CLAIMS

1. A system for assembling a plurality of pre-fabricated components to form a structure comprising:

a first lifting device for transporting at least one pre-fabricated component from a source to a designated site;

a second lifting device for engaging the at least one pre-fabricated component at the designated site, fine-adjustment and installation of the at least one pre-fabricated component;

wherein the second lifting device is adapted to pick up the at least one pre-fabricated component at the designated site; wherein the second lifting device comprises an engagement means to engage a portion of the at least one pre-fabricated component for installation at the designated site, and wherein the second lifting device is a lift truck operable to laterally engage the at least one pre-fabricated component.

2. The system of claim 1, wherein the engagement means is capable of moving the engaged pre-fabricated component in at least two degrees of motion.

3. The system of claim 2, wherein the engagement means is a mechanical attachment that comprises a head mount and a hydraulic system to facilitate movement in the at least two degree of motion.

4. The system according to claim 1, wherein the first lifting device is a lifter.

5. The system according to claim 1, wherein the first lifting device is a crane.

6. The system according to claim 1, wherein the lift truck is a reach stacker or forklift.

7. The system according to claim 6, wherein where the lift truck is a reach stacker, the reach stacker comprises an adjustable head mount arranged to engage a portion of the pre-fabricated component prior to lifting the pre-fabricated component.

8. The system according to claim 1, wherein the first and/or second lifting device is a forklift.

9. The system according to claim 1, wherein the first lifting device and/or second lifting device are reach stackers.

10. The system according to claim 5, wherein the crane is a crawler crane or a tower crane.

11. The system according to claim 1, wherein the first lifting device is deployed at a reference level.

12. The system of claim 11, wherein the reference level is the source, the structure comprises multiple storeys and the designated site is a storey above the reference level.

13. The system of claim 12, wherein the first lifting device is a crane, the crane operates to position the second lifting device at the storey above the reference level.

14. The system of claim 12, further comprises an access ramp for the second lifting device to move between the multiple storeys.

15. The system of claim 2, wherein the two degrees of motion includes linear motion and rotational motion.

16. The system of claim 1, wherein the pre-fabricated components comprise at least one or more pre-fabricated columns and/or one or more pre-fabricated slabs.

17. The system of claim 1, wherein the first lifting device is a tower crane and the second lifting device comprises a plurality of reach stackers.

18. The system of claim 1, wherein the second device is further equipped with an image-capturing device and an alignment assistance means.

19. The system of claim 12, wherein each of the storey above the reference level comprises at least a portion surrounded by a temporary barrier.

20. The system of claim 12, wherein the each of the storey above the reference level comprises at least a portion surrounded by a permanent barrier.

21. The system of claim 20, wherein the permanent barrier is a parapet wall.

22. The system of claim 21, wherein the parapet wall is completed before the multi-storeyed framework is completed.

23. A method for assembling a plurality of pre-fabricated components to form a structure comprising the steps of:-

i. transporting by a first lifting device at least one of the plurality of pre-fabricated components from a source to a designated site; and

ii. engaging by a second lifting device for fine-adjustment and installation of the at least one pre-fabricated component at the designated site; and

iii. installing the pre-fabricate component, by the second lifting device, at the designated site;

wherein the second lifting device comprises an engagement means to engage a portion of the at least one pre-fabricated component, wherein the second lifting device is adapted to pick up the at least one pre-fabricated component at the designated site and wherein the second lifting device is a lift truck operable to laterally engage the at least one pre-fabricated component.

24. A second lifting device according to claim 1, wherein the engagement means comprises a plurality of locks, each of the plurality of locks operable to mate with a portion of the pre-fabricated component.

25. The second lifting device according to claim 24, wherein at least one of the plurality of locks is a twist lock.

26. The second lifting device according to claim 25 comprising four twist locks, wherein the distance between two twist locks is adjustable.

27. The second lifting device according to any one of claims 24 to 26, wherein the at least one twist lock comprises a lock cage.

28. The second lifting device according to any one of claims 24 to 27, wherein the portion of the pre-fabricated component comprises a pre-prepared protrusion dimensioned for engagement by a lock arrangement.

29. The second lifting device according to claim 28, wherein the pre-prepared protrusion is a pre-cast protrusion.