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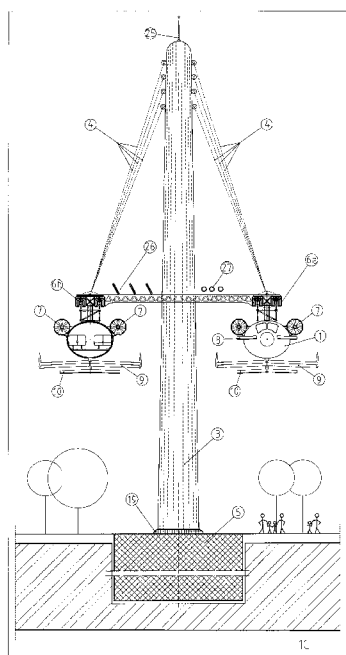
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(54) Title: SYSTEM TRAIN AIR



(57) Abstract: The "system train air" is the invention of a suspended vehicle along a pair of rails (for each of the directions of rotation) high-speed traveling with the possibility of integrated territorial urban use both for people and for goods that achieves a new transport model. This transport system is composed as follows: cable-stayed bridges consist of masts (3), which support by means of tie rods (4) in high strength steel strands, a grid of stiffening (2) to which are anchored the tracks (6a) formed by C-shaped profiles semi-open downwards in each of which flows a special trolley (6b); the pair of carriages thus identified is connected to a pantograph which holds the carrier-fuselage aerodynamic shape. This carrier positively uses the "lift" that comes from its shape modeled on the aerodynamic optimization of the profile and staffing of a particular wing configuration (8,9,10).



## AMENDED CLAIMS

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1. A suspended transportation system that includes:

- Two rails (6a), one for each driving direction, within which the carriages (6b) slide with electric motors (20);
- Metal rods (21) hang from the carriages (6b) a pantograph (23) is attached to the metal rods. The pantograph is used to collect power through contact with an overhead catenary wire.
- Fuselage (1), with aerodynamic configuration is equipped with two electric propeller engines (7) and are provided with an apparatus consisting of 3 wings (8,9,10);
- The two rails (6a) are interconnected with horizontal rigid structure (TAV1) obtaining an artificial floor extended for the whole structure, thus realizing the system of the network (2);
- The network (2) so formed is connected to the pillars (3) through the stays (4). Pillars are built with variable height in order to adapt to the territory;
- The pillars (3), holders of cable-stayed bridges also provide for vertical connection function for evacuation in case of emergencies and special maintenance;

each pantograph (23) is constituted by an upper horizontal bar (14), a bottom bar (17) connected by hydraulic jacks (15) (16) managed and coordinated by the electronic control. This system ensures the alignment and inclination of the fuselage (1) in the different conditions of instability in straight and curved path.

2. The transport system according to claim -1- is based on a load-bearing structure consisting of (TAVV.1A, 1B, 1C) pillars (3) resting on plinths (5) from which are isolated with mechanisms of "absorption" seismic oscillations (19). Such "absorbing devices" are also placed at the strands with pillars and rails.

3. The transport system according to claim -1- is based on a system of rails (6a), the network (2) and it is built at variable height above the ground level in order to be independent from the existing infrastructure network.

4. The transport system according to claim -1- has a network (2) supported by the strands (4) connected to the pillars (3) stiffened horizontally by a truss system (2) -TAV. 1B.

5. The transport system according to claim -1- has the rails characterized by the configuration of a "C" shaped profile with the open side down in which carriages (6b) slide with "negligible friction".

6. The transport system according to claim -1- uses special carriages (6b) consisting of a central block (20) containing an electric motor.

7. The transport system according to claim -1- is characterized by the fact that the carriages (6b) have a branch from the center block (20) and a system of wheels oriented in various directions: vertical for support (12a); horizontal addressed in both lateral directions suited to the absorption of the tangential thrusts (13); vertical for absorption of the excess of-lift (12b).

8. The transport system according to claim -1- has carriages which slide on anti-wear guides (22) integral to the rails (6a) and fixed by an apparatus of adjustment and alignment for the entire length.

9. The transport system according to claim -1- is characterized in that the carriage provides protection of the wheels (12a) safeguarded from obstacles with a blade (24), in non-deformable steel, suitably shaped and inclined adapted to remove foreign bodies.
10. The transport system according to claim -1- is characterized by the fact that the lower element (17) of the pantograph (23) is configured adherent to the upper profile of the fuselage (1). This support is made of high resistance material and has an aerodynamic configuration characterized by an enlarged base for a greater area of connection to the load-bearing structure of the fuselage.
11. The transport system according to claim -1- has the fuselage (1) made of light alloy material and has an aerodynamic configuration: the TAVV. 2B and 2D show the flat shape of the section and the rear part and front part with tapered configuration.
12. The transport system according to claim -1- has an aerodynamic configuration, the carrier is completed with the allocation to the fuselage of an aerodynamic sustentation mechanism, such as three surfaces: a) front surfaces "canard fins" (8); b) rear or tail (10), which together ensure a balance to the rotation in the longitudinal plane; c) central or main wings (9) to generate the "lift". This provision guarantees the balance of the carrier in the three Cartesian directions and serves to generate the necessary force upward to balance the weight force. The equivalence between lift and weight allows the air train system to neutralize the existing rolling friction on the wheels on the rails.
13. The transport system according to claim -1- is characterized in that the fuselage (1) has two electric propeller engines (7) positioned on the wings.
14. The transport system according to claim -1- is characterized by the fact that the power supply for all of the STA system operation is ensured by two termination rods (31), placed above the fuselage, which terminate with appropriate slider pad (30) which pick up the necessary medium voltage current from the phase conductors (29), anchored along the flow line (28b), with suitable insulators to the dielectric part of the load-bearing structure.