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[33]		Switzerland
[31]		1630/68

[56]

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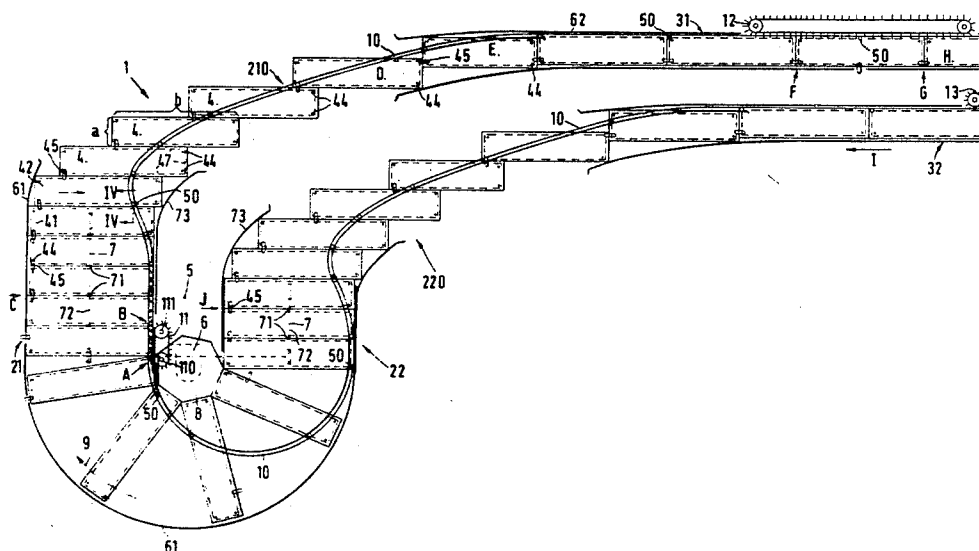
[54] CONVEYORS
7 Claims, 18 Drawing Figs.

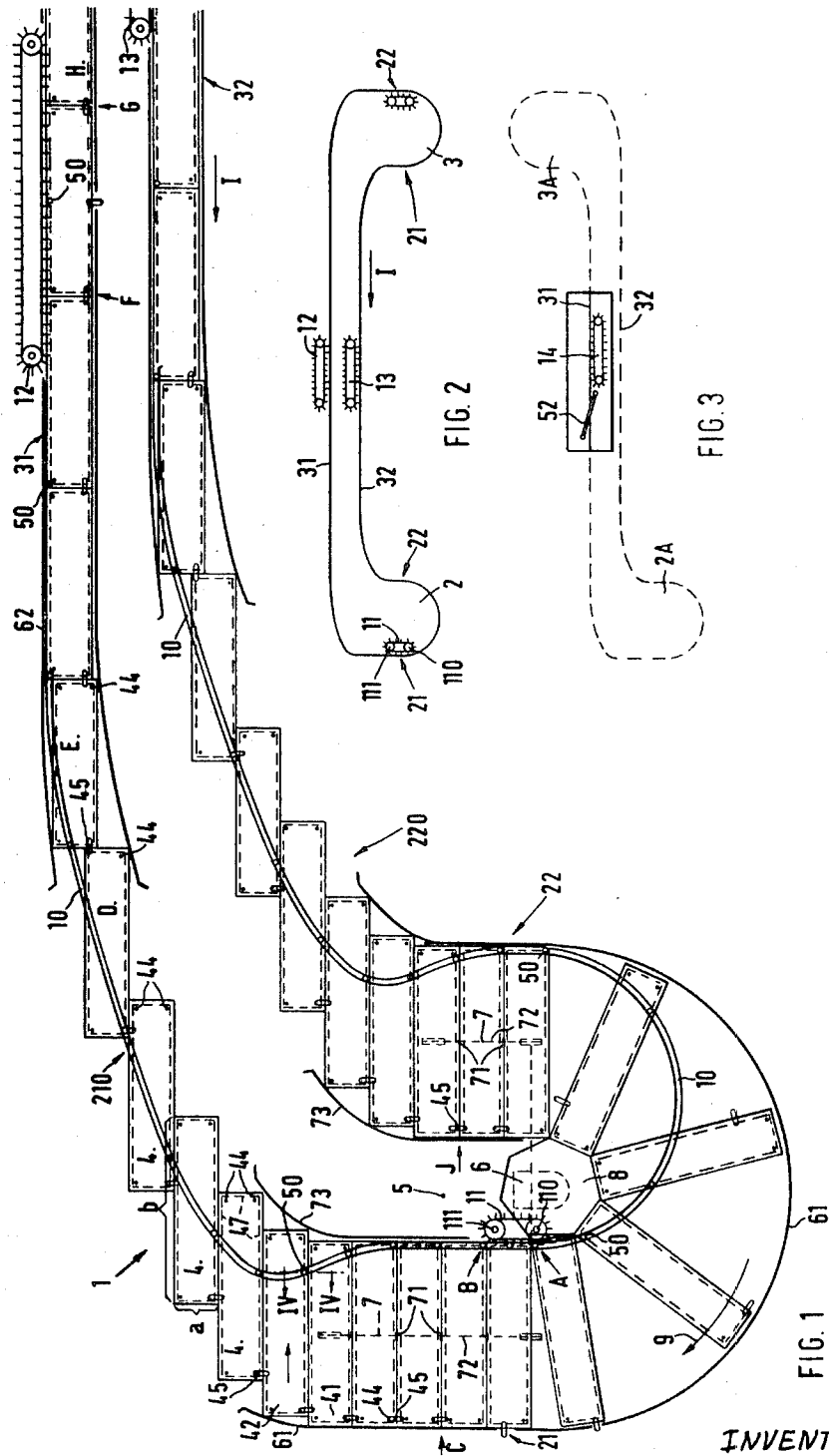
[52] U.S. Cl. 104/25,

[51] Int. Cl. 198/110
A65g 1/00

[50] **Field of Search**..... A65g 1/00
104/25; -
198/110,181

ABSTRACT: Conveyor having low-speed and high-speed zones, and a connection zone there between, comprising a series of load-carrying platforms slidable one against the next to effect acceleration in the connection zone, wherein each platform is provided with connectors for linking it to the two adjoining platforms in the connection zone, a drive mechanism for the connectors being provided to effect movement thereof relative to their respective platforms, whereby progressive sliding movement of each platform relative to the adjoining platforms in the connection zone is effected, of which the following is a specification.





