

(No Model.)

S. RYDER.

CHAIN.

No. 294,812.

Patented Mar. 11, 1884.

Fig. 1.

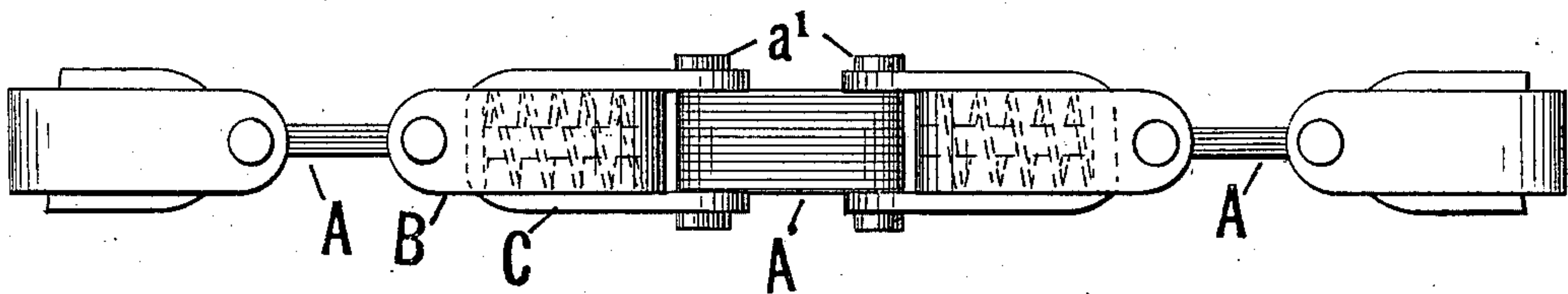


Fig. 2.

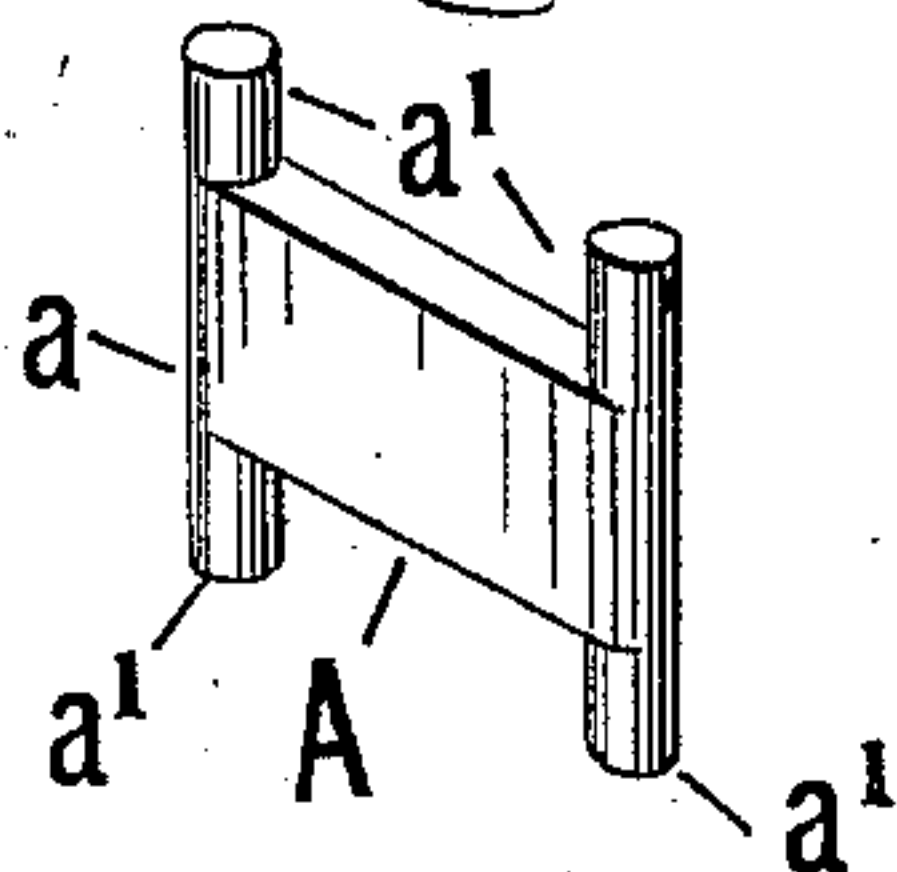


Fig. 3.

