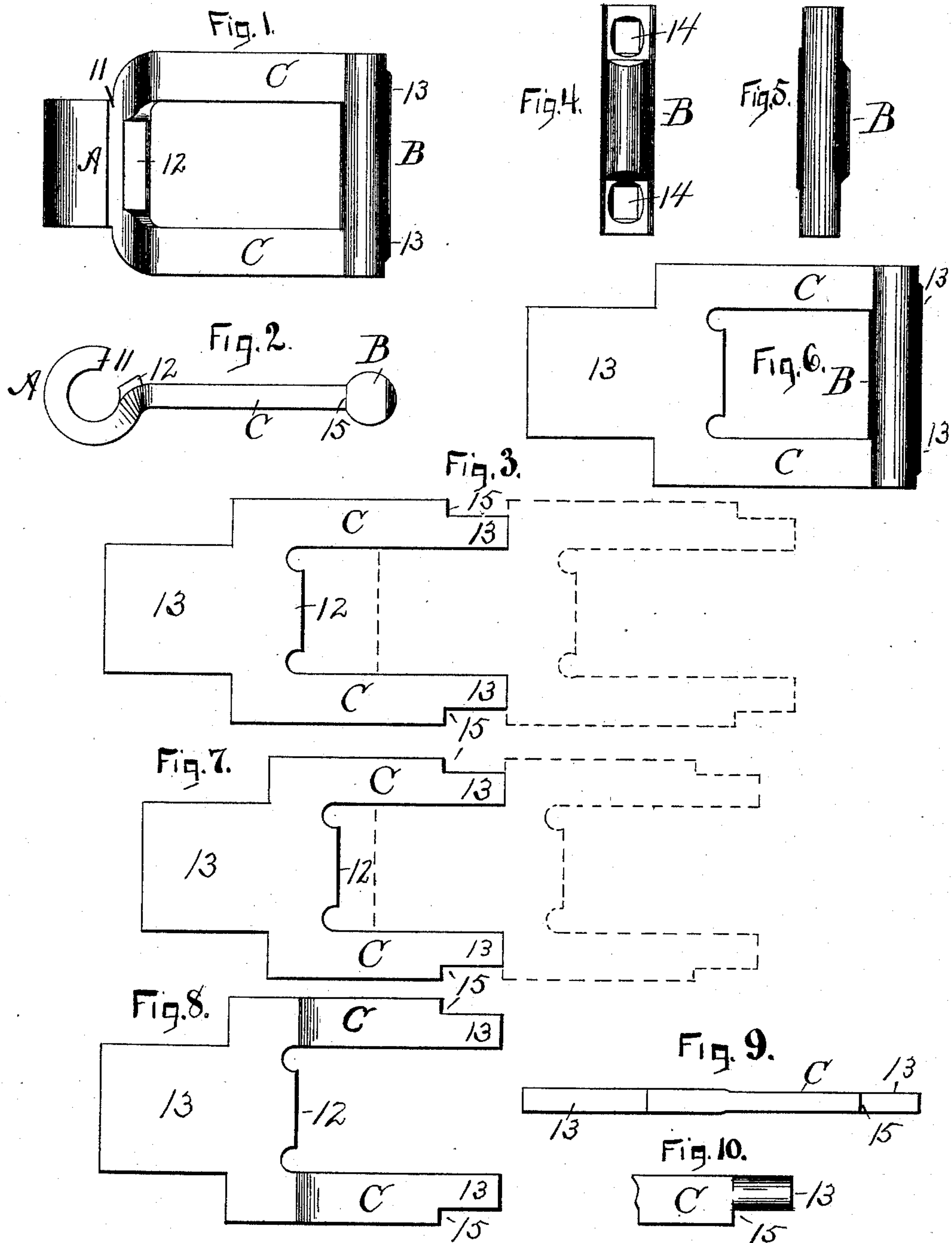


(No Model.)

W. H. HART.
DRIVE CHAIN.

No. 483,843.

Patented Oct. 4, 1892.



Witnesses:
Brayton B. Lewis,
Edward W. Bush,

Inventor:
William H. Hart,
By James Shepard
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. HART, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE
STANLEY WORKS, OF SAME PLACE.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 483,843, dated October 4, 1892.

Application filed July 30, 1892. Serial No. 441,687. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HART, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Drive-Chains, of which the following is a specification.

