

March 22, 1932.

R. H. PANGBORN

1,850,686

CONVEYER FLIGHT

Filed Jan. 12, 1931

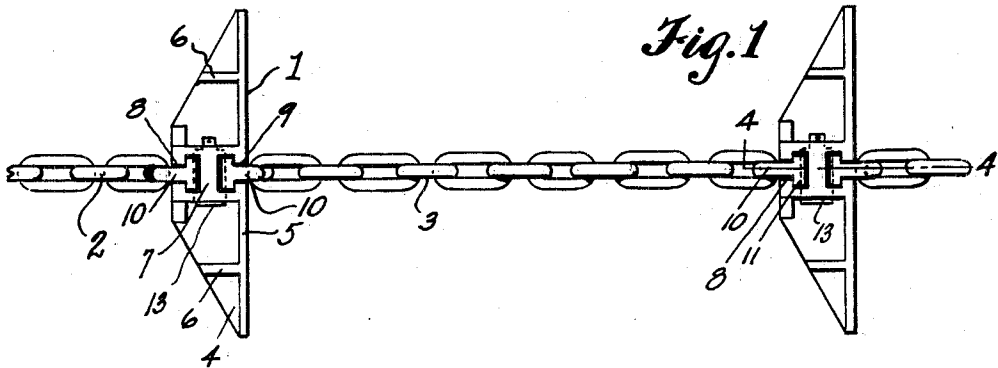


Fig. 1

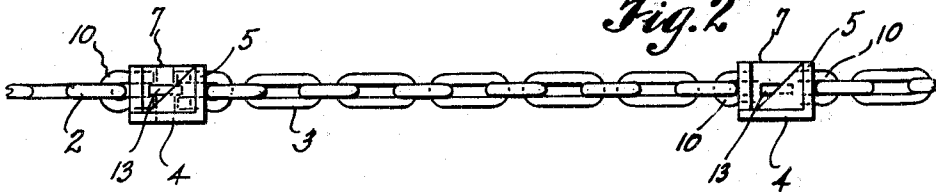


Fig. 2

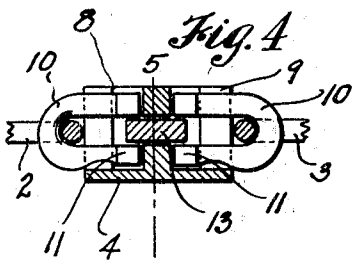


Fig. 4

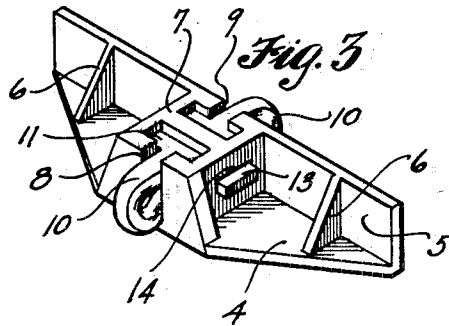


Fig. 3

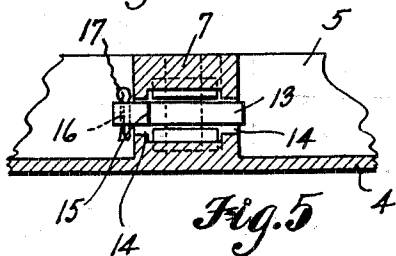


Fig. 5

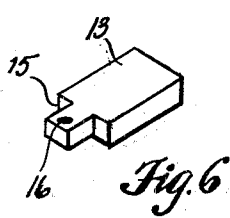


Fig. 6

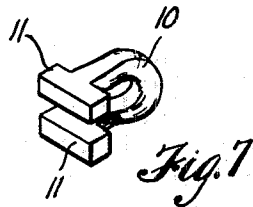


Fig. 7

INVENTOR  
FREDMOND H. PANGBORN  
BY  
*Cook & Robinson*  
ATTORNEY

# UNITED STATES PATENT OFFICE

REDMOND H. PANGBORN, OF TACOMA, WASHINGTON

## CONVEYER FLIGHT

Application filed January 12, 1931. Serial No. 508,174.

This invention relates to conveyers, and it has reference more particularly to improvements in insertable flights for chain conveyers of that character now used quite extensively in saw mill operation, but which are applicable also to various other operations, such as in mining, dredging, and elevating materials; the present invention being in the nature of an improvement upon that device disclosed in United States Patent No. 1,681,429, issued to me on August 21, 1928.

The conveyer flight embodied in the above patent briefly described, consisted of an angle iron bar equipped centrally with a transverse flange to which a link forming a part in the conveyer chain, could be disconnectably and rigidly attached; the link having an open side which permitted it first to be interlinked with the sections of a conveyer chain. It was found, however, that after some use, links having the open side would break, due to the excessive strain on the closed side of the link, and this breaking usually caused delay and trouble.

In view of the above, it has been the principal object of this invention to provide a construction whereby all the undesirable features of the previous construction are overcome yet wherein all the desirable qualities are retained.

