

Sept. 8, 1931.

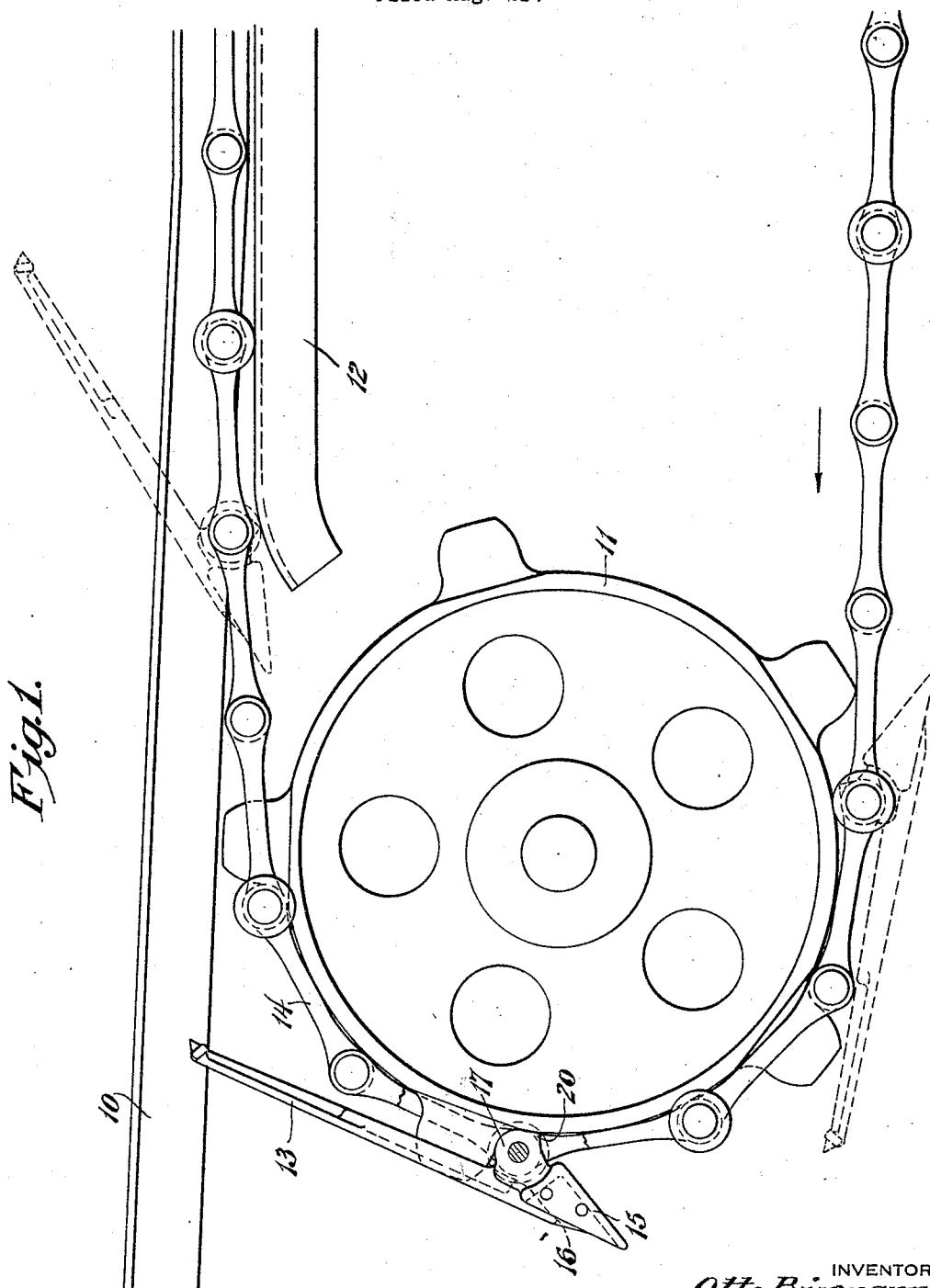
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FLIGHT CONVEYER

