

Dec. 26, 1933.

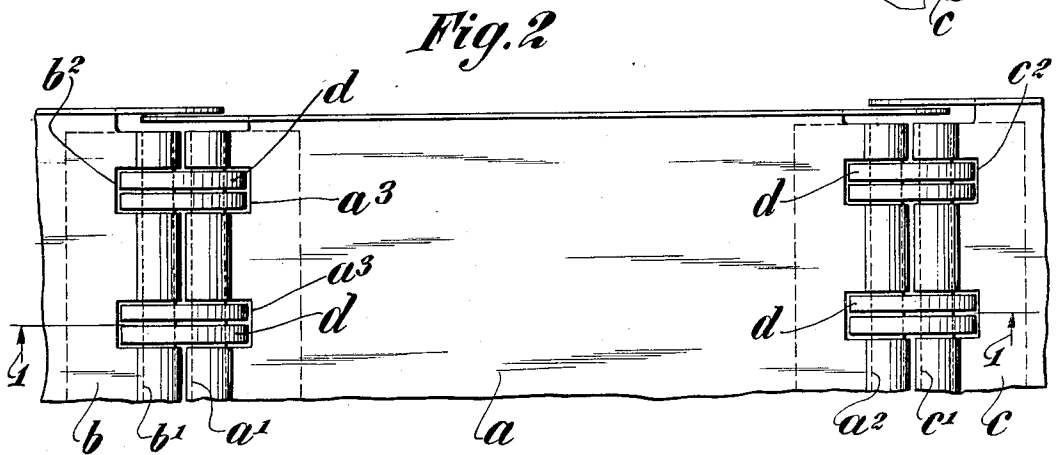
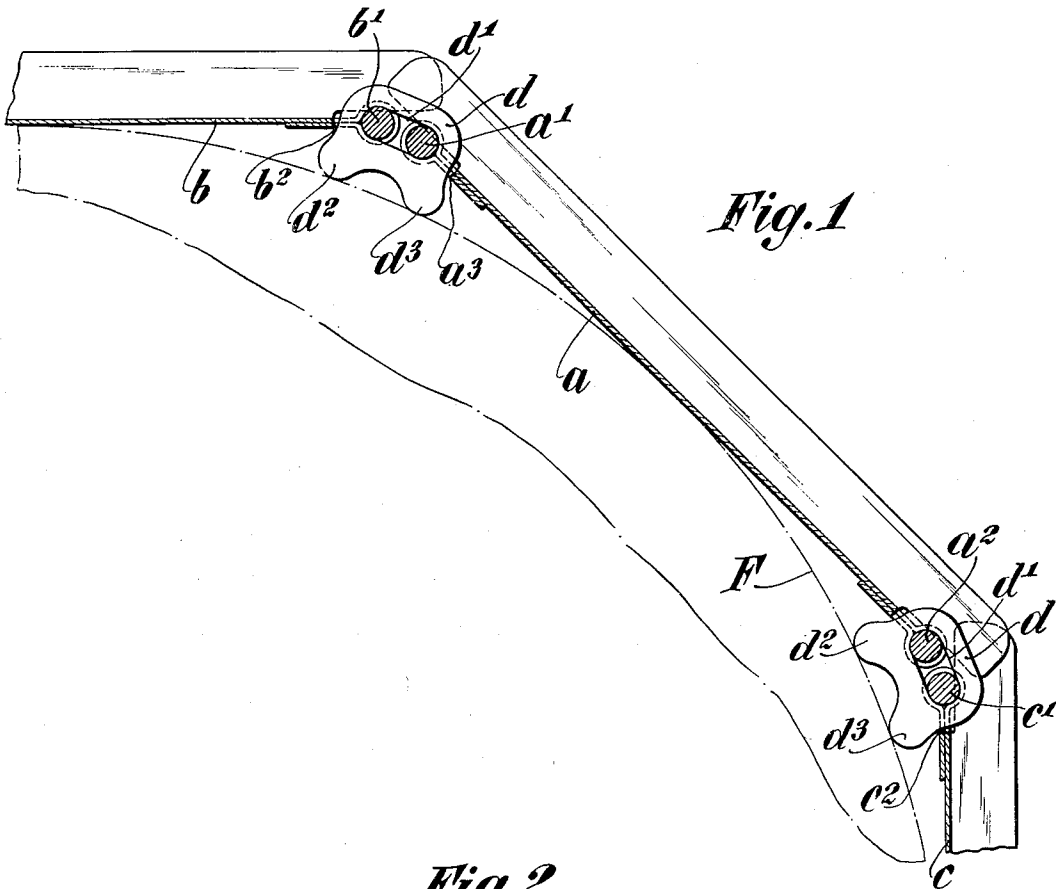
H. AMBRUSON