My invention relates to improvements in drive-chains; and the objects of my improvement are to produce an efficient and substantial drive-chain link at a small cost and with but little waste of stock, the same being produced partly of sheet metal and partly from a wire or rod.

In the accompanying drawings, Figure 1 is a plan view of one of my chain-links. Fig. 2 is a side elevation of the same. Fig. 3 is a plan view of the blank for making the side bars and knuckle, together with the contour of a second blank in broken lines, illustrating the manner of cutting out the same. Fig. 4 is a detached rear elevation of the pintle. Fig. 5 is a plan view of the same. Fig. 6 is a plan view of the pintle as secured to the side bars and knuckle-blank. Fig. 7 is a plan view of a little shorter blank for the side bars and knuckle of my chain-link, together with the contour of a second blank in broken lines. Fig. 8 is a plan view of the blank shown in Fig. 7 with its side bars reduced in thickness. Fig. 9 is an edge view of the same, and Fig. 10 is a plan view of one end of one of the side bars, showing the corners of the tenon rounded instead of being left square.

My chain-link is of the class in which the links may be all alike and which are provided with an open knuckle, side bars, and a pintle, the pintle of one link being adapted to be slipped endwise into the knuckle of the adjoining link in the ordinary manner for chain-links of this class.

A designate the knuckle, B the pintle, and C the side bars. The knuckle is left open, as at 11, for the passage of one of the side bars when the pintle is slipped therein in assembling the links. I prefer to form a lip or lug 12, bent up from between the side bars, as shown, but this of itself is not of my invention. I form the side bars and knuckle from a single piece of sheet metal, thereby form-

ing the knuckle-blank 13 and side bars C C by cutting out from sheet metal with dies, thus leaving a space between the ends of the side bars in the blank which is of substantially the same width as the width of the knuckle-blank 13, whereby said knuckle-blank may be cut from between the pintle ends of the side bars, as shown in Figs. 3 and 7. I form a tenon 13 on the pintle end of each side bar, which tenons are of less width than the side bars proper, so as to form a shoulder 15 at their junction therewith.

I form the pintle B from a wire or rod of the proper diameter by cutting it into suitable lengths and perforating it, as at 14, to receive the tenons of the side bars. I also prefer to slab off the pintle on opposite sides at the ends of the perforation to make a square seat for the shoulder 15 on one side and to leave room for a riveted head on the other side. After producing the parts as described the tenons 13 of the side bars are passed through the perforations in the pintle and their ends headed down firmly to secure said parts together, as shown in Fig. 6. I prefer to thus secure the pintle before the knuckle is rolled, but it is evident that, if desired, the knuckle-blank 13 may be rolled or formed into the knuckle A either before or after the pintle has been secured to the side bars.

It has been found by actual test that side bars of a less thickness than the knuckle will bear all the strain to which the link is subjected when in use. In order to further economize the metal, I may sometimes make the link and blank with shorter side bars, as shown in Fig. 7, thereby wasting less stock. These short side bars may then be rolled or swaged to reduce their thickness and elongate them to the same length as the side bars first described, thereby changing the short side bars in Fig. 7 into the thinner and longer side bars shown in Figs. 8 and 9. Instead of leaving the tenons 13 with square angular corners, they may also, without detriment to the link, have their corners rounded by swaging, as shown in Fig. 10, in which case the perforations through the pintle to receive said links will be correspondingly changed. While I prefer to secure the side bars to the sepa-

5 rately-formed pintle by means of tenons passing through the same, it is evident that the same economy in stock is secured by cutting the knuckle-blank from between the pintle ends of the side bars no matter how the side bars and pintle are secured together.

I claim as my invention—

10 1. The herein-described chain-link, consisting of the sheet-metal knuckle and side bars having the tenons at the pintle ends of said side bars, and the separately-formed round pintle having perforations which receive said tenons and within which they are secured,

substantially as described, and for the purpose specified.

15 2. The herein-described knuckle and side-bar blank of a drive-chain link, consisting of the knuckle-blank 13 and side bars C C, of sheet metal, with their pintle ends separated by a space substantially equal to the width 20 of said knuckle-blank, substantially as described, and for the purpose specified.

WM. H. HART.

Witnesses:

CHARLES L. SCRANTON,
LEILA C. NYE.