A. O. DUPUY.

PALLET CONVEYER.

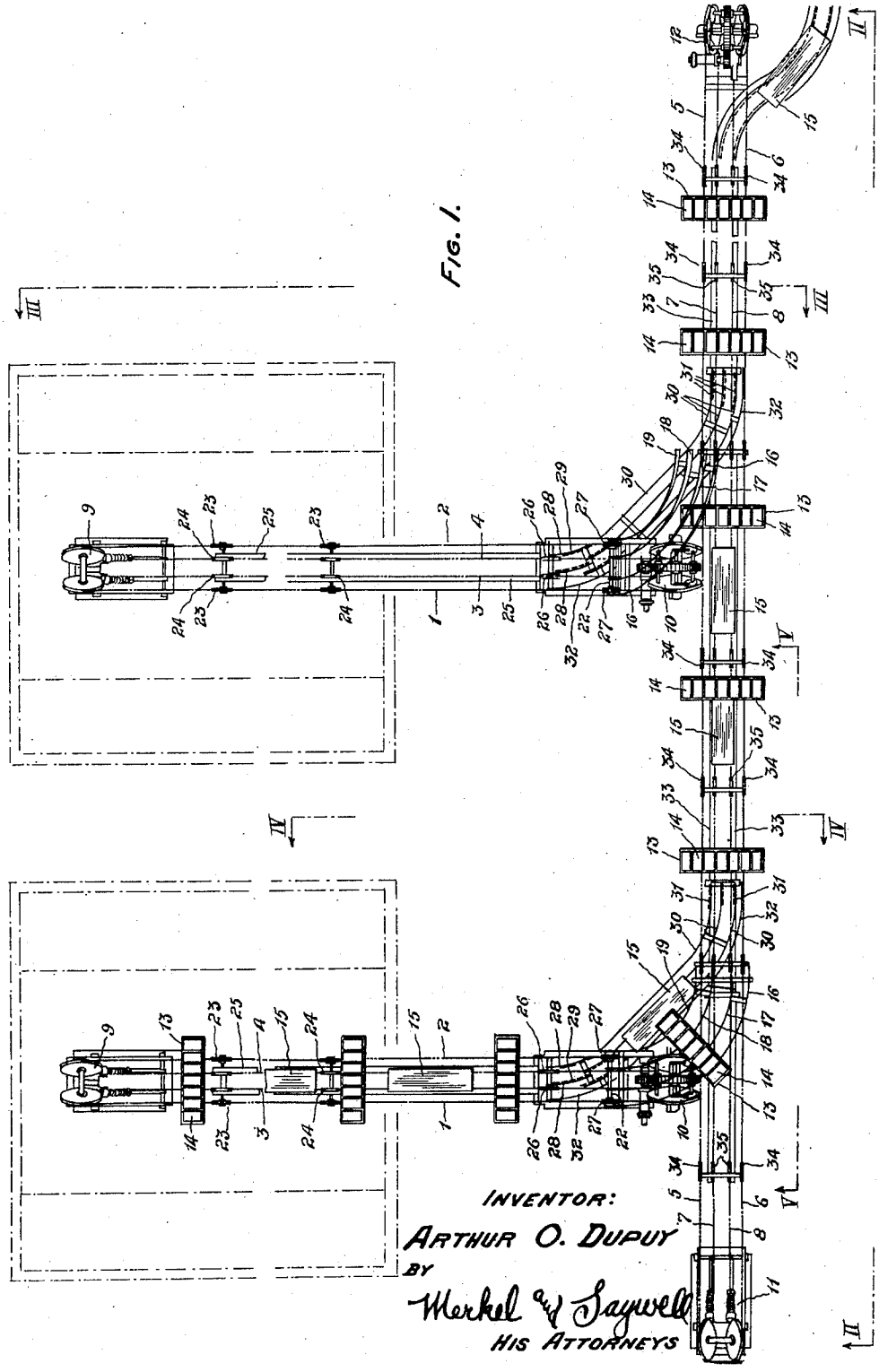
APPLICATION FILED FEB. 26, 1918.

