

Jan. 28, 1930.

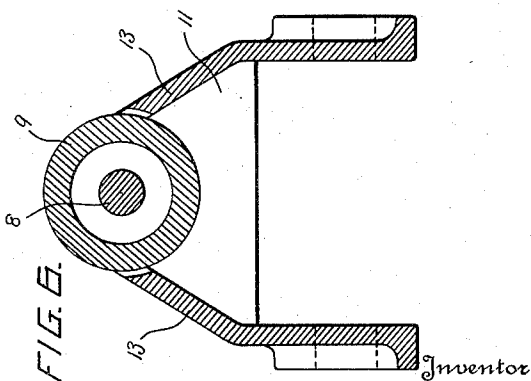
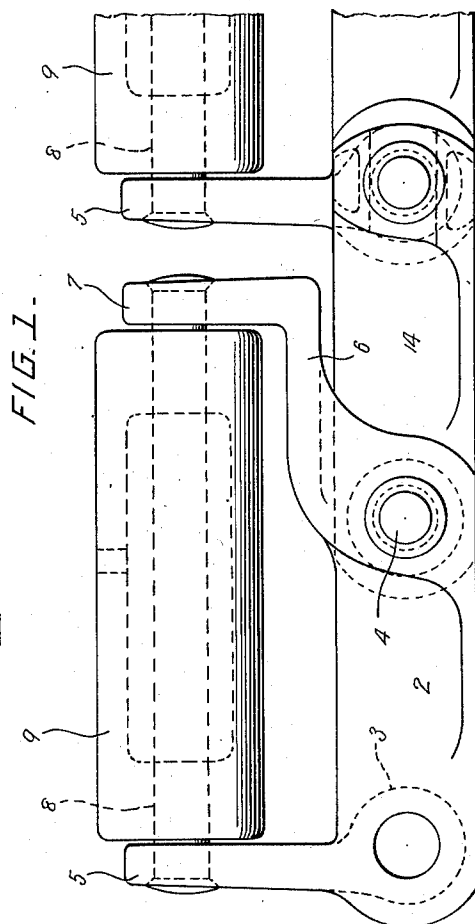
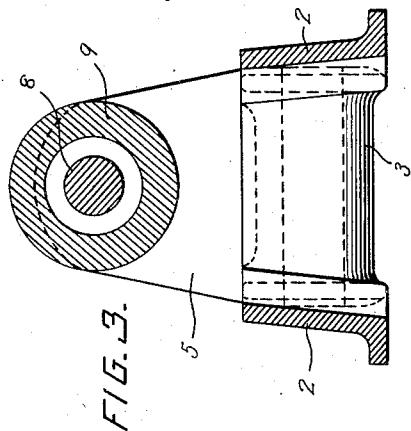
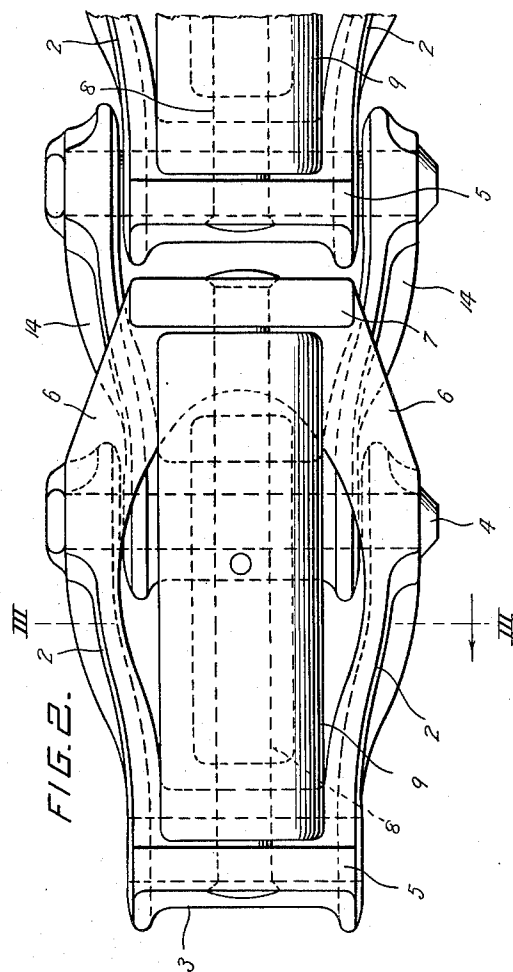
S. SHAFER, JR

1,745,192

TRANSVERSE CONVEYER

Filed Aug. 9, 1927

2 Sheets-Sheet 1



Samuel Shafer Jr.

