Claims

1. Rotorcraft-convertible motorcar (10) comprising:

a passenger cabin (12) comprising at least one seat (26),

- a front wheel assembly (14a, 14b) with a left front wheel (14a) and a right front wheel (14b), and a rear wheel assembly (16), and

at least one pair of left and right supporting arms (18, 20) located on opposed sides of the passenger cabin (12) with respect to a central longitudinal plane (P) of the passenger cabin (12), each supporting arm (18, 20) carrying a respective rotor assembly (22, 24) having at least one rotor (22a, 22b, 24a, 24b),

wherein each rotor (22a, 22b, 24a, 24b) comprises a rotor hub (32) and a plurality of deployable rotor blades (34) connected to the rotor hub (32),

wherein the supporting arms (18, 20) are pivotally connected to the passenger cabin (12) so that the rotorcraft-convertible car (10) is convertible between an on-road configuration, where the supporting arms (18, 20) with the rotor assemblies (22, 24) are arranged inside the lateral overall size of the passenger cabin (12), and a flight configuration, where the supporting arms (18, 20) with the rotor assemblies (22, 24) are arranged at least partially outside the overall lateral size of the passenger cabin (12),

characterized

in that the rear wheel assembly has a central rear single- or twin-wheel (16), and in that the supporting arms (18, 20) and the rotor assemblies (22, 24) are configured so that in the on-road configuration the rotor assemblies (22, 24) are accommodated underneath the passenger cabin (12), on opposed sides of the central rear wheel (16).

2. Rotorcraft-convertible motorcar according to claim 1, wherein the supporting arms (18, 20) and the rotor assemblies (22, 24) are configured so that in the on-road configuration the supporting arms (18, 20) and the rotor blades (34) of the rotor assemblies (22, 24) extend substantially parallel to said central longitudinal plane (P).

3. Rotorcraft-convertible motorcar according to claim 1 or claim 2, comprising two pairs of left and right supporting arms (18, 20), namely a first pair of left and right supporting arms (18, 20) that in the flight configuration are arranged on the front side of the passenger cabin (12) and a second pair of left and right supporting arms (18, 20) that in the flight configuration are arranged on the rear side of the passenger cabin (12).

4. Rotorcraft-convertible motorcar according to claim 3, wherein the left supporting arms (18, 20) of the first and second pairs of supporting arms (18, 20) are hinged to the passenger cabin (12) about a same left axis of rotation (z_L) while the right supporting arms (18, 20) of the first and second pairs of supporting arms (18, 20) are hinged to the passenger cabin (12) about a same right axis of rotation (z_R).

5. Rotorcraft-convertible motorcar according to claim 3 or claim 4, wherein the supporting arms (18, 20) are shaped so that in the on-road configuration the left supporting arms (18, 20) are at least partially overlapped to each other and the rotor assemblies (22, 24) carried by the left supporting arms (18, 20) are arranged side-by-side and wherein the right supporting arms (18, 20) are at least partially overlapped to each other and the rotor assemblies (22, 24) carried by the right supporting arms (18, 20) are arranged side-by-side.

6. Rotorcraft-convertible motorcar according to any of the preceding claims, wherein each rotor assembly (22, 24) comprises first and second rotors (22a, 22b, 24a, 24b), the rotor hub (32) of the first rotor (22a, 24a) being coaxial to the rotor hub (32) of the second rotor (22b, 24b).

7. Rotorcraft-convertible motorcar according to any of the preceding claims, wherein a rear portion (12b) of the passenger cabin (12) carrying the rear wheel assembly (16) is raised with respect to a front portion (12a) of the passenger cabin (12) carrying the front wheel assembly (14a, 14b), the rotor assemblies (22, 24) being arranged, when the motorcar (10) is in the on-road configuration, beneath the rear portion (12b) of the passenger cabin (12).

8. Rotorcraft-convertible motorcar according to claim 7, wherein the rear portion (12b) of the passenger cabin (12) has a smaller lateral size than the front portion (12a) of the passenger cabin (12).

9. Rotorcraft-convertible motorcar according to any of the preceding claims, wherein each supporting arm (18, 20) has a proximal end (18a, 20a) pivotally connected to the passenger cabin (12) and a distal end (18b, 20b) carrying the rotor assembly (22, 24), said distal end (18b, 20b) being raised with respect to said proximal end (18a, 20a).

10. Rotorcraft-convertible motorcar according to any of the preceding claims, wherein the rotor assemblies (22, 24) are placed above a plane passing through the axes of rotation (X_L, X_R) of the front and rear wheels (14a, 14b, 16).