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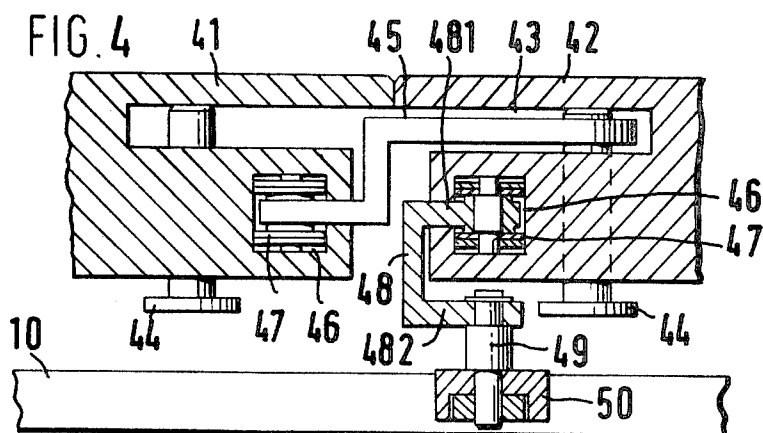


FIG. 5

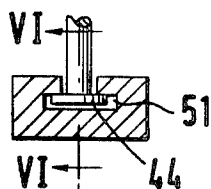
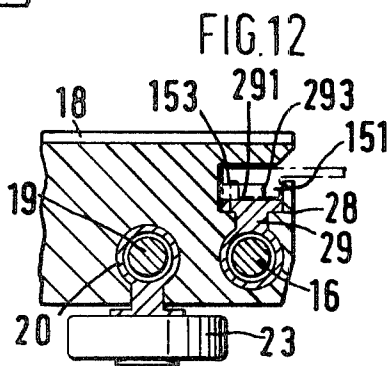
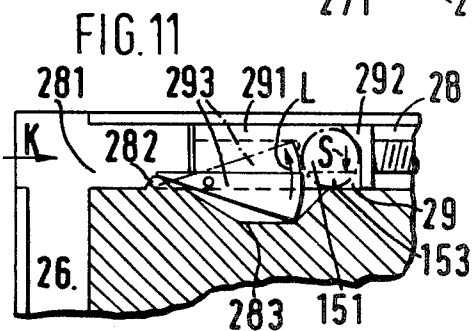
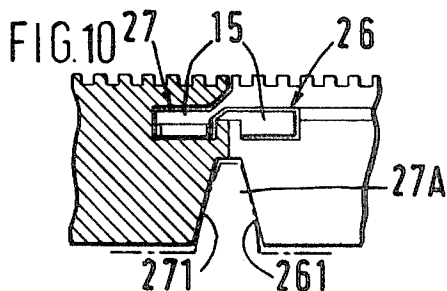
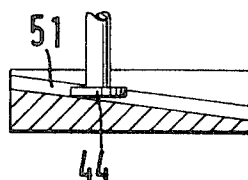