By John S. Barker
Attorney

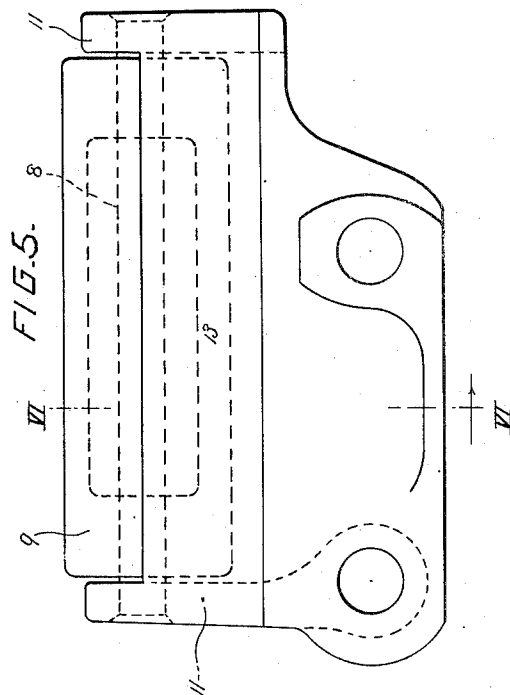
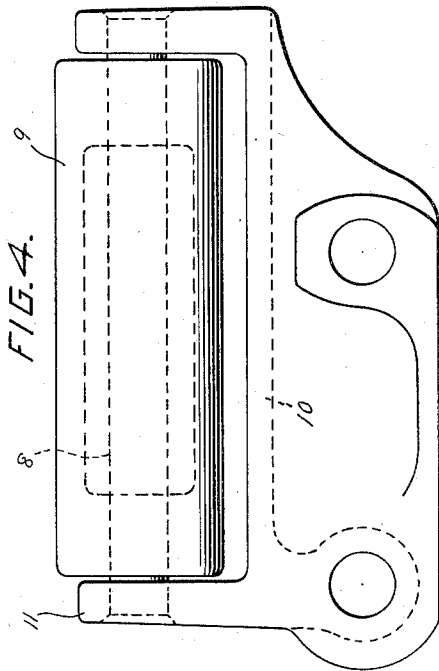
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2 Sheets-Sheet 2



Inventor

Samuel Shafer Jr.

By

John S. Barker

Attorney

UNITED STATES PATENT OFFICE

SAMUEL SHAFER, JR., OF MILWAUKEE, WISCONSIN, ASSIGNOR TO CHAIN BELT COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN

TRANSVERSE CONVEYER

Application filed August 9, 1927. Serial No. 211,794.

This invention relates to transfer chain conveyers provided with longitudinally arranged rollers that constitute the receiving surfaces for the material to be handled.

Transfer conveyers are largely used in mills, for conveying lumber, sheet or bar metal and other articles, the material they handle being received from live rolls or other conveying means that move such material at right angles to the direction of movement of the transfer conveyer. The invention consists of improvements in chains and the links of the chains employed in conveyers of this character, as will be herein set forth.

In the accompanying drawings:

Fig. 1 is a side view of a section of one form of a chain embodying my invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a transverse sectional view on the line III—III of Fig. 2.

Fig. 4 is a side view of a link of a chain embodying my invention and of a construction somewhat different from that shown in any of the views thus far described.

Fig. 5 is a side elevation of a chain link embodying the invention, of still another construction.

Fig. 6 is a sectional view on the line VI—VI of Fig. 5.

