(Model.)

S. D. LOCKE.

DRIVE CHAIN.

No. 393,992. Patented Dec. 4, 1888.

Fig. 1.

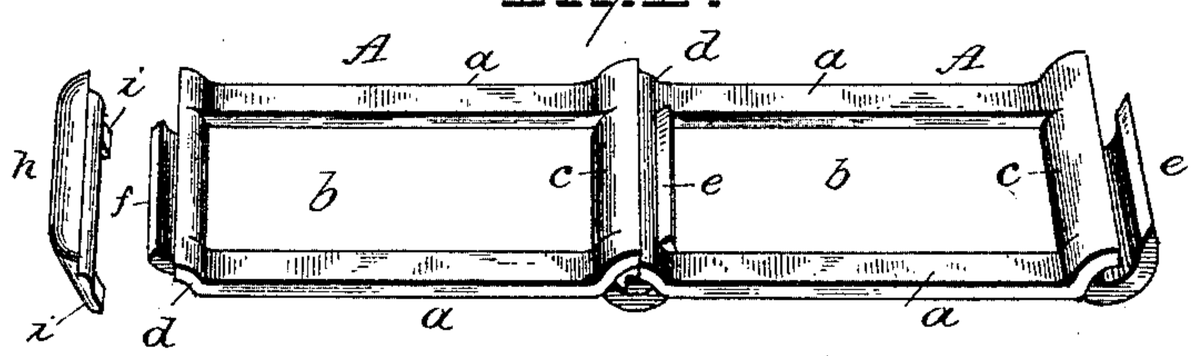


Fig. 2.

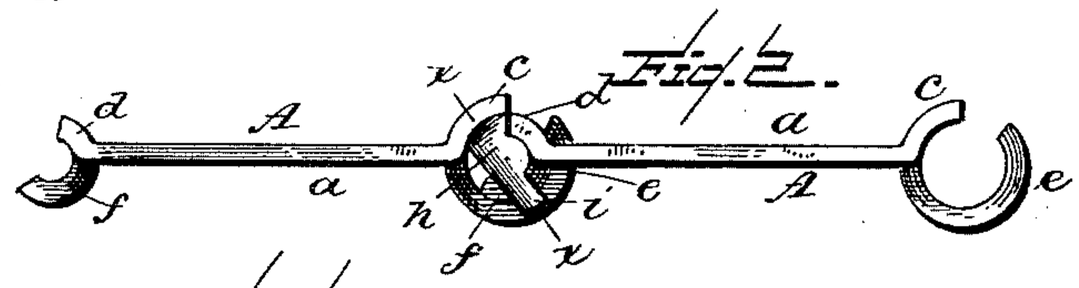


Fig. 3.

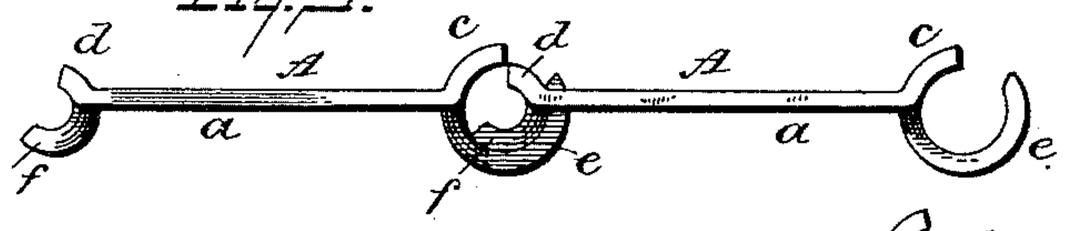


Fig. 4.

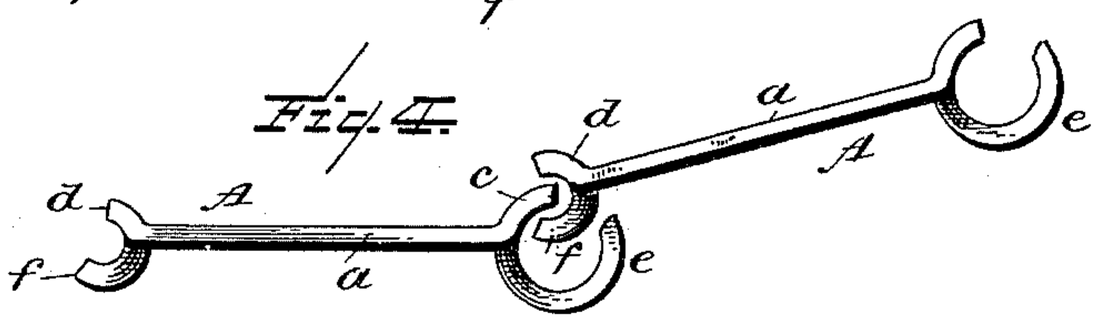


Fig. 5.