1,357,315.

Patented Nov. 2, 1920.

4 SHEETS—SHEET 1.

FIG. 1.



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4 SHEETS—SHEET 2.

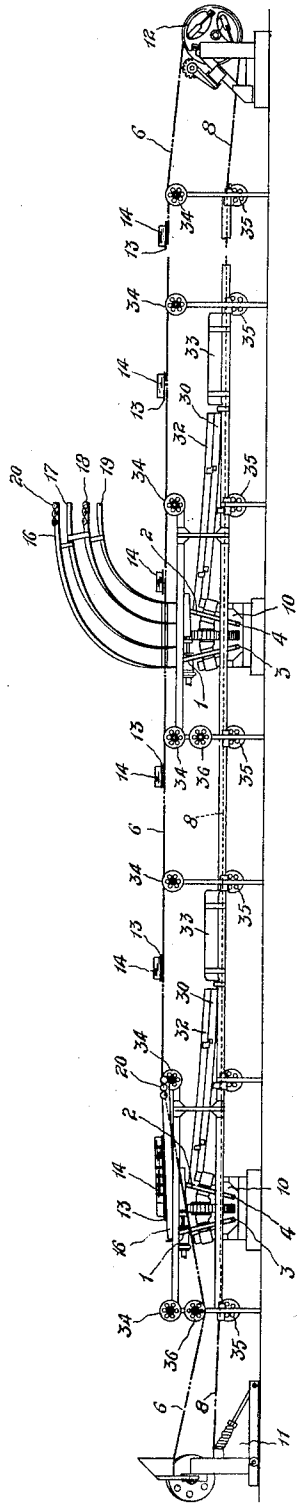


FIG. 2.

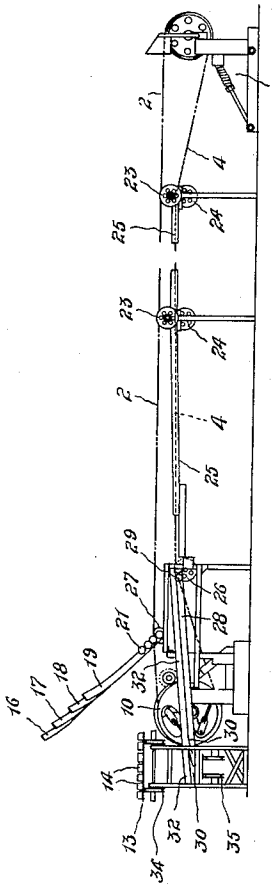


FIG. 3.

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4 SHEETS—SHEET 3.

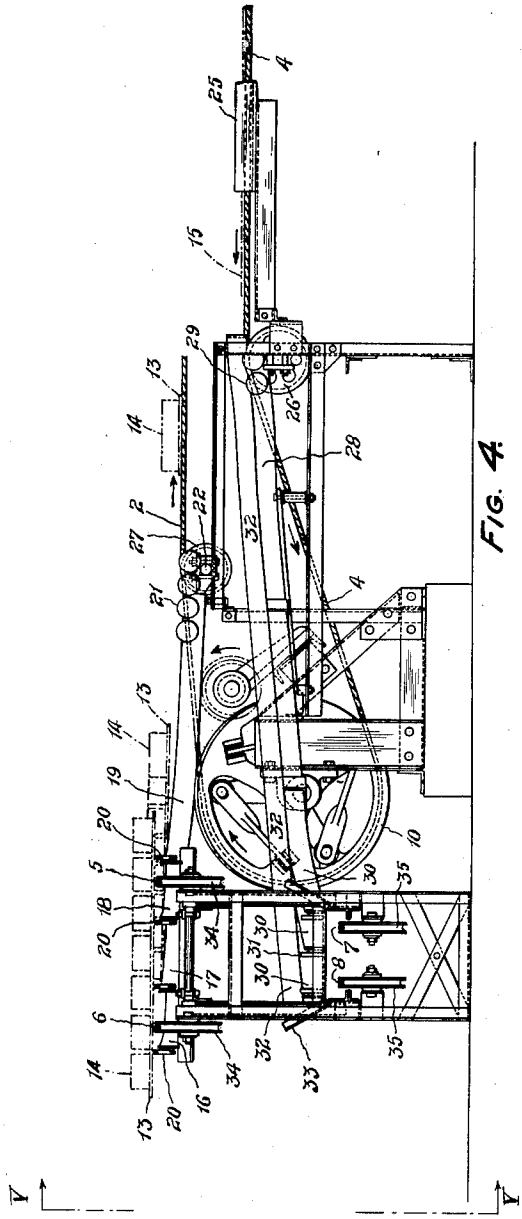


FIG. 4.