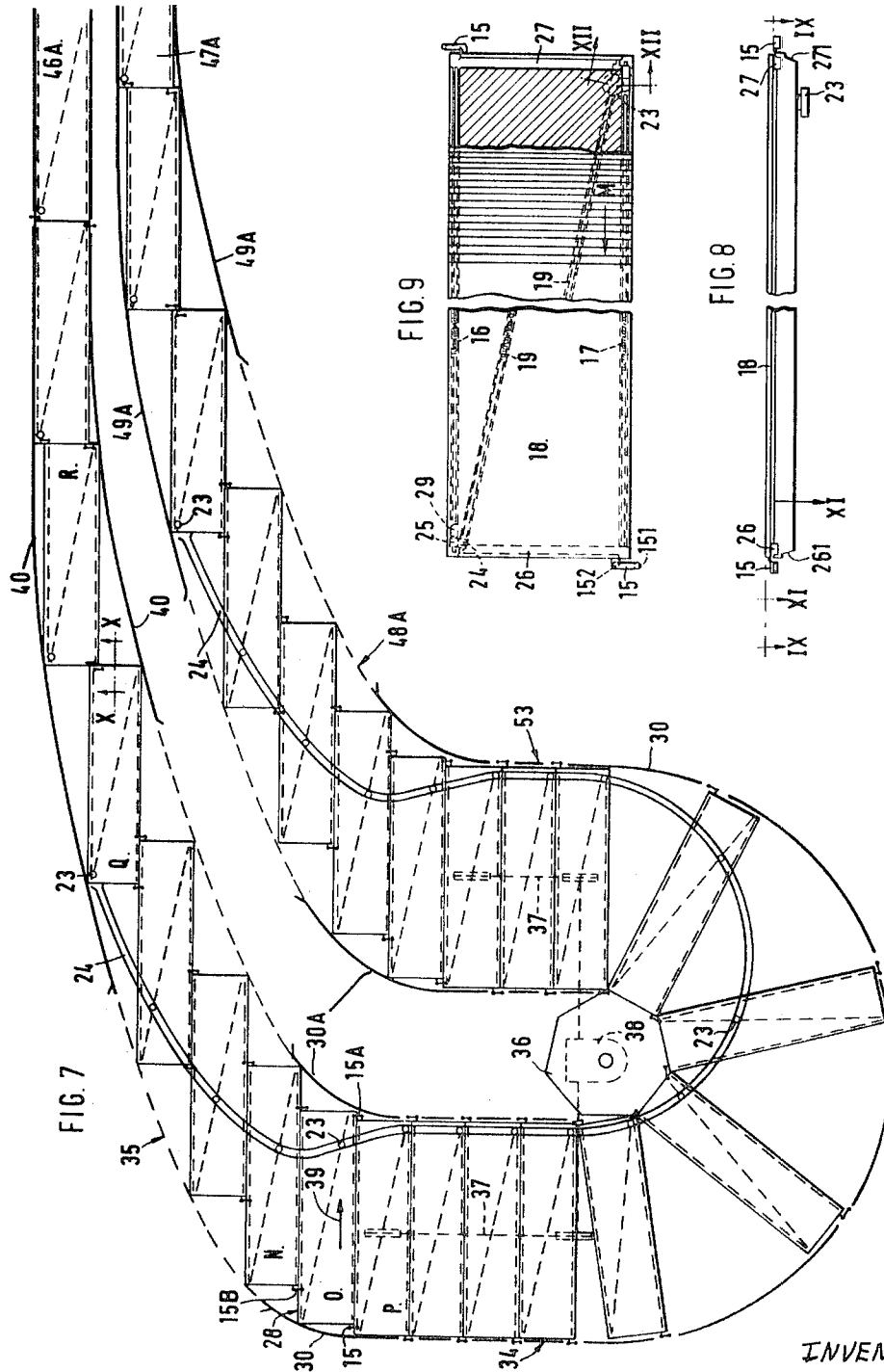
FIG. 6



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FIG. 13

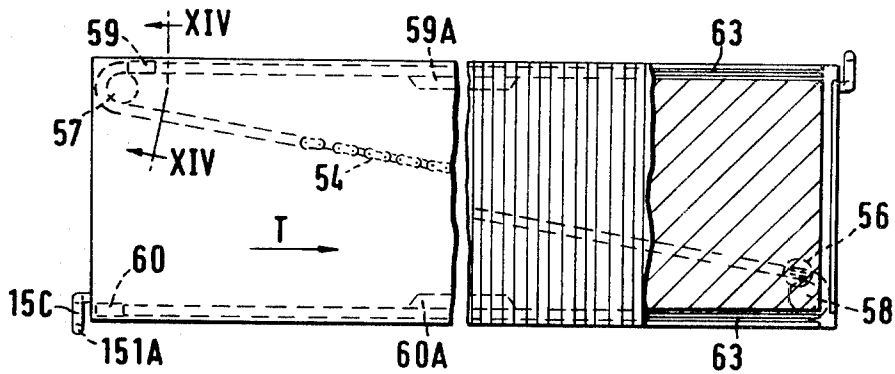


FIG. 16

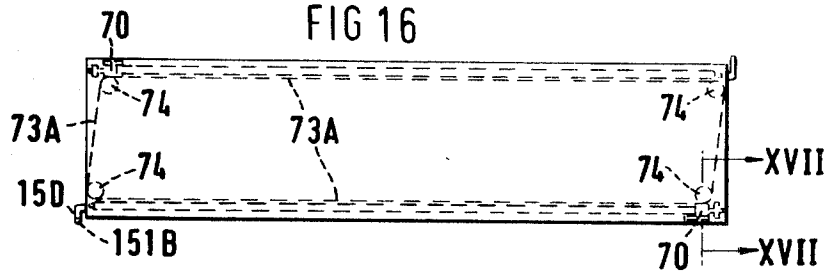


FIG. 17

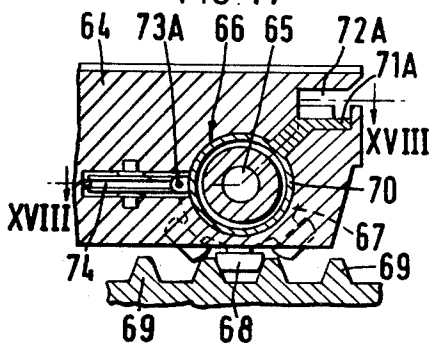
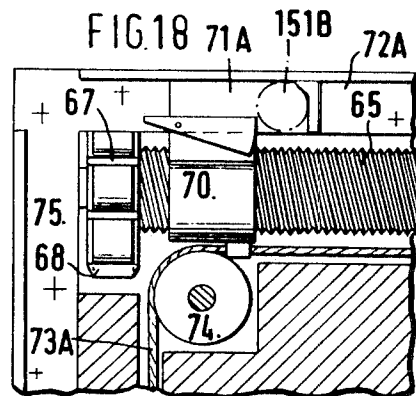


