Claims

1. A self-aligning connection system for multi-storey steel modular structures comprising:

a connection plate configured to attach across two lower adjacent steel modules in a first storey of a multi-storey structure, the connection plate including two or more plate apertures for receiving fasteners for attaching the connection plate across the lower adjacent steel modules;

two or more projections upwardly extending from the columns in the lower adjacent steel modules through projection apertures in the connection plate, each of the projections configured with a cross-section that is a first width at a proximal, base portion adjacent to the connection plate, and a second width at a distal projection portion extending upwardly from the connection plate, the second width being at least approximately 10-90 percent narrower than the first width;

each of the two or more projections including a projection central aperture configured to receive a projection fastener for attaching one of the two lower adjacent steel modules to an upper steel module in a second storey positioned above the first storey;

a complementary receiving surface having a central receiving surface aperture for receiving the projection fastener, the complementary receiving surface attached to or integrally-formed in the upper steel module for engaging one of the two or more projections such that the upper steel module is vertically aligned with one of the two lower adjacent first-storey steel modules, the complementary receiving surface configured to center one of the two or more projections and align the projection central aperture with the central receiving surface aperture, such that a same fastener can pass through both the projection and receiving surface apertures, thereby aligning the upper steel module with one of the two first-storey adjacent steel modules.

2. The self-aligning connection system for multi-storey steel modular structures according to claim 1, wherein each of the two or more projections comprises two or more intersecting plates.

3. The self-aligning connection system for multi-storey steel modular structures according to claim 2, wherein edges of each plate are convexly curved and the receiving surface includes concavely curved portions that guide that edges of the plates.

4. The self-aligning connection system for multi-storey steel modular structures according to claim 2, wherein the receiving surface includes recesses that engage the plates.

5. The self-aligning connection system for multi-storey steel modular structures according to claim 1, wherein the projections include a convexly curved surface and the receiving surface includes a concavely curved surface.

6. The self-aligning connection system for multi-storey steel modular structures according to claim 1, wherein the projections include a frustoconical projection and the receiving surface includes a complementary curved surface.

7. The self-aligning connection system for multi-storey steel modular structures according to claim 1, wherein the projections include an elongated curved projection and the receiving surface includes a complementary curved surface.

8. The self-aligning connection system for multi-storey steel modular structures according to claim 1, further comprising a box including a projection attached to one of the lower adjacent steel modules.

9. The self-aligning connection system for multi-storey steel modular structures according to claim 1, wherein the fasteners are bolts.