Embodiments of ~~T~~the present invention ~~is~~ are made in view of such problems, and ~~its object is to~~ seek to provide, in a unitized portable circulating conveyor apparatus that is transportable and easy to install, a portable circulating conveyor apparatus that provides easy and positive tension adjustments of a crescent chain and in which the tension adjusting margin is unrestricted.

{Means for Solving the Problems}

{0012}

~~In order to solve the foregoing problems, a~~ A portable circulating conveyor apparatus according to an aspect of the present invention comprises, in a unitized portable circulating conveyor apparatus that includes a circulating conveyor track,

a circulating conveyor track unit that constitutes the circulating conveyor track, the track unit including a straight conveyor track section, a drive unit including a curved conveyor track section and connected to one side of the straight conveyor track section, a driving mechanism and a base, and a driven unit including a curved conveyor track section and connected to the other side of the straight conveyor track section, a driven mechanism and a base, wherein the curved conveyor track section, and the driven mechanism, of the driven unit are connected relatively movably in the direction of a straight conveyor track relative to the straight conveyor track section, and wherein the driven unit is provided with a clamper

device that prevents or allows relative movement of the curved conveyor track section and the driven mechanism relative to the base. The clamper device is a device, attached to an expansion mechanism, that includes a cylindrical outer member, and an inner member that is assembled so as to be linearly extendable from and retractable to the inside of the outer member. The clamper device includes a clamp mechanism, disposed within the outer member, that prevents relative movement in at least one of two directions in which the inner member extends and retracts relative to the outer member, and an unclamp mechanism that disables a function of the clamp mechanism which prevents relative movement of the inner member relative to the outer member and then enables the relative movement of the inner member relative to the outer member, wherein the outer member is fixedly attached to the base of the driven unit, and the inner member is fixedly attached to the curved conveyor track section of the driven unit and disposed so as to be operable from an outer circumferential side of the curved conveyor track section and not to project from the curved conveyor track section.

According to ~~this feature~~the example embodiments, a portable circulating conveyor apparatus can be provided in which tension adjustment of a crescent chain is easy and positive, and the size of the tension adjusting margin is not restricted.

{0013}

The portable circulating conveyor apparatus according to embodiments of the present invention is characterized in that a fitting recess and a magnetic material portion are provided at both ends of the straight conveyor track section, and the protrusion that fits into the recess and a magnet catcher are provided at a portion of the base of each of the drive unit and the driven unit, the portion being located toward the straight conveyor track section to which each base thereof is connected.

According to ~~this feature~~the example embodiments, the connection and disengagement of the straight conveyor track section relative to the drive unit and the driven unit can be made very easily, and the portable circulating conveyor apparatus can be reduced in weight because of elimination of the need of separately prepared connection members for connecting the track to the units.

{0014}

~~In the portable circulating conveyor apparatus according to the present invention, the clamper device is a device, attached to an expansion mechanism, that includes a cylindrical outer member, and an inner member that is assembled so as to be linearly extendable from and retractable to the inside of the outer member. The clamper device includes a clamp mechanism, disposed within the outer member, that prevents relative movement in at least one of two directions in which the inner member extends and retracts relative to the outer member, and an unclamp mechanism that disables a function of the clamp mechanism which prevents relative movement of the inner member relative to the outer member and then enables the relative movement of the inner member relative to the outer member, wherein the outer member is fixedly attached to the base of the driven unit, and the inner member is fixedly attached to the curved conveyor track section of the driven unit and disposed so as to be operable from an outer circumferential side of the curved conveyor track section and not to project from the curved conveyor track section.~~

According to ~~this feature~~the example embodiments, in addition to the fact that the tension adjustment of the crescent chain is easy and positive and the size of the tension adjusting margin is not restricted, the clamper device does not project from the driven unit, and thus there is no obstacle to handle the portable

{Claims}

{Claim 1}

In a unitized portable circulating conveyor apparatus that includes a circulating conveyor track, a portable circulating conveyor apparatus comprising:

a circulating conveyor track unit that constitutes the circulating conveyor track, the track unit including

a straight conveyor track section,

a drive unit including a curved conveyor track section and connected to one side of the straight conveyor track section, a driving mechanism and a base, and

a driven unit including a curved conveyor track section and connected to the other side of the straight conveyor track section, a driven mechanism and a base,

wherein the curved conveyor track section, and the driven mechanism, of the driven unit are connected relatively movably in the direction of a straight conveyor track relative to the straight conveyor track section, and

wherein the driven unit is provided with a clamper device that prevents or allows relative movement of the curved conveyor track section and the driven mechanism relative to the base.

{Claim 2}

The portable circulating conveyor apparatus according

to claim 1,

wherein a fitting recess and a magnetic material portion are provided at both ends of the straight conveyor track section, and

wherein a protrusion that fits into the recess and a magnet catcher are provided at a portion of the base of each of the drive unit and the driven unit, the portion being located toward the straight conveyor track section to which each base thereof is connected.

{Claim 3}

The portable circulating conveyor apparatus according to claim 1 or claim 2,

wherein the clamper device is a device, attached to an expansion mechanism, that includes a cylindrical outer member, and an inner member that is assembled so as to be linearly extendable from and retractable to the inside of the outer member,

the clamper device including

a clamp mechanism, disposed within the outer member, that prevents relative movement in at least one of two directions in which the inner member extends and retracts relative to the outer member, and

an unclamp mechanism that disables a function of the clamp mechanism which prevents relative movement of the inner

member relative to the outer member and then enables the relative movement of the inner member relative to the outer member,

wherein the outer member is fixedly attached to the base of the driven unit, and the inner member is fixedly attached to the curved conveyor track section of the driven unit and disposed so as to be operable from an outer circumferential side of the curved conveyor track section and not to project from the curved conveyor track section.

{Claims}

{Claim 1}

In a unitized portable circulating conveyor apparatus that includes a circulating conveyor track, a portable circulating conveyor apparatus comprising:

a circulating conveyor track unit that constitutes the circulating conveyor track, the track unit including

a straight conveyor track section,

a drive unit including a curved conveyor track section and connected to one side of the straight conveyor track section, a driving mechanism and a base, and

a driven unit including a curved conveyor track section and connected to the other side of the straight conveyor track section, a driven mechanism and a base,

wherein the curved conveyor track section, and the driven mechanism, of the driven unit are connected relatively movably in the direction of a straight conveyor track relative to the straight conveyor track section,

wherein the driven unit is provided with a clamper device that prevents or allows relative movement of the curved conveyor track section and the driven mechanism relative to the base,

wherein the clamper device is a device, attached to an expansion mechanism, that includes a cylindrical outer member,

and an inner member that is assembled so as to be linearly extendable from and retractable to the inside of the outer member,

the clamper device including

a clamp mechanism, disposed within the outer member, that prevents relative movement in at least one of two directions in which the inner member extends and retracts relative to the outer member, and

an unclamp mechanism that disables a function of the clamp mechanism which prevents relative movement of the inner member relative to the outer member and then enables the relative movement of the inner member relative to the outer member,

wherein the outer member is fixedly attached to the base of the driven unit, and the inner member is fixedly attached to the curved conveyor track section of the driven unit and disposed so as to be operable from an outer circumferential side of the curved conveyor track section and not to project from the curved conveyor track section.

{Claim 2}

The portable circulating conveyor apparatus according to claim 1,

wherein a fitting recess and a magnetic material portion are provided at both ends of the straight conveyor track section,

and

wherein a protrusion that fits into the recess and a magnet catcher are provided at a portion of the base of each of the drive unit and the driven unit, the portion being located toward the straight conveyor track section to which each base thereof is connected.