Filed Aug. 21, 1928

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

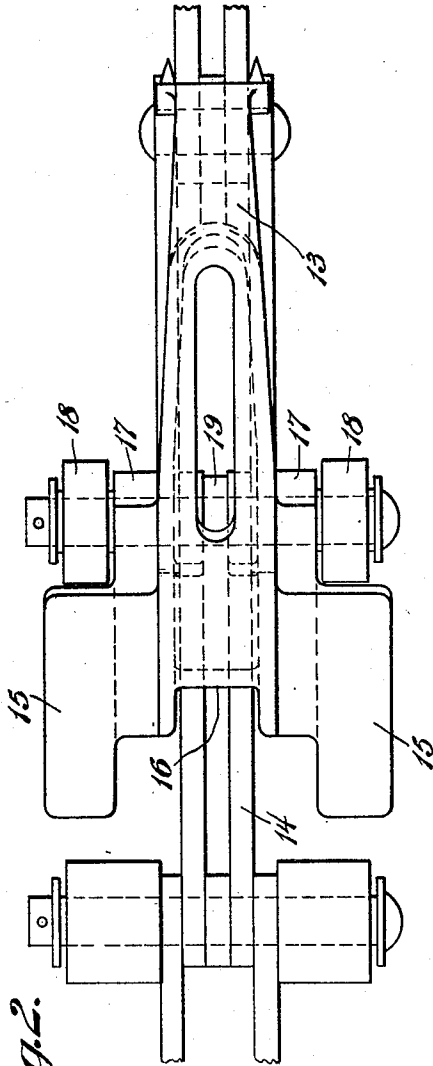


Fig. 2.

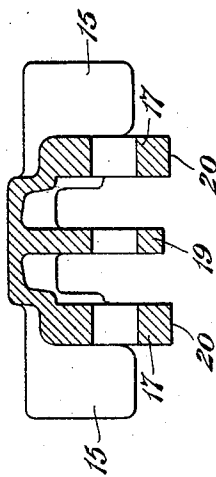


Fig. 4.

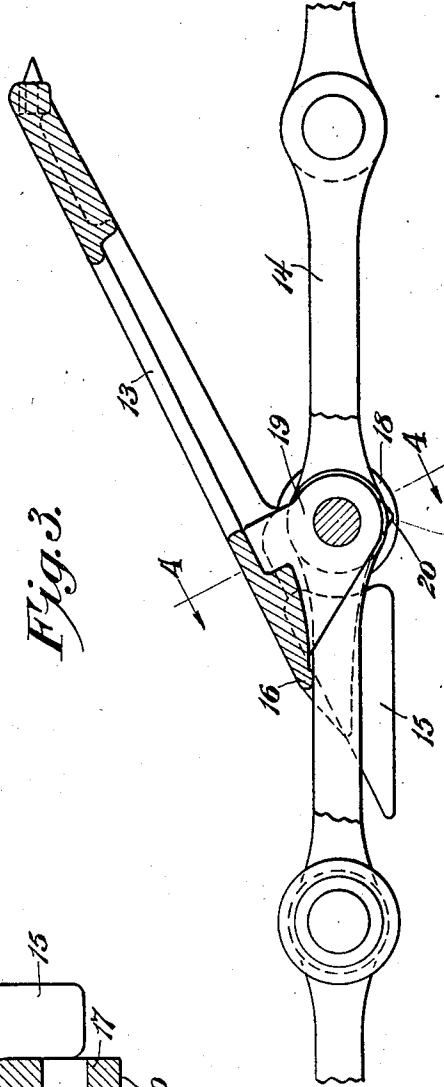


Fig. 3.

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FLIGHT CONVEYER

Application filed August 21, 1928. Serial No. 301,131.

This invention relates to flight conveyers adapted to handle ice cakes, boxes and the like and, among other objects, aims to provide improved collapsible flights having provision to hold them collapsed while they pass around the driving pulley or sprocket so that they will not rise in a more or less upright position and engage the bottoms of ice cakes or the like and break the flights or crack the ice cakes or lift the ice cakes, which might push them off the conveyer.

In the accompanying drawings:

Fig. 1 is a fragmentary side elevational view showing the preferred embodiment of the flight for handling ice cakes;

Fig. 2 is a top plan view on an enlarged scale of one of the flights;

Fig. 3 is a central, longitudinal sectional view of the flight shown in Fig. 2; and

Fig. 4 is a sectional view taken on the line 4-4 of Fig. 3.