FIG. 18

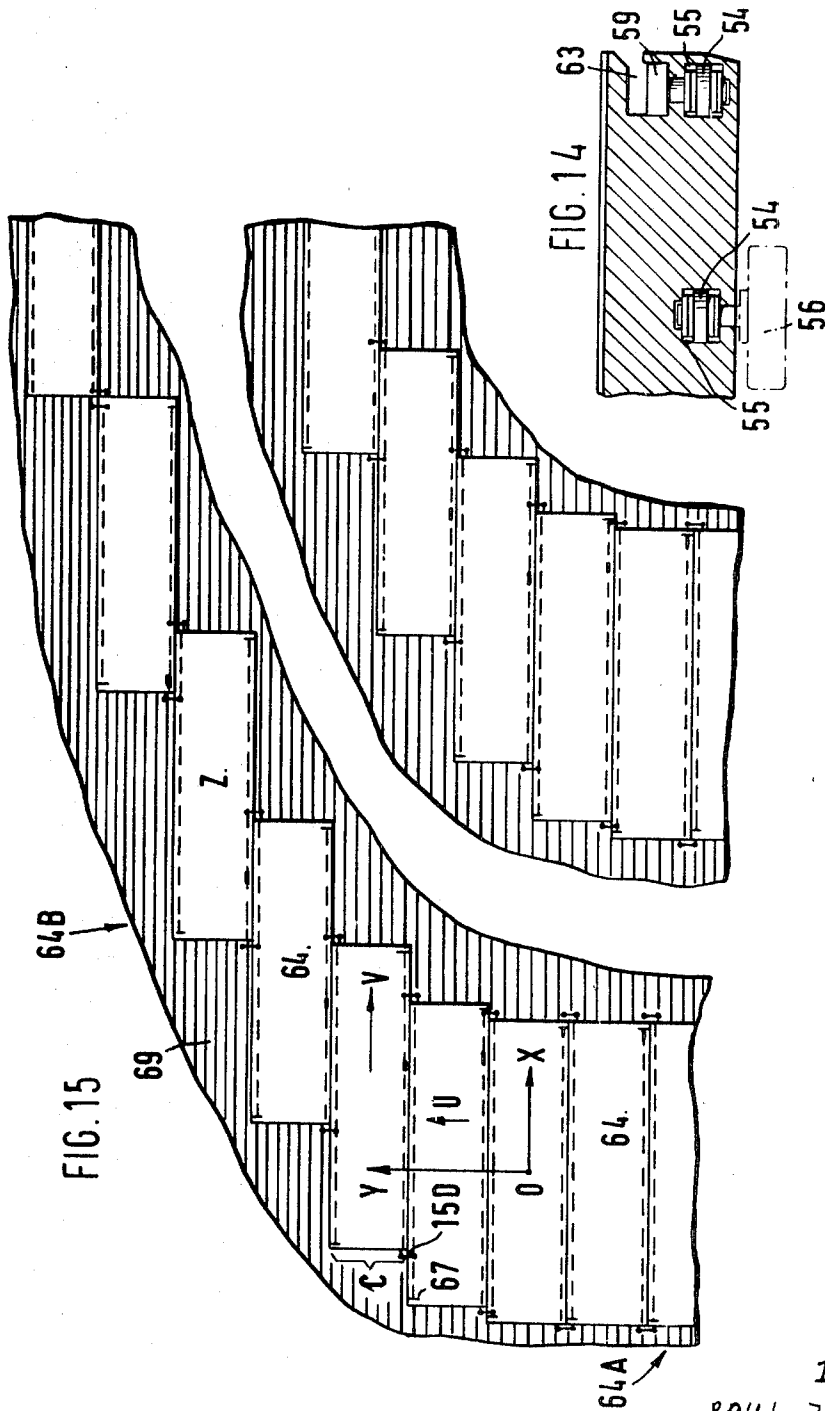


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Continuous endless transporters of variable speed are already known, which connect two zones for loading/unloading in which they move at a minimum speed and between which there are at least two transport zones which are traversed by this transporter at a maximum speed.

These transporters are formed by a series of rectangular vehicles harnessed to each other and moved along a closed loop guide which gives these vehicles a transverse movement side by side in the loading/unloading areas and a longitudinal end to end movement in the transport zones, in such a way that the relation between the minimum speed and the maximum speed is equal to the ratio between the width and the length of the vehicles.

Such a guide system has already been conceived in the form of guides or rails which cooperate at least indirectly, for example through articulated bogies at the extremities of each vehicle, the one with one extremity, the other with the other extremity of each vehicle, and the separation of which is minimal in the loading/unloading areas, and varies continuously from one of these values to the other, in connection portions which connect each zone of loading/unloading to the adjacent transport areas, the loading/unloading zones being perpendicular to the extremities of the two transport zones which join there. The variation in this spacing is provided in such a way as to oblige two consecutive vehicles to slide transversely and longitudinally one against the other, when they are going through these connecting portions and to keep a constant orientation during their movement along a loading/unloading area and two connection portions which are continuous to it as well as on the said transport areas. However, the vehicles effect a rotation of 180° in order to pass from the discharge part to the loading part in the same zone of loading/unloading.

In this form of production, the assembly of vehicles is driven by several propellers which are arranged at least in the zone of loading/unloading but possibly also in the connection sections.

It has already been proposed to use a jointed screw with a variable pitch as the propeller, arranged at a lower level than that of the guide rails and put into rotation by means of a motor. Each vehicle of the assembly is provided, according to this method, with a device which cooperates with this screw for example a pawl engaged in the channel of the thread thereof.

The method in which two consecutive vehicles are harnessed is not very important, provided that the method of connection used does not form an obstacle to the sliding of the vehicles.

The present invention has the object of allowing the drive and the sliding of such vehicles in the connection zones, by means which are different from those which have just been mentioned, and based on the existence of a connection between consecutive vehicles, which is maintained at least when the vehicles are going through the said connection sections.

It has the object of a drive device for an endless, variable speed transporter, this transporter connecting at least two zones of loading/unloading in which it is moved at a minimum speed and between which there are at least two transport areas connected to the adjacent zones of loading/unloading by means of a connection section, and being constituted by a succession of rectangular vehicles which are each given a transversal side-by-side movement in the zones of loading/unloading, a movement composed of a transverse movement and a longitudinal sliding one against the other in the connection sections, then a longitudinal end to end movement in the transport areas, the vehicles keeping an invariable orientation except when they are going from the discharge part to the loading part in the same loading/unloading zone and the ratio between the minimum speed and the maximum speed being equal to the ratio between the width and the length of the vehicles.

