An endless-chain conveyor for use on a track at least one section of which is provided with longitudinally aligned, fixed inductors of an electric, linear-induction motor, the conveyor having a plurality of longitudinally spaced platforms supportable on longitudinal support and guide rails at opposite sides of the inductors, adjacent platforms being pivotally connected to one another by links for pivotal movement about vertically spaced axes. An armature is connected to each platform and has a lower, planar surface which is adapted to extend parallel and slightly above the upper, horizontal faces of the fixed inductors. Guide shoes yieldably connected to the platforms engage the guide rails. The armatures may comprise rigid frames, preferably of non-magnetic, conductive material, having downwardly opening recesses in which are held bodies of magnetic substance, which bodies may be magnetic particles bound by an electrically non-conducting adhesive, and transverse conductors embedded in the bodies.

12 Claims, 11 Drawing Figures
ENDLESS-CHAIN CONVEYOR, PARTICULARLY FOR TRANSPORTING INDEPENDENT CARS

The present invention relates to an endless-chain conveyor, in particular, for transporting independent cars.

The endless-chain conveyor, according to the present invention, is particularly adapted to conveying passengers in small independent cars, open or closed, for distances ranging from some tens of meters to several kilometers; it is therefore specially adapted to the service of airports, exhibitions, etc. and, generally speaking, to all aggregations of buildings, etc. distributed over relatively large areas.

The endless-chain conveyor, according to the present invention, is characterized in that it comprises, on the one hand, at least one track forming a loop and in turn comprising at least one guide rail, along which track are spaced suitable, fixed inductors of suitably energized, electric, linear-induction motors, and on the other hand, an endless chain in the form of a flat ribbon. The chain is disposed along the said track with the same ribbon face thereof turned upward at every point on the track, this endless chain being formed essentially by flat, linear-induction motor armatures which are articulated to one another and each of which is supported at a short distance above the fixed inductors of the track by supporting means solid with the armature and cooperating with the guide rail or rails of the said track.

In a preferred form of embodiment of the endless-chain conveyor, according to the present invention, an excellent guidance of the endless chain is obtained from an arrangement in which each of the armatures is supported by two lateral shoes sliding, respectively, on parallel, preferably U-shaped, guide rails. To avoid the possibility of jamming of the shoes supporting the armatures of the endless chain in their U-shaped guide rails, whatever the direction of movement of the chain, the form of embodiment of the invention may be used in which each armature of the endless chain is suspended, preferably behind or ahead of its center of gravity, below a platform, which itself is supported directly by the two lateral shoes, the platform optionally serving as a support for at least a part of one of the cars to be conveyed. It is also advantageous, with the same object in mind, to provide elastic connections between each armature of the endless chain and the corresponding platform, as well as between the latter and the two shoes.

To compensate for the increased friction due to the attraction of the inductors of the track for the magnetic parts of the armatures of the endless chain, while preventing the said armatures from being subjected, if their magnetic parts were all replaced by non-magnetic components which are good conductors of electricity, to excessive forces of repulsion, at least in cases of insufficiently loaded cars, each flat armature in the endless chain of the conveyor, according to the present invention, is preferably formed essentially by a plate of non-magnetic material which is a good conductor of electricity (for example, copper) of which at least the lower face (which is turned toward the inductors) has recesses filled with a magnetic material (for example, a magnetic powder agglomerated by an electrically non-conductive adhesive).

One form of embodiment of the conveyor, according to the present invention, is particularly adapted to serving two terminal stations which can be only a few hundred meters apart. This form of embodiment of the invention (which can serve, for example, to establish a link between two stations in a medium or long-distance transportation installation, for example, two stations of a metropolitan railway) comprises, between two terminal stations, two pairs of horizontal guide rails which are preferably separated from one another by a short distance and along each of which are spaced fixed inductors. Furthermore, in each terminal station, the outlet of one of the two guide-rail pairs is connected to the entry of the other by a perfectly smooth surface on which the support members of the endless-chain armatures rest as they freely follow a substantially semicircular path between the said entry and outlet of the guide-rail pairs. Such smooth surface, accordingly, serves to form a part of the looped track.

