Dec. 18, 1951 V. ZANITIS 2,579,410

CONVEYER CHAIN LINK

Filed April 9, 1948

Fig. 1

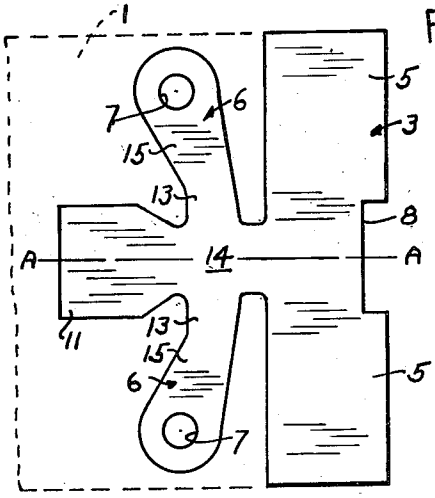


Fig. 2

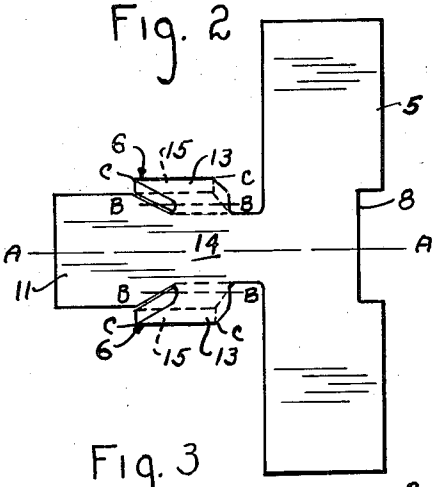


Fig. 6

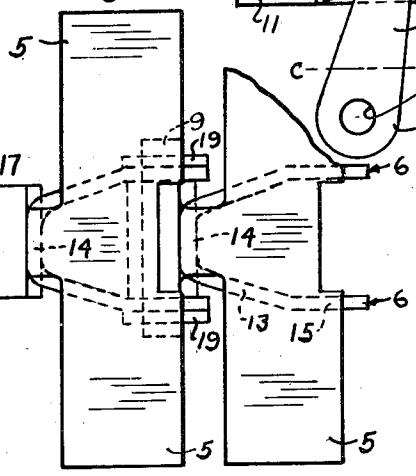


Fig. 3

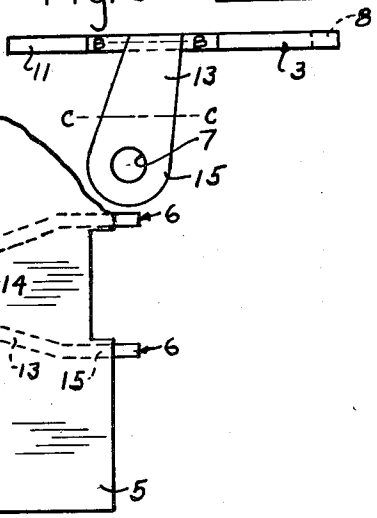
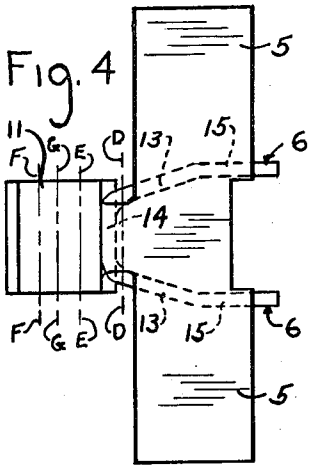


Fig. 4



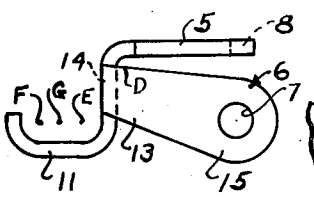


Fig. 5

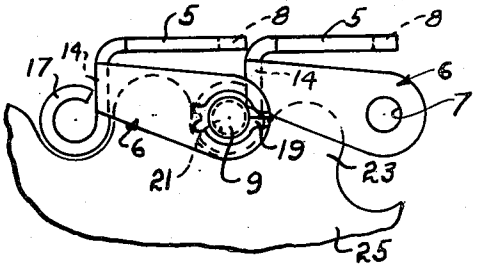


Fig. 7

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CONVEYER CHAIN LINK

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11 Claims. (Cl. 198—189)

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This invention relates to a conveyor chain. More specifically, it relates to a link for a conveyor chain which is made by a series of punching and forming operations which may be carried out on a punch or other type of press.

It is an object of the invention to provide a conveyor chain link which is easy to manufacture.

Another object of the invention is to provide a link of the kind described which may be formed from flat, strip stock.

Yet another object of the invention is to provide a link which is simple but sturdy.

A further object of the invention is to provide a link which utilizes strip stock economically and efficiently.

Another object of the invention is to provide a link which can be formed by a small number of operations.

These and other objects will become apparent from a study of this specification and the drawing which is attached hereto and is made a part hereof and in which:

Figure 1 is a plan view of the strip and the blank which is punched therefrom.

Figure 2 is a plan view of the part after the first forming operation.

Figure 3 is an elevation of the part of Figure 2.

Figure 4 is a plan view of the link after the second forming operation showing the first step in forming the hinge.

Figure 5 is an elevation of the structure of Figure 4.

