

C. W. LEVALLEY.

CHAINS.

No. 181,082.

Patented Aug. 15, 1876.

Fig. 1

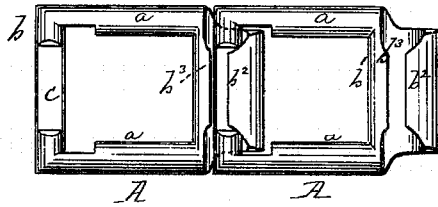
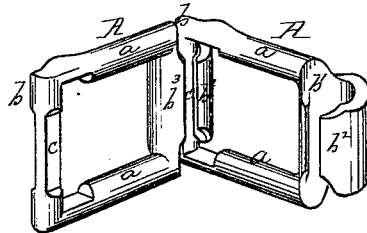


Fig. 2.



Fig. 3.



Witnesses.
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IMPROVEMENT IN CHAINS.

Specification forming part of Letters Patent No. 181,082, dated August 15, 1876; application filed December 3, 1874.

To all whom it may concern:

Be it known that I, CHRISTOPHER W. LEVALLEY, of St. Paul, county of Ramsey, State of Minnesota, have invented certain new and useful Improvements in Chains, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a front or top view of my improved chain. Fig. 2 is a longitudinal section of the same; and Fig. 3 is a view showing the relation which the links assume in being connected with or disconnected from each other.

Similar letters of reference denote corresponding parts in all figures.

The invention relates to that class of sprocket-wheel chains in which the links are constructed in such manner as to permit the removal or insertion of one or more links in the chain by hand; and consists in a novel construction of link, hereinafter explained, whereby the liability of accidental withdrawal, consequent to such construction, is greatly diminished, as hereinafter set forth.

In the accompanying drawings, A represents the link, rectangular in form, and composed of the two side bars *a a* and end bars *b b*. The bar *b*¹ is flat, and extended into hook form, curved to describe nearly a complete circle, but leaving a space between its two extremities about equal to one-half the thickness of the bar *b* in its greatest diameter. This hook is beveled, or made tapering breadthwise, so that the end shall only be equal in breadth to about one-half the length of the bar *b*. The bar *b*¹ has also formed upon it, opposite to the end of the hook, a tapering lip, *b*², corresponding in length to the end of the hook, which lip bounds on one side the space into which the bar *b* of another link is to be inserted. The opposite bar *b* of the link is cut away on both sides, as shown at *c*, for about one-half its length, and midway between its two ends, leaving a web or flattened bar corresponding in thickness to the space left between the end of the hook *b*² and the lip *b*³, the shoulders formed by flattening the bar be-

ing beveled to match the beveled ends of said hook and lip.

The two side bars *a a*, at the end next the bar *b*, have notches formed in them, into which the ends of the hook fit, by which arrangement all forward or endwise movement of the links in relation to each other is effectually prevented, while at the same time the free movement of the hook around bar *b* is permitted, to accommodate the varying angles to each other which the links may have to assume when a chain so constructed is in use.

In connecting the links together, the front faces of the links, with the ends reversed, are held facing each other at an angle of about ninety degrees, more or less, the flattened portion of bar *b* of one link opposite to the space between the hook and lip of the other, when said bar *b* is permitted to slip into the space left between said lip and hook, after which a slight turn given to either link prevents their being disconnected until they are again brought to the exact position at which they were connected.

The link is cast in the form above described, the hook part being formed by means of a core placed in the mold, which also chills it, thereby strengthening the hook, and preventing its being straightened or drawn out when in use, as is sometimes done where the hook is made malleable, and afterward bent into the required form.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The link A, provided with the beveled or tapering hook at one end, and with the centrally notched or recessed bar at the other, constructed to operate in the manner described.

2. The link provided with the hook *b*², lip *b*³, and flattened or recessed end bar *b*, constructed as described, for the purpose set forth.

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Witnesses:

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