By way of example, several forms of embodiment of the endless-chain conveyor, according to the present invention, are described below and illustrated schematically in the attached drawing.

FIG. 1 is an overall plan view of a first form of embodiment.

FIG. 2 shows, in perspective, the arrangement of one of the inductors with respect to other elements of the conveyor of FIG. 1.

FIG. 3 is a plan view representing, partially, three links of the endless chain with which the conveyor of FIG. 1 is provided.

FIGS. 4, 5, 6, and 7 are, respectively, sections taken along the lines IV—IV, V—V, VI—VI and VII—VII of FIG. 3.

FIG. 8 is an overall plan view representing, partially, three links of the endless chain with which another form of embodiment of the conveyor, according to the invention, is provided.

Figs. 9 and 10 are sections taken along lines IX—IX and X—X of FIG. 8.

FIG. 11 illustrates, in cross section, another variant of the armatures of the conveyor, according to the invention.

The endless-chain conveyor, according to the present invention, which is represented schematically in plan in FIG. 1, comprises, between two terminal stations A and B spaced, for example, a few hundred meters apart, two pairs of horizontal guide rails 1 and 2 spaced a short distance (for example, only a few meters) from one another. As will be seen below, this spacing of the two guide-rail pairs can be still smaller, which could make it possible to lodge the two guide-rail pairs of the conveyor, according to the present invention, for example, in a subterranean gallery of a width of about two meters, connecting two stations of a metropolitan railway which are not far from one another.

Each of the two guide-rail pairs 1 and 2 comprises two parallel rails, 1a and 1b, or 2a and 2b, which are fixed in the same horizontal plane, for example, on the surface of the ground. In the form of embodiment considered, these two rails, for example 1a and 1b, are constituted by U beams (see FIG. 7) anchored in the ground, which is assumed to be horizontal, by known means, comprising, for example, crosspieces, which have not been represented in detail (these parallel rails have not been completely represented in FIGS. 2 and 3 for the sake of clarity). Along each of the two guide-rail pairs 1 and 2, fixed inductors for linear induction motors are disposed between the respective rails. These inductors, represented by dashed-line rectangles 3 in
FIG. 1, are spaced at regular intervals along each of the two guide-rail pairs 1 and 2. Any type of inductor can be used in the conveyor, according to the present invention, so that it is not necessary to represent them or describe them in detail.

FIG. 2 shows the arrangement of the magnetic body of an inductor 3 with respect to other elements of the conveyor, while the view in cross section of FIG. 7 shows that each inductor 3 is buried in the ground between the two rails 1a and 1b of the corresponding guide-rail pair, so that its upper face, disposed in a horizontal plane, projects from the ground for a short distance. These inductors 3 are supplied with alternating electric current, preferably of industrial frequency, by known means which it is not necessary to describe, in such a way as to make them produce a "sliding" electromagnetic field propagated from one end to the other of the two guide-rail pairs 1 and 2, in opposite directions to one another and at a suitable linear speed, as will be specified below.

