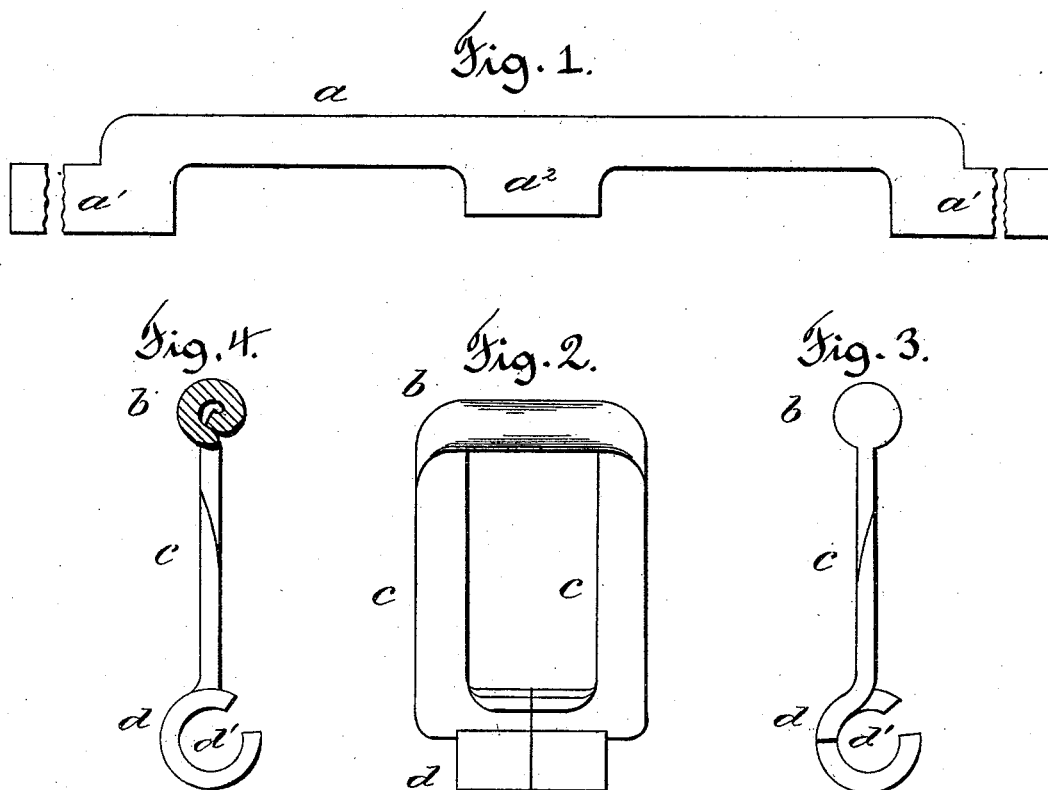


(No Model.)

C. E. HART.  
DRIVE CHAIN LINK.

No. 523,346.

Patented July 24, 1894.



Witnesses  
H. L. Liddings  
A. J. Gentling

Inventor  
Charles E. Hart,  
By Chas. L. Burdett,  
Attorney.

# UNITED STATES PATENT OFFICE.

CHARLES E. HART, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE  
STANLEY WORKS, OF SAME PLACE.

## DRIVE-CHAIN LINK.

SPECIFICATION forming part of Letters Patent No. 523,346, dated July 24, 1894.

Application filed January 29, 1892. Serial No. 419,643. (No model.)

### *To all whom it may concern:*

Be it known that I, CHARLES E. HART, of New Britain, in the county of Hartford and State of Connecticut, have invented certain  
5 new and useful Improvements in Drive-Chain Links, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates to the general class of  
10 drive chains that are made up in a number of separable links that can be united without opening a joint, the body part of the link being usually made of one continuous piece.

The object of my invention is to provide a  
15 link of this general class that may be made of great strength and in a manner to economize stock.

My invention consists in the details of the several parts making up the link as a whole,  
20 as more particularly hereinafter described and pointed out in the claims.

Referring to the drawings:—Figure 1 is a plan view of a blank from which the link is formed. Fig. 2 is a plan view of the draft  
25 chain link showing the upper side. Fig. 3 is an edge view of the link. Fig. 4 is a view in section lengthwise of the link and on a plane at right angles to the pintle and showing a rolled pintle.

30 In the practice of my invention I prefer to cut the blank  $a$  from a piece of metal of a suitable thickness depending on the size of the link and the strain to which it is to be subjected. Such a blank is formed with offset ends  $a'$  and a widened central portion  $a^2$ , the  
35 metal at  $a^2$  being utilized to form a pintle, while the ends of the blank are rolled into a tubular shape to form the knuckle end. Such a blank may be cut from sheet metal without making any appreciable waste, but I also contemplate making such a blank of a rod of metal the central portion of which may be so shaped as to provide metal enough for the  
40 pintle, the ends being flattened and offset and the intermediate portions formed of a size that will give the proper degree of strength.

When the blank is made of flat metal the oblong part at  $a^2$  is swaged into a rounded shape to form the pintle  $b$ , a twist is given to  
50 the side parts  $c$  that are bent parallel to each

other and the flattened ends  $a'$  of the blank are brought together at their edges and rolled up to form the knuckle  $d$ , the joint coming midway of the length of the knuckle. By these means a link is formed with an open  
55 central portion  $e$ . In a similar way a blank that is formed to the general shape shown in Fig. 1 is made into a link.

If desired the central portion  $a^2$  may be drawn out toward the inner edge and then  
60 rolled up to form a rounded pintle, as shown in the sectional view in Fig. 4 of the drawings, the pintle being swaged into a practically solid round form. The offset ends  $a'$  are flat and of proper shape to be used in forming a knuckle in the socket  $d'$  of which the  
65 pintle is adapted to be held.

The socket is open toward the inner side and the wall on that side is preferably formed by turning up the substance of the metal until the edge is carried above the line of the bearing surface of the sprocket tooth that projects into the open space in the chain when the latter is being used as a drive chain.

When several links are connected together  
75 to form a chain by engaging the pintle end of one link in the socket of the knuckle of the next adjacent link it is held securely against any chance of being spread open by the edges of the side bars  $c$  that will close to the edges  
80 of the knuckle the upper portion of which projects through the opening and wraps about the pintle for a considerable distance above the plane of these side parts  $c$ . By this method of making a drive chain link there is but very  
85 little if any waste of material and a link is produced by this method that is extremely strong and durable.

In forming the link from the blank it is not always necessary to twist the side parts in  
90 order to bring the ends into proper relation with each other to form the knuckle, and my invention is not limited to the link having such twisted side parts.

I claim as my invention—

95 1. The improved blank for making a drive chain link that consists of a piece of flat metal having a central pintle section  $a^2$  and the offset ends  $a'$  adapted to form a knuckle, all substantially as described.

2. As an improved article of manufacture  
a drive chain link composed of a single piece  
of metal bent to oblong form with a rounded  
pintle, side parts and a knuckle formed by  
5 rolling up the flattened offset ends of the  
blank, the inner wall of the pintle socket be-  
ing formed by an upward projecting wall from

the body of the link, all substantially as de-  
scribed.

CHARLES E. HART.

Witnesses:

CHAS. L. BURDETT,

A. B. JENKINS.