Feb. 17, 1931. C. P. KUEHNER 1,793,099

CHAIN AND METHOD OF MANUFACTURING THE SAME

Filed July 23, 1929

Fig. 1.

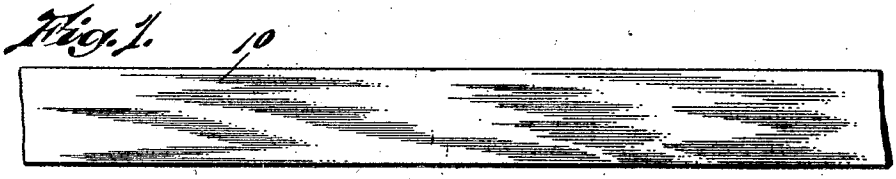


Fig. 2.

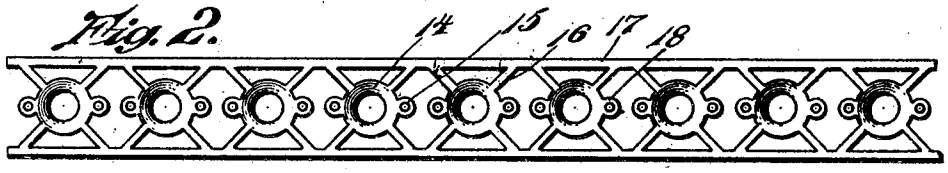


Fig. 3.

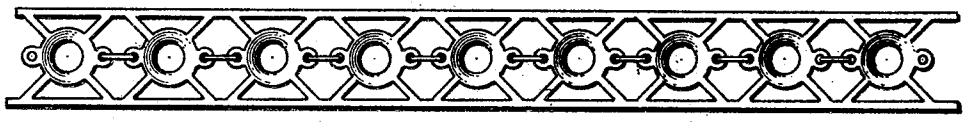


Fig. 4.

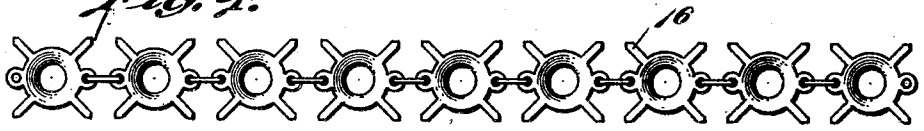


Fig. 5.



Fig. 6.



Fig. 7.

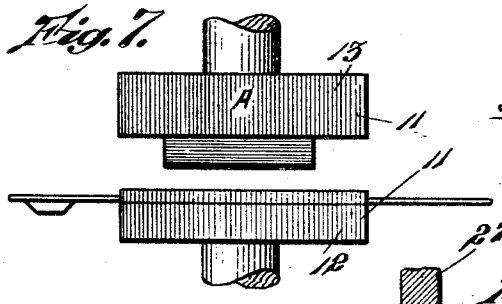


Fig. 8.

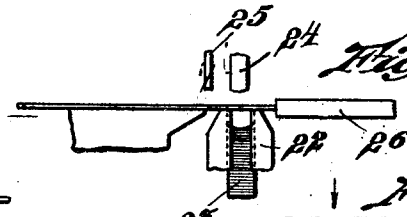


Fig. 10.

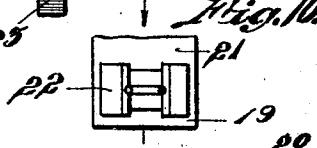


Fig. 9.

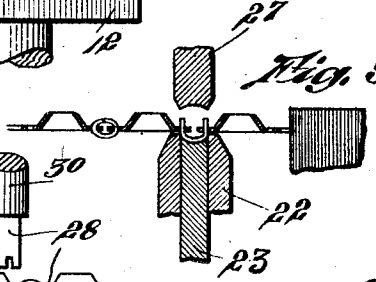
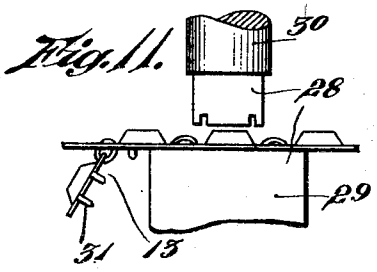
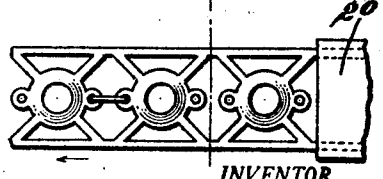


Fig. 11.





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UNITED STATES PATENT OFFICE

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CHAIN AND METHOD OF MANUFACTURING THE SAME

Application filed July 23, 1929. Serial No. 380,365.