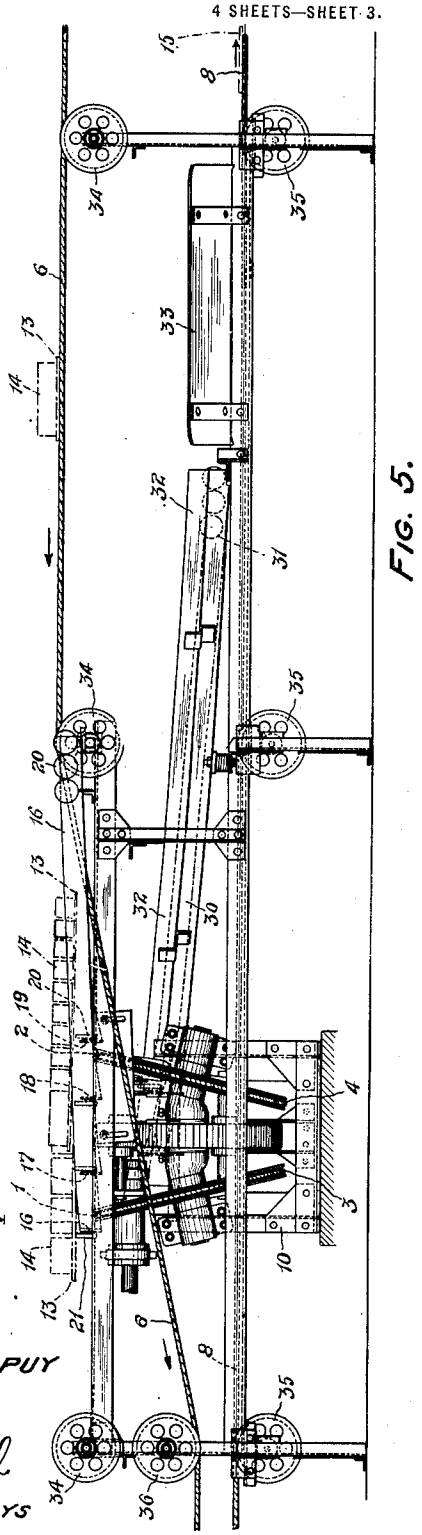


FIG. 5.

