second end 250, and an elongated portion 252 extending therebetween. The first end 248 of the first portion 246 of the arm 244 can be generally cylindrical and can be rotatably mounted within a portion of the transverse member 242 of the bridge. A motor (not shown) can be disposed within the first end 248 of the first portion 246 of the arm 244. The motor can be a servomotor, a stepper motor, or the like. Further, actuating the motor may cause the arm 244 to rotate around an axis 254, passing through a center of the first end 248 of the first portion 246 of the arm 244, that may be generally perpendicular to the first and second portions 238, 240 of the bridge 232. The second end 250 of the first portion 246 of the arm 244 can be formed with a bore 256 extending substantially perpendicularly therethrough. Further, the second end 250 of the first portion 246 of the arm 244 can include a slot 258 extending therethrough at least partially along the length of the elongated portion 252 of the first portion 246 of the arm 244.

The articulating arm 244 can also include a second portion 260 having a first end 262, a second end 264, and an elongated portion 266 extending therebetween. The elongated portion 266 can include an offset disc-shaped portion 268 located centrally along the elongated portion 266 of the second portion 260 of the arm 244. The offset disc-shaped portion 268 has a center that is spaced apart a distance, D, from the longitudinal axis of the elongated portion 266 of the second portion 260 of the articulating arm 244. The offset disc-shaped portion 268 of the second portion 260 of the arm 244 is configured to fit into and rotate within the bore ~~254~~ 256 formed in the second end 250 of the first portion 246 of the arm 244. The slot ~~256~~ 258 formed in the second end 250 of the first portion of the arm 244 can allow the second portion 260 of the arm 244 to rotate nearly 180° with respect to the first portion 246 of the arm 244 and can allow the second portion 260 of the arm 244 to be rotated nearly parallel to the first portion 246 of the arm 244.

In a particular aspect, a motor (not shown) can be disposed within the offset disc-shaped portion 268 of the second portion 260 of the articulating arm 244. The motor can be a servomotor, a stepper motor, or the like. Further, actuating the motor can cause the second portion 260 of the articulating arm 244 to rotate with respect to the first portion 246 of the articulating arm 244 around an axis 270, passing through a center of the offset disc-shaped portion 268 of the second portion 260 of the articulating arm 244, that is generally perpendicular to the first and second portions 238, 240 of the bridge 232.

As further shown in the figures, the HTHS 230 can include a first gripper 280 attached to, or disposed on, the first end 262 of the second portion 260 of the articulating arm 244. Further, the HTHS 230 can include a second gripper 282 attached to, or disposed on,

CLAIMS

1. A tubular handling system for conducting subterranean operations comprising:

a first tubular handling system comprising:

a bridge disposed within a horizontal tubular storage area with one end of the bridge coupled to a first guide rail and an opposite end of the bridge coupled to a second guide rail, with the first and second guide rails being positioned above the horizontal tubular storage area;

an arm pivotally coupled to the bridge; and

a gripper coupled to the arm and adapted to engage with a tubular in the horizontal tubular storage area; and

a second tubular handling system comprising:

a support structure;

a first tubular handler coupled to the support structure; and

a second tubular handler coupled to the support structure and distinct from the first tubular handling system.

2. The tubular handling system of claim 1, wherein the support structure of the second tubular handling system comprises a vertically oriented structure.

3. The tubular handling system of any one of the preceding claims, wherein the support structure is rotatable about a rotational axis.

4. The tubular handling system of any one of the preceding claims, wherein at least one of the first and second tubular handlers is vertically adjustable with respect to the support structure.

5. The tubular handling system of any one of the preceding claims, wherein the first tubular handler comprises at least three different pivot points.

6. The tubular handling system of any one of the preceding claims, wherein the second tubular handler comprises at least three different pivot points.

7. The tubular handling system of any one of the preceding claims, wherein the first and second tubular handlers are independently moveable with respect to one another.

8. The tubular handling system of any one of the preceding claims, wherein the first tubular handling system is disposed at a vertical elevation above the horizontal tubular storage area.

9. The tubular handling system of any one of the preceding claims, wherein the gripper of the first tubular handling system and the first tubular handler of the second tubular handling system are adapted to both engage the tubular at a same time.

10. A method of conducting subterranean operations comprising:

engaging a first tubular disposed in a horizontal tubular storage area with a gripper of a first tubular handling system;

moving a bridge of the first tubular handling system along first and second guide rails, with the first and second guide rails being positioned at opposite ends of the bridge and above the horizontal tubular storage area;

repositioning the first tubular to a tubular delivery area;

engaging the first tubular with a gripper of a second tubular handling system;

repositioning the first tubular to a wellbore area; and

at least one of the following processes:

a) translating ~~a~~ the bridge of the first tubular handling system along a guide from a first bridge position to a second bridge position spaced apart from the first bridge position;

b) moving the first tubular from a first position to a second position, wherein moving the first tubular includes moving at least a portion of the first tubular through the bridge between a first portion and a second portion of the bridge;

c) moving the first tubular from a first horizontal position associated with the horizontal tubular storage area through a vertical position and to a second horizontal position associated with the tubular delivery area;

d) translating an arm of the first tubular handling system along at least a portion of a length of the bridge while rotating the first tubular from a first horizontal position, through a vertical position, to a second horizontal position;

e) simultaneously gripping the first tubular with the gripper of the first tubular handling system and the gripper of the second tubular handling system in the tubular delivery area;

f) vertically raising the first tubular along a support structure of the second tubular handling system while rotating the first tubular from a horizontal position to a vertical position; or

g) any combination thereof.

11. The method of claim 10, further comprising translating a bridge of the first tubular handling system over the horizontal tubular storage area to a location containing the first tubular prior to engaging the first tubular.

12. A method of conducting subterranean operations, the method comprising:

lowering a top drive system until it engages a tubular;

raising the top drive system, while extending an iron roughneck around a portion of the tubular;

decoupling the tubular;

retrieving the tubular from the top drive system with an arm of a vertical tubular handling system;

extending an arm of a horizontal tubular handling system into a horizontal transfer position while retrieving the tubular from the top ~~drop~~ drive system; ~~and~~

transferring the tubular from the arm of the vertical tubular handling system to the arm of the horizontal tubular handling system; and

moving the arm along a horizontal bridge within a horizontal storage area.

13. The method of claim 12, further comprising:

moving the ~~first~~ tubular from a first horizontal position associated with a pick-up position through a vertical position and to a second horizontal position associated with a delivered position.

14. The method of claim 13, further comprising:

moving the tubular from a first position to a second position, wherein moving includes moving at least a portion of the ~~first~~ tubular ~~through the bridge~~ between a first portion and a second portion of the horizontal bridge.

15. The method of claim 14, further comprising:

translating ~~a~~ the horizontal bridge of the horizontal tubular handling system from a transfer position to a first bridge position over a horizontal tubular storage area.