

H. W. HALL.  
Driving-Chains.

No. 215,056.

Patented May 6, 1879.

Fig., 1.

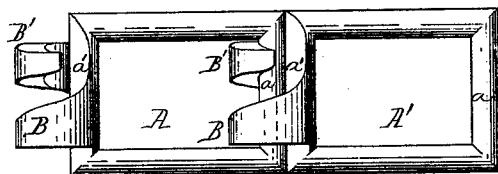


Fig., 2.

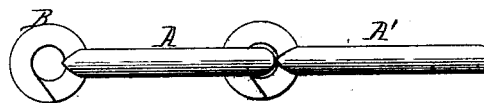


Fig., 3.



Fig., 4.

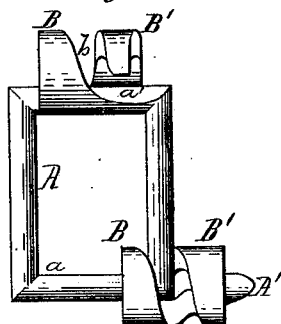


Fig., 5.

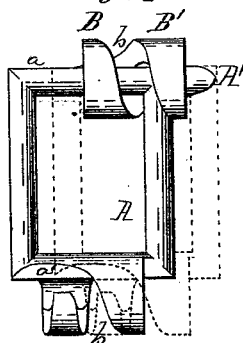
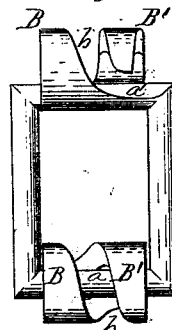


Fig., 6.



Witnesses:

Alexander Mahon  
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# UNITED STATES PATENT OFFICE.

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OF SAME PLACE.

## IMPROVEMENT IN DRIVING-CHAINS.

Specification forming part of Letters Patent No. **215,056**, dated May 6, 1879; application filed  
March 19, 1879.

*To all whom it may concern:*

Be it known that I, HENRY WILLARD HALL, of Auburn, county of Cayuga, State of New York, have invented certain new and useful Improvements in Driving-Chains, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan or top view of two of the links of my improved driving-chain. Fig. 2 is a side elevation of the same. Fig. 3 represents the hook end of one of the links in elevation; and Figs. 4, 5, and 6 represent the links in different positions that they assume in coupling and uncoupling them.

Similar letters of reference denote corresponding parts wherever used.

My invention relates to a novel construction of the links of a driving-chain for facilitating their addition to or removal from and the consequent lengthening or shortening of the chain, as desired, while at the same time obviating any liability of accidental displacement of the links when the chain is in operation; and to this end the invention consists in providing the links each at one end with a double hook, or with two hooks facing, and open upon the opposite sides of the link, with an opening or slot between them of sufficient width to permit the passage of the side bar of the adjacent link in the process of coupling or uncoupling them, as hereinafter described.

In the accompanying drawings, A A' represent two of the links of my improved driving-chain, shown in the present instance as having round side bars; but these may be made in any usual or preferred form, and with a round end bar, *a*, at one end, adapted to turn readily and smoothly in the coupling-hook on the end of the adjacent link. The opposite end bar, *a'*, is provided with what might be termed a "double hook," or with two hooks, B B', one rising from each side or face of the end bar *a'*, and made, by preference, to taper outwardly on their inner adjacent faces, so as to give each a broad strong base of attachment to the bar *a'*, and at the same time permit the ends to pass by each other, and around in hook form to and opening upon the opposite

side of bar *a'* to that on which the hook is formed.

By this arrangement a strong support is given to the hooks, and at the same time they are adapted to pass by each other, and open upon opposite sides with sufficient space at *b* between them to permit the passage of the side bar of the adjacent link. This slot or opening between the links, with the hooks constructed as described, assumes a spiral form; but this, of course, will vary with any variation in the width of the hooks at their base, and in the form of the hooks themselves.

The outer face of the end bars *a'*, adjacent to the hooks, is made, by preference, in V shape, as adapting the open ends of the hooks to be extended farther over and still permit the insertion of the end bar *a* of the adjacent link; but this is not essential.

For coupling the links the end bar *a* of one link is inserted in one of the hooks, B, of another link, as shown in Fig. 4, it being necessary to bring the links to an acute angle of relation to each other to permit this to be done. The links are then turned to an acute angle upon their opposite sides or faces, carrying the side bar of link A through the slot *b*, between the hooks of link A', until it is brought opposite the opening between end bar *a'*, the other hook, B', as shown in Fig. 5, when the side bar is passed through said opening into the position indicated by dotted lines in Fig. 5, and the two links, being turned from that position, remain coupled until the operation above described is reversed for uncoupling them.

The combined width of the hooks is sufficient to cause them to fill in snugly between the side bars, and thus prevent lateral play, while it also serves to give a broad bearing-surface to the end bar *a* rolling therein, thus giving great durability to the chain.

It will be apparent that the links cannot become accidentally detached, as, in order to disconnect them, they must be twice brought into an acute angle of relation to each other and upon their opposite sides or faces, and this cannot take place while the chain is in operation or under any degree of tension.

Having now described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A link of a driving-chain having one of its end bars provided with two rigid hooks, open upon opposite sides of the link, substantially as described.

2. A link of a driving-chain having one of its end bars provided with two rigid hooks, open upon opposite sides of the link, and having a slot or space between them, permitting the introduction of the end bar of the adjacent link, substantially as described.

3. A link of a driving-chain having the two

hooks open on opposite sides of the link, and made to taper outwardly from the end bar to which they are attached for giving each a broad base at its junction with said bar, as described.

4. The links provided each at one end with two tapering hooks, open on opposite sides of the link, and having a spiral passage-way between their adjacent sides, as described.

HENRY WILLARD HALL.

Witnesses:

G. W. ALLEN,

C. B. KOSTERS.