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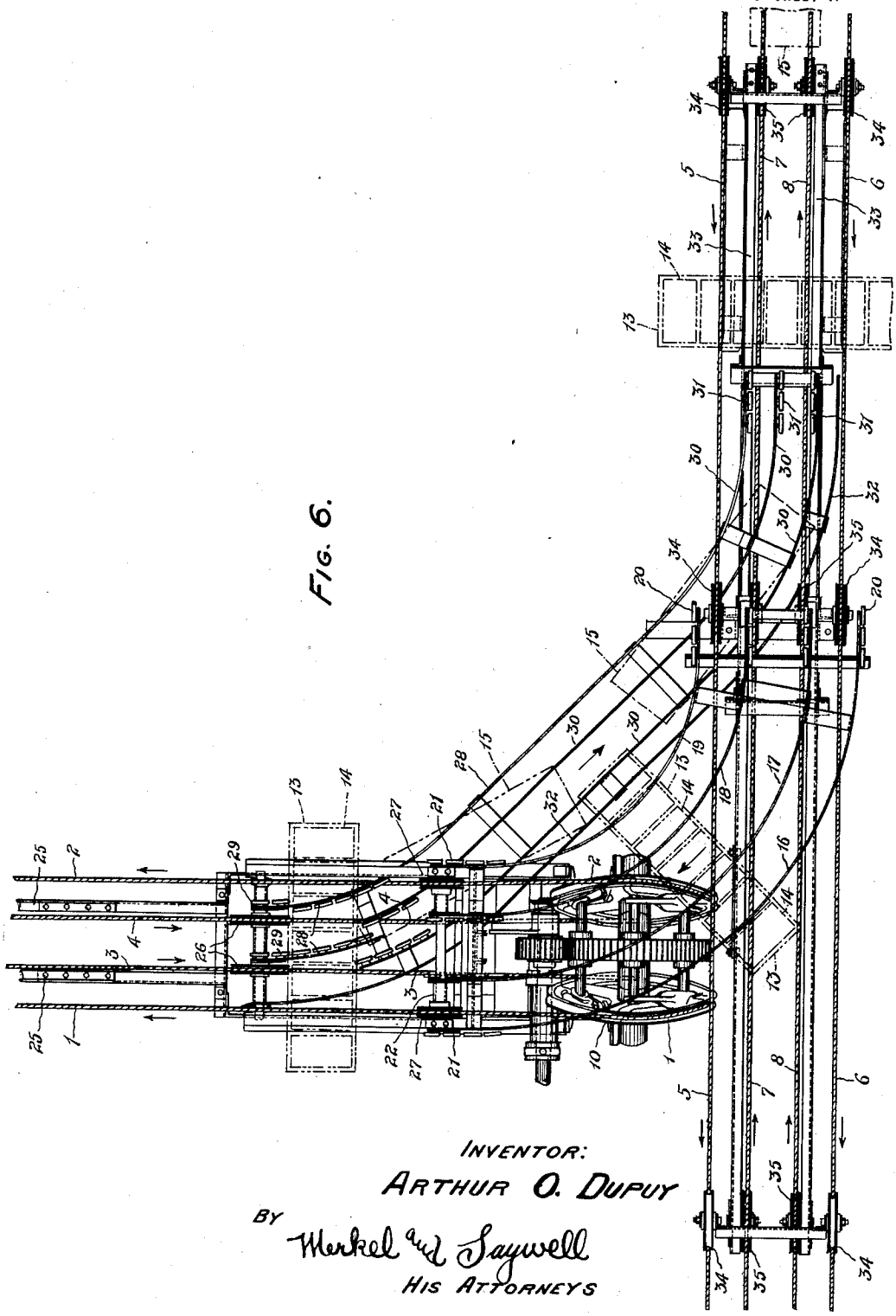
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4 SHEETS—SHEET 4.

FIG. 6.



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UNITED STATES PATENT OFFICE.

ARTHUR O. DUPUY, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO ERNEST W. FARR, OF CLEVELAND, OHIO.

PALLET-CONVEYER.

1,357,315. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed February 26, 1918. Serial No. 219,278.

To all whom it may concern:

Be it known that I, ARTHUR O. DUPUY, a citizen of the United States, resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Pallet-Conveyers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to conveyers and particularly to that class of such devices utilized in brick making apparatus for transferring loaded pallets from the brick-making machine, such as illustrated in my pending application for U. S. Letters Patent, Serial No. 191,942, to the customary driers and returning the empty pallets to the brick-making machine. The special features of this invention particularly relate to an organization of two relatively angularly disposed conveyers upon both of which the pallets travel lengthwise, the transfer from one conveyer to the cross conveyer being effected by transfer means and related elements hereinafter fully described. The said invention consists of other improvements in the class of apparatus mentioned which are fully shown in the accompanying drawings and will hereinafter fully appear in the following description.

The annexed drawings and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be employed.

In said annexed drawings:

Figure 1 represents a plan view of my improved conveyer; Fig. 2 represents an elevation taken in the plane indicated by the line II—II, Fig. 1; Fig. 3 represents an elevation taken in the plane indicated by the line III—III, Fig. 1; Fig. 4 represents an elevation, upon an enlarged scale, taken in the plane indicated by the line IV—IV, Fig. 1; Fig. 5 represents an elevation taken in the plane indicated by line V—V, Fig. 4; and Fig. 6 represents a plan view of the parts shown in Figs. 4 and 5.