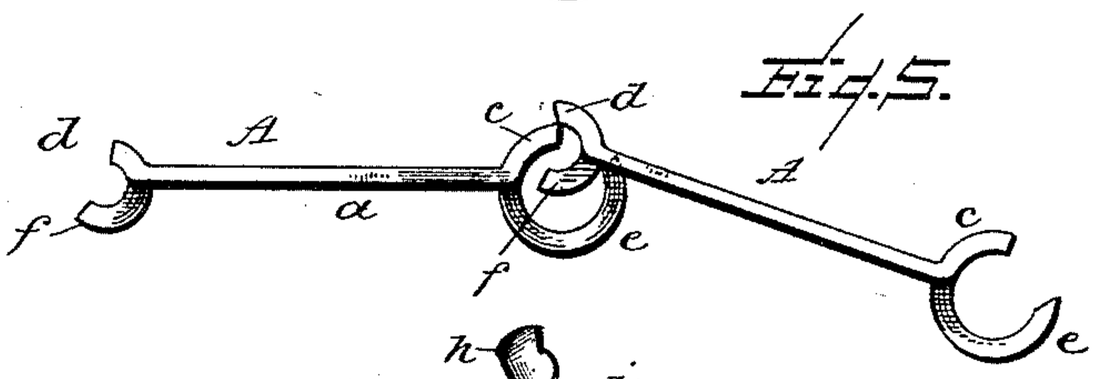


Fig. 6.

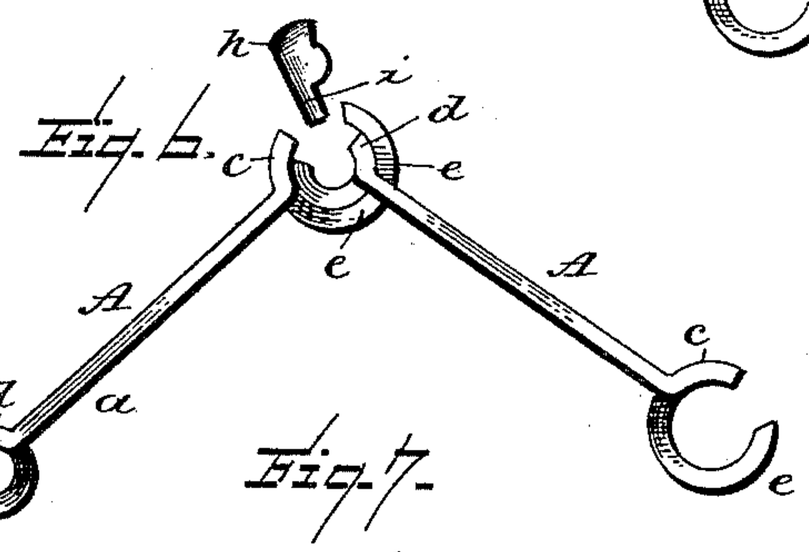
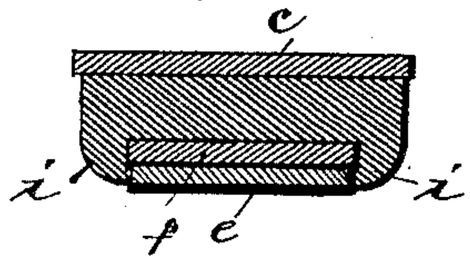


Fig. 7.



Witnesses:

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W. S. Stuart.

Inventor.

Sylvanus D. Locke.

UNITED STATES PATENT OFFICE.

SYLVANUS D. LOCKE, OF HOOSICK FALLS, NEW YORK.

DRIVE-CHAIN.

SPECIFICATION forming part of Letters Patent No. 393,992, dated December 4, 1888.

Original application filed February 20, 1888, Serial No. 264,666. Divided and this application filed March 24, 1888. Serial No. 268,400. (Model.)