1,940,832

CONVEYER BELT

Filed Aug. 26, 1931

2 Sheets-Sheet 1



INVENTOR
Henry Ambruson,
BY
Residing, Greeley, O. Shea & Campbell
HIS ATTORNEYS

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Fig. 3

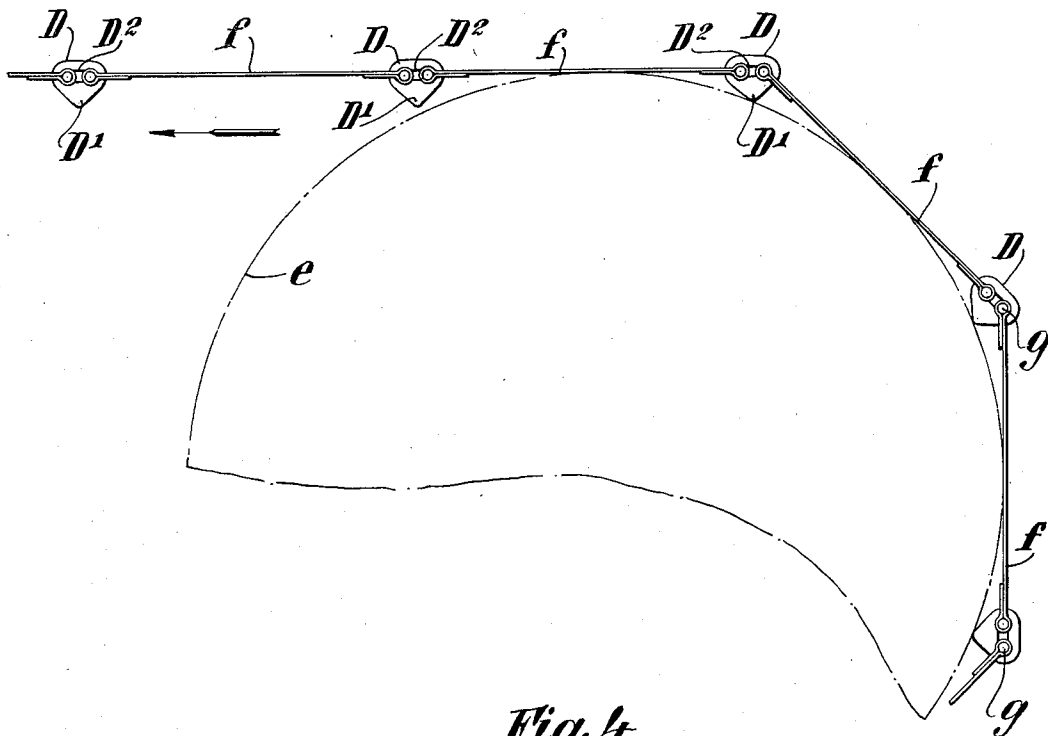
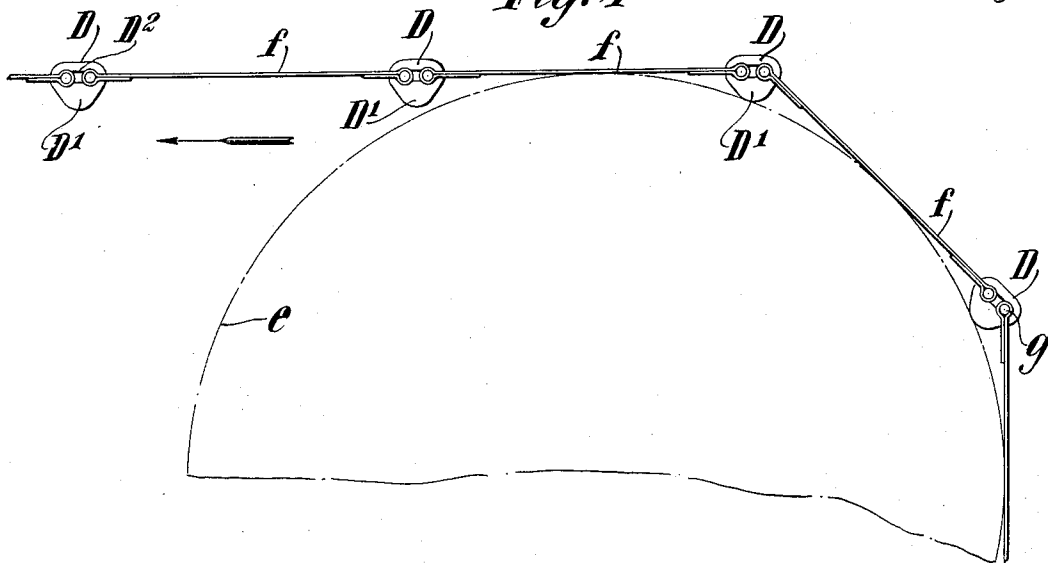