A transverse conveyer embodying my invention will usually consist of a plurality of parallel moving chains, each chain being made up of a series of pintle-connected links. These links may be of widely varying construction according to the nature of the work required of the conveyer. The chain shown in Figs. 1, 2 and 3 is made up of pintle-connected links certain of which are provided with longitudinal rollers. Such links are represented as having the side bars 2, 2 connected by tubular end bars 3, which lie between the free and separated ends of the side bars of adjacent connected links. Successive links of the chain are united by pintles 4 that pass through perforations in the separated ends of the side bars and the tubular end bars of connected links, in a well known manner, and as represented in the drawings. Extending across the link from side bar to side bar and rising therefrom and from the

tubular end bar 3 is a bridge piece or upright support 5. The free or separated ends of the side bars are extended to form arms 6 beyond the pintle openings in the side bars, these arms rising above and overlying the side bars of the next adjacent link, and being connected by an upright cross or bridge piece 7. A shaft 8 extending longitudinally of the chain, and disposed centrally between its opposite sides, is supported in the upper portions of the pieces 5 and 7, and on such shaft is mounted a free-turning roller 9. This roller, as is clearly represented in Figs. 1 and 2, is somewhat longer than the chain link, and extends over or across one of its joints of connection. This gives a comparatively long roller to serve as a support for an article that is transferred by the chain. It will be understood that an article, such as a piece of lumber or a bar of metal, is run upon and transversely over the conveyer, from one side or the other, while the conveyer is in movement, the rollers 9, since they constitute the bases on which the article rests while on the conveyer, preventing undue friction as the articles are being received.

A chain such as described may be composed of alternate longitudinal roller-carrying links such as have been described and intermediate links 14 which do not carry rollers.

This produces a conveyer carrying longitudinally arranged rollers that are materially longer than the individual links that support them in a chain made up of short links; in other words, the pitch length of the chain is materially less than the length of the roller, which is a feature of great practical advantage.

In Fig. 4 is represented a link having some of the characteristics of the link shown in Figs. 1 and 3, but differing therefrom in that it is formed with a flat top 10 below the roller and between the side bars of the link.

In Figs. 5 and 6 I show a link differing from that shown in Fig. 4, in that the closed top 10 is dispensed with, leaving an open space below the roller 9. This is desirable where loose material, such as the saw dust, is in considerable quantities and would tend to

accumulate between the roller and the top 10. In this form of chain the side bars of the link are extended upwardly and inclined toward the periphery of the roller 9, as best represented in Fig. 6. These extensions 13 of the 5 side bars not only prevent material passing beneath the rollers, but also serve as guides to so direct the ends of the material that may be passed to the conveyer that they may move 10 easily on to the exposed upper portion of the roller. The inclined extensions 13 of the side bars also serve to brace the transverse supports for the roller shafts, materially strengthening them.

15 What I claim is:

1. A conveyer chain certain of the links of which carry longitudinally arranged rollers that are materially longer than the individual links that carry them, the ends of 20 which rollers overhang certain of the pivotal connections of the links.

2. A link for a conveying chain provided with upwardly extending supports near its ends, the support at one end being beyond the 25 pivotal connection of the link, a longitudinally disposed shaft mounted in said supports, and a roller supported on the shaft, the roller being longer than the link that carries it and extending at one end over a pivotal connection of the link.

3. A pintle-connected link for a conveyer chain having side bars, a support extending upwardly from the link and uniting the opposite side bars at one end, arms extending 35 from the side bars beyond the pivotal connection at the end of the link opposite that carrying the aforesaid support, another support carried by and uniting the said arms near their ends, a longitudinal shaft mounted 40 in the said supports and a roller supported on the shaft, the roller extending over the pivotal connection of the link at the end carrying the aforesaid arms.

4. A link for a conveyer chain formed 45 of pivotally connected links, having side bars, cross supports extending upwardly from the side bars, and uniting them, such supports being arranged respectively near the opposite ends of the link, the support near one end 50 of the link being extended beyond the line of the pivotal connection of the link with another link at that end inwardly inclined extensions from the upper portions of the side bars united with the cross supports and bracing them, there being an open space between 55 the upper edges of the said inclined portions, a centrally disposed longitudinal shaft mounted in the said cross supports and a long roller mounted on the shaft and closely fitting 60 the space between the edges of the aforesaid upwardly extending inclined portions, between which it is free to turn.

5. A conveyer chain formed of sprocket links pivotally connected together, certain of 65 the links carrying long, longitudinally ar-

ranged rollers the ends of which rollers overhang the pivotal connections of the links that carry them at one end and intermediate connecting links that do not carry rollers between the roller-carrying links, such intermediate links being below the overhanging ends of 70 the rollers.

6. A conveyer chain formed of sprocket links pivotally connected together, certain of the links of which carry longitudinally 75 arranged rollers that are materially longer than the pitch length of the links of the chain.

SAMUEL SHAFER, JR.

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