AMENDED CLAIMS

1. A beamless floor structure for building, comprising: a plurality of columns (1), a column cap (2) disposed around each of the columns (1), and a floor slab supported on the columns (1) and the column caps (2), the floor slab comprising a column plate strip (31) arranged at each column cap (2), an inter-column plate strip (32) arranged between two adjacent column plate strips (31), and an intermediate plate strip (33) arranged between two adjacent inter-column plate strips (32),

characterized in that the column cap (2) is a prefabricated member, and the column plate strip (31) arranged at the top of the column cap (2) has a cast-in-situ reinforcing concrete structure, the column cap (2) being provided with exposed reinforcing bars, which are connected to reinforcing bars arranged in the column (1) and the column plate strip (31);

the inter-column plate strip (32) and the intermediate plate strip (33) are joined together by prefabricated plates at respective bottom portions thereof, and by cast-in-situ reinforcing concrete structure at respective upper portions thereof, wherein the prefabricated plate arranged at the bottom portion of the inter-column plate strip (32) is provided with exposed reinforcing bars, which are connected to reinforcing bars arranged in said cast-in-situ reinforcing concrete structure;

the prefabricated plate arranged at the bottom portion of the intermediate plate strip (33) is formed by connecting a first semi-prefabricated panel (331) with a prefabricated hidden beam panel (332), the latter including a flat panel body (333) and at least two hidden beams (334) protruding therefrom;

the hidden beam (334) of the prefabricated hidden beam panel (332) is provided at both ends with exposed reinforcing bars, which are connected to reinforcing bars arranged in the cast-in-situ reinforcing concrete structure of the inter-column plate strip (32); and

the hidden beam (334) is embedded in advance with a reinforcing bar connector (335) at its outer side wall, for connecting reinforcing bars arranged in the

prefabricated hidden beam panel (332) with reinforcing bars arranged in an outer cast-in-situ reinforcing concrete structure.

2. The beamless floor structure for building according to claim 1, characterized in that the first semi-prefabricated panel (331) has a thickness of 60-90 mm, the prefabricated hidden beam panel (332) has a thickness of 200-400 mm at the hidden beam (334) thereof, and the flat panel body (333) has a thickness of 120-180 mm.

3. The beamless floor structure for building according to claim 1 or 2, characterized in that the prefabricated plate of the inter-column plate strip (32) is a second semi-prefabricated panel (321) having a thickness of 100-150 mm.

4. The beamless floor structure for building according to claim 1 or 2, characterized in that each column (1) is surrounded and enclosed by two C-shaped column caps (2), each of the C-shaped column caps (2) having a thickness of 120-180 mm.

5. The beamless floor structure for building according to claim 1 or 2, characterized in that the cast-in-situ reinforcing concrete structure of the intermediate plate strip (33) is provided therein with weight reducing blocks (5) that are arranged in a plurality of rows and columns.

6. The beamless floor structure for building according to claim 1 or 2, characterized in that the floor slab has a concrete grade of 50D/20 for its prefabricated part and cast-in-situ part, and a thickness of 500-700 mm.

7. A construction method of the beamless floor structure for building according to claim 1, comprising:

step A: mounting and fixing temporary supports (61) for the column plate strips

at positions of the column plate strips around the columns (1) on an N^{th} floor;

step B: hoisting the column caps (2) to the temporary supports (61) for the column plate strips and fixing them there;

step C: mounting and fixing temporary braces (62) for the inter-column plate strips at positions of the inter-column plate strips;

step D: hoisting the prefabricated plates to the temporary braces (62) for the inter-column plate strips and fixing them there;

step E: mounting and fixing temporary braces (63) for the intermediate plate strips at positions of the intermediate plate strips;

step F: hoisting the prefabricated plates to the temporary braces (63) for the intermediate plate strips and fixing them there;

step G: binding reinforcing bars on each plate strip and pouring cast-in-situ concrete; and

step H: removing all temporary supports and braces of said N^{th} layer when strength of the cast-in-situ concrete on each plate strip meets related requirements.

8. The construction method according to claim 7, characterized in that in step G, weight reducing blocks (5) are placed on the prefabricated plate of the intermediate plate strip before reinforcing bars are bound.