The conveyor, according to the present invention, also comprises an endless chain, three links of which are partially shown in FIG. 3. In the form of embodiment considered, each link in this endless chain comprises a horizontal platform 4, rectangular for example, and made of molded material, the under face of which is supported by the horizontal flanges of a T-shaped metal member 5. Two shoes 6a and 6b, made of wood, for example, engaged respectively in the parallel guide rails 1a and 1b or 2a and 2b, support the horizontal platform 4 by means of the lateral extremities of the web of the T member 5. As seen in the sectional view in FIG. 6, an elastic link is provided between the upper face of each shoe 6a and 6b and the corresponding lower end 7a (or 7b) of the vertical web of the T member 5. In the form of embodiment illustrated, the lower end 7a of the vertical web of T member 5 is lodged in a channel 8a and embedded in a molded mass of elastic, synthetic material 9a, particularly synthetic rubber. Below each of the rectangular platforms 4 of the various links of the endless chain is suspended a rectangular frame 10 whose sides that are parallel to shoes 6a and 6b, hence to rails 1a or 1b, are connected by bars 11 (see FIGS. 4 and 5 in particular), between which bars is compressed a mass 12 of magnetic powder, agglomerated by an electrically non-conducting material, for example an epoxide resin. The bars 11 (as well as possibly frame 10) are preferably made of a non-magnetic material, which is a good conductor of electricity, for example copper. As seen in the sectional view in FIG. 5, the sides of frame 10 that are parallel to shoes 6a, 6b are suspended from the lower ends 7a (or 7b) of the vertical web of the T members 5 by means of elastic connections. In the form of embodiment illustrated, the lower end 7a (or 7b) is engaged inside a slot 13a, made in the upper face of the corresponding side of frame 10, in such a way as to rest on the horizontal lower arm 14a of a leaf spring, one end of which is bent to form a loop 15a which elastically holds the vertical web of the T member 5 against a round, steel bar component 16a inserted between the vertical web of the T member 5 and the corresponding edge of slot 13. The assembly is arranged in such a way that, at each of guide-rail pairs 1 and 2, the lower face of each frame or armature 10 will pass above the upper face of each inductor 3 and leave a thin air-gap whose height h (seen in FIGS. 4, 5, and 7) has a value, on the order of a few millimeters, that is chosen in order to impart the best possible efficiency to the linear motor formed by the inductors 3 and the armatures 10. In the form of embodiment considered, each horizontal, rectangular platform 4 has, parallel to the direction of shoes 6a, 6b supporting it, a length shorter than that of the frame 10 constituting the corresponding armature, and the latter is suspended below the said platform, in the way illustrated in FIG. 5 and described above, ahead of the center of gravity G of the said armature 10 (see FIG. 3 in which arrow F indicates the direction of movement of the endless chain of the conveyor). Moreover, the succeeding platforms 4 of the endless chain are coupled together by horizontal links 17, the two ends of which are articulated below the succeeding platforms about two vertical axes 18 and 19 disposed at equal distances from shoes 6a, and 6b. In the form of embodiment considered, each of the horizontal links 17 is formed by a strip of steel, on the upper face of which is fixed, by any suitable means, in particular by welds, a vertical reinforcing rib 20. The lengths of the horizontal links 17 are selected in such a way as to keep the adjoining ends of the succeeding armatures 10 of the endless chain in abutment, as seen in particular in FIG. 3. This figure also shows that the rear end 21 of each armature 10 and the front end 22 of the following armature in the chain have small sections of a diameter somewhat smaller than the internal diameter of a cylindrical tube element 23, one end of which is connected by an axle 24 on the said rear end 21 of the armature 10, while the front end 22 of the armature immediately following enters the open end of this tube element 23 in such a way that, with allowance for the relative lengths of frames 10 and the horizontal links 17, on the one hand, the successive armatures in the chain can pivot with respect to another one (as seen on the extreme right in FIG. 3) and, on the other hand, the rear end 21 of each armature 10 can be supported by the front end 22 of the armature immediately following in the chain by means of tube element 23. The cylindrical tube element can be replaced by a tube element with a rectangular section having dimensions selected to allow clearance of the adjoining ends 21, 22 of the armatures only in a plane parallel to the said armatures.

In each of the terminal stations, A, for example, of the conveyor illustrated in FIG. 1, where arrow F indicates the direction of movement of the endless chain, the outlet 52 of guide-rail pair 2, that is to say the end by which this guide-rail pair 2 opens to the terminal station A, is connected to the entry E of the other guide-rail pair 1, that is to say the end with which this guide-rail pair 1 departs from terminal station A, by a substantially horizontal, perfectly smooth surface covered, for example, by a coat of lubricant, possibly solid, for example, a coating of synthetic material, so that the shoes 6a, 6b of the armatures 10 on the endless chain, as they emerge from guide-rail pair 2 at S1, will rest on this smooth surface (which forms part of the looped track) without any longer cooperating with guide members such as the rails 2a, 2b, inasmuch as the latter are interrupted near entry 52 of the terminal station A.

