

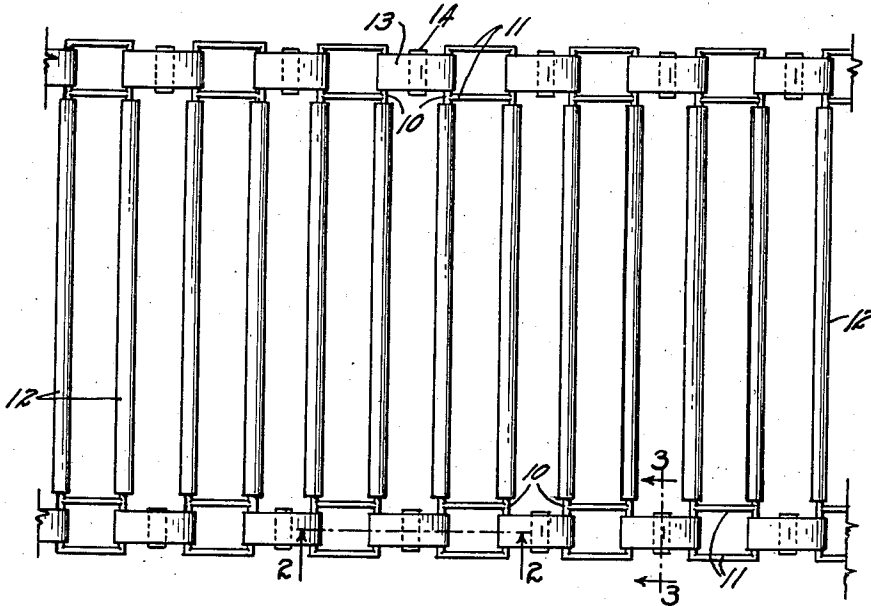
Oct. 30, 1945.

T. J. LOCKWOOD

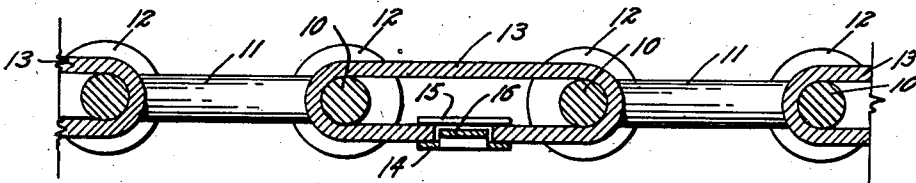
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POTATO GRADER CHAIN

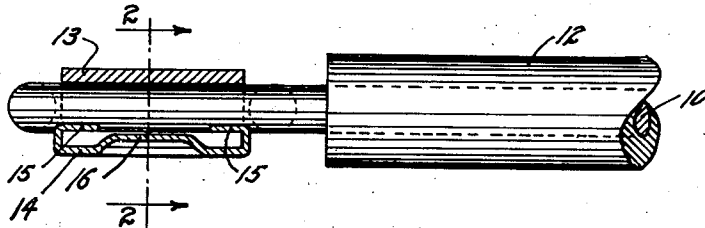
Filed May 4, 1944



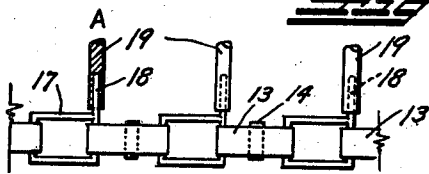
**FIG 1**



**FIG 2**



**FIG 3**



**FIG 4**

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# UNITED STATES PATENT OFFICE

2,387,918

## POTATO GRADER CHAIN

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Application May 4, 1944, Serial No. 534,121

9 Claims. (Cl. 198—195)

This invention relates to a conveyer or elevator chain of the type usually known as a "bar chain" and relates more particularly to a chain of the type used on potato elevating and grading machinery.

The principal object of this invention is to provide a chain of this character which will be extremely rugged and long lasting; which will accurately maintain its preset pitch; which will not bruise, scar or mar the potatoes; and in which damaged links or bars can be quickly and easily removed and replaced.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a plan view of a section of the improved chain;

Fig. 2 is an enlarged cross-section taken on the line 2—2, Fig. 1;

Fig. 3 is a similarly enlarged cross-section taken on the line 3—3, Fig. 1; and

Fig. 4 is a fragmentary view illustrating an alternate simplified form of the chain.

The improved chain is formed from a series of elongated, rectangular links. Each link consists of two parallel bars 10 permanently connected together, adjacent each extremity, by a pair of cross bars 11 welded or otherwise secured thereto. That portion of the bars 10 between the cross bars 11 is covered by means of lengths of rubber tubing or hose 12. The lengths of hose 12 are placed on the bars 10 before the cross bars 11 are welded therebetween.