Referring to the annexed drawings, endless cables are shown forming feeding conveyers connected to a cross conveyer and adapted to convey pallets to and from the usual shelves of a drier, a suggestion of which is shown in Fig. 1, said feeding conveyers to the drier being designated by the ordinals 1 and 2 and the return conveyers being designated by the ordinals 3 and 4. It will be noted that in Fig. 1 two such sets of feeding conveyers are shown. The cross conveyer is comprised of similar conveying means including cables 5 and 6 indicating travel in one direction and cables 7 and 8 indicating travel in the other direction. These conveyers are endless cables and are driven by pairs of relatively obliquely arranged sheaves, that pair driving the feeding conveyers being indicated in the accompanying drawings by the ordinal 10 and that pair driving the cross conveyers being indicated by the ordinal 12. The construction and operation of these relatively obliquely arranged pairs of driving sheaves forms the subject-matter of my pending application for U. S. Letters Patent on new and improved cable, chain or analogous drives, Serial No. 219,279. There are conveyed upon the mechanism hereinbefore described, the usual pallets 13 carrying a plurality of bricks 14 from the brick-making machine (not shown) to the drier shelves whence they are returned light to said brick-making machine. It is designed by the construction of conveying apparatus herein described and claimed to convey the loaded pallets disposed at an angle to their conveyers and to convey the light pallets disposed longitudinally of their conveyers. However, in the specific illustration of my invention disclosed in the accompanying drawings, the pallets when transferred from the cross conveyer to the feeding conveyer or vice versa, are received upon, and discharged from, the transfer means while longitudinally of the conveying means from which received and while longitudinally of the conveying means to which discharged, respectively. To this end and other allied objects, the mechanism now to be described in detail is designed.

In the construction of transfer means shown in the accompanying drawings, the well-known gravity curve, consisting of four curved downwardly extending rails 16, 17, 18 and 19, suitably connected together, and the usual rollers indicated by the ordinal 20 at one end of said rails and by the ordinal 21 at the other end of said rails, is utilized to transfer the loaded pallets 13 from the

cross conveyers 5 and 6 to the feeding conveyers 1 and 2 and thence into the drier. Said gravity curve comprised of these four rails is hinged upon a pin 22 at that end disposed adjacently to the feeding conveyers 1 and 2, so that when it is not desired to use such curve, or, in other words, not to send brick into that particular drier, said curve can be lifted so that its outer end is raised to a height indicated in Fig. 2, whereby the loaded pallets 13 can pass under said curve and down the cross conveyer to that feeding conveyer which it is desired to use. Certain sets of small sheaves are used to aline and support the feeding and cross conveyers and the same are indicated by the ordinals 23 and 24 for the going and returning feeding conveyers 1—2, 3—4, respectively, there being arranged in connection with the returning conveyers 3 and 4 upon which the pallets travel disposed lengthwise guides 25 and also a pair of sheaves 26 over which the conveyers 3 and 4 travel immediately preceding the passage of the same around the set of driving sheaves 10 by which they are brought to the higher level of the going conveyers and are there indicated by the ordinals 1 and 2. It will be noted that this organization locates the sheaves 10 and all the allied mechanism entirely upon one side of the cross conveyers 5—6, 7—8. The supporting and guiding sheaves for the cross conveyers 5—6, 7—8, are indicated by the ordinals 34 and 35, respectively. Immediately upon the far side of each feeding conveyer 1—2, 3—4, the supporting and bearing sheaves 34 for the cross conveyer 5 are arranged in sets of three, the extra third one 36 being arranged intermediately the lower and upper sheave of the usual pair, so that when it is desired to utilize any desired feeding conveyer 1—2, 3—4, the cross conveyers 5 and 6 can be lowered, as plainly indicated in Figs. 2 and 5, in order that said cross conveyers 5 and 6 may be out of the road of the transfer means upon which the loaded pallets are being transferred to the feeding conveyer. The pair of guiding and supporting sheaves for the feeding conveyers 1 and 2 which are disposed nearest to the guiding sheaves 10 are indicated by the ordinal 27 and the same are mounted on the shaft 22 to which the hinged gravity curve, hereinbefore described, is attached, so that when said sheaves 27 are adjusted or moved, said curve will also be so adjusted.