The conveyor, according to the present invention, just described, works as follows: each armature 10 on the endless chain is subjected, substantially at its center of gravity G by the inductor 3 over which it finds itself, to a thrust in the direction of arrow F (FIG. 1), which is transmitted to the chain assembly by means of the
corresponding platform 4 and links 17 which couple it to the adjoining links in the said chain. The latter therefore moves in the direction of arrow F, thanks to the sliding of shoes 6a, 6b of each armature in rails 1a, 1b, 2a, 2b. The shoes of the armatures, which are on the smooth surfaces of the terminal stations A and B, slide freely in contact therewith, freely following a substantially semicircular path between the entry and the outlet of the corresponding terminal station, as seen at A and B in FIG. 1. Naturally, according to the known art of linear induction motors, the various inductors 3 of the two tracks 1 and 2 are supplied, as already stated, in such a way as to produce sliding, electromagnetic fields of appropriate speed which, in the example considered, are propagated along guide-rail pair 1 from its entry E1 to its outlet S1, and along guide-rail pair 2 from its entry E2 to its outlet S2. Moreover, a synchronization is preferably provided between the two electromagnetic fields propagating respectively along rail pairs 1 and 2, so that the electromagnetic fields produced respectively by inductors 3 closest to entry E1 of guide-rail pair 2 and entry E2 of guide-rail pair 1 will be respectively retarded, relative to those produced by the inductors closest to outlet S1 of guide-rail pair 1 and outlet S2 of guide-rail pair 2, by a time corresponding substantially to the quotient of the length of the semicircular path of the chain in each of the terminal stations A and B divided by the speed of propagation of the electromagnetic fields considered. Such phase offsets can be obtained by different, well-known, electrical means which therefore need not be described in detail. The sliding of the shoes, such as 6a, 6b, of each armature in the corresponding rails 1a, 1b can be facilitated by packing the U-shaped rails 1a, 1b with a suitable quantity of a lubricant, preferably liquid. In the form of embodiment illustrated, in which the said rails are open at their ends, that is to say at the entries and outlets of the terminal stations, known means of various kinds can be provided at the two ends of each rail for respectively injecting and collecting the lubricating oil, which can then be circulated between the two ends of each rail in such a way as to insure hydrodynamic lubrication. Means for replenishing the liquid lubricant can also be provided at regular intervals along each of the guide rails. Lubrication with a powdered lubricant, such as talc or graphite, can also be envisaged. Finally, the under faces of the shoes can themselves be lubricated by various greases, or they can be constituted, for example, of a synthetic material, particularly an epoxy resin or polytetrafluoroethylene, loaded or not with graphite. In the event a liquid lubricant is used, it is well to protect the latter from contamination by stretching strips (represented diagrammatically by broken lines 25 in FIG. 6) between the succeeding shoes in the chain, these strips being made, for example, of canvas or an elastic material such as rubber which substantially covers the open upper faces of the U-rails between the succeeding shoes.

The conveyor just described circulates at a uniform speed between the two terminal stations A and B and can be used, for example, to transport independent cars such as 26 (FIG. 1), one side of each of which cars rests on the platforms 4 of several successive links of the endless chain, while, for example, their other side is supported on the ground, in particular with the aid of a wheel 27 which rolls freely in contact with the ground. When the conveyor, according to the present invention, is used to connect two terminal stations that are close together, it is possible to give it a uniform speed of movement slow enough for the loading and unloading of the cars in terminal stations A and B in particular permitting the entry and departure of passengers in these cars to take place without stopping or slowing down the said cars. The low speeds which cannot then be exceeded are only of interest, however, when the two stations A and B served are no more than a few hundred meters apart. The conveyor, according to the present invention, is, however, applicable to the rapid service of stations which can be as much as several kilometers apart, provided that, in each of the terminal stations A and B, there are means, optionally known means, for unloading each car off the conveyor as it enters a station, slowing it down sufficiently, possibly to a standstill, to permit passengers to get out and/or get in, then again accelerating it and reloading it on the conveyor, the speed of which through each terminal station is kept at its constant level.

