WHAT IS CLAIMED IS:

1. A build plate-clamping assembly, comprising:

a work station having a build plate-receiving surface; and

a lock-pin extending from the build plate-receiving surface of the work station, the lock-pin comprising:

a hollow pin body;

a piston disposed within the hollow pin body, the piston axially movable from a retracted position to an actuated position;

a plurality of detents, the plurality of detents radially extensible through respective ones of a plurality of detent-apertures in the hollow pin body responsive to the piston having been axially moved to the actuated position; and

a flushing channel defining a pathway for a fluid to flush debris from the lock-pin, wherein the flushing channel traverses helically along the piston and/or helically along an inner surface of the hollow pin body.

2. The build plate-clamping assembly of claim 1, comprising:

a wedging element disposed within the hollow pin body between the piston and the plurality of detents, the wedging element comprising a sloped or curved surface that slidably translates an axial movement of the piston to a radial extension of the plurality of detents responsive to the piston having been axially moved to the actuated position.

3. The build plate-clamping assembly of claim 2, wherein the detents have a spherical shape; and/or wherein the wedging element has a spherical shape.

4. The build plate-clamping assembly of claim 1, wherein the piston comprises a pneumatic piston actuable by a pneumatic fluid.

5. The build plate-clamping assembly of claim 1, wherein the lock-pin comprises a flushing fluid supply line configured to supply fluid to the flushing channel, wherein the flushing channel and the flushing fluid supply line are configured to align

and thereby fluidly communicate with one another when the piston moves to a retracted position and/or when the piston moves to an actuated position.

6. The build plate-clamping assembly of claim 5, wherein the plurality of detent-apertures are in fluid communication with the flushing channel so as to allow the fluid to flush debris from the lock-pin through the plurality of detent-apertures.

7. The build plate-clamping assembly of claim 5, comprising:

one or more flushing apertures disposed about the hollow pin body, the one or more flushing apertures in fluid communication with the flushing channel so as to allow the fluid to flush debris from the lock-pin through the one or more flushing apertures.

8. The build plate-clamping assembly of claim 7, comprising

at least one of the one or more flushing apertures disposed at an axial end of the hollow pin body.

9. The build plate-clamping assembly of claim 7, wherein the one or more flushing apertures comprises a plurality of flushing apertures disposed about at least one of the plurality of detent-apertures.

10. The build plate-clamping assembly of claim 1, comprising:

a build plate configured to be clamped to the work station at least in part by the lock-pin, the build plate comprising a socket having an inside surface defining an engagement surface for the plurality of detents to lockingly engage the lock-pin with the socket.

11. The build plate-clamping assembly of claim 10, wherein the build plate comprises a socket-receiving recess configured to receive the socket, the socket comprising an outside surface corresponding to the socket-receiving recess.

12. The build plate-clamping assembly of claim 11, wherein the build plate comprises a socket bolt-receiving bore intersecting the socket-receiving recess, the socket bolt-receiving bore configured to receive a socket locking-bolt insertable therein, wherein the outside surface of the socket comprises a socket bolt-engaging channel aligning with the intersecting socket bolt-receiving bore, the socket being lockingly engageable with the build plate at least in part by the socket locking-bolt having been inserted into the socket bolt-receiving bore and engaging with the socket bolt-engaging channel.

13. The build plate-claiming assembly of claim 11, wherein the build plate comprises a first socket bolt-receiving bore intersecting a first side of the socket-receiving recess and a second socket bolt-receiving bore intersecting a second side of the socket-receiving recess, the first socket bolt-receiving bore configured to receive a first socket locking-bolt insertable therein and a second socket bolt-receiving bore configured to receive a second socket locking-bolt insertable therein, wherein first socket bolt-receiving bore and the second socket-bolt receiving bore align with a socket bolt-engaging channel on the outside surface of the socket, the socket being lockingly engageable with the build plate at least in part by the first socket locking-bolt having been inserted into the first socket bolt-receiving bore and engaging with the socket bolt-engaging channel and/or the second socket locking-bolt having been inserted into the second socket bolt-receiving bore and engaging with the socket bolt-engaging channel.