Figure 6 is a plan view of two of the finished links and their connecting means.

Figure 7 is an elevation of the structure of Figure 6.

Referring now to Figure 1, the numeral 1 indicates the strip of metal such as stainless steel or any other strip stock from which the link is to be formed.

The first operation is to punch out the blank 3 as shown in Figure 1. This blank has a platform 5 which extends transversely of the axis A—A of the strip, two laterally extending arms 6 which are punched at 7 to receive a hinge pin 9 and which diverge from the platform, the saddle portion 14 which connects the arms and also connects them and the platform with the axially extending hinge tab 11. A notch 8 is formed in the edge of the platform opposite the saddle and is slightly wider than the tab 11 which is cut from it.

As noted above, the arms 6 diverge from the platform so that their free, outer ends are farther from the platform than their inner ends so

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that when the link is formed, the plane which contains the centers of the holes 7 and the axis of the hinge will be parallel to the plane of the platform.

The blank thus formed is then inserted in a forming die which bends portions 13 of the arms 6 downwardly and outwardly from the saddle 14 substantially along the lines B—B which are parallel to the axis and then bends the lower ends 15 of the arms about the line C—C until they lie parallel. The distance between the inner faces of the ends 15 is made great enough to reecive the hinge 17 which is formed from tab 11.

The second forming operation, shown in Figures 4 and 5, is also performed in a die and bends the piece ninety degrees on a suitable radius about the lines D—D, E—E and F—F. The platform now occupies the proper relation with respect to the arms and the hinge is partially formed so it need only be closed.

The third and last forming operation completes the hinge 17 by bending it substantially about the axis G—G to close it. The final form of the link is shown in Figures 6 and 7.

A hinge pin 9 is inserted through the holes 7 and the hinge 17 of the adjacent link and retaining washers 19 are crimped into grooves 21 formed in the pin 9 adjacent the outer faces of the ends 15 of the arms.

The teeth 23 of the driving sprocket 25 engage the hinge portions of the links as shown in Figure 7 to move the chain.

The notch 8 provides clearance for the saddle 14 of the adjacent link if the chain sags throughout any portion of its length.

The operation of the chain made of links formed as described is obvious and needs no description.

While I have disclosed a preferred form of my invention for purposes of illustration, it is obvious that various changes may be made in the construction and arrangement of parts thereof without departing from the spirit of the invention. I do not, therefore, desire to be limited to the exact form disclosed but desire protection falling fairly within the scope of the appended claims.

What I consider to be new and desire to protect by Letters Patent of the United States of America is:

1. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at an angle to and along one side of the platform, a hinge connected to the saddle at the side thereof opposite the platform

and arms connected solely to and extending from the saddle and away from the hinge.

2. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at an angle to and along one side of the platform, a hinge connected to the saddle at the side thereof opposite the platform and arms connected solely to and extending from the saddle underneath the platform.

3. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at an angle to and along one side of the platform, a hinge connected to the saddle at the side thereof opposite the platform and arms connected solely to and extending from the saddle and underneath the platform, the free ends of said arms being spaced to receive the hinge of an adjacent link.

4. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at an angle to and along one side of the platform, a hinge connected to the saddle at the side thereof opposite the platform, arms connected solely to and extending from the saddle and away from the hinge, and aligned holes in the free ends of the arms, the axis of the holes and that of the hinge being parallel, said platform being disposed parallel to the plane containing said axes.

5. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at an angle to and along one side of said platform, a hinge connected to the saddle at the side thereof opposite the platform, and arms connected solely to and diverging outwardly from said saddle, the free ends of said arms being disposed in parallel relation.

6. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a hinge, means for connecting the hinge to one end of the platform and arms extending from said connecting means and underlying but out of contact with the platform.

7. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle disposed at a downward angle to said platform and connected by one edge thereto, a hinge portion connected to said saddle at the other edge thereof, arms connected solely to the saddle and diverging outwardly therefrom underneath the platform, the free ends of the arms extending into parallel relation and spaced a distance greater than the length of the hinge, and perforations in the ends of the arms adapted to receive a hinge pin.

8. A conveyor chain link comprising a single piece of flat stock formed to include a platform, a saddle having a width equal to only a fraction of the width of the platform, connected at one edge to and disposed at an angle to the platform, a hinge connected to the saddle at the other side thereof and having a width substantially less than that of the platform, arms fixed solely to and extending from the saddle, away from the hinge and under the platform and a notch in the edge of the platform opposite the saddle having a width slightly greater than that of the hinge.

9. A conveyor chain link comprising a single piece of flat stock formed to include a platform, said platform merging into a narrow, depending saddle at one edge, a hinge connected to the saddle at one side thereof, arms extending from the saddle, away from the hinge and underlying the platform, said arms diverging from the platform.

10. A conveyor chain link comprising a single piece of flat stock formed to include a relatively wide platform, said platform merging at one edge into a narrow, depending saddle which terminates in a tubular hinge, and arms extending from the side edges of the saddle, underneath the platform in spaced relation thereto and diverging therefrom.

11. A conveyor chain link comprising a single piece of flat stock formed to include a wide, short platform, a relatively narrow tubular hinge portion and a distinct saddle portion connecting the hinge and one edge of the platform, and a pair of arms each connected at one end to a free edge of the saddle and extending underneath the platform in spaced relation thereto.

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