This device is characterized by the fact that each of the said vehicles is provided with at least one connection element and drive means the operative part of which, arranged on the periphery of the vehicle is operated proportionally as the vehicle progresses and is designed to cooperate, in each connection section, with the connection element carried by the vehicle which is in front of it in the direction of forward movement of the transporter in order to force this latter vehicle to slide longitudinally relatively to the first vehicle in proportion as this moves forward, while at the same time being pushed transversely by this first vehicle; the whole arrangement is made so that this sliding longitudinal movement of one of the vehicles is twinned to the movement of the vehicle which it precedes, in the direction of advance of the said transporter.

According to the invention, a conveyor for providing a continuously moving load-carrying surface including a low speed loading or unloading zone, a high-speed zone, and a connection zone between the low speed and high-speed zones, comprises a series of conveyor elements slidable one against the next between the side edges of the conveyor in the connection zone thereof, together with drive and support means for the conveyor elements, wherein each conveyor comprises a fixed connection member, a movable connection member and drive means in the connection zone of the conveyor for the movable connection member, the fixed connection member being connectable to the movable connection member of one of the adjoining conveyor elements, and the movable connection member being connectable with the fixed connection member of the other of the adjoining conveyor elements, the drive means for the movable connection member being arranged to move the movable connection member along a peripheral edge of the conveyor element to effect relative sliding movement of the conveyor elements.

The invention will now be described with reference to the description which follows and the attached diagrams which relate to three main forms of the device which forms the object of this invention.

On the diagrams:

FIG. 1 is a diagrammatic general view of a first form of production of this device,

FIGS. 2 and 3 show two possible forms of circuit to which the device can be fitted,

FIG. 4 is a sectional view along IV-IV, FIG. 1,

FIGS. 5 and 6 shows respectively in cross section and a longitudinal section along VI-VI of FIG. 5, a freeing or unbolting ramp which is used in the method of production of the device shown in FIG. 1,

FIG. 7 shows in general and in a diagrammatic manner a second form of production of the device of the invention,

FIG. 8 shows in profile, a platform of one of the vehicles of a transporter using this second form of the device according to the invention,

FIG. 9 shows this same platform in a longitudinal section along IX-IX of FIG. 8,

FIG. 10 is a sectional view of a connection of two vehicles of this transporter along X-X of FIG. 7,

FIG. 11 shows in a central section along XI-XI of FIG. 8, the clutch device of the connection element of one of the vehicles on the drive means of the vehicle it precedes,

FIG. 12 is a transverse section along XII-XII of FIG. 9,

FIG. 13 shows a variation of the platform in FIGS. 8 and 9,

FIG. 14 is a sectional view along XIV-XIV of FIG. 13,

FIG. 15 shows in a diagrammatic manner a third form of the device forming the object of the invention,

FIG. 16 is a view from above of a vehicle platform in a transporter using this third form of device according to the invention,

FIG. 17 is a sectional view along XVII-XVII of FIG. 16,

FIG. 18 shows along the section XVIII-XVIII of FIG. 17, drive means and the clutch system of the connection component carried by a vehicle using the device according to this third form.

On FIG. 1 a transporter 1, which is endless and has variable speed, connects two loading/unloading zones 2,3 (FIG. 2) or 2A or 3A (FIG. 3) respectively, each one composed of a loading station 21 and an unloading station 22 (FIG. 1), to zones of transport 31 and 32.

FIG. 1 shows the left-hand part of the circuit followed by the transporter, the right-hand part of which can have one of the forms shown in FIGS. 2 and 3.

The transporter is formed of a series of rectangular vehicles 4, which are formed of a rectangular platform of width a and length b , mounted on transport means which are not shown, which make it possible for this platform to move along the ground 5 in all directions. A motor 6 simultaneously drives a swivel 8 and traction means 7 which produce forward movement of the transporter vehicles in the zone 2 of loading/unloading, by means of a traction cog 71 carried by a strip 72. Lateral guide means for the vehicles are provided in this loading/unloading zone. The swivel 8 ensures the passage of the vehicles from the unloading station 22 to the loading station 21 in the direction of the arrow 9. In the ground there is fitted a guide groove 10, the shape of which depends on the trajectory followed by the center of each vehicle 4 during the displacement of the transporter 1.

Rack strips 11, 12 13 and 14 are arranged at certain points of the periphery of the path followed by the transporter and are mounted endlessly on two rollers such as 110 and 111 (FIGS. 1 and 2).

FIG. 4 shows a cross-sectional view along IV-IV of FIG. 1, of the assembly of two successive platforms 41 and 42. At each of its four angles each platform has an aperture 43, which for the sake of clarity has been shown on FIG. 4, and in which there can be bolted by means of a connecting element formed by a bolt pin 44, a bayonet connection 45.

The periphery of each platform has a groove 46 made in it in which there are housed means called drive means, which are intended to displace the previous vehicle 42.

On FIG. 4 drive means are formed by a chain 47 which can slide longitudinally along the peripheral groove 46, and to which is fixed the bayonet connection 45. Of course this chain can be replaced by a cable or the like. A pulley which is not shown is mounted on each of the four means (chain or cable) to progress in the groove 46. On the chain 47 (more generally on the drive means used) is fixed at a distance which, calculated along this chain starting from the fixed point of the bayonet attachment 45, is equal to half the length of the chain, a rider 48 in the shape of a U one shank of which 481 is fixed to the chain whereas the other shank 482 carries a roller 50 with an axis 49, engaged in the guiding groove 10. At certain points of the trajectory followed by the pins 44, during the displacement of the transporter, there are provided freeing ramps 51 fixed to the ground and intended as shown in FIGS. 5 and 6 to move the pins 44 vertically in order to free the bayonet attachments 45 from them. The pins 44 can be provided with recoil means, for example a helical spring, which allow them to be brought into the position which they occupy in FIG. 4.

