WHAT IS CLAIMED IS:

1. A workpiece-assembly apparatus, the apparatus comprising:

a build plate comprising a workpiece bay, the workpiece bay comprising a plurality of workpiece docks;

a plurality of workpiece shoes respectively inserted or insertable into the plurality of workpiece docks; the workpiece shoes respectively comprising a slot configured to receive a portion of one or more workpieces;

a plurality of biasing members respectively situated or situatable between the build plate and the plurality of workpiece shoes so as to exert a biasing force upon the workpiece shoes; and

one or more clamping mechanisms coupled or couplable to the workpiece bay of the build plate and operable to secure the plurality of workpiece shoes within the respective workpiece docks.

2. The apparatus of claim 1, wherein the workpieces comprise compressor blades or turbine blades.

3. The apparatus of claim 1, wherein the slot corresponding to the workpiece shoes comprises a dovetail slot configured to receive a dovetail of a compressor blade or a dovetail of a turbine blade.

4. The apparatus of claim 1, wherein the plurality of workpiece docks respectively comprise dovetail slots and the workpiece shoes respectively comprise dovetail keys, the dovetail slots configured to receive the dovetail keys.

5. The apparatus of claim 1, wherein the biasing members comprise one or more springs, one or more magnet pairs, and/or one or more piezoelectric actuators.

6. The apparatus of claim 1, wherein the one or more clamping mechanisms comprise one or more edge clamps.

7. The apparatus of claim 6, wherein the one or more edge clamps comprise:

one or more wedge segments;

one or more jaw segments; and

one or more loading mechanisms.

8. The apparatus of claim 7, wherein the one or more edge clamps comprise one or more clamping rails.

9. A system for aligning a plurality of workpieces with a build plane, the system comprising:

an alignment plate;

one or more elevating blocks; and

a workpiece-assembly apparatus, comprising:

a build plate comprising a workpiece bay, the workpiece bay comprising a plurality of workpiece docks;

a plurality of workpiece shoes respectively inserted or insertable into the plurality of workpiece docks; the workpiece shoes respectively comprising a slot configured to receive a portion of one or more workpieces;

a plurality of biasing members respectively situated or situatable between the build plate and the plurality of workpiece shoes so as to exert a biasing force upon the workpiece shoes; and

one or more clamping mechanisms coupled or couplable to the workpiece bay of the build plate and operable to secure the plurality of workpiece shoes within the respective workpiece docks.

10. The system of claim 9, wherein the one or more elevating blocks have a height corresponding to a desired elevation of the build plane.

11. The system of claim 9, wherein with the workpieces loaded in the workpiece-assembly apparatus, the one or more elevating blocks situated adjacent to the workpieces, and the alignment plate applied situated on the one or more elevating blocks, the biasing members exert a force on the workpiece shoes, thereby pushing respective workpiece-interfaces of the workpieces against a bottom surface of the alignment plate.

12. The system of claim 9, comprising a variety of elevating blocks with different heights so as to accommodate different workpieces and/or workpieces that have different sizes.

13. A method of aligning a plurality of workpieces, the method comprising:

placing an alignment plate on top of one or more elevating blocks situated adjacent to a plurality of workpieces loaded into respective workpiece docks of a build plate, the build plate comprising a workpiece bay, and the workpiece bay comprising the respective workpiece docks; and

pushing the plurality of workpieces against the alignment plate using biasing members respectively situated between the build plate and the plurality of workpieces such that respective workpiece-interfaces of the workpieces align with one another when in contact with the alignment plate.

14. The method of claim 13, wherein the workpieces are loaded into respective workpiece shoes, and the workpiece shoes are loaded into the respective workpiece docks.

15. The method of claim 13, comprising:

for each of the plurality of workpieces, coupling a workpiece to a workpiece shoe corresponding to the workpiece, the workpiece shoe having a slot configured to receive a portion of the workpiece;

inserting the workpiece shoe into one of the respective workpiece docks of the build plate; and

repeating the coupling and inserting steps such that each of the plurality of workpieces are loaded into respective workpiece docks of the build plate.

16. The method of claim 15, comprising:

clamping the workpiece shoes in the respective workpiece docks; and

removing the alignment plate from on top of one or more elevating blocks.

17. The method of claim 16, comprising:

commencing an additive printing process.

18. The method of claim 17, comprising: commencing an additive printing process utilizes a powder bed fusion (PBF) system.

19. The method of claim 18, wherein the PBF system comprises a direct metal laser melting (DMLM) system, an electron beam melting (EBM) system, a selective laser melting (SLM) system, a directed metal laser sintering (DMLS) system, or a selective laser sintering (SLS) system.

20. The method of claim 13, wherein the workpieces comprise compressor blades or turbine blades.