The present invention relates to a method and apparatus for simplifying and reducing the cost of producing chains of connected elements and particularly pertains to chains of link-connected gem holders.

One object of the invention is to form a series of elements which are temporarily connected together, and which are permanently linked together before the temporary connections are removed.

Another object is to utilize portions of such temporary connections as gem-setting prongs.

A further object is to arrange a series of machines in proper relation to perform the novel method.

Other objects and advantageous features will be readily apparent from the detailed description following, in conjunction with the accompanying drawings, and will be particularly pointed out in the appended claims.

In the drawings:

Fig. 1 is a view of a sheet metal strip which is to be formed as hereinafter described;

Fig. 2 is a view after the forming operation showing the separated elements temporarily connected together;

Fig. 3 is a view after the linking operation, the elements now being permanently linked together;

Fig. 4 is a view after the severing operation, the temporary connections now being severed;

Fig. 5 is a view showing the remainder of the temporary connections formed as gem setting prongs;

Fig. 6 is a central longitudinal section of the structure shown in Fig. 5, showing the preferred form of the gem holder elements;

Fig. 7 to Fig. 11 are views, partly in section, of the novel arrangement of mechanism for performing the novel method.

The manufacture of chains of gem holders linked together has heretofore been expensive, because the separated gem holders have had to be separately formed and individually linked together. In order to reduce the cost of manufacture and reduce the amount of manual labor and supervision required, I have devised a novel method and apparatus for forming a series of spaced gem holders which are temporarily connected together, permanently linking the spaced holders while they are still temporarily connected, and then severing the temporary connections to produce the completed chain, portions of the temporary connections being utilized, if desired, as gem setting prongs; and the following is a detailed description of the method of formation of one type of chain, and of a suitable apparatus for so forming the chain.

Referring to the drawings, 10 designates a sheet metal strip or blank which is placed within a blanking or forming machine 11 having the usual base 12 and plunger die 13, as indicated in Fig. 7, to be formed into the strip shown in Fig. 2, which strip comprises a series of spaced gem holders 14 having laterally extending connecting ears 15, the holders being temporarily connected by radial strips 16 and edge strips 17. Each connecting ear 15 is pierced with an opening 18 for the purpose hereinafter described.

The strip formed as shown in Fig. 2, is then passed through a linking machine 19, shown in Fig. 10, which linking machine has a guide portion 20 for receiving and guiding the formed strip and a movable link forming base 21. The movable base 21, as indicated in Fig. 8, includes a guide 22 having the usual positioning plunger 23 movable therethrough. The connecting wire is fed against the stop 26 and then severed by the cutter 25 and formed into a U-shaped staple by the former 24 depressing the same between the guides 22 into engagement with the plunger 23 which places the connecting link through adjacent openings 18, to be closed by a downward movement of the closing former 27. The strip is next moved onwardly to a severing and bending machine 28, having a base 29 and a severing and bending plunger 30, which severs the edge strips 17 and bends the radial portions 16 downwardly to form gem setting prongs 31.

My improved method and apparatus therefore produces a chain of linked elements in a simple and relatively inexpensive manner, eliminating the usual manual labor in separately connecting the elements together. While I have described a specific type of

chain, and a specific series of machines for producing this chain, it is obvious that desired changes in the procedure, in structure, and in arrangement, may be made, within the scope of the invention as defined in the appended claims.

I claim:

1. The method of forming a chain of linked members, comprising forming a strip of elements with temporary connecting members therebetween, linking adjacent elements, and then bodily removing the temporary members between said elements.

2. The method of forming a chain of linked members, comprising forming a strip of elements with temporary connections therebetween, linking adjacent connected elements, then severing the temporary connections between said elements, and forming portions of the severed connections as gem setting prongs.

3. An article of manufacture, comprising a blank having series of spaced elements, a series of radiating strips integral with each spaced element, pierced ears integral with each spaced element and extending into the space between elements for connection to each other, and parallel connecting strips integral with and joining the ends of the contiguous radiating strips of adjacent elements.

4. An article for the manufacture of ornamental jewelry comprising a strip blank of spaced jewelry elements connected together by spacing bars, each element having an integral connecting ear extending into the space between it and the next element.

5. An article for the manufacture of ornamental jewelry comprising a strip blank of spaced jewelry elements connected together by spacing bars, each element having an integral connecting ear extending on each side thereof into the space between it and the next element.

6. An article for the manufacture of ornamental jewelry comprising a strip blank of spaced jewelry elements connected together by spacing bars, each element having an integral connecting ear extending on each side thereof into the space between it and the next element, the contiguous ears of adjacent elements being joined by connecting links.

In testimony whereof I affix my signature.

CHARLES P. KUEHNER.