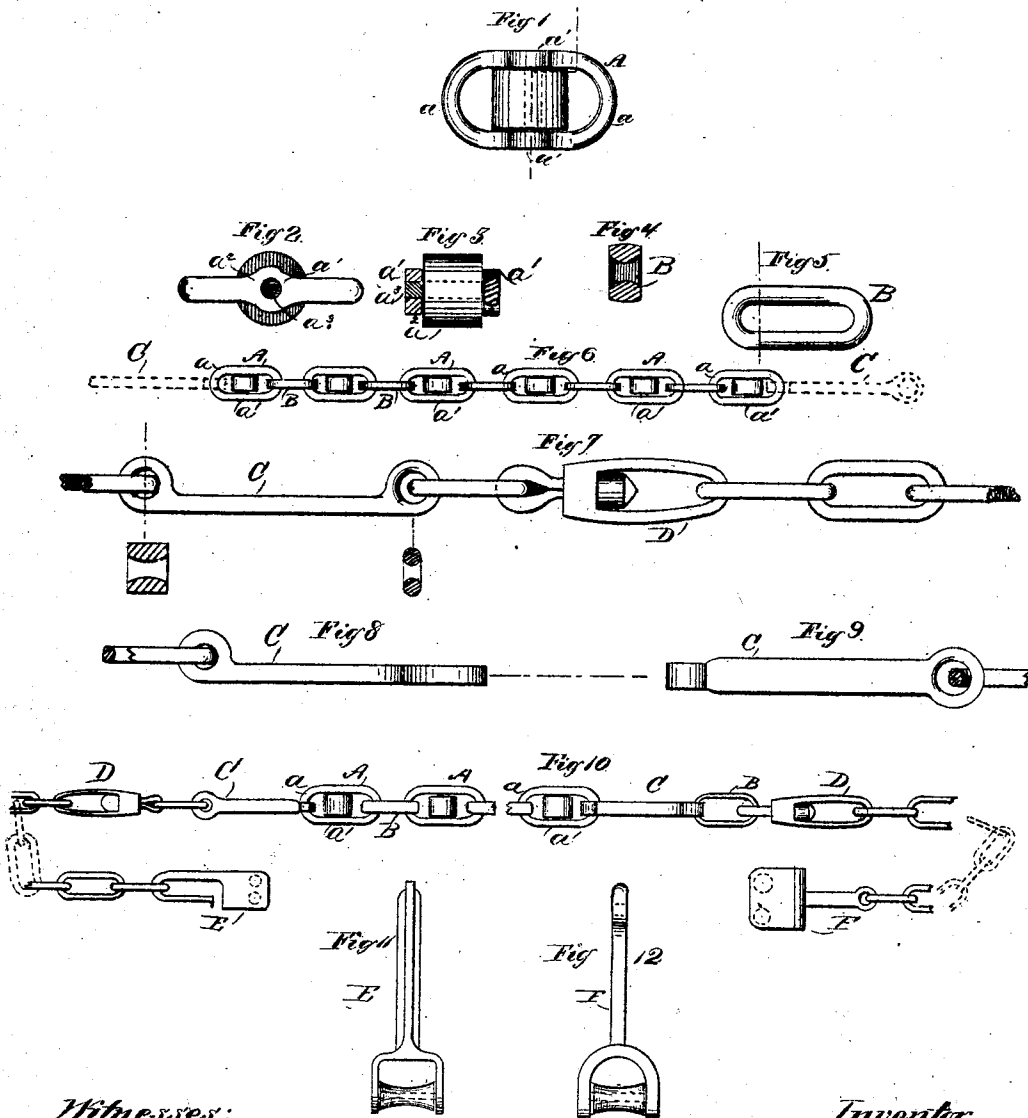


W. B. McCLURE.

Back-Chains for Cart-Saddles.

No. 135,235.

Patented Jan. 28, 1873.



Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM B. MCCLURE, OF ALEXANDRIA, VIRGINIA, ASSIGNOR TO HIMSELF,
H. O. CLAUGHTON, AND JOHN C. GRAHAM, OF SAME PLACE.

IMPROVEMENT IN BACK-CHAINS FOR CART-SADDLES.

Specification forming part of Letters Patent No. 135,235, dated January 28, 1873.