In the variant of the circuit shown in FIG. 3 a special groove 52 is fitted in the ground, at the level of transport zone 31 and this works in cooperation with the rack strip 32. The guide groove 10 is limited to the loading/unloading zone 2 or 2A, or 3 or 3A and to the connection sections 210, 220.

The function of the device which has just been described is as follows:

When a vehicle moving in the direction of arrow 9 arrives at the entry of the loading station 21, the roller 50 is engaged by the rack strip 11 which makes it pass from position A to position B. This roller being in this position B relatively to the platform, the bayonet attachment 45 carried by the chain 47 as is this roller 50, is bolted at point C by the pin 44 to the preceding vehicle. The vehicle, continuing its movement, arrives at the positions occupied in FIG. 1 by vehicles 41 and 42. In this latter position the vehicle is forced by the lateral guide 61 to slide in the direction of arrow B' whereas its roller 50 which is forced to follow the guiding groove 10, makes the chain 47 to

which it is fixed slide. This sliding takes with it the bayonet attachment 45 of this vehicle which is bolted by a pin 44 to the preceding vehicle, and makes this latter slide likewise in the direction of arrow B'. This sliding movement is thus transmitted from one vehicle to the next one right up to the vehicle D. The vehicle E which precedes this vehicle D, in the direction of movement of the transporter, is forced by a guide 62 to slide end to end with the vehicle D in such a way that this is aligned progressively on vehicle E at the entry of the transporter zone 31. As soon as the vehicles enter this zone, after having gone through the connection section 210, their roller 50 disengages from the guiding groove 10. The vehicles however still remain connected by means of their bayonet attachments 45 until, at point F, these attachments are unbolted by the action, on the corresponding pin 44, of one of the unbolting ramps shown in FIG. 6. The vehicle is thus disconnected from the one which it precedes. Its roller 50 then arranged in the upper left-hand angle of the platform is engaged by the rack strip 12 which brings it progressively into the upper right-hand angle of this platform when this vehicle has attained position H (FIG. 1).

In this latter position the bayonet connection 45 is arranged in the lower left hand of the platform and is bolted at G, this time on the vehicle which follows the said platform. The rack strip 13 maneuvers the roller 50 of the vehicle in the opposite direction when the latter, after having gone through the loop 3, or 3A respectively of the circuit goes through the transport area 32 in the direction of arrow 1. The roller 50 of the vehicle then reengages in the guiding groove 10 and the vehicle goes through the connection section 220. It then arrives at the entry of the unloading station 22 where its speed is a minimum, and where it is engaged by the traction means 7 and by the swivel 8 which after rotation brings it into the loading station 21. While the swivel action is exerted, the roller 50 which follows the guiding groove 10 passes from one of the sides of the vehicle to the other in order finally to occupy position A. Of course the bayonet attachment 45 of each vehicle is unbolted at a point J of the unloading station in such a way that the vehicles may be disconnected during their engagement by this swivel 8.

It follows from the arrangement of the device which has just been described that the ratio between the minimum speed of the vehicle (loading/unloading zones) and its maximum speed (transport zones) is equal to the ratio a/b .

FIGS. 7, 8, 9, 10, 11 and 12 relate to a second form of the device according to the invention, in which the connection element is formed by a bent dog 15 fixed to one of the extremities of each small side of the vehicle, and the drive means are constituted by two endless screws 16 and 17, each one arranged on one of the large sides of platform 18 and connected by an endless diagonal screw 19 which is made to rotate by a cursor 20 (FIG. 12) carrying a drive roller 23 which moves on the interior of a guiding groove 24 (FIG. 7). This connection screw 19 is connected to the endless screws 16 and 17 by conical pinions such as 24 and 25 which engage with each other. Each platform is provided with two bent dogs 15 which are each arranged on the extremity of each of the small sides of the platform which is opposite to the one which is adjacent to the said pinions. Each of these bent dogs 15 is provided with two discs 151 and 152. The small sides of the platform are provided with a hollowed recess 26 or 27 let in, having a rectangular section, in which the bent component of the dog 15 of the adjacent vehicle can slide, which component carries the discs 151 and 152. The base of the small sides of the platform has a chamber 261 or 271 which is intended to allow the introduction of driving teeth 27A between the consecutive vehicles which are going through the transport areas (FIG. 10). The large sides of the platform are each provided with a set-in recess 28, of the same width as the recesses 26 or 27, and the extremities 281 of which are at the same level as those and communicate with them. These extremities 281 form an abutment and limit the course of a cursor 29 the cylindrical and interiorly threaded base of which surrounds the endless screw

16 or 17 respectively; and the upper rectangular part of which has a plane component 291 which is arranged at the same level of the extremity 281 of the recess 28. This cursor is provided on one of its extremities with an abutment 292 and pivoted on its other extremity is a bolt section 293. On its part which is traversed by the cursor 19, the recess 28 has a depth which is greater than that of the throats 26 and 27. The washer 151 of the bent dog 15 has at its lower part a truncation 153 (FIG. 12). At the level of the extremity 281 the recess 28 has a lateral boss 282 intended to open the bolt section 293 at the end of the path of cursor 29 (FIG. 11).

The upper surface of each platform has a crenellated appearance (FIG. 10) the object of which is to improve its adherence. As for the first form of the device, lateral guides 30, 30A are provided all along the loading/unloading area formed of an unloading station 53 and a loading station 34. A motor 38 operates a swivel 36 and traction means 37.