To all whom it may concern:

Be it known that I, SYLVANUS D. LOCKE, a citizen of the United States, residing at Hoosick Falls, in the county of Rensselaer, State of New York, have invented certain new and useful Improvements in Drive-Chains, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a detachable rectangular link for drive-chains, that shall be equally as good and serviceable and much cheaper than the ordinary cast-link and also cheaper than any made of wire. This object is attained by forming the link from rolled or sheet metal in such a manner that the link with its two side bars and its end and sprocket bars may be made from a single piece of sheet metal, the portion of the material taken from the opening of the link being punched and rolled up or otherwise fashioned to form hollow cylindrical sprocket and end bars.

That others skilled in the art may make and use my invention, I will proceed to describe it, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of two links of my chain with a locking-piece or key detached. Fig. 2 is a side elevation of the same with the key in place. Fig. 3 is a side elevation of the same without the key. Fig. 4 is a side elevation of the same, showing the first position taken for coupling two links. Fig. 5 is a side elevation showing the right-hand link swung down and its end bar entering the sprocket-bar of the other link. Fig. 6 is a side elevation showing the two links coupled and in position for receiving a key or locking-piece. Fig. 7 is a cross oblique section through the links on the line *x x*, Fig. 2.

In the drawings, A A are two links of my chain. Each link has two side bars, *a a*, and the rectangular central opening, *b*, as well as the sprocket-bar *c e*, and the end bars, *d f*. The sprocket-bar and end bar are of the same hollow and substantially cylindrical form, the latter, however, having its outer diameter a very little smaller than the inner diameter of the former, so as to allow the end bar to freely turn or pivot in the sprocket-bar. The parts *c* of the sprocket-bar and *d* of the end bar are bent or curved upward, as shown, from the ends of the link metal, while the hook or loop parts *e* and *f* of the same are formed down from the body thereof, leaving the central rectangular opening, *b*, and then turned outward and upward, as shown. The metal taken to form the central opening is all utilized in the loops *e f*. It is apparent, to allow the links to couple, that the opening *b*, next to the end bar *d f*, should be slightly wider than the loop *e* of the sprocket-bar. For this reason I form the loop *f* at its base slightly wider than at its point, which is made of the same width as the loop *e*.

To join or couple two links it is only necessary to hold them in the position shown in Fig. 4, with the hollow end bar of one resting on the edge of the part *c* of the sprocket-bar of the other, and then to swing the right-hand link down on that edge as a pivot through the position shown in Fig. 5, and nearly to the position shown in Fig. 6, or until the end bar has swung into the hollow of the sprocket-bar.

The links so made and joined will not separate or get uncoupled in actual work, but are somewhat liable to uncouple when the chain is thrown loosely about. A convenient way of locking them against uncoupling is shown in the use of the key *h*. This key, when the links are in the position shown in Fig. 6, is readily inserted through the slit or opening in the sprocket-bar into the end bar, the forks or spurs *i* of the key striding the loops *e* and *f*, so preventing lateral displacement. When this key is driven into the hollow of the end bar it will not fall out, even when the links are in the position shown in Fig. 6. With the links in any other position it cannot escape, and the links cannot escape while the key is in. My invention, however, is not limited to the use of a key, nor do I intend to limit my invention in all of its novel features to a rectangular link, as it is evident that the hollow open-end and sprocket bars may be used in connection with the well-known central bar instead of the two side bars, and the entire link might be cast either in completed form or in partially completed form and subsequently brought to a completed form.

Having described my invention, what I claim is—

1. A detachable link for drive-chains, having two side bars, a segmental end bar, and a sprocket-bar provided with a coupling-hook struck from the internal portion of the blank and bent to shape, substantially as specified.

2. A detachable link for drive-chains, having two side bars, a segmental bar struck from the internal portion of the blank, and a sprocket-bar provided with a coupling-hook also struck from the internal portion of the blank and bent to shape, substantially as specified.

3. The link A, composed of the two side bars, *a a*, an end bar having the part *d* and hook *f*, and a sprocket-bar having a part, *c*, and hook *e*, substantially as described.

4. The combination of the link A, having the open hollow end bar, *d f*, and open hollow sprocket-bar *c e*, with the locking-key *h*, substantially as specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

SYLVANUS D. LOCKE.

Witnesses:
E. B. STOCKING,
W. S. DUVALL.