It is known that the magnetic parts of the armature of a linear induction motor are subjected, on the part of the inductors, not only to thrusts in the direction of propagation of the electromagnetic field produced by these inductors, but also to forces of attraction which tend to increase the friction on the shoes supporting the armatures in the guide rails. To prevent the occurrence of locking or jamming, particularly in the case of armatures whose platforms support heavily loaded cars, it is foreseen, according to the present invention, to constitute at least a part of each of the armatures of a non-magnetic material which is a good conductor of electricity, such as copper, in which the electromagnetic field gives rise to Foucault currents which receive, from the inductors, strong forces of repulsion which therefore tend to reduce the said friction. But since armatures of solid copper would, when supporting only empty cars, be subjected, on the part of the inductors, to excessive forces of repulsion, which would interfere with the guidance of the endless chain, the above described preferred form of embodiment of the conveyor armatures, according to the present invention, comprise both non-magnetic parts (copper bars 11 in particular) and magnetic parts (the mass 12), the proportions of which can be selected, according to the present invention, in such a way as to obtain optimal functioning of the conveyor, in particular an optimum guidance of the endless chain, both when all the cars which it carries are empty or fully loaded, and for the widest variety of distributions of empty and loaded cars along the conveyor.

In the form of embodiment of the conveyor, according to the present invention, which is illustrated in FIG. 1 and in which the shoes supporting the armatures in the endless chain must freely follow, in each terminal station, an assigned semicircular path between the entry and the outlet of the corresponding terminal station, the differences which may exist between the loads on the parts of the endless chain engaged respectively on guide-rail pairs 1 and 2 can be expressed by variations in the thrusts to which the armatures in the endless chain are subjected on the two guide-rail pairs 1 and 2, and consequently also by the tensions in the said chain. These variations in tension cause the parts of the endless chain which are passing freely through terminal stations A and B to deviate from their assigned semicircular paths represented in FIG. 1. The present inven-
tion utilizes this phenomenon to even out the tensions in the endless chain along the two parallel guide-rail pairs 1 and 2, whatever the distribution and the loads of the cars on these two guide-rail pairs. For this, detectors 28 (FIG. 1) are provided, according to the present invention, at least in terminal station B, to detect deviations of the endless chain relative to its assigned semicircular path, and to produce deviation signals which are used to regulate the power to the inductors 3 on at least one of the two parallel guide-rail pairs 1 and 2 in such a way as to cancel the said deviation signals. In the form of embodiment illustrated, the said detectors 28 comprise for example, feelers or electrical contacts 28A actuated by elastically deformable blades 29 of synthetic material which are disposed on either side of the assigned path of the endless chain in terminal station B, close to the entry E₁ of guide-rail pair 2 and/or close to the outlet S₁ of guide-rail pair 1. These blades are disposed in such a way that a part of one of the links of the endless chain, for example, the lateral edge of platform 4, will deform one or the other of the two blades 29 and actuate the corresponding feeler or contact 28A only if the endless chain deviates from its assigned semicircular path in one direction or the other. The said blades of elastically deformable material 29 also limit the said deviations without violent shocks. There are numerous electric and/or electronic circuits, known to the man skilled in the art, which make use of deviation signals furnished by the feelers or electrical contacts 28A to influence the electrical supply to the inductors 3 in such a way as to even out the tensions in the endless chain on the two parallel guide-rail pairs 1 and 2, regardless of the loads on these two guide-rail pairs, that is to say the number and loading of the cars which they are carrying.