The operation of the second form of the device according to the invention is as follows:

When the vehicle moves forward in the loading station 34, driven by traction means 37, it reaches the lateral guide 30 which obliges it to slide in the direction of arrow 39. Whereas its drive roller 23 follows guiding groove 24, the disc 151 of its bent dog 15 engages on the cursor 29 of the recess 28 of the vehicle which it precedes (in the direction of movement of the transporter). FIG. 11 shows the method in which this engagement takes place. The disc 151 arrives, in the direction of arrow K at the extremity 281 of the recess 28. By means of its truncation 153 this disc 151 is not stopped by the boss 282 nor by the bolt section 293 which, partially made to disappear in a discharge 283, then occupies the position shown in unbroken lines (FIG. 11). The disc continues its movement in the direction of arrow K and reaches the abutment 292 of the cursor 29. The roller 23, moving forward in the guiding groove 24, produces rotation of the endless screw 19 which by means of pinions 24 and 25 brings the endless screw 16 into rotation. The cursor 29 then continues to move forward in the groove 28. By means of the guide 30, the disc 151 is maintained applied against the abutment 292 during the starting of the cursor 29. The bolt section 293 which follows the contour of the discharge 283 is then maneuvered in the direction of arrow L and finishes by occupying the position shown in dotted lines in FIG. 11, in which position it bolts the washer 151 on to the cursor 29, and it occupies this position during the whole of the displacement of this cursor in the throat 28.

A second cursor is carried by the platform and arranged symmetrically relatively to the center thereof. This cursor is maneuvered in the opposite direction to the cursor 29 by the endless screw 17, in a recess 28 which is behind the platform in the direction of arrow M. As shown in FIG. 7, the bent dog 15B of the platform N engages on the cursor of the recess 28, anterior, of the platform O, before the bent dog 15A, carried by the platform P, engages in the recess 28 which is posterior to this platform O. Thus at least at the beginning of its course, the bent dog 15A is retarded relatively to the cursor which evolves like it itself, in this rear recess 28, but symmetrically to the cursor which carries the bent dog 15B relatively to the center of the platform O.

This vehicle thus moves forward along the connection section 35 sliding longitudinally relatively to the vehicle which it precedes until it attains the position of the platform Q (FIG. 7). Its roller 23 then disengages from the guiding groove 24. The platform is then guided by the guide 40 which forces each vehicle to slide end to end with the vehicle which it precedes.

FIG. 10 shows the actual arrangement of the dogs 15, of two consecutive platforms, the discs 151, 152 of which go through the recess 26 or 27 respectively of the small side of the other platform. As shown in FIG. 8 the two dogs 15 of each platform, which are each fixed on one of the small sides thereof, are fixed the one on the upper part of the part of the platform above the recess 26, and the other on the lower part of the platform below recess 27. In this way (FIG. 10) the bent dogs 15 can go across each other without difficulty at the beginning of the end to end sliding of two neighboring vehicles.

Because of the shape given to the abutment 292, the washer 151 easily disengages in the direction of the arrow S (FIG. 11), from the cursor 29 in order to pass from the recess 28 to recess 27. The discs 151 and 152 of each of the arms 15 being simultaneously engaged in the recesses 26 and 27, are maintained strictly parallel between the vehicles during the end to end sliding thereof. This sliding finishes when the vehicles attain the transport zone 46. After having described a loop which is not shown, the vehicles go through the transport zone 47 then their roller 23 is again engaged by the guiding groove 24 when they enter the connection section 48, towards the entry of which they are oriented by guides 49. They then go through the discharge station 53 and by means of the swivel 36 are sent towards the loading station 34. While the vehicles are being turned by this swivel, their roller 23 which operates the endless screw 19 is brought back from one extremity of this to the other. The vehicles are only connected to each other by means of their bent dogs 15 when they move in the connection sections 35 or 48 respectively, etc. The bent dogs 15 are on the other hand disengaged from the recesses of the vehicles when these vehicles move on the other parts of the transporter circuit. The FIGS. 13 and 14 show a variant of the second form of the device, which has just been described. This variant is different from it essentially in that the endless screws 16, 17 and 19 are replaced by a chain 54 which evolves in a continuous recess 55 which is made on the one hand on the two large sides of the platform and on the other hand approximately along the diagonal of this platform as shown in FIG. 13. This chain 54 passes through the recess of two pulleys 57 and 58 which are rotatably mounted in the platform at the extremities of this diagonal. Each of the two extremities of the chain 54 carries a slide 59 or 60 respectively of a similar configuration to that of the upper part of the cursor 29 (FIG. 11). This slide is not provided with the abutment 292 of the latter but, like them, with a pivoted sector which makes it possible to bolt on the washer 151A of the bent dog 15C of the preceding vehicle. Each of these slides 59 or 60 respectively slides in a recess 63 which is let in over the whole periphery of the platform, above the level at which the chain 54 evolves. This latter is operated by a roller 56 guided by the guiding groove 24. When the vehicle moves in the connection section 35, the chain pushes the slide 59 and pulls the slide 60 which both progress in the same direction shown by arrow T. Two discharges 59A or 60A respectively are provided in the recess 63 in the middle of the path of the cursor 59 or 60 respectively, along the large sides of the platform. The discharges have the object of allowing lateral retraction of the bolt section carried by the cursor which is pulled (under the circumstances 60A) when this cursor crosses the disc 151A of the dog 15D (FIG. 13) of the following vehicle in the recess 63.

A third form of the device according to the invention is shown in FIGS. 15, 16, 17 and 18.

This form of the invention does not require a guiding groove such as 24 (FIG. 7) or 10 (FIG. 1). Each of the platforms is provided with two threaded shanks 65 which are housed in a cylindrical hole 66, made parallel to the large sides of the platform and near to them. Each threaded shank is provided at one of its extremities with a toothed wheel 67 the teeth 68 of which (FIG. 17) engage in parallel channels 69 of the vehicles' support, these channels being positioned at least on the trajectory of the said toothed wheels 67 (FIG. 15). In its rotation, each threaded shank 65 involved a cursor 70 which carries a slide 71 identical with the upper part of the cursor 29 (FIG. 11). This slide moves along an inlet recess 72. It is intended to engage the disc 151B of the bent dog 15D of the preceding platform (FIGS. 15 and 16). The two cursors 70 of each platform are connected by a joining cable 73 which is mounted on pulleys 74 each one pivoted at one of the four angles of the platform. The inlet recesses 72 communicate with lateral recesses 75 (FIG. 18) in which the disc 151B of the bent dog 15 of the preceding vehicle evolves.