Fig. 4



INVENTOR
Henry Ambruson,
BY
Redding, Greeley, O'Shea & Campbell
HIS ATTORNEYS

UNITED STATES PATENT OFFICE

1,940,832

CONVEYER BELT

Henry Ambruson, Worcester, Mass., assignor to
Edward C. Bowers and Charles L. Feldman,
receivers of Wickwire Spencer Steel Company,
New York, N. Y., a corporation of Massachu-
setts

Application August 26, 1931. Serial No. 559,448

7 Claims. (Cl. 198—196)

This invention relates to improvements in the type of plate conveyer belt disclosed in an application filed by Vernon C. King on Aug. 26, 1931, Serial No. 559,432, wherein adjoining longitudinal sections are pivotally interconnected by double hinges and the links are formed with bearing supports to space the plates from the carrier drums. The present improvements are related particularly to the form of links employed to overcome certain disadvantages in practice found to exist in the type of link illustrated in the said King application, all as will appear more fully hereinafter. Reference is now to be had to the accompanying drawings showing the improvements and also, by way of contrast, the King construction which offers certain objections. In the drawings:—

Figure 1 is a view in section showing the relation of the improved conveyer and links to a carrier drum and taken on the plane indicated by the line 1—1 of Figure 2.

Figure 2 is a view in plan of a fragment of the improved conveyer.

Figures 3 and 4 are illustrations in side elevation somewhat diagrammatic, of types of links shown in the King application.

Generally speaking, the improved conveyer includes longitudinally extending plates a , b , c , each of the plates carrying at its ends hinge pins illustrated, respectively, at a' , a^2 , b' and c' . The plates are slotted as at a^3 , b^2 , and c^2 , respectively, to receive links d which have horizontal slots d' therethrough to receive the adjoining hinge pins a' , b' and a^2 , c' , respectively. By the construction described it will be evident that a double hinge connection is afforded between adjoining sections with all of the advantages pointed out in the said King application, Serial No. 559,432.

