UNITED STATES PATENT OFFICE.

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1,394,979.

Patented Oct. 25, 1921.

To all whom it may concern:

Be it known that I, RAYMOND W. DULL, a citizen of the United States, residing at La Grange, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Links for Chain Belts, of which the following is a specification.

My invention relates to integral links for chain belts formed from sheet metal of substantially uniform thickness.

Some of the objects of my invention are to provide a wide, supporting base for the hook; and substantially tubular, closely fitting, interlocking pintle and hook ends which shall present to each other substantially smooth and uninterrupted wearing surfaces.

Other objects and advantages not herein necessary to be mentioned will be found to be characteristic of my invention.

It will be understood that I do not wish to be limited to the particular proportions of parts here shown as they may be greatly varied without departing from the spirit of my invention. The hook end is shown in the preferred form but it can be made in any one of a variety of ways. The pintle end may be made as suggested by its parts being bent in either direction.

The invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a view of a blank from which such link may be formed;
Fig. 2 is a plan view of a finished link;
Fig. 3 is a side of a chain composed of such links.
Fig. 4 is a modified form of blank.

Like parts are indicated by the same letters in all the figures.

A are side bars connected by the end cross-bars B and C. From the cross-bar B projects the hook portion B and from the cross-bar C, the pintle portion C. The stock or portion B also forms part of the hook end. D is a hole through the blank.
To form the hook end, the cross-bar is downwardly bent from the base of the part B and the parts B and B are upwardly curved and bent toward each other so as to form the hook. To form the pintle end, the arms are bent to one side of the plane of such arms and then the cross-bar C and projection C therefrom are bent around, the latter passing between the arms so as to form a tube and the outer edge of the part C is preferably brought into substantial engagement with the inner edge of the cross-bar C. The bend can take place in either direction so as to bring the line of engagement of these two edges either above or below the body of the link, and preferably in either case substantially into the plane in which the outer portions of the two ends lie.

By making the link in this manner, it is evident that the hook portion is very strongly supported by the broad wide base furnished by the cross-bar and when the chain is flexed, the line of strain closely approaches the line of connection of the hook with the cross-bar.

The pintle is very strongly built and when the links are built up into a chain, the wearing surfaces are smooth, plain and unbroken and the edges of the meeting parts of the pintle have a minimum tendency to wear or deface the bearing surface of the hook.

It will of course be observed that some of the features of my invention can be obtained without using the others.

It will be understood of course that the size and proportions of the several parts could be greatly varied without departing from the spirit of my invention and I do not wish therefore to be limited to the precise relations shown in the drawings.

The modified form of blank shown in Fig. 4 is made with the notch Y and the tongue X. By means of this construction, I am able to save metal of a length equal to the length of the tongue in the manufacture of each link.

Claims:

1. An integral single thickness sheet metal chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar.

2. An integral single thickness sheet metal
chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar, the meeting edges of the pintle end being on the opposite side of the link from the opposed edges of the hook portion.

3. An integral single thickness sheet metal chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar, the line of departure of the hook portion from the cross-bar being approximately the lowest line of curvature of the hook end.

4. An integral single thickness sheet metal chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar, the line of departure of the hook portion from the cross-bar being approximately the lowest line of curvature of the hook end.

5. An integral single thickness sheet metal chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar, the meeting edges of the parts which form the pintle end being in substantial engagement with each other.

6. An integral single thickness sheet metal chain link comprising two side and two end bars and two substantially tubular ends, the external diameter of the pintle end being approximately equal to the internal diameter of the hook end, both ends projecting above and below the body, the hook end consisting of a downwardly curved cross-bar and two parts bent upwardly and toward each other so as to have their opposed edges on the upper side of the link body and the pintle end consisting of the curved ends of the side arms and a curved cross-bar and extension thereof, the latter passing between the arms and approaching the inner edge of the cross-bar, the meeting edges of the parts which form the pintle end being in substantial engagement with each other.

7. An integral single thickness sheet metal chain link having two side bars and two ends, the pintle end having an external diameter approximately the same as the internal diameter of the hook end and consisting of the bent ends of the side bar and bent end bar and a projection therefrom which passes between said side bars.

8. An integral single thickness sheet metal chain link having two side bars and two ends, the pintle end having an external diameter approximately the same as the internal diameter of the hook end and consisting of the bent ends of the side bar and bent end bar and a projection therefrom which passes between said side bars, the line of approach of the two edges of the parts which form the pintle being opposite sides of the link from the two edges of the hook.

9. An integral single thickness sheet metal chain link having two side bars and two end bars, the pintle end having an external diameter approximately the same as the internal diameter of the hook end and consisting of the bent ends of the side bar and bent end bar and a projection therefrom the extremity of which passes between said side bars, the bent portion of said pintle elements being bent about more than 360°. In testimony whereof I affix my signature this 16th day of March, 1920.

RAYMOND W. DULL