

T. M. KEITH.
 PLATFORM CONVEYER.
 APPLICATION FILED JUNE 23, 1914.

1,191,434.

Patented July 18, 1916.

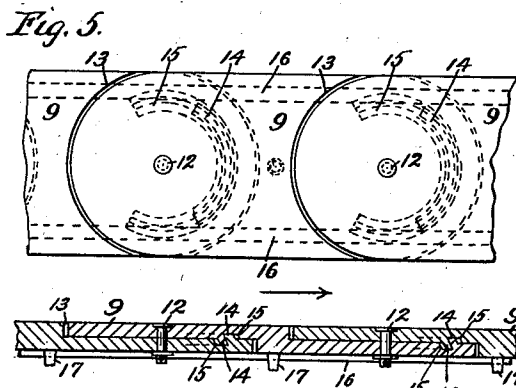
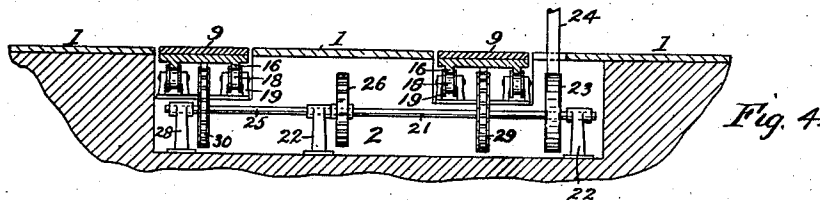
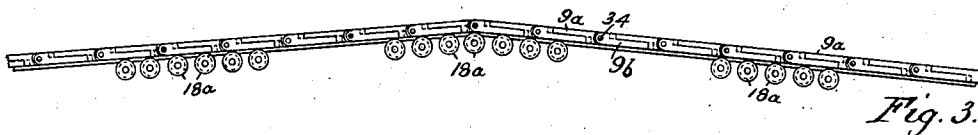
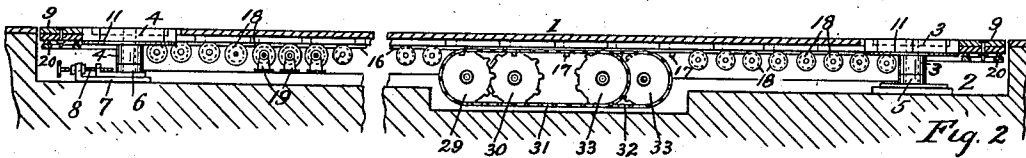
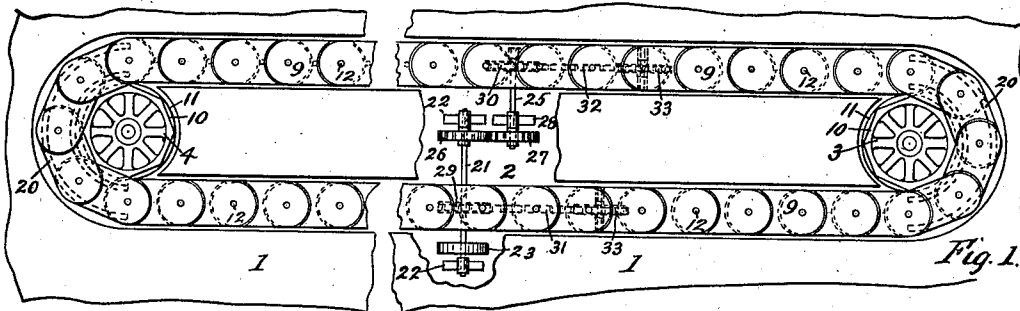


Fig. 6.

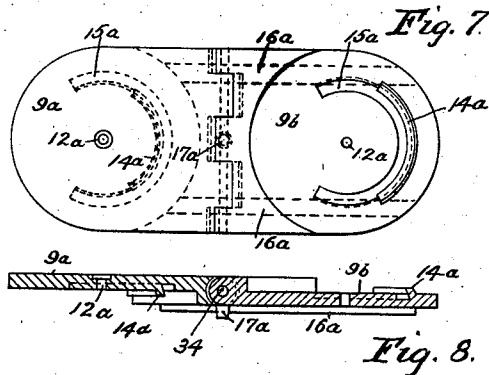


Fig. 8.

Witnesses:

W. J. Kingsley
M. J. [Signature]

Inventor

Thomas M. Keith
 By *Wm Bodge* Attorney

UNITED STATES PATENT OFFICE.

THOMAS M. KEITH, OF BROOKLYN, NEW YORK.

PLATFORM CONVEYER.

