CLAIMS

1. A system comprising:

a blowout preventer including:

a hollow body;

a ram disposed in the hollow body; and

a bonnet assembly coupled to the hollow body, the bonnet assembly including a piston and a connecting rod that connects the piston to the ram to enable the piston to drive the ram within the hollow body, wherein the connecting rod includes an end face received by the ram and the connecting rod is coupled to the ram with a pressure-isolating seal, the pressure-isolating seal isolates the end face of the connecting rod received by the ram from wellbore pressure within the blowout preventer, and the ram, connecting rod, and pressure-isolating seal enable pressure within a pressure-isolated region between the end face of the connecting rod and the ram to be maintained below wellbore pressure within the blowout preventer when the ram is in a closed position in the hollow body.

2. The system of claim 1, comprising a locking assembly coupled to the bonnet assembly, the locking assembly including a wedge lock that enables the ram to be maintained in the closed position in the hollow body regardless of the level of hydraulic pressure on the piston.

3. The system of claim 1, comprising a relief path enabling fluid to exit the pressure-isolated region between the end face of the connecting rod and the ram to reduce the pressure within the pressure-isolated region.

4. The system of claim 3, wherein the relief path extends from the pressure-isolated region through the connecting rod.

5. The system of claim 4, wherein the relief path extends from the pressure-isolated region to a slack chamber within the bonnet assembly.

6. The system of claim 3, wherein the relief path extends from the pressure-isolated region through the ram.

7. The system of claim 1, wherein the ram is a pipe ram configured to seal against a pipe in

the hollow body.

8. The system of claim 1, wherein:

the ram includes a recess having a threaded surface; and

the connecting rod is coupled to the ram with a pressure-isolating seal and with a threaded retaining nut that is positioned about the connecting rod and is in engagement with the threaded surface of the recess.

9. A system comprising:

a connecting rod;

a ram block including a recess formed in an end face of the ram block to enable receipt of the connecting rod within the recess, wherein the recess includes a threaded surface; and

a threaded retaining nut configured to be positioned about the connecting rod and to engage the threaded surface of the recess;

wherein the connecting rod and the ram block are constructed to allow the connecting rod to engage the recess by aligning the ram block with the longitudinal axis of the connecting rod and moving the connecting rod and the ram block together along the longitudinal axis such that the connecting rod enters the recess and into the ram block from the end face; the connecting rod and the ram block are assembled to one another such that the connecting rod is positioned within the recess of the ram block; the system further comprises a seal between the connecting rod and the ram block within the recess, wherein the seal isolates an end face of the connecting rod within the recess from pressure at the end face of the ram block; and the seal is disposed about the connecting rod between the threaded retaining nut with an exterior threaded surface and an additional retaining nut that is threaded onto the connecting rod via an interior threaded surface of the additional retaining nut.

10. The system of claim 9, comprising a spacer also disposed about the connecting rod between the threaded retaining nut and the additional retaining nut, wherein the spacer is positioned adjacent to the seal.

11. The system of claim 9, wherein at least one of the ram block or the connecting rod includes a relief path that enables fluid to escape from a portion of the recess that is between the seal and the bottom of the recess.

12. A system comprising:

a ram block including a recess formed in an end face of the ram block;

a connecting rod coupled to the ram block via a threaded retaining nut having an exterior threaded surface, wherein the threaded retaining nut is threaded into the recess of the ram block; and

a seal disposed within the recess between the connecting rod and the ram block, wherein the seal is disposed about the connecting rod between the threaded retaining nut with the exterior threaded surface and an additional retaining nut that is threaded onto the connecting rod via an interior threaded surface of the additional retaining nut.

CLAIMS

1. A system comprising:

a hollow body (12);

a ram (24) disposed in the hollow body; and

a bonnet assembly (20) coupled to the hollow body, the bonnet assembly including a piston (26) and a connecting rod (28) that connects the piston to the ram to enable the piston to drive the ram within the hollow body, wherein the connecting rod is coupled to the ram with a pressure-isolating seal (52).

2. The system of claim 1, comprising a locking assembly (22) coupled to the bonnet assembly, the locking assembly including a wedge lock (34) that enables the ram to be maintained in a closed position in the hollow body regardless of the level of hydraulic pressure on the piston.

3. The system of claim 2, wherein the connecting rod includes an end face (70) received by the ram.

4. The system of claim 3, wherein the system comprises a blowout preventer (10) including the hollow body, the ram, the piston and the connecting rod of the bonnet assembly, and the pressure-isolating seal.

5. The system of claim 4, wherein the pressure-isolating seal isolates the end face of the connecting rod received by the ram from wellbore pressure within the blowout preventer.

6. The system of claim 3, comprising a relief path (62, 64, 80) enabling fluid to exit a pressure-isolated region between the end face of the connecting rod and the ram.

7. The system of claim 6, wherein the relief path (62) extends from the pressure-isolated region through the connecting rod.

8. The system of claim 7, wherein the relief path (62, 64) extends from the pressure-isolated region to a slack chamber (66) within the bonnet assembly.

9. The system of claim 6, wherein the relief path (80) extends from the pressure-isolated region through the ram.

10. The system of claim 1, the ram including a recess (42) formed in an end face (40) of the ram to enable receipt of the connecting rod within the recess, wherein the connecting rod and the ram are constructed to allow the connecting rod to engage the recess by aligning the ram with the longitudinal axis of the connecting rod and moving the connecting rod and the ram together along the longitudinal axis such that the connecting rod enters the recess and into the ram from the end face.

11. The system of claim 10, comprising a threaded retaining nut (50) configured to be positioned about the connecting rod and to engage a threaded surface (44) of the recess.

12. The system of claim 10, wherein the connecting rod and the ram are assembled to one another such that the connecting rod is positioned within the recess of the ram and a seal (52) is provided between the connecting rod and the ram within the recess, the seal isolating an end face (70) of the connecting rod within the recess from pressure at the end face of the ram.

13. The system of claim 12, wherein the seal is disposed about the connecting rod between a first retaining nut (50) with an exterior threaded surface and a

second retaining nut (56) that is threaded onto the connecting rod via an interior threaded surface of the second retaining nut.

14. A method comprising:

aligning a ram (24) of a blowout preventer (10) with a connecting rod (28); and

coupling the ram to the connecting rod such that a pressure-isolating seal (52) is positioned between the ram and the connecting rod.

15. The method of claim 14, wherein coupling the ram to the connecting rod includes threading the connecting rod into a recess (42) in the ram.