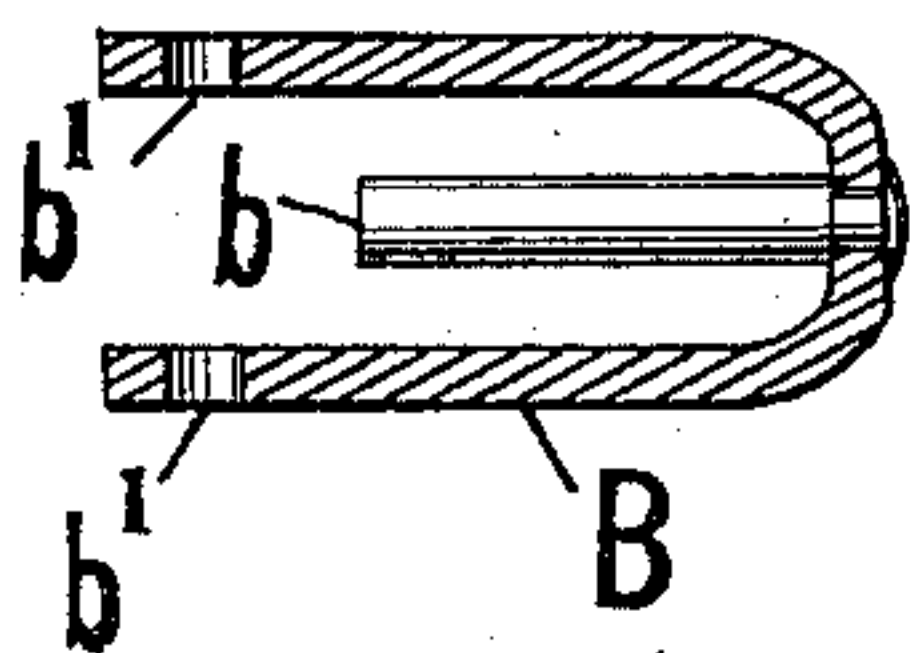


Fig. 4.