Referring particularly to the drawings, the embodiment of the invention there shown comprises a single strand conveyer of the chain and flight type in which a series of collapsible pushers or flights are adapted to engage behind cakes of ice, boxes or the like which are fed into the conveyer on the usual type of slide 10 (Fig. 1), which has a longitudinal slot through which the flights emerge, the belt chain conveyer being driven by or trained over a pulley or sprocket wheel 11 arranged below the slide and the chain being guided and supported on the usual chain guide 12.

In accordance with the present invention, the flights comprise pusher bars 13 pivotally connected to pins on the chain 14, the pusher ends of the flights having spaced points adapted to engage cakes of ice or boxes and the like. The rear ends of the flights project beyond the pivot pins and are shown as being counterweighted so that the pushers are normally held in an upwardly inclined position, as clearly shown in Figs. 1 and 3. Herein, the rear ends of the pushers are cast integral with them and counterweights 15 are provided on the opposite sides of the links of the chain 14 behind the pivot pin. Further, the pusher has a tail piece 16 to coact with a

chain link and serve as a stop to hold the flight in its operative position.

To make the flights so that they can be applied to ordinary single strand flight chains, they are preferably cast in one piece and present side hubs 17 adapted to straddle the chain links, narrow rollers 18 being substituted for the usual anti-friction rollers which engage the chain guide 12. Moreover, a central hub portion 19 is shown as being interposed between the chain links and serves as a spacer therefor and for another purpose presently to be described.

The arrangement of the flights as thus far described is such that, when they have emerged from the longitudinal slot in the slide 10, ice cakes or the like will slide over them and rock them on their pivots. However, it is necessary to make some provision to insure that the pushers will not emerge from the slot in the slide in a substantially upright position while they are passing around the sprocket. To this end, each side hub member 17 is shown as having a spur 20 which may be a V-shaped projection extending substantially vertically below the axis of the pivot pin when the flight is in its normal position, the spurs being so arranged that they engage the periphery of the sprocket as the flight passes around it (see the dotted outline showing the position that a flight will assume when it starts around the sprocket in Fig. 1). As soon as the forward faces of the spurs 20 engage the sprocket wheel, the flight will be rotated in a clockwise direction and will be completely collapsed, being held in this position until the spurs are disengaged from the sprocket or pass over it, when the counterweights 15 will restore the flight to its operative position (see the dotted position of the flight shown in Fig. 1).

Referring to the full line position of the flight 13 as shown in Fig. 1, it will be observed that the pusher end thereof will rotate about the center or axis of the sprocket wheel and the points will not actually emerge from the slot in the slide 10 until the chain pivot pin has passed over the top of the sprocket. It frequently happens that an ice cake or box or the like is positioned directly

above the sprocket wheel. If such were the case, and the pushers should emerge from the slot in an upright position, the ice cake would either be pushed sidewise off the slide by being lifted vertically at one side of its longitudinal axis or the pusher would be broken or bent.

Obviously, the present invention is not restricted to the particular embodiment thereof herein shown and described.

What is claimed is:—

1. A collapsible flight conveyer comprising, in combination, a slide for ice cakes, an endless chain and a sprocket drive therefor both arranged below the slide; collapsible flights pivotally mounted on the chain; counterweights associated with the flights to maintain them in operative position; and means on the flights co-operating with the sprocket to hold the flights in collapsed position as they pass around the sprocket.

2. A collapsible flight conveyer comprising, in combination, a slide for ice cakes; an endless chain having a plurality of pivoted flights thereon; a sprocket drive wheel for said chain; means on the flights co-operating with the chain links to maintain the flights in operative position; counterweights on the flights; and spurs on the rear ends of the flights co-operating with the sprocket to hold the flights collapsed as they pass around the sprocket and thereby prevent them from engaging the bottoms of cakes of ice.

3. In combination with a sprocket and chain driven ice conveyer of the class described, a collapsible pusher flight pivotally mounted on the chain; a tail-piece on the flight co-operating with the chain acting as a stop for the flight; counterweights to maintain the flight in its operative position; bearing members on the flight; and means on one of said bearing members engageable with the sprocket to hold the flight in collapsed position while passing around the sprocket.

4. In combination with an endless chain and sprocket therefor, a flight pivotally mounted on the chain; and a spur rigidly secured to the underside of the flight adjacent its pivot and contacting with the sprocket to hold the flight collapsed as it passes around the sprocket.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

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