Claims

1. A truss-like hydraulic lifting apparatus with plugs, comprising: a pile reinforcing frame (1); a truss structure (2) extending through and mounted within the pile reinforcing frame (1), wherein the truss structure (2) comprises a first number of uniformly disposed support legs (21), and each of the support legs (21) is provided with a support leg inserting hole (211); a first number of power source devices (3) each provided with a plug (31) corresponding to a support leg inserting hole (211) of each of the support legs (21); characterised by a detachable mechanism for detachably fixing each of the power source devices (3) to the pile reinforcing frame (1), wherein the detachable mechanism comprises: a base plate (4) which is laterally fixed relative to the pile reinforcing frame (1), is provided with an opening (41) through which the support leg vertically passes, and forms a protective cap above the power source device (3), wherein the lateral dimension of the protective cap is larger than the lateral dimension of the power source device (3), wherein (option A) the base plate (4) is detachably mounted on the pile reinforcing frame (1) Via a plug structure, with a mounting plug hole being arranged on the base plate (4), and the pile reinforcing frame (1) is provided with a mounting plug (42) corresponding to the mounting plug hole, or wherein (option B) the base plate (4) is detachably mounted on the pile reinforcing frame (1) via a tenon-mortise structure in which a tenon is provided on each of two ends of the base plate (4) connected with the pile reinforcing frame (1), and a mortise corresponding to the tenon is provided on the pile reinforcing frame (1).

2. The truss-like hydraulic lifting apparatus with plugs according to claim 1--option A, wherein a plug cylinder is disposed on the pile reinforcing frame (1) for driving the mounting plug (42) to be automatically inserted and removed.

3. The truss-like hydraulic lifting apparatus with plugs according to any of claims 1 to 2, wherein the power source device (3) comprises an upper cylinder assembly and a lower cylinder assembly which are mounted on the base plate (4), respectively, wherein the upper cylinder assembly comprises a first upper cylinder (321) and a second upper cylinder (322) whose upper ends are connected to the base plate (4), and an upper slider (341) which is connected to the lower ends of the first upper cylinder (321) and the second upper cylinder (322); and the lower cylinder assembly comprises a first lower cylinder (331) and a second lower cylinder (332) whose upper ends are connected to the base plate (4), and a lower slider (342) which is connected to the lower ends of the first lower cylinder (331) and the second lower cylinder (332).

4. The truss-like hydraulic lifting apparatus with plugs according to claim 3, wherein the upper ends of the first upper cylinder (321) and the second upper cylinder (322) are first type Tshaped ends (351,352), first type T-shaped end joint ports (421,422) corresponding to the first type Tshaped

ends are arranged on the base plate (4), and the first upper cylinder (321) and the second upper cylinder (322) are respectively mounted on the first type T-shaped end joint ports (421,422) of the base plate via the upper ends of the first type T-shaped ends (351,352); the upper ends of the first lower cylinder (331) and the second lower cylinder (332) are second type Tshaped ends (361,362), second type T-shaped end joint ports (431,432) corresponding to the second type T-shaped ends are arranged on the base plate (4), and the first lower cylinder (331) and the second lower cylinder (332) are respectively mounted on the second type T-shaped end joint ports (431,432) of the base plate via the upper ends of the second type T-shaped ends (361,362).

5. The truss-like hydraulic lifting apparatus with plugs according to claim 1--option A, wherein the first upper cylinder (321) and the second upper cylinder (322) are symmetrically distributed on two sides of the corresponding support leg (21), and the first lower cylinder (331) and the second lower cylinder (332) are symmetrically distributed on two sides of the corresponding support leg (21); a U-shaped opening is arranged respectively on the upper slider (341) and the lower slider (342) for receiving the corresponding support leg (21), and the upper slider (341) and the lower slider (342) are respectively provided with the plug (31).

6. The truss-like hydraulic lifting apparatus with plugs according to claim 5, wherein the pile reinforcing frame (1) further comprises limiting members symmetrically provided on two sides of the support leg (21), wherein the limiting member is parallel to the extending direction of the support leg, and a limiting hole is arranged on the limiting member which is in one-to-one correspondence with the support leg inserting hole (211) on the support leg (21) for limiting the pile reinforcing frame (1) and carrying the pile reinforcing frame (1) when a limiting plug is inserted into the limiting hole and the corresponding support leg inserting hole (1).

7. The truss-like hydraulic lifting apparatus with plugs according to claim 6, wherein the distance between the limiting members is smaller than the opening width of the U-shaped opening.

8. The truss-like hydraulic lifting apparatus with plugs according to any of claims 1 to 2, wherein the truss structure (2) is a triangular truss structure, in which the first number of support legs (21) comprises three support legs (21), and the first number of power source devices (3) comprises three power source devices (3).