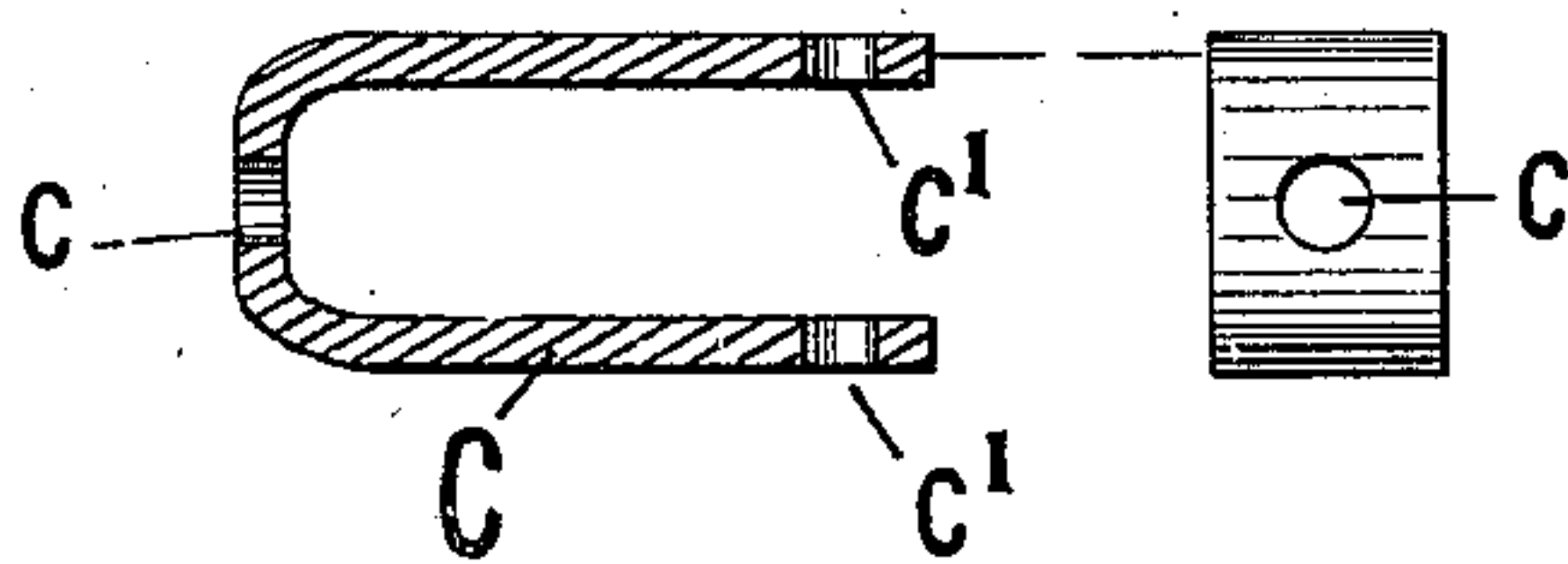


Fig. 5.

