

May 13, 1930.

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1,758,484

CONVEYER

Filed Aug. 23, 1926

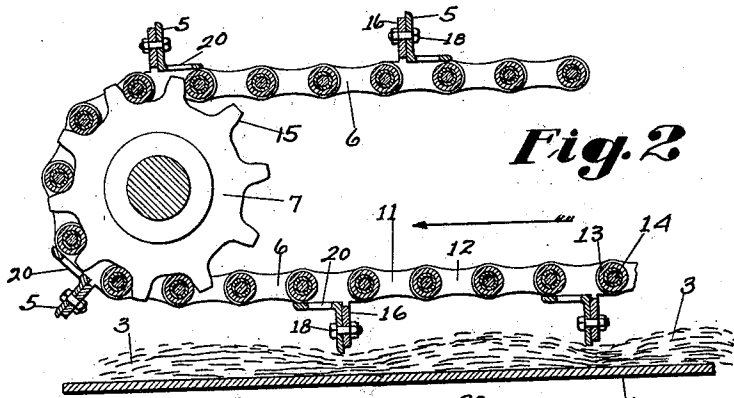


Fig. 2

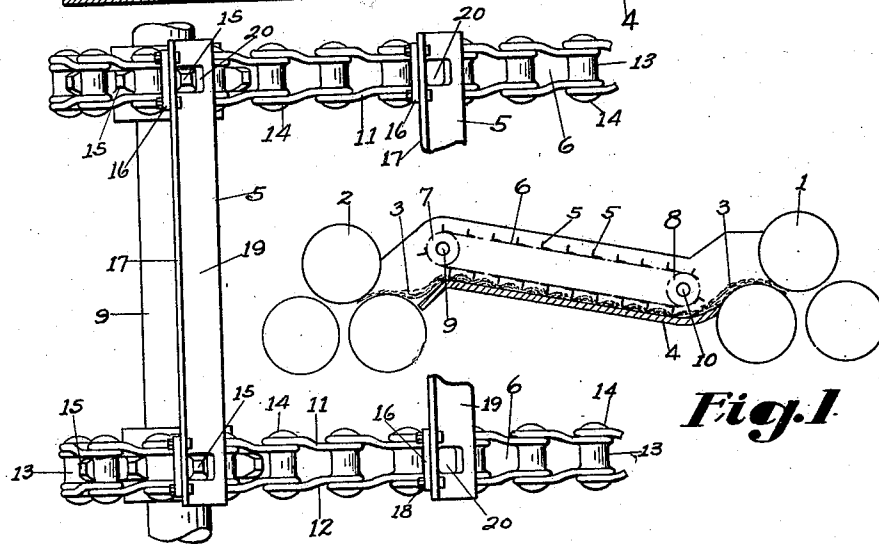


Fig. 1

Fig. 3

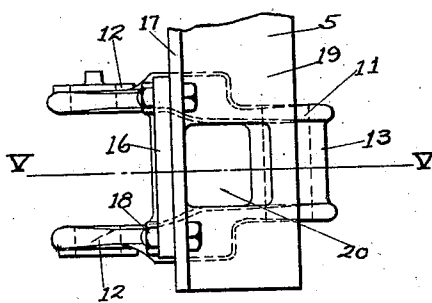


Fig. 4

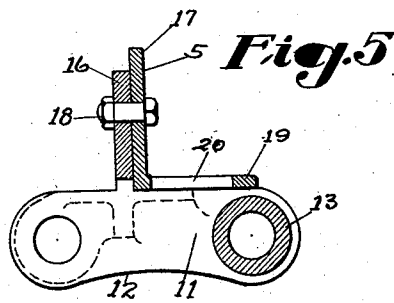


Fig. 5

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CONVEYER

Application filed August 23, 1926. Serial No. 131,047.

This invention relates to certain new and useful improvements in conveyers, and particularly the conveyers of the type which is especially adapted to transport the mat of broken cane fiber, or bagasse, between the successive rolls of a sugar mill.

The especial object of this invention is to provide, in a conveyer of the class referred to, improved conveying elements and means for attaching them to the conveyer chain, whereby is avoided certain defects inherent to the conveyers heretofore constructed.

The means whereby I attain this object are fully set forth in the following specification and illustrated in the accompanying drawing of which

Fig. 1 is a diagrammatic illustration of a conveyer of the type to which my present invention relates.

Fig. 2 is a fragmentary sectional view taken in a vertical plane extending longitudinally of a conveyer equipped with the devices of my invention.

Fig. 3 is a plan view of the devices illustrated in Fig. 1.

Fig. 4 is a fragmentary detail of one of the conveyer elements and the means of attaching it to the conveyer chain.

Fig. 5 is a sectional view taken along the line V—V of Fig. 4.

Like numerals refer to similar parts in the several figures.