The above described form of embodiment of the conveyor, according to the present invention, is capable of many variations, all coming within the scope of the invention. Thus, the number and the design of the guide rails are a matter of option. The guide rails can likewise be extended into the terminal stations, insofar as the shoes supporting the various armatures in the endless chain are short enough and have sufficient pivoting capacity with respect to the corresponding armatures. In this case, one or more fixed inductors can likewise be provided in each of the terminal stations. To allow for possible variations in the length of the endless chain, particularly on starting, means can be provided to permit corresponding variations in the length of the track. The number, the design, and the disposition of the armatures constituting the various links in the endless chain are likewise variable. Some of these armatures may consist of magnetic parts exclusively, while others, for example, exclusively of non-magnetic parts which are good conductors of electricity, for example copper. It is possible, for example, to alternate more or less regularly, magnetic armatures and non-magnetic armatures. The successive armatures of the endless chain can be articulated directly with one another by their adjoining ends. They can serve by themselves as platforms supporting at least a part of the cars to be carried and be supported themselves directly by lateral shoes. The support and guidance means of the various armatures in the endless chain can also be constituted by wheels cooperating with the guide rails and/or with the ground. The cars can be supported entirely by the endless conveyor. The number and disposition of the support and guidance means of each of the armatures in the endless chain are likewise a matter of option. Each armature can, for example, be supported by two pairs of shoes or wheels, preferably by means of elastic suspension means.

In the first form of embodiment illustrated and described above, the various platforms on the endless chain can be coupled to another, not by links but by members of cable or transmission chain.

The deviation detectors for the endless chain in the terminal stations are likewise capable of diverse embodiments. Instead of the electrical contacts 28A, there can be, in terminal station A, for example, as represented diagrammatically in FIG. 1, a source of light 30 emitting in the direction of a photoelectric receiver 31, a light beam 32 which normally passes at a short distance from the top of the assigned semicircular path of the endless chain in station A, but which is interrupted by the links of the said chain when it deviates from its assigned path.

The second form of embodiment of the conveyor, according to the invention, which is illustrated partially in FIGS. 8 to 10, differs from the one described above essentially only by the fact that each platform 4 of the endless chain, instead of being coupled to the two adjoining platforms by two separate articulated links (17 in FIGS. 3 and 4), is solid with a single link 33, about as long as the corresponding armature 10, and articulated at both ends by two axles 34 to the corresponding ends of the links 33 of the said adjoining platforms. This embodiment insures better guidance of the endless chain insofar as it eliminates any tendency of shoes 6a, 6b to jam in their guide rails 1a, 1b in the event the endless chain is the seat of compression stresses tending to bring adjoining links together. As seen in FIG. 9, the rear end 35 of each armature 10, which is formed by a solid curved copper sheet, is offset vertically with respect to the front end 36 of the following armature, in such a way that the rear end 35 rests freely on the front end 36, an anti-friction coating 37 optionally being inserted (FIG. 10).

FIG. 11 represents, in cross section, a variation of the embodiment of the armatures of the conveyor, according to the invention, in which armature 10 is formed essentially by magnetic sheets 38 held in a horizontal frame, preferably made of a non-magnetic material which is electrically conductive; these sheets 38 are fastened in a vertical position on horizontal bars 40, likewise conductive, the ends of which are fastened by any suitable means to the sides of the frame 39.

While only one embodiment of the invention, together with modifications thereof, has been described in detail herein and shown in the accompanying drawing, it will be evident that various further modifications are possible in the arrangement and construction of its components without departing from the scope of the invention.

What is claimed is:
1. Endless-chain conveyor, particularly for transporting independent cars, characterized in that it comprises a track forming a loop and having at least one guide rail and fixed inductors of an electric linear induction motor spaced along the at least one guide rail, the conveyor further comprising an endless chain in the general form of a flat ribbon disposed around the said track with the same ribbon face turned upwardly at all points on the track, this endless chain being formed essentially
by flat armatures of a linear induction rotor, which armatures are articulated to one another and each of which is supported, a short distance above the fixed inductors on the track, by supporting means solid with the armature and cooperating with the guide rail of the said track, each armature in the endless chain being supported by two lateral shoes sliding respectively on the at least one guide rail and being suspended, at a location spaced from its center of gravity, from a platform which is itself supported directly by the two lateral shoes, this platform being able to serve as a support for at least a part of one of the cars to be transported.