More specifically stated, the objects of this invention reside in the provision of a conveyer flight that is provided medially of its ends with a boss having keyways at front and rear faces, adapted to receive therein in an interlocked connection the enlarged ends of U-shaped links which, after first being applied to their respective chain sections, are applied to the keyways and then locked functionally in place by the insertion of a key plate through the boss.

It is also an object of the invention to provide a conveyer flight of durable and substantial construction, that may be easily and quickly applied or removed, and which is relatively inexpensive.

Other objects of the invention reside in the various details of construction, and in the combination of parts and in their mode of operation, as will hereinafter be described.

In accomplishing these and other objects, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Fig. 1 is a plan view of a conveyer, including flights constructed and applied thereto in accordance with the present invention.

Fig. 2 is a side view of the same.

Fig. 3 is a perspective view of one of the flights.

Fig. 4 is an enlarged cross section taken on line 4—4 in Figure 1.

Fig. 5 is a cross section on line 5—5 in Figure 4.

Fig. 6 is a perspective view of the locking key used in the flight.

Fig. 7 is a perspective view of one of the disconnectable links used with the flight.

Referring more in detail to the drawings—1 designates, as a whole, a conveyer flight constructed in accordance with the present invention, and 2 and 3 designate adjacent sections of a conveyer chain between which the flight is disposed.

In its preferred form of construction, the flight is in the form of an angle iron bar embodying a flat base, or horizontal flange 4 and a vertical edge flange 5 that is braced from the base portion by the two webs 6 near opposite ends of the bar. Centrally of the flight, there is provided an enlarged boss 7 and formed therein at the front and rear sides of the flight, respectively, are slots 8 and 9. These slots extend vertically and are of a dove-tailed character, and are open at their upper ends to the top side of the flight, but are closed at their lower ends by the base flange 4. Removably fitted within the slots 8 and 9 respectively are the inner end portions of U-shaped links 10—10; each of which is provided at the ends of the leg portions, with enlarged heads in the form of cross bars 11, as shown best in Figure 7, which are adapted to be slipped downwardly into the dove-tailed slots to provide an interlocking connection whereby the links are held attached to the flight. After being applied to the slots, the two links may be held functionally connected with the flight by the insertion

of a locking key 13 within a keyway or passage 14 formed transversely through the boss; the passage being so arranged that the key, when inserted, will project between the end portions of each of the links 10—10 and will thereby keep the links from being displaced upwardly from their respective slots. The key plate is shouldered, as at 15, near one end to engage with the boss near the inner end of the passage to thereby limit its movement inwardly, and it is provided with a hole 16 through that end for receiving a key 17 to hold it against outward displacement.

Assuming that the parts are so constructed, the flight is applied to the sections 2 and 3 of the conveyer chain by first inserting the U-shaped links 10—10 through the end links of the chain sections, then slipping the enlarged end portions 11 of the links downwardly into the slots 8 and 9 of the flight, then inserting the locking key 13 to hold them functionally in place. With this construction, the links 10—10 are securely and rigidly anchored to the flight and the flight serves also as a connecting link in the complete conveyer.

The construction, while permitting of ready assembly or disassembly of parts, provides a very substantial construction, and due to the open ends of the U-shaped links, the flight may be easily and quickly removed to permit the removal and replacement of broken chain sections, or for other purposes.

Such flights are especially suited for use with conveyers in saw mills, mines, elevators, coaling stations, dredges, etc., and can be made in various sizes in accordance with the purpose for which they are to be used.

Having thus described my invention what I claim as new therein and desire to secure by Letters Patent, is:

1. In a conveyer of the character described, a cross flight having front and rear face slots, links interconnected with the ends of sections of the conveyer forwardly and rearwardly of the flight and having ends applied within said slots in an interlocked connection.

2. In a conveyer of the character described, a flight having slots formed in its front and rear faces, and open end links interconnected with sections of the conveyer at opposite sides of the flight and having enlarged ends applied within said slots in an interlocked connection.

3. In a conveyer of the character described, a flight having slots formed in its front and rear faces, and open end links interconnected with sections of the conveyer at opposite sides of the flight and having enlarged ends applied within said slots in an interlocked connection, and locking means for retaining the links against displacement from the slots.

4. In a conveyer of the character described, a flight formed with a central boss having aligned, dove-tailed slots in its opposite faces,

U-shaped link sections interconnected with sections of the conveyer belt at opposite sides of the flight, and having enlargements at their ends contained within said dove-tailed slots, and a key projected through the bars and engaging the link ends to prevent displacement from the slots.

5. A conveyer flight comprising a cross bar adapted to be disconnectably associated with sections of a conveyer chain; said bar having a central boss provided at front and rear sides with dove-tailed slots, opening at one end to the face of the boss, a U-shaped link at each side of the flight, adapted to be interlocked respectively with the conveyer chain sections at opposite sides of the flight and having enlarged cross heads at its open end adapted to be applied within said dove-tailed grooves to effect an interlocking connection; said boss having a transverse passage, and a locking key extended therethrough and engaging said links to prevent displacement of their ends from the slots.

Signed at Tacoma, Washington, this 31st day of October, 1930.

REDMOND H. PANGBORN.