In Fig. 1 of the drawing I have diagrammatically shown at 1 and 2 two of the sugar mills included in a train of such mills adapted to successfully squeeze the sugar cane to extract the juice therefrom. As here illustrated, the crushed sugar cane, commonly called bagasse, forms a mat 3 which travels successively through the mills of the train guided by conveyer troughs such as the trough 4 conveniently disposed between the successive mills of the train. This mat of bagasse is propelled along the trough 4 by a series of scraper elements 5 attached to endless chains 6 in the manner well understood in the conveyer art. The chains 6 are trained around sprocket wheels 7 and 8 attached to the head shaft 9 and the foot shaft 10 respectively. The shafts 9 and

10 are supported in suitable bearings, and are driven by suitable power devices, but as such devices are well understood in the conveyer art, more complete illustration and description is not thought to be required at this time.

The chains 6 are preferably composed of cast metal links 11 each comprising a pair of side bars 12 formed integral with a cylindrical barrel 13 positioned adjacent one end of the link. The barrel 13 is pierced by an axial aperture through which extends a pintle 14, and this pintle also projects through suitable apertures in the overlapping ends of the side bars of the next succeeding link to flexibly join said links together. Formed on the sprocket wheels 7 and 8 are sprocket teeth 15 which are adapted to project into the space between the side bars 12 and to engage the barrel 13 to drive the chain.

At spaced intervals along the chains 6 certain of the links are provided with attachment wings 16 formed integral with the side bars 12 and projecting perpendicular to the length of the chain. To the wings 16 are secured the transversely extending angle bars 5 which constitute the material propelling elements of the conveyer. The flanges 17 of the angle bars 5 bear against the forward faces of the wings 16, and are secured in place by suitable attachment bolts 18. These perpendicular flanges 17 are adapted to engage the mat 3 of bagasse, and to propel it along the trough 4. Under some conditions of service it is desirable to drive the chain 6 in such direction that the side bars 12 will project forwardly from their connecting barrel 13, and under other conditions it is preferable that the chain should travel in the reverse direction causing the side bars 12 to trail after the connecting barrel 13. In either case, the conveyer element 5 should be placed at the forward side of the attachment wing 16 to be pushed thereby, thereby avoiding tensile strain upon the attachment bolts 18. To this end I have so shaped the attachment wing 16 and the side bars 12 that the conveyer element 5 may be attached at either side of said attachment wing. The flanges 19 of the conveyer elements 5 lie adjacent the outer edges

of the side bars 12 and extend across the spaces included between the side bars 12 and the connecting barrels 13. These longitudinally extending flanges 19 serve to stiffen the conveyer elements in the direction of their greatest strain, and by their contact with the outer edges of the side bars 12 they resist any torque which may tend to twist the conveyer elements 5.

As these devices have been heretofore constructed, the flanges 19 of the conveyer elements constitute abutments against which fragments of cane fiber are compressed by the sprocket teeth 15, building up masses of fiber against which said teeth abut to create pressures tending to shear the attachment bolts 18, detaching the angle bars 5 from the chain with disastrous consequences. In order to prevent the creation of such pressures I have provided apertures 20 in the flanges 19 through which material accidentally intruded between the sprocket teeth 15 and the chain 6 may escape, thereby preventing the creation of the disastrous strains above referred to, and materially improving the operation, and increasing the life of the apparatus.

What I claim is:

1. In a conveyer of the class described, the combination with an endless chain formed of links comprising laterally spaced side bars and transversely extending connecting bodies, of a sprocket wheel having teeth adapted to extend between said side bars to engage said connecting bodies to drive the chain, and conveyer elements attached to said chain at spaced intervals having flanges which extend across the spaces occupied by said teeth upon their engagement with the links, said flanges having apertures adapted to permit therethrough the escape of material accidentally intruded between said chain and said sprocket wheel as and for the purpose set forth.

2. In a conveyer of the class described, the combination with an endless chain formed of links comprising laterally spaced side bars and transversely extending connecting bodies, of a sprocket wheel having teeth adapted to extend between said side bars to engage said connecting bodies to drive said chain, attachment wings formed integral with the side bars of some of said links and extending perpendicularly to the length of the chain, and conveyer elements bolted to said wings and having flanges which extend transversely of the chain across the spaces occupied by said teeth upon their engagement with the links, said flanges having apertures adapted to permit therethrough the escape of material accidentally intruded between said chain and said sprocket wheel as and for the purpose set forth.

3. In a conveyer, the combination with an endless chain formed of links comprising laterally spaced side bars and transversely

extending connecting bodies, and L-lights secured to certain of said links and having one flange extending perpendicularly to the length of said chain and their other flanges extended transversely of said chain and across the spaces between the bars constituting said links.

4. In a conveyer, the combination with an endless chain formed of links comprising laterally spaced side bars and transversely extending connecting bodies, attachment wings formed integral with said side bars of some of said links and extending transversely of said bars and perpendicularly to the length of said chain, and conveyer elements secured to said wings and having flanges extending transversely of said chain across the space between the bars constituting said links.

5. In a conveyer, a chain link having a sprocket tooth opening, and a conveyer element attached to said link to extend across said tooth opening and having an opening disposed opposite said tooth opening.

6. In a conveyer, the combination with a pair of conveyer chains, and an L-shaped flight having one flange thereof arranged substantially perpendicularly to the length of said chains and connected thereto and its other flange being arranged in engagement with said chains.

In testimony whereof I have hereunto set my hand.

FREDERICK E. VAN SLYKE.