

BUILD PLATE CLAMPING-ASSEMBLY AND ADDITIVE MANUFACTURING SYSTEMS AND METHODS OF ADDITIVELY PRINTING ON WORKPIECES

ABSTRACT

A build plate-clamping assembly may include 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 may include a hollow pin body, a piston disposed within the hollow pin body, with the piston axially movable from a retracted position to an actuated position, and a plurality of detents, with 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 methods of working on workpieces may include lockingly engaging a build plate at a first work station, performing a first work-step, releasing the build plate from the first work station, lockingly engaging the build plate at a second work station, and performing a second work-step. An additive manufacturing system may include a vision system with a first build plate-receiving surface and an additive manufacturing machine with a second build plate-receiving surface.

[Figure 6A]