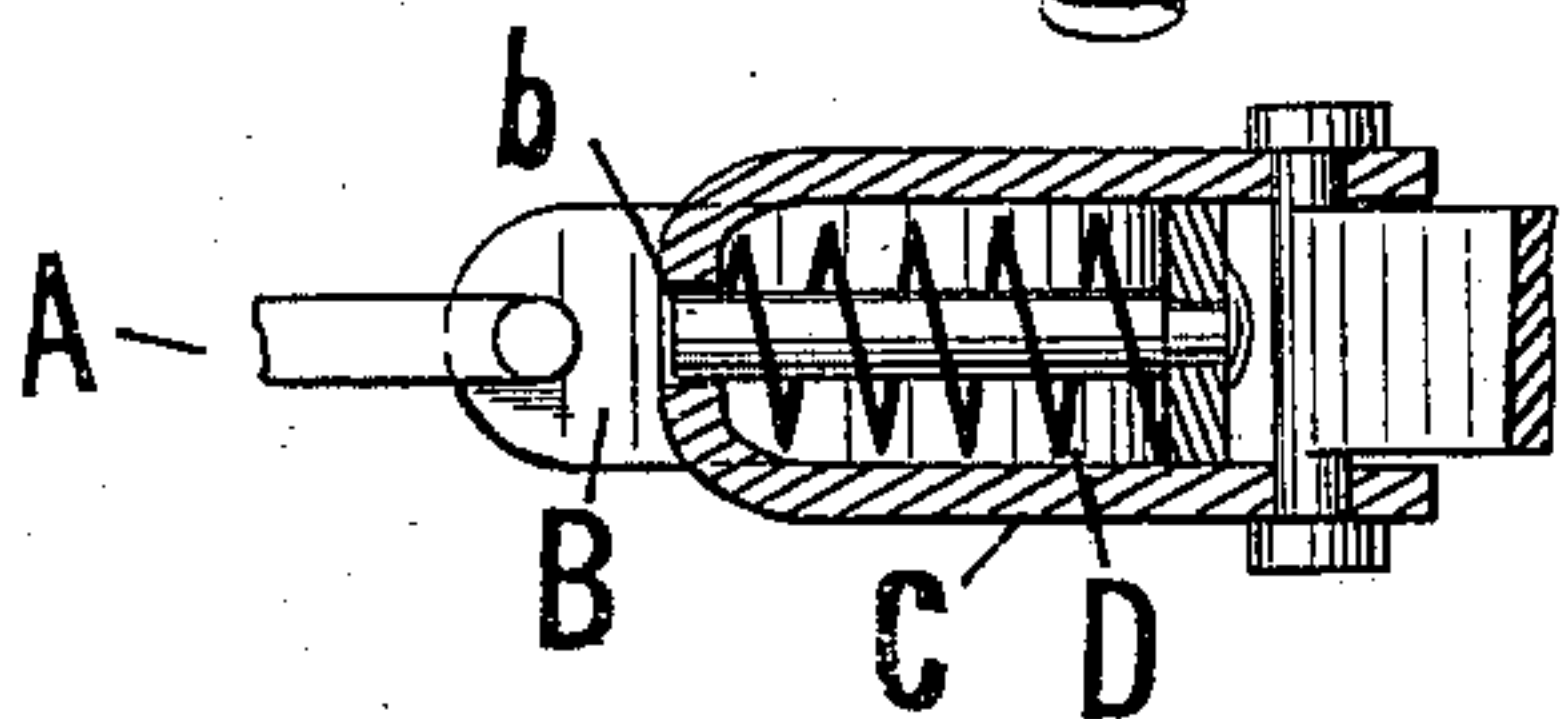
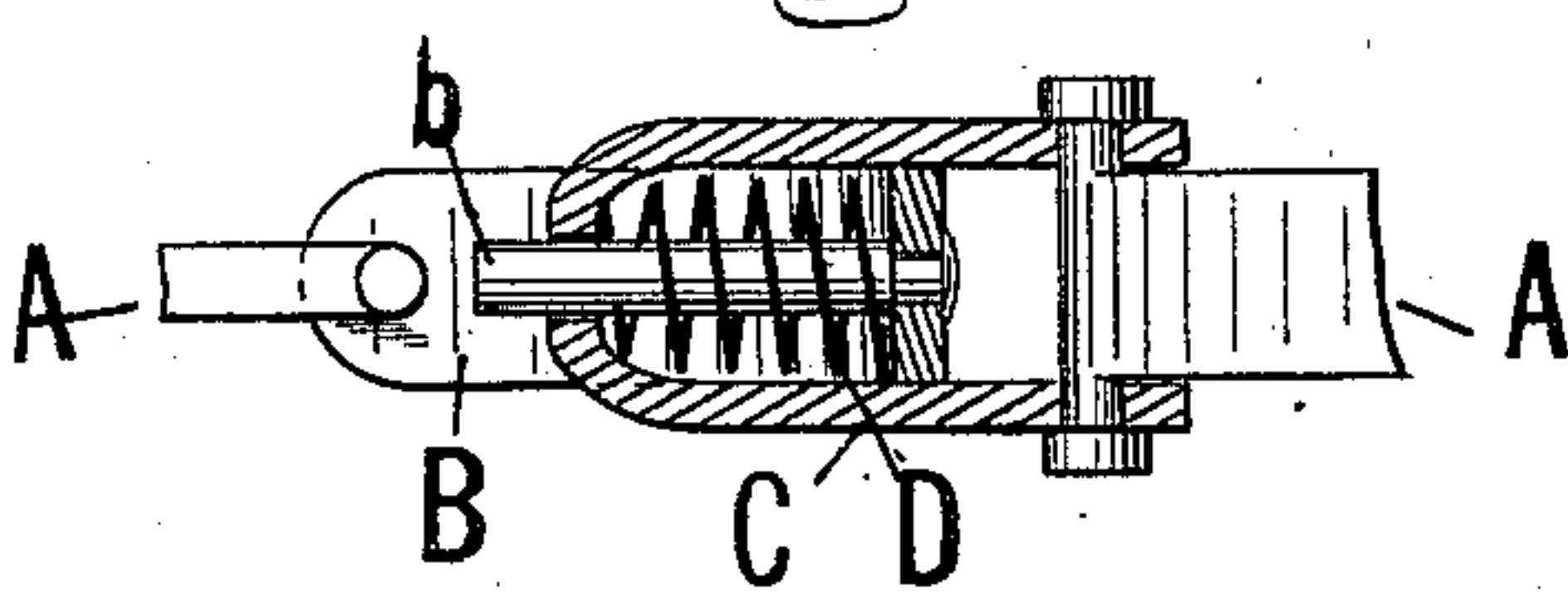


Fig. 6.



