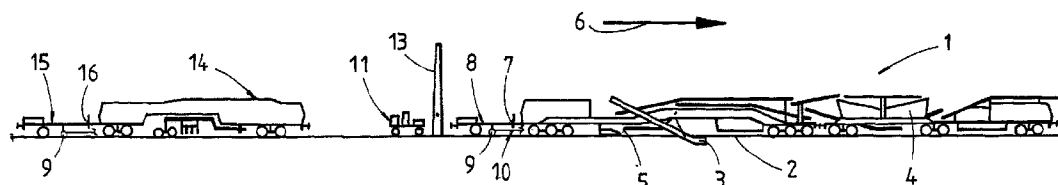




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(54) Titre : PROCÉDE DE CORRECTION D'UNE VOIE
(54) Title: METHOD FOR CORRECTION OF A TRACK POSITION



(57) **Abrégé/Abstract:**

For correction of a track position in connection with ballast cleaning, after cleaned ballast has been returned to a track (2), the actual position of the latter is measured while determining actual position data. Parallel to that, fixed point correction values are determined by a sighting trolley (11) following behind. The actual position data and the fixed point correction values are transmitted to the tamping machine (14), following behind, and are used for determining correction values for a desired track position to be created by tamping.

Abstract

For correction of a track position in connection with ballast cleaning, after cleaned ballast has been returned to a track (2), the actual position of the latter is measured while determining actual position data. Parallel to that, fixed point correction values are determined by a sighting trolley (11) following behind. The actual position data and the fixed point correction values are transmitted to the tamping machine (14), following behind, and are used for determining correction values for a desired track position to be created by tamping.

(Fig. 1)

METHOD FOR CORRECTION OF A TRACK POSITION

SCOPE OF THE INVENTION

- [01] The invention relates to a method for correction of a track position in connection with ballast cleaning by means of a cleaning machine which precedes a tamping machine with regard to a working direction.

BACKGROUND OF THE INVENTION

- [02] A combination of ballast cleaning of a track with an immediately following track position correction by a tamping machine is known according to GB 2 186 309.
- [03] In the article "Track machine guidance" in the technical journal "Rail Infrastructure", 31 (2003), pages 47 to 49, a method for measurement of the track position is described in more detail. A measuring vehicle, stationary during the track measuring process and equipped with a laser transmitter, is moved in the working direction up to a succeeding, geodetically surveyed fixed point which usually is located on a catenary mast. The laser transmitter is set up with respect to the fixed point adjoining in the transverse direction of the track and is thus brought into an exact desired position. Subsequently, the laser transmitter – with the aid of a telescope mounted on the same – is aimed at the receiver located on the mobile, rear measuring vehicle.

SUMMARY OF THE INVENTION

- [04] It is the object of the present invention to provide a method of the type mentioned at the beginning with which an improved track position correction is possible.

- [05] According to the invention, this object is achieved with a method of the specified kind by way of various features described herein.
- [06] With this method it is possible to reduce the total length of the track construction site, while avoiding a measuring run which is limited to merely measuring the track position.
- [06a] Accordingly, in one aspect, the present invention resides in a method for correction of a track position in connection with ballast cleaning by means of a cleaning machine which precedes a tamping machine with regard to a working direction, characterized by the following steps: a) after cleaned ballast has been returned to a track, an actual position of the track is measured while determining actual position data of the track position, b) concurrently, fixed point correction values are determined in that the track position with respect to fixed points is detected, c) the actual position data and the fixed point correction values are transmitted to the tamping machine, following behind, and are used for determining correction values for a desired track position to be created by tamping.
- [07] Additional advantages of the invention become apparent from the following detailed description and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

- [08] The invention will be described in more detail below with reference to an embodiment represented in the drawing in which Fig. 1 shows a side view of a cleaning machine for cleaning ballast of a track and, following behind, a

tamping machine for a track position correction, and Fig. 2 shows an enlarged view, in the longitudinal direction of the track, of a sighting trolley.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

- [09] On a track construction site shown in Fig. 1, a cleaning machine 1 for cleaning ballast of a track 2 is provided. This machine is essentially composed of a clearing chain 3 for picking up ballast, and a screening plant 4. The cleaned ballast is discharged upon the track 2 via a discharge point 5. Provided at a rear end 7 – with respect to a working direction 6 – of the cleaning machine 1 is a measuring trailer 8. Said trailer has a track measuring system 10 which is formed of measuring axles 9 and a measuring chord.
- [10] Immediately following the cleaning machine 1, a sighting trolley 11 – shown on a larger scale in Fig. 2 – for distance measurement to a fixed point 12 is provided, the latter being fastened to a catenary mast 13.
- [11] Following the sighting trolley 11, a tamping machine 14 with a measuring trailer 15 is provided. The latter is articulately connected to a rear machine end 16 and also equipped with measuring axles 9, designed to roll on the track 2, and with a measuring chord.
- [12] The sighting trolley 11 visible in Fig. 2 is mobile on the track 2 by means of a drive 17 and wheels 18 and is already known from EP 0 511 191. With the aid of a laser transmitter 19 and a laser beam 20, the position of the track 2 with respect to the fixed point 12 can be calculated in a computer 22. The sighting trolley 11 can be controlled with the aid of a remote control unit 21 by an operator situated adjacent to the track 2.

- [13] The method according to the invention will now be described in more detail. While ballast is cleaned continuously by means of the first vehicle, i.e. the cleaning machine 1, a track position correction takes place, also continuously, by means of the tamping machine 14 following behind.
- [14] After the cleaned ballast has been returned to the track 2, the actual position of the latter is measured while recording actual position data by means of the measuring trailer 8. Parallel to that, fixed point correction values are determined immediately behind the cleaning machine 1 by the sighting trolley 11 in that the present track position or actual position with respect to fixed points 12 is detected. The actual position data and the fixed point correction values are transmitted by radio to the tamping machine 1, following behind, and used in connection with a software program for determining correction values for a desired track position to be created by tamping.
- [15] In a further variant of the invention, it is possible to employ an additional tamping machine immediately behind the tamping machine 14 shown in Fig. 1. In this case, further actual position data of the track 2 which are measured by the measuring trailer 15 of the preceding first tamping machine 14 are transmitted by radio to the tamping machine following behind in order to calculate the required track correction values.

We claim:

1. A method for correction of a track position in connection with ballast cleaning by means of a cleaning machine (1) which precedes a tamping machine (14) with regard to a working direction (6), characterized by the following steps:
 - a) after cleaned ballast has been returned to a track (2), an actual position of the track is measured while determining actual position data of the track position,
 - b) concurrently, fixed point correction values are determined in that the track position with respect to fixed points (12) is detected,
 - c) the actual position data and the fixed point correction values are transmitted to the tamping machine (14), following behind, and are used for determining correction values for a desired track position to be created by tamping.
2. A method according to claim 1, characterized in that, immediately after a first tamping of the track by the said tamping machine (14), both further actual position data of the track position as well as further fixed point correction values are detected and used by a following second tamping machine for determining new correction values for the desired track position.