To all whom it may concern:

Be it known that I, WILLIAM B. MCCLURE, of Alexandria, in the county of Alexandria and State of Virginia, have invented a new and Improved Back-Chain for Cart-Saddles; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The object of my invention is such a construction of back-chains for cart-saddles as will render them very sensitive in movement to the constantly-varying altitudes of the shafts, so that there may be little or no motion of the cart-saddle, which is the fruitful source of sores and bruises to the animal, and so that the chains will be strong, durable, and cheap. This invention is a back-chain provided with rollers; and consists, first, in the peculiar construction of the roller-carrying links; second, in the combination of these links with intermediate connecting-links of peculiar shape; third, in the combination of the central portion of the chain, composed of the series of roller-links and connecting-links with certain bar-links; fourth, in the combination of swivels with the elements before mentioned; fifth, in the entire chain as a new article of manufacture.

In the drawing, Figures 1, 2, and 3, represent views of the roller-carrying links; Figs. 4 and 5, views of the connecting-links; Fig. 6, a view of the central portion of the chain; Fig. 7, a partial view of one end of the chain, showing the bar-link and swivel; Figs. 8 and 9, views of the bar-link detached; Fig. 10, a view of all the parts of the chain; and Figs. 11 and 12, views of the traveler.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction.

A represents the roller-carrying link, the ends *a a* of which are curved in the usual manner, and have a circular outline, while the central portion on each side is provided with an enlargement, *a*¹, having flattened sides and a central orifice. *a*² represents a roller provided with a central opening, and *a*³ the shaft or bearing upon which it runs, the ends of the latter being rigidly held in the openings in

the sides of the links, as shown. B represents the intermediate link, by means of which the roller-carrying links are connected together. It is preferably made smaller than the other links and has a peculiar outline, shown in cross-section, Fig. 4, its outer surface being flat, or nearly so, and its inner surface curved. A suitable number of the roller-carrying links A A, united together by the intermediate links B B, constitute the central portion of the chain which rests upon the cart-saddle. At each end of the central portion is attached what I term a bar-link, C, formed of a suitable piece of flat metal having eyes or rings, by means of which it is connected to the adjacent parts, as shown. D D represent swivel-links, which are attached at one end to the bar-links by suitable connections, and at the other to the series of links of ordinary construction which terminate the chain proper upon one side and connect with the traveler E upon the other. E and F represent travelers provided with suitable friction devices, wheels being preferred having a V-shaped face, as shown.

The advantages of the described construction will now be set forth. The peculiar construction of the roller-carrying links is especially advantageous. The enlarged central portion gives requisite strength, and its flattened sides upon the interior of the link furnish a smooth bearing-surface for the ends of the roller to come into contact with, and upon its exterior a smooth surface to rub against the sides of the groove of the cart-saddle. The peculiar construction of the connecting-link is designed for a special purpose. The curved interior surface, as shown in cross-section, adapts the link to swing laterally, and also to move laterally upon the curved portion of the link A with great freedom and without cutting or grinding. The bar-links also are designed for a special purpose. The central portion, consisting mainly of the roller-carrying links, is necessarily the most expensive part of the chain; and it is desirable for this reason, and also for convenience, that it should be no longer than is essential for the proper working of the chain. In practice, therefore, it is preferred to make the chain simply long enough to accommodate the usual play inci-

dental to the unequal movement of the cart-shafts. To accommodate the unusual movement upon the part of the chain, however, the bar-links are provided, which being centrally attached to the last link of the central portion, and being provided with a perfectly smooth under surface with its inner end curved upward, is adapted to pass up into the groove of the cart-saddle without catching upon its sides or grinding upon its bottom surface. The swivels at each end are employed for the purpose of causing the rollers to rest squarely in the bed of the groove under all circumstances, and prevent all possibility of their tilting upon one end and cutting into the wood. The employment of the travelers in connection with the other parts described makes a chain perfectly adapted to the purpose for which it is designed, and which will adjust itself readily to the varying circumstances of the case.

The chain may be constructed of any suitable material, but is preferably and mainly made of malleable cast-iron. The rollers, however, may be made of ordinary cast metal, and their bearing-shafts of wrought.

Having thus fully described my invention,

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

1. The link A having the enlargement a^1 with central orifice, the roller a^2 , and shaft a^3 , as and for the purpose described.

2. The combination of the link A, constructed as described, with the intermediate link B having the curved interior and flat exterior surfaces, as described.

3. The combination of the central portion of the chain, composed of roller-links and connecting-links, constructed as described, with the bar-links C, substantially as and for the purpose set forth.

4. The combination of the central portion of the chain and the bar-links with the swivels at each end, as and for the purpose described.

5. The described chain, consisting of the central portion, bar-links, swivels and links, and traveler, as a new article of manufacture.

This specification signed and witnessed this 12th day of December, 1872.

W. B. McCLURE.

Witnesses:

EDM. F. BROWN,

H. E. MATTHEWS.