1,191,434.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS M. KEITH, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Platform Conveyers, of which the following is a specification.

The invention relates to improvements in platform-conveyers designed particularly for transporting merchandise or passengers in opposite directions either along a floor level or in an angular path; and the object of the invention is to provide a simple and durable endless conveyer, having but few parts, and arranged for both lateral and vertical flexibility.

A further object includes means for supporting and propelling conveyers of considerable length. And the invention also includes certain details of construction hereinafter set forth.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like characters of reference are used to designate corresponding parts throughout the several views, and in which:

Figure 1 is a ground plan illustrating the conveyer embodied in the present invention; Fig. 2, a side elevation, partially in section, of a horizontally disposed conveyer; Fig. 3, a side elevation of a portion of a conveyer disposed in an angular path; Fig. 4, an enlarged transverse sectional elevation, showing the supporting and driving mechanism; Fig. 5, an enlarged detail ground plan of one of the platform sections, shown in connection with a portion of the adjacent sections, and arranged more particularly for conveyers having a horizontal movement; Fig. 6, a longitudinal sectional elevation of Fig. 5; Fig. 7, an enlarged detail ground plan of a two-part platform section, arranged with a transverse hinge connection for conveyers moving in a vertically angular path; and Fig. 8 is a longitudinal sectional elevation of Fig. 7.

In the drawings, numeral 1 designates a floor level, provided with the excavation or conveyer-pit 2, within which are mounted the terminal conveyer-wheels 3 and 4, the former arranged to run loosely upon a pin secured to the fixed base 5 and the latter to run loosely upon a pin secured to the movable base 6, which in turn is slidably mount-

ed upon the fixed plate 7 and adjustable thereon by the hand-screw 8, the latter effecting the relative longitudinal adjustment of the conveyer-wheels for regulating the operative tension of the platform sections 9 of the conveyer. The wheels are provided with vertical flat surfaces 10 for engaging the inner straight edges of the platform sections, the lower adjacent surface of the latter being in part supported and guided by the projecting lower flange 11 of the wheels.

As shown in detail in Figs. 5 and 6, the platform sections 9 are all of similar construction and interchangeable with one another. They are formed with circular ends having offset upper and lower surfaces constituting upper and lower pivotal joint members for the connecting sections, wherein the latter jointly present alined upper and lower surfaces for the reception of the superposed working load and the lower supporting mechanism. Axially of the pivotal joints the connecting sections are provided with pins 12, arranged with end abutments to prevent essentially the vertical displacement of the connected members. The adjacent marginal edges of the sections are concentric with the pins 12 and are somewhat separated from each other to leave a clearance space 13 for facilitating the assemblage of the parts. Projecting from the horizontal bearing surfaces of the pivotal joints, the sections are provided with driving-lugs 14 which engage each other in their respective sections and are positioned thereon concentrically with the pins 12 and also with regard to the driving direction of the conveyer. To operatively resist the tendency of the vertical displacement of the driving-lugs, the engaging surfaces of the latter are beveled accordingly with reference to the direction of movement, as indicated by the arrow. The bearing surfaces of the pivotal joints are further provided with clearance recesses 15 to afford the necessary axial movement of the driving-lugs formed on the adjacent members. Projecting below the lower surface of the sections and adjacent the opposite side edges thereof, are bearing-shoes 16, and also fixed to the lower side of the sections are the centrally disposed projecting drive-pins 17, equally spaced longitudinally with respect to the assembled sections.

The supporting mechanism, as herein shown, consists of a plurality of rollers 18,

loosely mounted for rotation upon pins fixed in brackets 19, carried by suitably arranged footings within the pit. The rollers are disposed on a common level and movably support the bearing-shoes 16 of the platform sections, the latter being laterally maintained in alinement with one another along their longitudinal lines of movement by the side flanges formed on the rollers. Provision for the wearing action by the supporting mechanism may obviously be made by detachably securing to the bearing-shoes suitable wear-plates having their ends laterally beveled and overlapping to present uninterrupted contact surfaces for engagement of the rollers. In the circular movement of the conveyer around the terminal wheels 3 and 4, the main support of the platform sections is preferably obtained by the engagement of the bearing-shoes with the fixed bars 20, curved to accord with the path of the shoes and conveniently supported within the pit.