14. The build plate-clamping assembly of claim 11, wherein the build plate comprises one or more socket bolts respectively inserted into a corresponding one or more socket bolt-receiving bores, the one or more socket bolt-receiving bores intersecting the socket-receiving recess, wherein the socket comprises a socket bolt-engaging channel disposed about at least a portion of an outer surface of the respective socket, the one or more socket bolts lockingly engaging with the socket bolt-engaging channel.

15. A method working on workpieces at multiple work stations, the method comprising:

lockingly engaging a build plate at a first work station, the first work station having a first lock-pin extending from a first build plate-receiving surface, and the build plate comprising a socket configured to lockingly engage with the first lock-pin;

performing a first work-step on a plurality of workpieces secured to the build plate;

releasing the build plate from the first work station;

lockingly engaging the build plate at a second work station, the second work station having a second lock-pin extending from a second build plate-receiving surface, and the socket of the build plate configured to lockingly engage with the second lock-pin; and

performing a second work-step on the plurality of workpieces secured to the build plate;

wherein the first lock-pin comprises: a first hollow pin body, a first piston disposed within the first hollow pin body, the first piston axially movable from a first retracted position to a first actuated position, and a first plurality of detents, the first plurality of detents radially extensible through respective ones of a first plurality of detent-apertures in the first hollow pin body responsive to the first piston having been axially moved to the first actuated position;

wherein the second lock-pin comprises: a second hollow pin body, a second piston disposed within the second hollow pin body, the second piston axially movable from a second retracted position to a second actuated position, and a second plurality of detents, the second plurality of detents radially extensible through respective ones of a second plurality of detent-apertures in the second hollow pin body responsive to the second piston having been axially moved to the second actuated position; and

wherein the method comprises at least one of:

flushing debris from the first lock-pin before, during, and/or after lockingly engaging the build plate at the first work station, the first lock-pin comprising a first flushing channel defining a first pathway for fluid to flush debris from the first lock-pin, and wherein the first flushing channel traverses helically along the first piston and/or helically along an inner surface of the first hollow pin body, and

flushing debris from the second lock-pin before, during, and/or after lockingly engaging the build plate at the second work station, the second lock-pin comprising a

second flushing channel defining a second pathway for fluid to flush debris from the second lock-pin, and wherein the second flushing channel traverses helically along the second piston and/or helically along an inner surface of the second hollow pin body.

16. The method of claim 15, wherein:

the first work-step comprises obtaining with a vision system, one or more digital representations of a workpiece-interface of each of the plurality of workpieces; and/or

the second work-step comprises additively printing on the workpiece-interface of the plurality of workpieces.

17. The method of claim 15, wherein:

the first work-step comprises preparing a workpiece-interface on the plurality of workpieces; and/or

the second work-step comprises obtaining with a vision system, one or more digital representations of the workpiece-interface of the plurality of workpieces.

18. The method of claim 17, comprising:

releasing the build plate from the second work station;

lockingly engaging the build plate at a third work station, the third work station having a third lock-pin extending from a third build plate-receiving surface, and the socket of the build plate configured to lockingly engage with the third lock-pin; and

performing a third work-step on the plurality of workpieces secured to the build plate, wherein the third work-step comprises additively printing on the workpiece-interface of the plurality of workpieces.

19. The build plate-clamping assembly of claim 1, wherein the lock-pin comprises:

a plurality of flushing apertures disposed about respective ones of the plurality of detent-apertures, the plurality of flushing apertures in fluid communication with the flushing channel.

20. A build plate-clamping assembly, comprising:

a work station having a build plate-receiving surface; and

a lock-pin extending from the build plate-receiving surface of the work station, the lock-pin comprising:

a hollow pin body;

a piston disposed within the hollow pin body, the piston axially movable from a retracted position to an actuated position;

a plurality of detents, the plurality of detents radially extensible through respective ones of a plurality of detent-apertures in the hollow pin body responsive to the piston having been axially moved to the actuated position;

a flushing channel defining a pathway for a fluid to flush debris from the lock-pin; and

a flushing fluid supply line configured to supply fluid to the flushing channel; wherein the flushing channel and the flushing fluid supply line are configured to align and thereby fluidly communicate with one another when the piston moves to a retracted position and/or when the piston moves to an actuated position.