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CHAIN.

SPECIFICATION forming part of Letters Patent No. 294,812, dated March 11, 1884.

Application filed November 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN RYDER, of North Attleborough, county of Bristol, and State of Massachusetts, have invented new and useful Improvements in Extensible Chains; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention is a chain having a capacity for extension under strain, the novelty of which consists in certain peculiarities of construction, by means of which simplicity and strength are obtained with economy of manufacture.

In the drawings, Figure 1 represents a side view of my improved chain; Fig. 2, a perspective view of one of the solid-bar links by means of which the extensible links are united together; Fig. 3, a sectional view, taken on a horizontal plane, of one of the frame parts of an extensible link; and Fig. 4, a sectional view, taken on a vertical plane, of the other frame part of an extensible link, and also an end view of the same; Fig. 5, a sectional view of the frame parts of a completed link, taken on a vertical plane, with the parts in their normal position; and Fig. 6, a similar view with the parts in the position occupied by them when the link is extended.

To enable others skilled in the art to make my improved chain, I will proceed to describe fully the construction of the same.

A, Figs. 1, 2, 5, and 6, represents a link consisting of a solid bar, having the main portion *a*, Fig. 2, of a quadrangular form, and the round extensions *a' a'* projecting from the sides at each end, as shown.

B, Figs. 1, 3, 5, and 6, represents one of the frame parts of an extensible link, consisting of a U-shaped piece of metal with rounded ends, as shown.

b, Figs. 3, 5, and 6, represents a rod of proper length, which is rigidly secured at one end to the center of the frame part in such manner as to extend parallel with the sides, as shown.

b' b', Fig. 3, represent openings at the end of the frame part, which are adapted to receive the round extensions *a' a'* at one end of a solid-bar link, A, as shown in Fig. 1.

C, Figs. 1, 4, 5, and 6, represents the other end of the frame parts of an extensible link,

which is identical in construction with the link B, but has instead of the rod *b* an opening, *c*, as shown in Fig. 4.

c' c', Fig. 4, represent openings at the end of the frame, which, like the openings *b' b'* of the part B, are adapted to receive the round extensions *a' a'* at the opposite end of a solid-bar link, A, as shown in Fig. 1.

D, Figs. 5 and 6, represents a spring of proper length surrounding the rod *b*, as shown.

The frame part of the extensible link and the solid-bar link are cut in a press. The parts are put together by first slipping the spring D upon the rod *b* of the frame part B, then adjusting the frame part C in its proper position relatively to the part B, then springing the extensions *a' a'* of a solid-bar link into the openings *b' b' c' c'* at each end of the frame parts. The ends of extensions *a'* are riveted down to secure the parts in the manner well understood.

The normal position of the parts is shown in Fig. 5 and the position under strain in Fig. 6, one frame part moving upon the other in the latter case and compressing the spring between them.

By means of this construction a chain is obtained which possesses both strength and simplicity of construction, and which may be manufactured at a small cost.

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

1. An extensible link having two similar frame parts, B C, and proper attachments thereto, with a supporting-rod, *b*, and coiled spring D, as described.

2. In combination with two elastic links, each having the frame parts B C and coiled spring D, the intermediate solid-bar link, A, uniting the two elastic links together, as shown.

3. The chain described, consisting of the solid-bar links with extensions *a' a'*, the frame part B, with rod *b*, the frame part C, with opening *c*, and the spring D, combined and arranged as described, for the purpose set forth.

This specification signed and witnessed this 13th day of November, 1883.

STEPHEN RYDER.

Witnesses:

F. B. BYRAM,

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