In conveyers of this class having considerable length, power is preferably applied thereto at two or more points intermediate the terminal wheels, and, as herein shown, includes a main shaft 21, mounted within the pit in bearings 22 and provided with a driving-pulley 23, arranged to receive its power from any convenient source, as the belt 24. From the shaft 21, motion is transmitted in suitable direction to a second shaft 25 by the gears 26 and 27, fixed to said shafts respectively, said second shaft being likewise supported within the pit by the bearings 28. Upon the shafts 21 and 25 are respectively fixed the chain-wheels 29 and 30, carrying their respective chains 31 and 32, constituting drive-chains, provided in the usual manner with idler-wheels 33, mounted in conventional bearings. Suitable attachments are provided for the drive-chains for engaging the drive-pins 17, fixed to the bottom of the platform sections, and upon the rotation of the shafts, power will be transmitted to the two points on opposite longitudinal sides of the conveyer and accordingly divide the working stress thereon and provide a more efficient device.

When the path of the conveyer is of considerable vertical angularity, as shown in Fig. 3, the platform sections, as indicated in Figs. 7 and 8, are preferably constructed in two parts 9^a and 9^b, and are hinged together for vertical flexibility by the hinge-pins 34. These two-part sections, like the one-part section 9, are similarly pivoted together for lateral flexibility at the axial points 12^a, and they are similarly provided with driving-lugs 14^a, clearance spaces 15^a, bearing-shoes 16^a, and drive-pins 17^a, all arranged and operated in a manner similar to that heretofore described for the horizontally disposed conveyer, the supporting means in the angular conveyer being indicated by the rollers 18^a.

While the two-part platform sections are preferably used for conveyers having considerable vertical angularity, it will be evident that the normal clearances necessary for the members of the one-part platform sections will admit the employment of the latter in situations of limited vertical angularity.

As the operation of the various parts has been set out in detail and in the connections wherein they cooperate with each other it is believed a recapitulation of the entire operation is unnecessary. It is apparent, of course, that while I illustrate and describe the preferred embodiment of the invention it is susceptible of various changes as regards its form, proportion, detail construction, and arrangement of parts without departing from the spirit and scope of the invention.

What I claim as my invention and desire to secure by Letters Patent, is:

1. An endless platform-conveyer comprising a plurality of similar platform sections, the ends of each thereof formed in horizontal offset relation and constituting upper and lower joint members provided with circular terminal edges and engaging each other in adjacent sections and presenting alined upper surfaces, integral driving-lugs projecting from the engaging faces of said joint members in concentric arrangement with the circular terminal edges thereof and engaging each other in adjacent sections, clearance recesses formed in the engaging faces of said joint members for the reception of the driving-lugs of the adjacent sections, pins axially disposed with respect to said circular terminal edges and driving-lugs and pivotally connecting said adjacent sections, and means for supporting and propelling said connected sections.

2. In a platform-conveyer, a platform section having the ends thereof formed in horizontal offset relation and constituting upper and lower joint members provided with circular terminal edges and adapted to engage corresponding members in adjacent sections and present therewith an alined upper surface, perforations formed in said joint members in axial relation with the circular terminal edges thereof and adapted to receive pins for connecting said adjacent sections together, integral driving-lugs projecting from the engaging faces of said joint members in concentric relation with the circular terminal edges thereof and adapted to engage corresponding driving-lugs in said adjacent sections, and clearance recesses formed in the engaging faces of said joint members and adapted for the reception of the driving-lugs of said adjacent sections.

3. In a platform conveyer, a two-part platform section therefor, a vertically flexing hinge connection uniting said parts together,

horizontally offset upper and lower joint members formed at the opposite ends of said two-part section and provided with circular terminal edges and adapted to engage corresponding members in adjacent sections and present therewith alined upper surfaces, integral driving-lugs projecting from the engaging faces of said joint members in concentric relation with the circular terminal edges thereof and adapted to engage corresponding driving-lugs in said adjacent sections, and clearance recesses formed in the engaging faces of said joint members and adapted for the reception of the driving-lugs of said adjacent sections.

4. An endless platform conveyer comprising a plurality of similar two-part platform sections, a vertically flexing hinge connection uniting the parts of each of said two-part sections together, horizontally offset upper and lower joint members formed

at the opposite ends of each of said two-part sections and provided with circular terminal edges and engaging corresponding members in adjacent sections and presenting therewith alined upper surfaces, integral driving-lugs projecting from the engaging faces of said joint members in concentric relation with the circular terminal edges thereof and engaging corresponding lugs in adjacent sections, clearance recesses formed in the engaging faces of said joint members for the reception of the driving-lugs of the adjacent sections, and means for supporting and propelling said sections.

Signed at New York in the county of New York and State of New York this 18th day of June A. D. 1914.

THOMAS M. KEITH.

Witnesses:

CHAS. W. LA RUE,
WALTER H. HUSTED.