The general type of connection described is illustrated in Figures 3 and 4. As shown in those figures each link D has a downwardly extending bearing portion D' which engages the surface of the carrier drum e and spaces the plates f therefrom sufficiently to relieve the plate of bending stresses. In Figure 3 the section D' is somewhat pointed at its lower end while in Figure 4 it is somewhat rounded. When the adjoining plates f are horizontally disposed the links D will conform so that the horizontal slot D^2 therein will be substantially in alignment with adjoining plates. When a plate passes onto the carrier drum e and travels thereon as indicated by the arrows, it will be pulled along by the preceding plate. The link D will remain with the slot D^2 in substantial alignment with the preceding plate so that the

oncoming plate will have to rock about its hinge pin, such as g to conform to the change in direction depending on the radius of the drum. In other words, all angular movement between successive plates will take place about one hinge pin, that being the trailing hinge pin.

The present invention has for its principal object to provide a construction in which relative angular movement between adjoining plates will take place about the two adjoining hinge pins whereby only one-half of the total angular movement will occur about each hinge pin. Referring now to Figure 1 it will be seen that the link d has two downwardly extending bearing sections d^2 , d^3 , both of which are adapted to contact with the surface of the carrier drum F . It is preferred that these bearing sections d^2 , d^3 , shall be spaced apart and shall contact with the surface of the drum on radii falling outside of the radii passing through the axes of the respective hinge pins b' , a' . Further, the contacting edges of the bearing sections d^2 , d^3 , may be convex with respect to the surface of the drum. In the improved construction it will be evident that as each link d is drawn into contact with the surface of the drum its bearing sections d^2 , d^3 , will be pressed onto the surface and the adjoining hinge pins constrained to move along the same arc. This necessarily results in each plate section having the same angular movement about its hinge pin. It will be found that of the included angle between adjoining sections one-half of the angularity is accounted for by movement of one plate and one-half of the angularity is accounted for by movement of the other plate. This reduces the wear on each pin and equalizes the wear on all pins. It requires less total angular movement of each plate about each pin and greater ease of movement and flexibility thereby reducing any tendency to bind. The bearing sections d^2 , d^3 , of all of the links will be of such form and size as to best adapt them to their intended purpose which is, in addition to assuring the action described, spacing the plates from the surface of the drum so as to relieve them from bending stresses.

Changes in dimensions and form are to be regarded within the scope of the improvements described.

What I claim is:

1. In combination with a carrier drum, a plate belt conveyer, links hingedly connecting adjoining sections, and extended bearing sections carried by the links to engage the carrier drum and hold the ends of adjoining plates on the same arc of travel.

2. In combination with a carrier drum, a plate belt conveyer comprising longitudinally extending sections, links hingedly connecting adjoining sections and spaced bearing portions on said links engaging the surface of the carrier drum.
3. In combination with a carrier drum, a plate belt conveyer consisting of longitudinally extending sections, hinge pins carried at the ends of the sections, links connecting the adjoining hinge pins, respectively, and extended bearing portions carried by the links and engaging the surface of the drum.
4. A link for belt conveyers having a horizontally extending slot to receive hinge pins and spaced bearing portions extending downwardly from said slot.
5. A link for belt conveyers having a horizontally extending slot to receive hinge pins, and spaced bearing portions extending downwardly from said slot and diverging from one another.
6. A link conveyer belt comprising flat conveyer links, short connecting links interposed between adjacent conveyer links, and a pair of hinge-pins at each joint by which said short connecting links are pivotally connected to the adjacent ends of said flat links, said short links having laterally projecting portions at each end of each link effective to engage a supporting surface.
7. A link conveyer belt comprising flat conveyer links having their ends slotted to provide laterally spaced bearing portions, a separate hinge-pin for each end of each conveyer link, additional links connecting said hinge-pins and mounted edgewise between said bearing portions, said additional links being cut out to provide open-sided bearings for said hinge-pins, and each additional link being provided with laterally projecting portions engageable with a supporting surface and substantially equally spaced from the longitudinal center line of said additional link.

HENRY AMBRUSON.

25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150