To effect the transfer from the feeding conveyers 3 and 4 to the cross conveyers 7 and 8 of the light pallets which are traveling disposed lengthwise upon said feeding conveyers and are intended to be so placed upon said cross convevers as also to travel disposed lengthwise thereon, there is provided a gravity curve indicated by the ordinal 28 at its end adjacent said feeding conveyers and by the ordinal 30 at its discharge end and provided with rollers indicated by 29 at the receiving end and indicated by the ordinal 31 at the discharge end. In connection with said gravity curve there may be provided, and is herein shown, a curved guide 32 to assist in effecting the proper travel of the empty pallets 15 around the curve, as is plainly indicated in Fig. 6. To further effect the guiding of said pallets lengthwise onto said cross conveyers 7 and 8, there are provided rigid inclined guides 33 disposed respectively on the outside of and above said cross conveyers, as is plainly indicated in Figs. 5 and 6. The light pallets 15 are thus received and discharged longitudinally of the feeding and cross conveyers as are also the loaded pallets, although the latter are conveyed in a transverse position upon said conveyers.

In order to provide for the proper tension and to allow for expansion and contraction of the feeding conveyers, I have provided the take-up members indicated by the ordinal 9. Likewise, in order to preserve the proper tension of the cross conveyers when the same is disturbed by the lowering of the conveyers 5, as indicated in Figs. 2 and 5, or to allow for expansion and contraction, I have provided the take-up members 11.

What I claim is:

1. In a pallet-conveyer, the combination of means adapted to convey pallets lengthwise; a gravity curve, one end of the latter being disposed to receive said pallets lengthwise; conveying means disposed angularly relatively to said first mentioned conveying means; and rigid inclined guides disposed adjacently to the other end of said curve and laterally of both sides of said second-mentioned conveying means to guide the pallets lengthwise onto the latter.

2. In a pallet conveyer, the combination of two relatively angularly disposed sets of pallet conveying means, each of the latter comprising parts adapted to convey in both directions, respectively; and two gravity curves disposed with their ends respectively adjacent the going and returning parts of said sets of conveying means, the going parts of said conveying means and the returning parts of said conveying means being arranged to transfer pallets crosswise and lengthwise, respectively, or vice versa.

3. In a pallet conveyer, the combination of two relatively angularly disposed sets of pallet conveying means, each of the latter comprising parts adapted to convey in both directions, respectively, the going parts of said conveying means traveling intermediately the vertical planes containing the respective returning parts thereof, or vice versa; and two gravity curves disposed with their ends respectively adjacent the going and returning parts of said sets of conveying

means, whereby the pallets may be carried lengthwise in one direction, and crosswise in the other direction, the full amount of travel.

4. In a pallet-conveyer, the combination with two relatively angularly disposed sets of pallet conveying means, each of the latter comprising endless cables disposed in relatively upper and lower horizontal planes; means causing said lower cable portions to travel intermediately the vertical planes containing said upper cable portions; and two gravity curves disposed with their ends respectively adjacent one of each set of cables, one of said curves connecting the upper cable portions, and the other curve connecting the lower cable portions; said upper curve adapted to receive pallets disposed crosswise upon the upper cable portions of one set and discharge them crosswise onto the other upper cable portions and the lower curve adapted to receive pallets lengthwise from the lower portions of the last-mentioned cables, and discharge them lengthwise upon the lower cable portions of the first-mentioned cables.

5. In a pallet-conveyer, the combination with two relatively angularly disposed sets of pallet-conveying means; of a gravity curve hinged at one end adjacently one of said sets of means and whose other end is disposed adjacently said other set of conveying means, and a common support for said hinged end and the adjacent conveying means.

Signed by me, this 9th day of February, 1918.

ARTHUR O. DUPUY.