The operation of this third form of the device will now be described.

The vehicles 64 (FIG. 1) arrive at the entry of the connection section 64B along which they slide against each other, moved by traction means which are not shown. The vehicle is then forced by an appropriate means which is not shown, for example, a lateral ramp, to engage the disc 151B of its bent dog 15D on the slide 71 of the vehicle which it precedes, in the direction of movement of the transporter. This slide bolts this disc 151B. The force of the vehicles which follow it give this vehicle a component of velocity in the direction of arrow U. The wheel 67 of the preceding vehicle engages in the channels 69 which form a rack. This engagement sets up rotation of the threaded shank 65 which involves cursor 70, which itself involves the disc 151B of the bent dog 15D of the preceding vehicle which slides in the direction of the arrow V, via slide 71. This is repeated from one vehicle to the one which precedes it in the direction of movement of the transporter, all along the connection section, 64B. When the vehicles go through the end of this connection section, they slide end to end, and the two discs of the bent dog of one of the vehicles goes through the recess 75 of the other vehicle, in the same way as in the preceding form of the device, until the dog in question is disengaged from this recess. When the vehicles arrive in the transport zone the vehicles are disconnected and push each other end to end. It can be shown that in this third form of the device forming the object of the invention, the trajectory followed by the center of one vehicle in the connection section 64B is necessarily part of a parabola.

Since all the vehicles have the same lateral dimensions, d being the width of the vehicle Z the coordinates X and Y of the center of which are related to the system of axes OX , OY connected to the support on which the vehicles move; v the speed at which the vehicles are moved along OY , in the loading station 64A, and k the ratio between the speed of movement of the cursor 70 by the threaded shank 65 and the linear circumferential speed of the toothed wheel 67, which ratio is a function of the pitch of the threaded shank 65 and the diameter of the wheel 67; the vector speed of the center of the vehicle has components along OX , LY :

$$V_{OX} = K(n-1)v$$

(wherein n denotes the rank of vehicle Z related to the center O of the coordinates).

Taking as the origin of time, the moment at which the center of the vehicle Z is at O , we have:

$$Y = \int_0^t v dt = vt = (n-1)c$$

from which:

$$n-1 = \frac{v}{c}t$$

and

$$V_{OX} = K \frac{v^2}{c} t$$

therefore:

$$X = \frac{k}{c} \int_0^t V^2 dt = \frac{1}{2} \frac{k}{c} v^2 t^2 = \frac{1}{2} \frac{k}{c} Y^2$$

the relation:

$$X = \frac{1}{2} \frac{k}{c} Y^2$$

shows clearly that the trajectory followed by the center of the vehicles on the connection section 64 is part of a parabola with axis OX .

The parameter of this parabola can be modified by appropriately choosing the ratio K and/or the width C of the vehicles in such a way as to obtain the required parabolic con-

nection section.

Having now described my invention, What I claim is:

1. A conveyor for providing a continuously moving load-carrying surface and including a low speed zone, a high-speed zone and a connection zone between the low speed and high-speed zones, the conveyor comprising:

a series of elongated conveyor elements;
guide and support means for guiding and supporting said elements in side-by-side relationship in said low speed zone;

guide means and support means for guiding and supporting said elements in said connection zone;

drive means for moving said elements;

a fixed connection member on each of said elements;

a movable connection member on each of said elements, the movable connection member on one element connectable to the fixed connection member on the adjacent element; and

drive means in said connection zone for cooperation with said movable connection member; said drive means being so constructed and arranged that each movable connection member is moved along an edge of the related conveyor element to effect relative sliding between adjacent elements in said connection zone.

2. A conveyor as claimed in claim 1, wherein the fixed connection member is constituted by a pin mounted in each of the four corners of the platforms and movable axially by ramps, and wherein the movable connection member comprises a chain sliding in a groove formed in the periphery of each platform, a bayonet attachment on said chain and adapted to be connectable to one of said bolt pins of the preceding platform to connect said platform to the chain and to be driven by it during its sliding.

3. A conveyor as claimed in claim 2, wherein a roller is mounted on said chain, the displacement of which causes said drive means in said connection zone engaging with said roller to cause sliding of said chain in said groove, said roller attached to the chain at a distance from the bayonet attachment equal to half the length of the said chain.

4. The conveyor of claim 1 wherein the fixed connection members each comprise a bent dog, one such dog being fixed at the extremity of each of the small sides of the platform, each dog including a disc portion, and wherein the movable connection members comprise an endless screw, a screw arranged in each of the longitudinal sides of each platform and an endless diagonal screw connecting said endless screws by means of conical pinions, each of the endless screws including a cursor for engagement with the disc portion carried by the adjacent platform.

5. A conveyor as claimed in claim 4, including a roller mounted on the endless diagonal screw displacement of said roller rotating said endless diagonal screw.

6. A conveyor as claimed in claim 1, said movable connection member comprising a flexible member slidable in a recess formed in each of the two longitudinal sides of the platform and also formed along a diagonal of the platform, a roller being fixed to said flexible member, causing its sliding in the recess along the diagonal of the platform, and a slide connected to each extremity of the flexible member, said slides connectable to the fixed connection members, of adjacent platforms.

7. A conveyor as claimed in claim 1, wherein each movable connection member comprises a screw member extending along each of the longitudinal sides of a platform, and a toothed wheel on each end of each screw member, the toothed wheels engageable with said support and guidance means, a slide on each of said screw members, said slides engageable with the fixed connection member on adjacent platforms.