2. Conveyor according to claim 1, characterized in that elastic links are provided between each armature in the endless chain and the corresponding platform, as well as between its latter and the two shoes.

3. Conveyor according to claim 1, characterized in that the platforms from which the successive armatures in the endless chain are suspended are shorter in length than the said armatures and are coupled to one another by horizontal links of lengths selected to keep the adjoining ends of successive armatures in abutment, which links are arranged to and allow relative pivoting of the successive armatures and insure that the end of each armature which is furthest from the corresponding platform rests on the adjoining end of the following armature.

4. Endless-chain conveyor, particularly for transporting independent cars, characterized in that it comprises a track forming a loop and having at least one guide rail and fixed inductors of an electric linear induction motor spaced along the at least one guide rail, the conveyor further comprising an endless chain in the general form of a flat ribbon disposed around the said track with the same ribbon face turned upwardly at all points on the track, this endless chain being formed essentially by flat armatures of a linear induction motor, which armatures are articulated to one another and each of which is supported, a short distance above the fixed inductors on the track, by supporting means solid with the armature and cooperating with the guide rail of the said track, the conveyor further being characterized in that it comprises, between two terminal stations, two guide-rail pairs which are preferably a short distance from one another and each of which are spaced fixed inductors, and in that in each terminal station the outlet of one of the two guide-rail pairs is joined to the entry of the other by a smooth surface on which the supporting means of the armatures in the endless chain rest and on which the armatures are free to follow a substantially semicircular path between the said entry and outlet of the guide-rail pairs.

5. Conveyor according to claim 4, characterized in that, in order to even out the tensions in the endless chain, along the two guide-rail pairs and regardless of the distribution and the loads of the cars on these two guide-rail pairs, there are provided in at least one of the terminal stations means for detecting deviations of the endless chain with respect to its assigned semicircular path in the corresponding station and for producing deviation signals which are used to regulate the feeds to the inductors of at least one of the two guide-rail pairs for eliminating the deviations.

6. An endless chain conveyor for use for movement along a track forming a loop and having a plurality of longitudinally aligned, fixed inductors of an electric linear induction motor and at least one guide rail extending parallel to the inductors, said conveyor comprising: a plurality of longitudinally spaced platforms, each of said platforms having at least one shoe engageable with the at least one guide rail for supporting the platform above the inductors; link means pivotally connecting adjacent platforms for pivotal movement about longitudinally spaced axes; and an armature below and connected to each of said platforms and movable longitudinally above the fixed inductors of the track, adjacent ends of adjacent ones of the armatures being connected for pivotal movement relative to each other at locations between and spaced from the axes of pivotal movement of the platforms.

7. The conveyor of claim 6, wherein each of said armatures comprises a frame of non-magnetic conductive substance, a body having magnetic particles embedded in a non-magnetic substance, and conductors in said body extending transversely of said conveyor.

8. The conveyor of claim 6, said at least one shoe of each platform being connected thereto for pivotal movement about a horizontal transverse axis.

9. The conveyor of claim 8, wherein said armatures are pivotally connected to said platforms at locations spaced longitudinally from the centers of gravity of the armatures.

10. The conveyor of claim 9, wherein said guide shoes are pivotally connected to said platforms at locations spaced longitudinally from the centers of gravity of the armatures.

11. The conveyor of claim 7, wherein said armatures are pivotally connected to said platforms at locations spaced longitudinally from the centers of gravity of the armatures.

12. The conveyor of claim 11, wherein said guide shoes are pivotally connected to said platforms at locations spaced longitudinally from the centers of gravity of the armatures.

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