliding shroud is disposed about the jumper tube and respective portions of the first and second completion joints, thereby covering the jumper tube.

According to an aspect of the present invention, there is provided an apparatus adapted to be disposed within a wellbore, the apparatus comprising: a support member; a groove formed into the support member; a key disposed at least partially within the groove; a tubular sliding member adapted to be displaced longitudinally relative to the support member into a locking position, in which the tubular sliding member is disposed about the support member; and a cavity formed into the tubular sliding member and adapted to receive the key when the tubular sliding member is in the locking position; wherein the key is disposed within both the groove and the cavity to secure the tubular sliding member in the locking position.

Disclosed herein is a method for making-up a connection between first and second completion joints, the method comprising: providing the first and second completion joints, each of the first and second completion joints comprising: a base pipe; a shunt tube disposed along the base pipe; and a tubular outer shroud disposed about respective portions of the shunt tube and the base pipe; coupling the shunt tube of the first completion joint to the shunt tube of the second completion joint with a jumper tube; shifting a tubular sliding shroud from a first position to a second position; and locking the tubular sliding shroud in the second position; wherein the tubular sliding shroud is disposed about at least one of the first and second completion joints in the first position; and wherein the tubular sliding shroud is disposed about the jumper tube and respective portions of the first and second completion joints in the second position.

BRIEF DESCRIPTION OF THE DRAWINGS

Various embodiments of the present disclosure will be understood more fully from the detailed description given below and from the accompanying drawings. In the drawings, like reference numbers may indicate identical or functionally similar elements.

FIG. 1 is a schematic illustration of an offshore oil and gas platform operably coupled to a lower completion string disposed within a wellbore, the lower completion string including a well-screen assembly, according to an exemplary embodiment.

FIG. 2 is a perspective partial cut-away view of a completion joint from the well-screen assembly of FIG. 1, according to an exemplary embodiment.

FIGS. 3A-3D each illustrate a perspective partial-sectional view of the well-screen assembly of FIG. 1, including two completion joints substantially identical to the completion joint of FIG. 2 and connected in series with one another, according to an exemplary embodiment.

FIG. 4 is an enlarged perspective view of a portion of FIG. 3D including a locking mechanism, according to an exemplary embodiment.

FIG. 5 is a perspective view of a portion of the locking mechanism of FIG. 4, according to an exemplary embodiment.

FIG. 6 is an exploded view of the portion of the locking mechanism shown in FIG. 5, according to an exemplary embodiment.

FIGS. 7A-7D each illustrate a cross-sectional view of the portion of the locking mechanism shown in FIG. 5, each of the respective cross-sectional views being taken along line 7-7 of FIG. 5 and depicting different operational positions of the locking mechanism, according to an exemplary embodiment.

FIG. 8 is a perspective view of a portion of the locking mechanism of FIG. 4, according to another exemplary embodiment.

FIGS. 9A and **9B** each illustrate a cross-sectional view of the portion of the locking mechanism shown in FIG. 8, each of the respective cross-sectional views being taken along line 9-9 of Fig. 8 and depicting different operational positions of the locking mechanism, according to an exemplary embodiment.

CLAIMS

1. An apparatus adapted to be disposed within a wellbore, the apparatus comprising:

a support member;

a groove formed into the support member;

a key disposed at least partially within the groove;

a tubular sliding member adapted to be displaced longitudinally relative to the support member into a locking position, in which the tubular sliding member is disposed about the support member; and

a cavity formed into the tubular sliding member and adapted to receive the key when the tubular sliding member is in the locking position;

wherein the key is disposed within both the groove and the cavity to secure the tubular sliding member in the locking position.

2. The apparatus of claim 1, wherein the key is moveable between a retracted position and a deployed position;

wherein the key nests within the groove when the key is in the retracted position, such that the tubular sliding member can slide freely past the support member into the locking position;

wherein the key protrudes from the support member when the key is in the deployed position; and

wherein the cavity is adapted to receive the key when the tubular sliding member is in the locking position and the key is placed in the deployed position.

3. The apparatus of claim 2, wherein a threaded hole is formed into the support member;

wherein the key comprises:

a housing;

a shaft supported within the housing, the shaft comprising opposing first and second end portions, the first end portion being threaded; and

a handle disposed within the housing and connected to the second end portion of the shaft, the handle operable to rotate the shaft;

wherein the key is placed in the retracted position by threading the first end of the shaft into the threaded hole; and

wherein the key is placed in the deployed position by threading the first end of the shaft out of the threaded hole.

4. The apparatus of claim 1, wherein the groove defines first and second surfaces of the support member;

wherein first and second pin-holes are formed into the first and second surfaces of the support member, respectively; and

wherein the key comprises:

a body having a housing formed therein; and

a latch disposed within the housing, the latch comprising:

a shaft supported by the housing, the shaft comprising opposing first and second end portions;

a handle connected to the first end portion of the shaft, the handle operable to rotate the shaft when the tubular sliding member is in the locking position; and

a mechanical linkage connected to the second end portion of the shaft, the mechanical linkage operable to deploy a pin into one of the first and second pin-holes when the handle is rotated.

5. The apparatus of claim 4, further comprising a biasing member disposed between the support member and the key, the biasing member operable to urge the key out of the groove;

wherein the key is secured in the retracted position when the pin is deployed into the first pin-hole; and

wherein the key is secured in the deployed position when the pin is deployed into the second pin-hole.