The links are connected together to form the complete chain by means of bands 13 bent as illustrated in Fig. 2 so as to connect two of the bars 10 and maintain them spaced a distance equal to the permanent spacing of the bars 10. The extremities of the bands 13 are separated sufficiently to allow the bars 10 to be slipped into the embrace of the bands.

After the bands are in place on the bars the opening between the extremities is closed by means of a relatively soft metal clip 14 having a length sufficient to allow its extremities to be bent back over the band 13 as indicated at 15 in Fig. 3. Each of the clips 14 has a depressed center

portion 16 which fits between the extremities of the band 13 to prevent lateral shifting of the clip. The cross bars 11 prevent lateral shifting of the bands 13.

To remove a link it is only necessary to straighten an extremity on the clips 14 and slip them from place. This allows the bars 10 of the desired link to be passed through the open spaces between the extremities of the looped bands 13.

In Fig. 4 an alternate form of the improved chain is illustrated. This form employs rectangular links 17. A stud 18 projects from one side of each of the links at the extremity thereof. The studs 18 extend into receiving openings in each end of a cross bar 19 as shown by the sectional view of the bar at A, Fig. 4. The cross bars 19 may be of rubber, wood, metal or any other suitable material. The links 17 are connected together at each side of the complete chain by means of the bands 13 and the clips 14 similarly to the previously described form.

The latter form of the invention allows the same links to be used upon chains of varying widths since the width is determined by the length of the cross bars 19 which are independent of the links.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied, within the scope of the appended claims, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

1. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said parallel bars into pairs, there being a separated pair of cross bars at each extremity of each pair of said parallel bars; and links extending between the adjacent pairs of parallel bars maintaining the pairs in parallel relation.

2. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said parallel bars into pairs, there being a separated pair of cross bars at each extremity of each pair of said parallel bars; and links extending between the adjacent pairs of parallel bars maintaining the pairs in parallel relation, said links being positioned between the cross bars of the pairs of cross bars.

3. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said parallel bars into pairs, there being a separated pair of cross bars at each

extremity of each pair of said parallel bars; links extending between the adjacent pairs of parallel bars maintaining the pairs in parallel relation; and a resilient tube surrounding said parallel bars between the pairs of cross bars.

4. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said first bars into pairs, there being a separated pair of cross bars at each extremity of each pair of said first bars; links extending between the adjacent pairs of first bars maintaining the pairs in parallel relation; and a resilient tube surrounding said parallel bars between the pairs of cross bars, said links being positioned between the cross bars at the extremities of said parallel bars.

5. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said parallel bars into pairs; looped bands surrounding the adjacent bars of the adjacent pairs of bars and connecting the latter, the extremities of said looped bands being spaced apart to allow the bars to enter the loops of said bands; and means for closing the space between said extremities when desired.

6. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross bars connecting said parallel bars into pairs; looped bands surrounding the adjacent bars of the adjacent pairs of bars and connecting the latter, the extremities of said looped bands being spaced apart to allow the bars to enter the loops of said bands; and a second metallic band wrapped about the adjacent extremities of each of said looped bands to close the space therebetween when desired.

7. A bar chain comprising: a series of parallel bars extending transversely of said chain; cross

bars connecting said parallel bars into pairs; looped bands surrounding the adjacent bars of the adjacent pairs of bars and connecting the latter, the extremities of said looped bands being spaced apart to allow the bars to enter the loops of said bands; a second metallic band wrapped about the adjacent extremities of each of said looped bands to close the space therebetween when desired; and a projection on said second band extending into the space between said extremities to prevent shifting of said second band.

8. A link for attaching the adjacent bars of a bar chain together comprising: a relatively flat looped band adapted to receive a bar within each of its extremities, the extremities of said band being spaced apart at one side of the loop a sufficient distance to allow the bars to pass therebetween into said loop; and a second looped band wrapped about said extremities and extending transversely of said first looped band to close the space between said extremities when desired.

9. A link for attaching the adjacent bars of a bar chain together comprising: a relatively flat looped band adapted to receive a bar within each of its extremities, the extremities of said band being spaced apart at one side of the loop a sufficient distance to allow the bars to pass therebetween into said loop; a second looped band wrapped about said extremities and extending transversely of said first looped band to close the space between said extremities when desired; and an inwardly extending indented portion at the middle of said second band and extending between said extremities to prevent shifting of said second band along said first band.

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