CLAIMS

1.- A method for computing a range of positions of a railway vehicle (2) on a railway track (4), said range of positions corresponding to a segment of the track (4) between a front end and a rear end, the method including the steps:

- identifying, by sensors on the track (8), a block (6) of the railway track (4) occupied by the railway vehicle (2);

- transmitting to a computer (12) on the ground, an identifier of the occupied block (6); and,

- computing, by the ground computer (12) a range of positions (S_d) of the railway vehicle (2) by taking into account a geographic position of the occupied block (6) associated with the identifier of said occupied block (6),

the method comprising a step for transmitting, from an onboard computer (10) of the railway vehicle (2) towards the ground computer (12), a range of positions (S_0) of the railway vehicle (2) determined by said onboard computer (10), the step for computing a range of positions (S_d) of the railway vehicle (2) also taking into account the range of positions (S_0) determined by said onboard computer (10).

2.- The method according to claim 1, wherein the step for computing a range of positions (S_d) comprises a first phase in which the range of positions is taken equal to the range of positions (S_0) of the railway vehicle (2) determined by the onboard computer (10), and a second phase in which a front end (A_d) of the range of positions (S_d) is moved along a displacement direction of the railway vehicle (2) until an end of the occupied block (6) is attained, which is found at the front of the railway vehicle (2).

3.- The method according to claim 2, wherein the front end (A_d) of the range of positions (S_d) is displaced during successive computing cycles of a predetermined duration (T) by a distance equal to the product of a speed of the railway vehicle (2) by the predetermined duration (T).

4.- The method according to any of claims 1 to 3, further including a step for computing, by the ground computer (12), a second range of positions (S_p) of the railway vehicle (2) from the range of positions (S_0) of the railway vehicle (2) determined by the onboard computer (10), the computing step including a first phase in which the ground computer (12) determines a front limiting position (A_{max}) which the railway vehicle (2) is not

authorized to exceed, a second phase in which the second range of position (S_p) is taken equal to the range of positions (S_0) determined by the onboard computer (10), and a third phase in which a front end (A_p) of the second position (S_p) is displaced until the front limit (A_{max}) is attained.

5.- The method according to claim 4, wherein the front end (A_p) of the second range of positions (S_p) is displaced during successive computing cycles of a predetermined duration (T) by a distance equal to the product of a speed of the railway vehicle (2) by the predetermined duration (T).

6.- The method according to any of claims 3 to 5, wherein, when the speed of the vehicle is not available, the distance is equal to the product of a maximum speed of the railway vehicle (2) by the predetermined duration (T).

7.- The method according to claims 2 and 4 as a combination, including a step for computing an auxiliary range (S_x) of the railway vehicle (2), the auxiliary range (S_x) being equal to an intersection of the first range of positions (S_d) and of the second range of positions (S_p).

8.- A device (3) for computing a range of positions (S_0) of a railway vehicle (2) on a railway track (4), for applying a method according to any of claims 1 to 7.